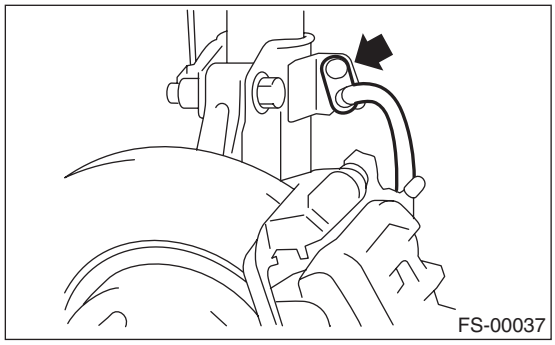
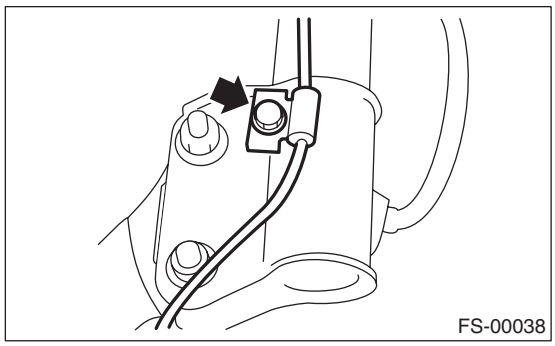
# 5. Front Strut

## A: REMOVAL

1) Remove the wheels.
2) Remove the bolt securing the brake hose from the strut.



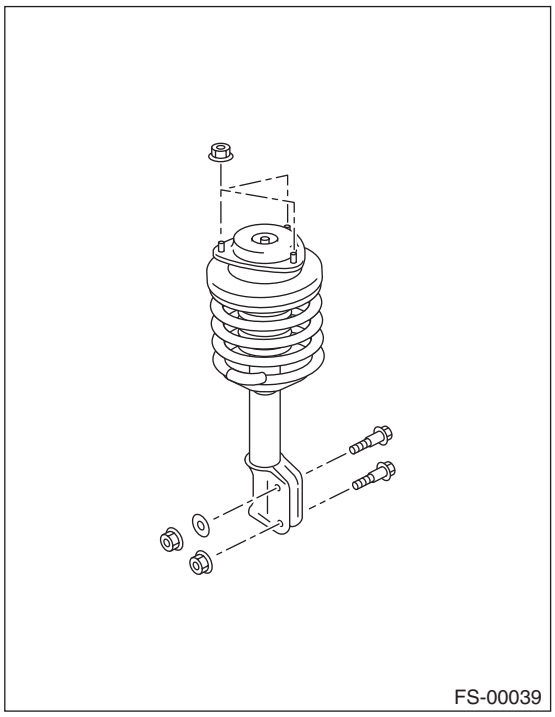

3) Scribe an alignment mark on the camber adjusting bolt that secures the strut to the housing.
4) Remove the bolt securing the ABS wheel speed sensor harness.




5) Remove the two bolts securing the housing to the strut.

NOTE:
While holding the head of the adjusting bolt, loosen the self-locking nut.

6) Remove the three nuts securing strut mount to body.



## B: INSTALLATION

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

***Tightening torque:***
***20 N·m (2.0 kgf-m, 14.5 ft-lb)***

2) Align to the alignment marks on the camber adjusting bolt and strut bottom. Using new self-locking nuts, install the strut to the housing.

NOTE:
While holding the head of adjusting bolt, tighten the self-locking nut.

***Tightening torque:***
***175 N·m (17.8 kgf-m, 129 ft-lb)***

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

***Tightening torque:***
***33 N·m (3.4 kgf-m, 24.3 ft-lb)***

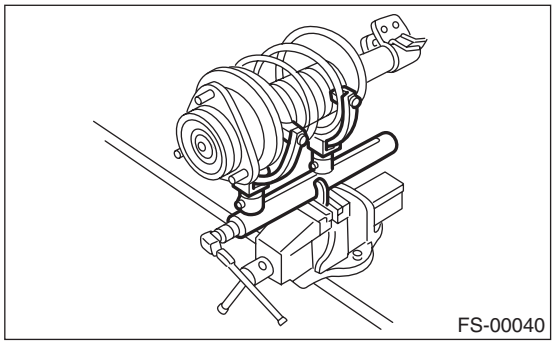
4) Install the bolts which secure the brake hose to the strut.

