

2022 Lexus IS 500 RWD V8-5.0L (2UR-GSE)

Vehicle > Steering and Suspension > Suspension > Suspension Strut / Shock Absorber > Service and Repair > Removal and Replacement

FRONT SHOCK ABSORBER - INSTALLATION [11/2021 -]

FRONT SUSPENSION: FRONT SHOCK ABSORBER(for 2WD): INSTALLATION; 2022 - 2023 MY IS200T IS250 IS300 IS350 IS500 [11/2021 -]

CAUTION / NOTICE / HINT

HINT:

- Use the same procedure for the RH side and LH side.
- The procedure listed below is for the LH side.

PROCEDURE

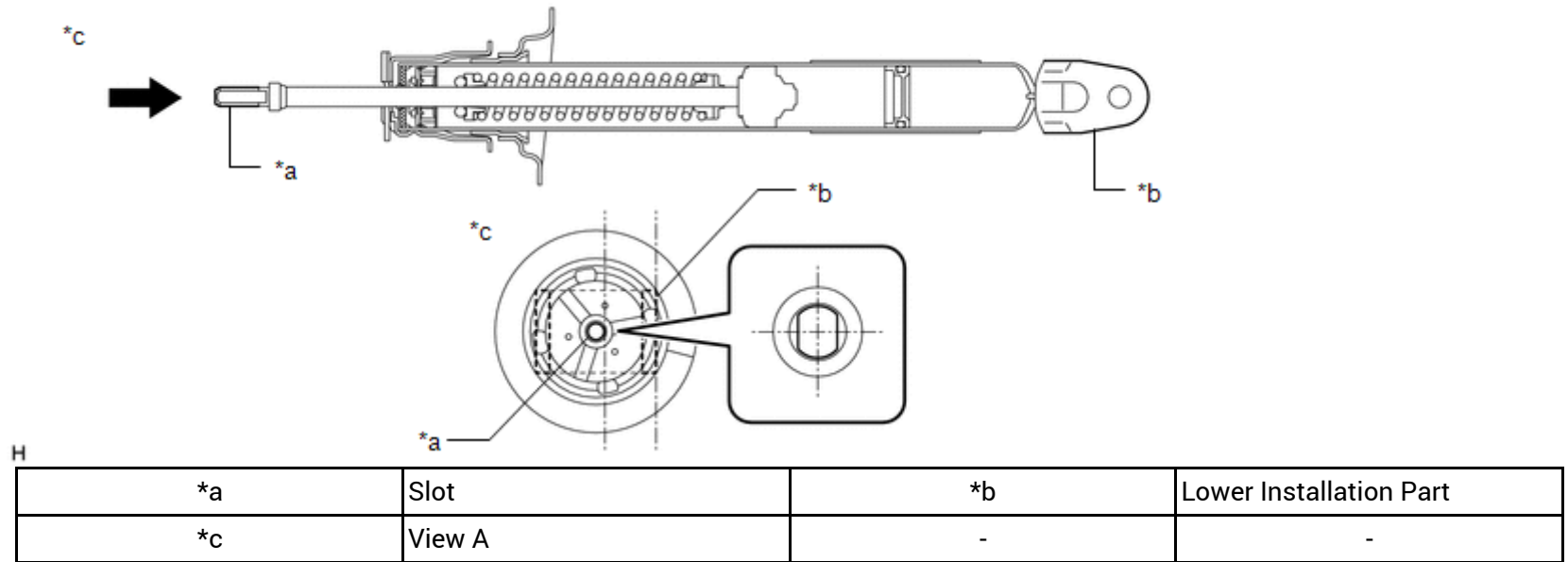
1. INSTALL FRONT SHOCK ABSORBER ASSEMBLY

a. except 2UR-GSE:

1. Align the notch at the end of the shock rod of the front shock absorber assembly with the installation rotational position.

NOTICE:

When viewing from view A, check that the notch at the end of the shock rod and the lower installation part are parallel as shown in the illustration.



b. except 2UR-GSE:

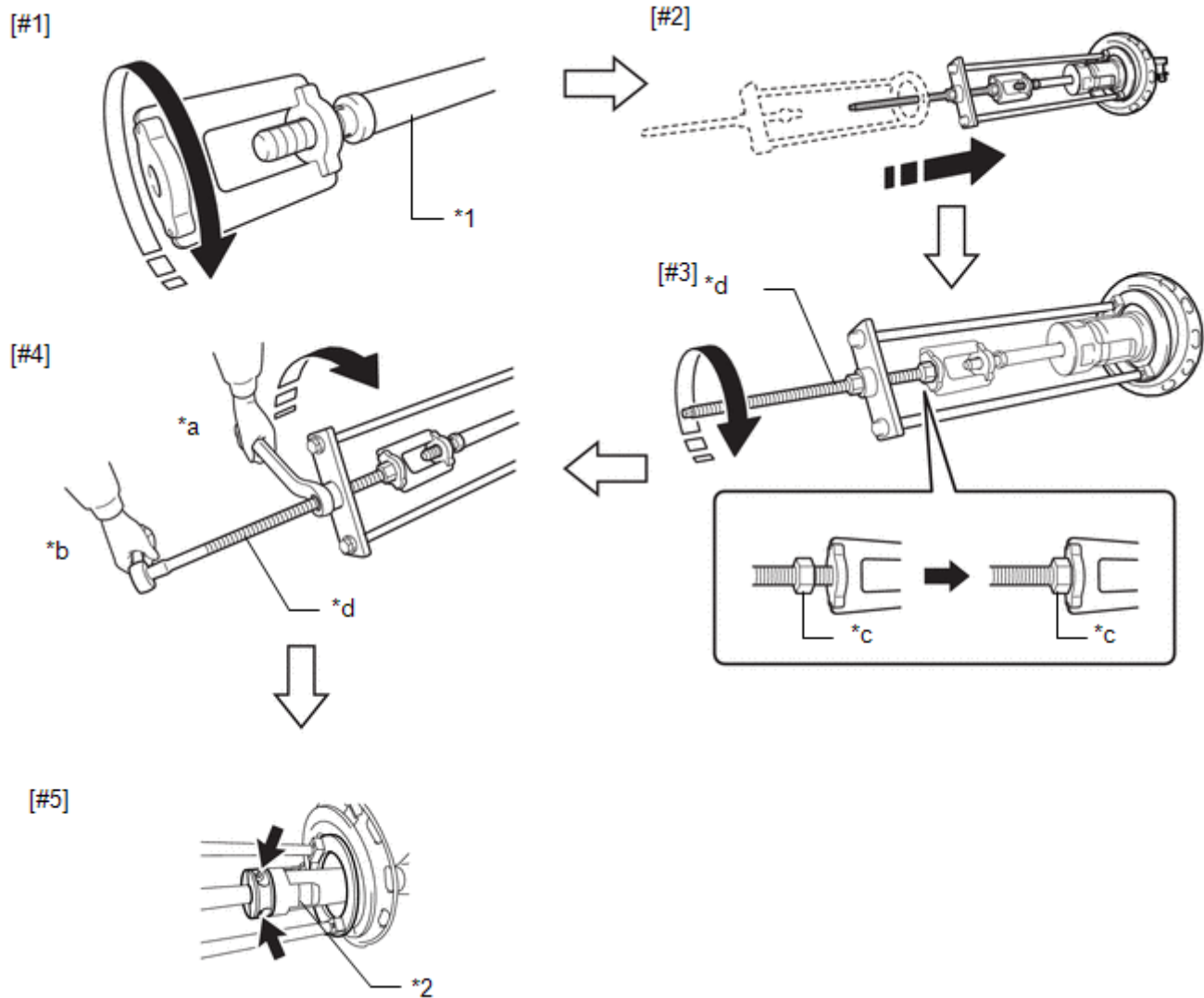
Install SST (09727-58100) and SST (09727-58110) to the front shock absorber assembly.

SST : 09727-58100

SST : 09727-58110

SST : 09727-58010

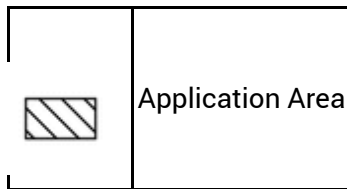
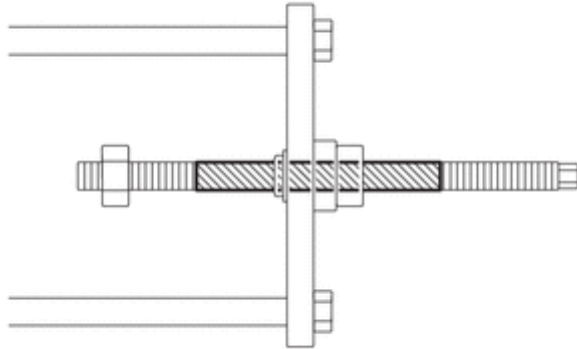
09727-58020



*1	Front Shock Absorber Assembly	*2	Shock Absorber Outer Shell
*a	Turn	*b	Hold
*c	Fixing Nut	*d	Bolt

NOTICE:

Apply molybdenum grease to the bolt (area with diagonal lines) of SST (09727-58010).



1. Install SST (09727-58020) to the end of the shock rod of the front shock absorber assembly.[#1]
2. Install SST (09727-58010) to the front shock absorber assembly.[#2]

NOTICE:

Take due care when installing SST (09727-58010) to ensure the shock rod is not damaged.

3. Secure the SST (09727-58010) bolt and SST (09727-58020) with the fixing nut.[#3]
4. After securing the SST (09727-58010) bolt, rotate the nut clockwise.[#4]

HINT:

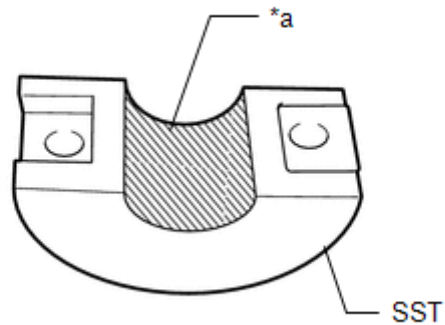
Extend the shock rod to its maximum length to install SST (09727-58100) and SST (09727-58110).

