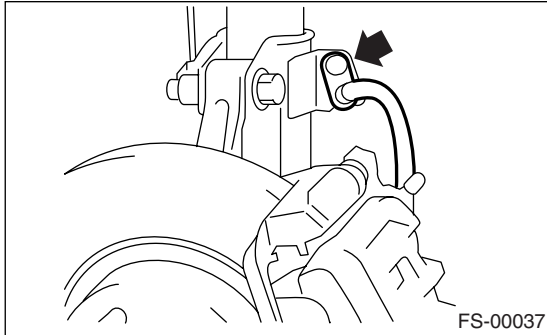


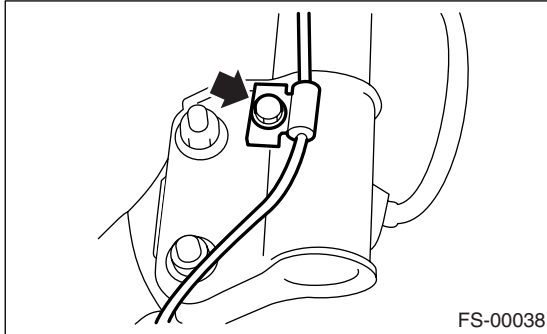
## 5. Front Strut

### A: REMOVAL

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



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

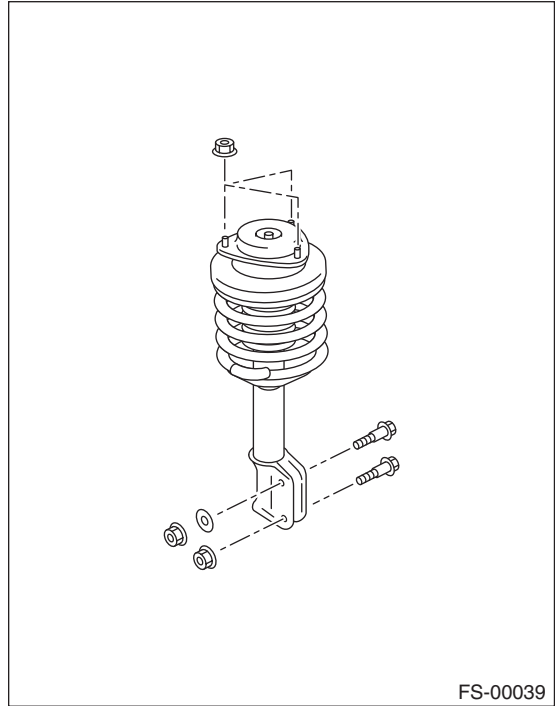


- 5) Remove the two bolts securing housing to strut.

**NOTE:**

While holding the head of adjusting bolt, loosen 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 body, and then tighten with nuts.

**Tightening torque:**

**20 N·m (2.0 kgf-m, 14.5 ft-lb)**

- 2) Position the aligning mark on camber adjustment bolt with aligning mark on lower side of strut. Install the strut to housing with a new self-locking nut.

**NOTE:**

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

**Tightening torque:**

**175 N·m (17.8 kgf-m, 129 ft-lb)**

- 3) Install the ABS wheel speed sensor harness to strut.

**Tightening torque:**

**33 N·m (3.4 kgf-m, 24.3 ft-lb)**

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

**Tightening torque:**

**33 N·m (3.4 kgf-m, 24.3 ft-lb)**

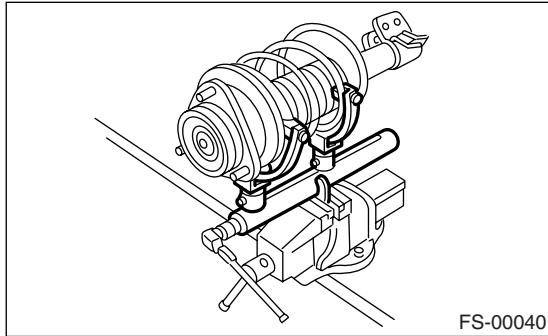
- 5) Install the wheels.