***Tightening torque:***
***33 N·m (3.4 kgf-m, 24.3 ft-lb)***

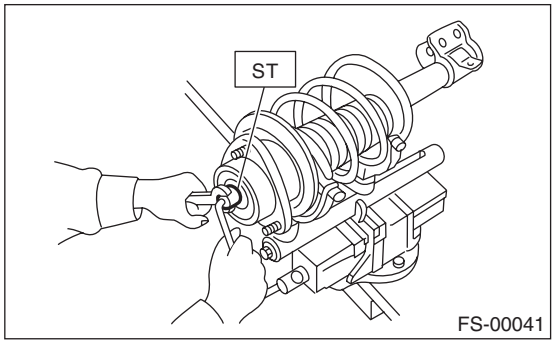
5) Install the wheel.
6) Inspect the wheel alignment and adjust if necessary.

## C: DISASSEMBLY

1) Using a coil spring compressor, compress the coil spring.


FS-00040

2) Using the ST, remove the self-locking nut.
ST 927760000 STRUT MOUNT SOCKET



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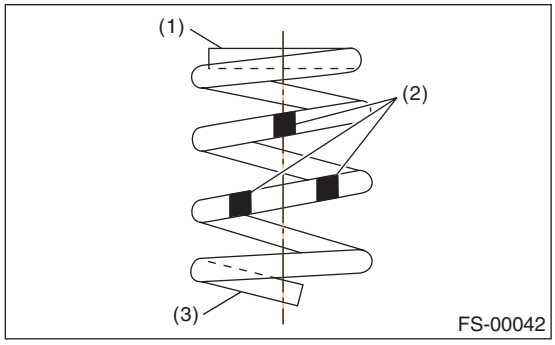
3) Remove the strut mount, upper spring seat and rubber seat from the strut.
4) Gradually decrease the compression force of compressor, and remove the coil spring.
5) Remove the dust cover and helper spring.

## D: ASSEMBLY

1) Before installing the coil spring, strut mount, etc. on the strut, check the condition of air inside the strut damper mechanism to make sure that excessive air is not inhibiting the creation of appropriate damping force.
2) Checking for presence of air
   (1) Place the strut vertically with the piston rod facing up.
   (2) Move the piston rod to the center of its entire stroke.
   (3) While holding the piston rod end with fingers, move the rod up and down.
   (4) If the piston rod moves more than 10 mm (0.39 in) in the former step, purge air from the strut.
3) Air purging procedure
   (1) Place the strut vertically with the piston rod facing up.
   (2) Fully extend the piston rod.
   (3) With the piston rod fully extended, place the piston rod side down. The strut must stand vertically.
   (4) Fully retract the piston rod.
   (5) Repeat 3 or 4 times from the first step.

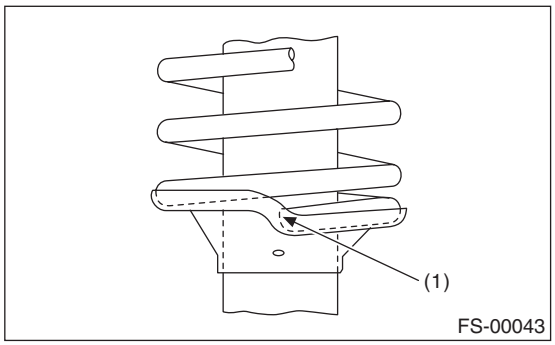
NOTE:
After purging air from the strut, be sure to place the strut with the piston rod facing up. If the strut is laid down for any reason, check for the entry of air in accordance with “Checking for presence of air”
4) Using a coil spring compressor, compress the coil spring.

NOTE:
Make sure that the vertical installing direction of coil spring is as shown in the figure.




(1) Flat (top side)
(2) Identification paint
(3) Inclined (bottom side)

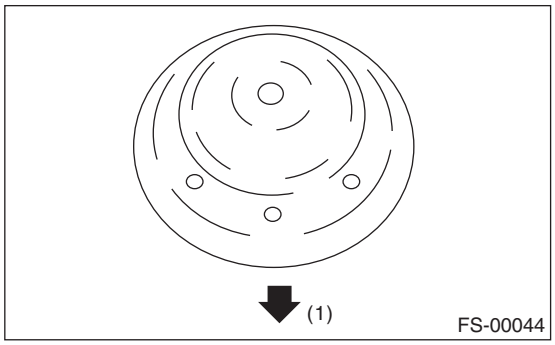
5) Set the coil spring correctly so that its end face seats well in the spring seat as shown in the figure.