**NOTE:**

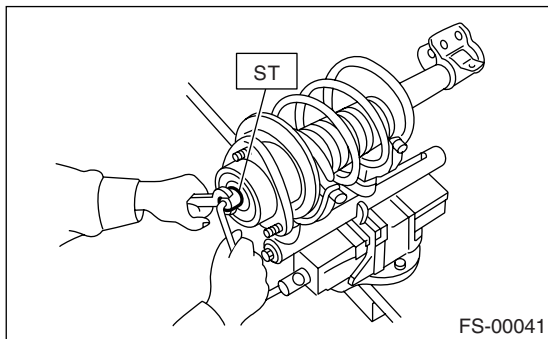
Check the wheel alignment and adjust if necessary.

### C: DISASSEMBLY

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



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



3) Remove the strut mount, upper spring seat and rubber seat from strut.  
4) Gradually decreasing the compression force of compressor, and then 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 for the presence of air in the damping force generating mechanism of the strut since air prevents proper damping force from being produced.

2) Checking for the presence of air

- (1) Place the strut vertically with piston rod facing up.
- (2) Move the piston rod to center of its entire stroke.
- (3) While holding the piston rod end with fingertips, move the rod up and down.
- (4) If the piston rod moves at least 10 mm (0.39 in) in the former step, purge air from the strut.

3) Air purging procedure

- (1) Place the strut vertically with 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 contract the piston rod.

(5) Repeat three or four times from the first step.

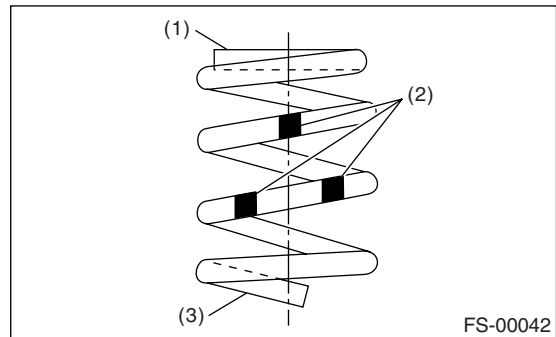
NOTE:

After completely purging air from the strut, be sure to place the strut with piston rod facing up. If it is laid down, check for entry of air in the strut as outlined under "Checking for the presence of air".

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

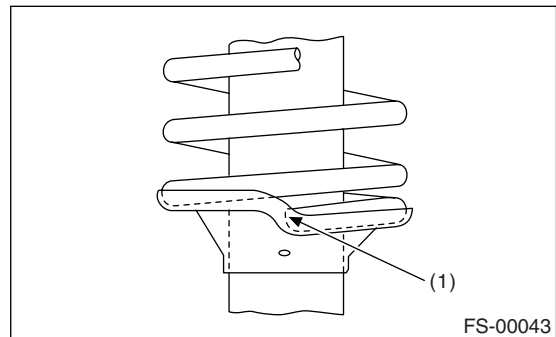
NOTE:

Make sure that the 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 fits well into the spring seat as shown in the figure.



- (1) Coil spring end face

6) Install the helper and dust cover to the piston rod.

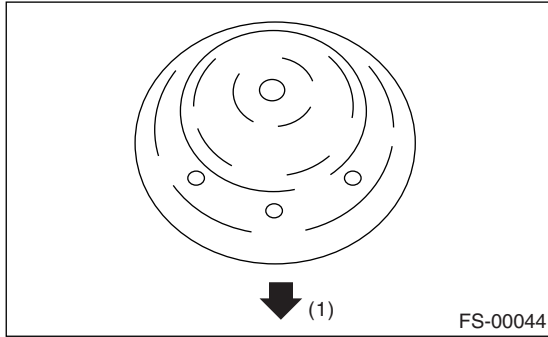
7) Pull the piston rod fully upward, and install the rubber seat and spring seat.

# FRONT STRUT

## FRONT SUSPENSION

### NOTE:

Ensure that upper spring seat is positioned as shown in the figure.



(1) Outside of body

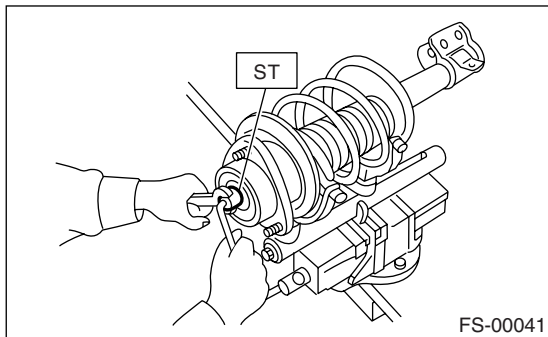
8) Install the strut mount to the piston rod, and then tighten a new self-locking nut temporarily.

9) Using a hexagon wrench to prevent strut rod from turning, tighten the self-locking nut with 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 disassembled parts for cracks, damage and wear, and replace with new parts if defective.

### 1. DAMPER STRUT

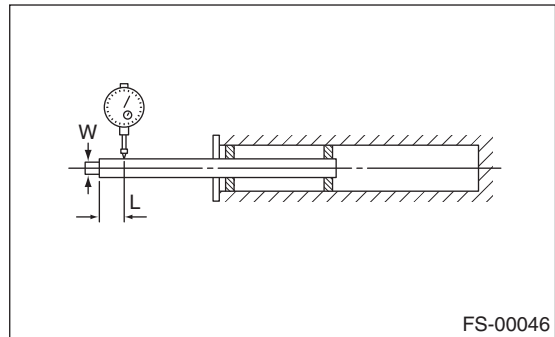
1) Check for oil leakage.

2) Move the piston rod up and down to check that it operates smoothly without any binding.

3) Play of piston rod

- Measure the play as follows:

Fix outer shell and fully extend the rod. Set a dial gauge at the end of rod: L [10 mm (0.39 in)], then apply a force of W [20 N (2 kgf, 4 lb)] to threaded portion. With the force of 20 N (2 kgf, 4 lb) applied, read dial gauge indication:  $P_1$ . Apply a force of 20 N (2 kgf, 4 lb) in the opposite direction of "W", then read dial gauge indication:  $P_2$ .



### Limit of play ( $P_1+P_2$ ):

**0.8 mm (0.031 in)**

If the play is greater than limit, replace the strut.

### 2. STRUT MOUNT

Check the rubber part for creep, cracks and deterioration, and replace it with a new one if defective.

### 3. DUST COVER

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

### 4. COIL SPRING

Coil spring having permanent strain should be replaced with a new one. When the vehicle posture is uneven, although there is no considerable reasons like tire puncture, uneven loading, etc., check the wheel arch height referring to specifications and replace the coil spring with a new one if the measured value is out of specification.

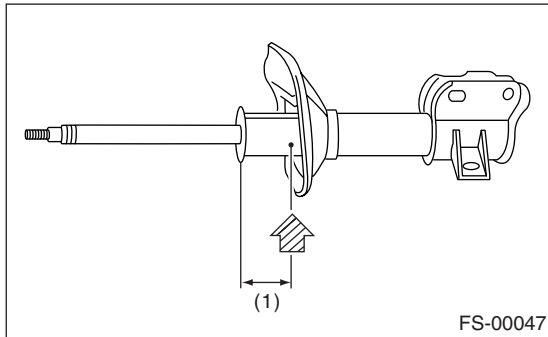
### 5. HELPER

Replace it with a new one if cracked or damaged.

**F: DISPOSAL****CAUTION:**

- Before handling gas filled struts, be sure to wear goggles to protect eyes from gas, oil and/or filings.
- Do not disassemble the strut damper or place into a fire.
- Drill holes before disposing of gas filled struts.

- 1) Place the gas filled strut on a flat and level surface with piston rod fully extended.
- 2) Using a 2 to 3 mm (0.08 to 0.12 in) dia. drill, make holes in areas shown in the figure.



(1) 40 mm (1.57 in)