(1) Coil spring end face

6) Install the helper and dust cover to the piston rod.
7) Pull the piston rod fully upward, and install the rubber seat and spring seat.

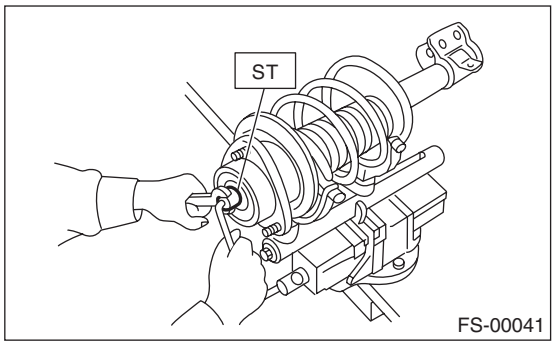
NOTE:
Position the upper spring seat as shown in the figure.




(1) Outside the vehicle

8) Install the strut mount to piston rod, and temporarily attach and tighten a new self locking nut.
9) Using a hex wrench to prevent strut rod from turning, tighten the self-locking nut with the ST.
ST 927760000 STRUT MOUNT SOCKET

***Tightening torque:***
***55 N·m (5.6 kgf-m, 41 ft-lb)***



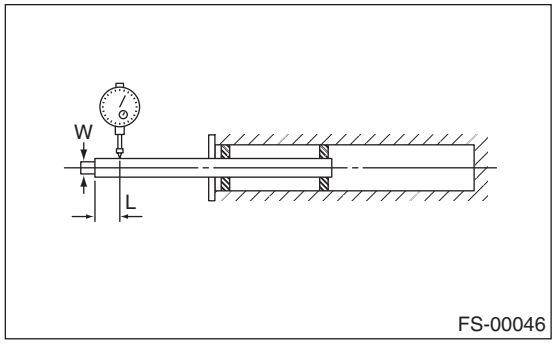

10) Loosen the coil spring carefully.

## E: INSPECTION

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

### 1. DAMPER STRUT

1) Check for oil leaks.
2) Move the piston rod up and down to check that it operates smoothly.
3) Piston rod play
• Measure the play as follows:
Fix the outer shell in place and fully extend the rod. Set a dial gauge at the end of rod L [10 mm (0.39 in)], and then read the dial gauge indication $P_1$ while applying a force of W [20 N (2 kgf, 4 lb)] to the threaded portion. Apply a force of 20 N (2 kgf, 4 lb) from the opposite direction of "W", and then read the dial gauge indication $P_2$.




***Play limit ($P_1 + P_2$):***
***0.8 mm (0.031 in)***
If the play exceeds the limit, replace the strut.

### 2. STRUT MOUNT

Check the rubber part for abnormal deformation, cracks or deterioration. Replace it with a new part if defective.

### 3. DUST COVER

Replace with a new part if abnormally cracked or damaged.

### 4. COIL SPRING

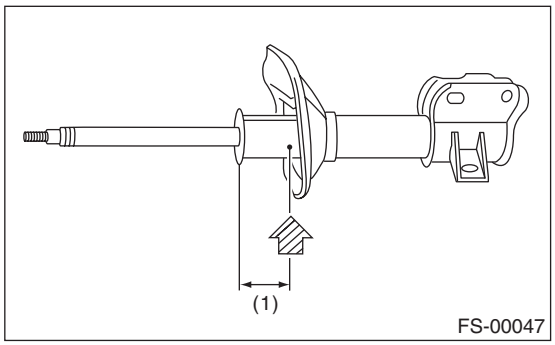
If a permanent strain is found, replaced it with a new part. Refer to the specifications to inspect the wheel arch height even if the vehicle is not inclined because of a flat tire or a biased load. If the tolerance is out of specifications, replace with a new part.

### 5. HELPER

Replace with a new part if abnormally cracked or damaged.

## F: DISPOSAL

**CAUTION:**
**• Before handling struts filled with gas, be sure to wear goggles to protect eyes from gas, oil and metal shavings.**
**• 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 gas-filled strut on a level surface with the piston rod fully extended.
2) Using a 2 — 3 mm (0.08 — 0.12 in) dia. drill, make the holes in areas shown in the figure.




(1) 40 mm (1.57 in)