5. Using a piece of cloth, etc., clean the shock rod and remove any foreign matter and oil.

NOTICE:

Thoroughly clean the shock rod to prevent damage to the shock rod due to contact of foreign matter.

6. Clean the surface of SST (09727-58110) to which the front shock absorber assembly is installed and remove any foreign matter and oil.



0

*a	Installation Surface
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NOTICE:

Thoroughly clean the installation surface to prevent damage to the shock rod due to contact of foreign matter.

7. Using a long ball hexagon 5, install SST (09727-58100) and SST (09727-58110) to the shock rod.[#5]

NOTICE:

Before installing, check the position of the slot on end of the shock rod.

HINT:

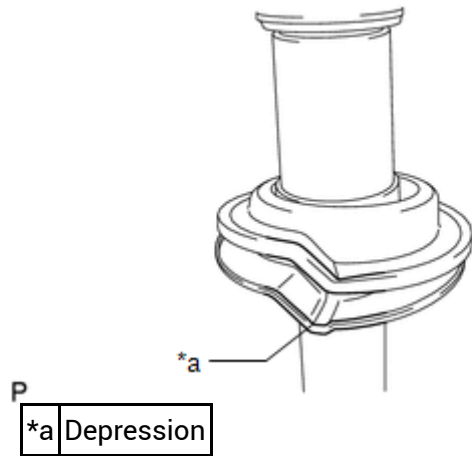
Install SST (09727-58100) and SST (09727-58110) to the base of the shock rod and check that SST (09727-58100) and SST (09727-58110) are securing the shock rod.

8. After securing the SST (09727-58010) bolt, rotate the nut counterclockwise.
9. Check that the shock rod and SST (09727-58020) have become free before releasing the fixing nut and removing SST (09727-58010) from the end of the shock rod.

NOTICE:

Take due care when removing SST (09727-58010) to ensure the shock rod is not damaged.

10. Remove SST (09727-58020) from the end of the shock rod.
 11. Using a piece of cloth, etc., clean the end of the shock rod threads and remove any foreign matter and oil.
- c. Install the front lower coil spring insulator to the front shock absorber assembly.



NOTICE:

When installing the front lower coil spring insulator, fit the insulator to the depression of the spring seat.

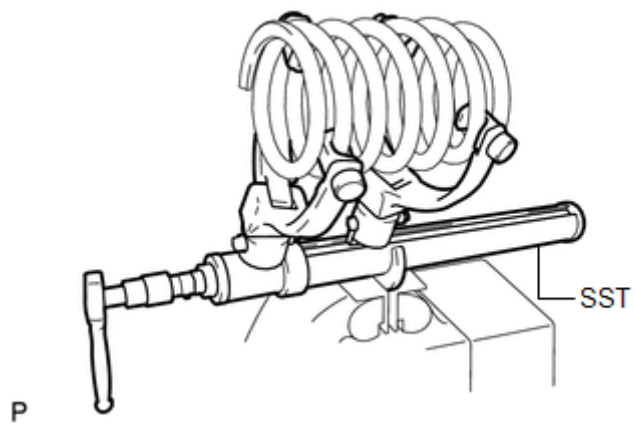
d. Secure SST in a vise.

SST : 09727-30021

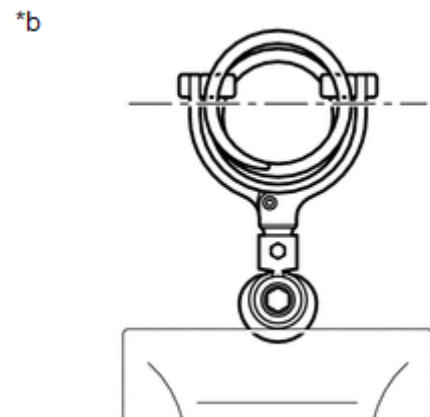
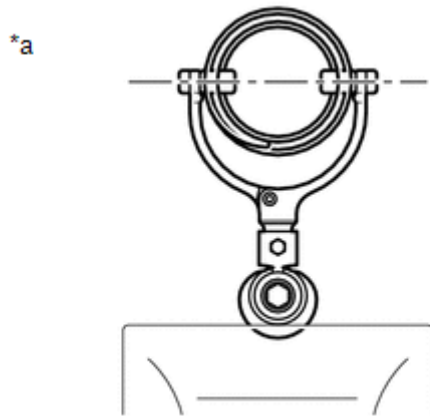
09727-00010

09727-00021

09727-00031



e. Attach the arms of SST to the diameter of the front coil spring.



*a	Correct
*b	Incorrect

CAUTION:

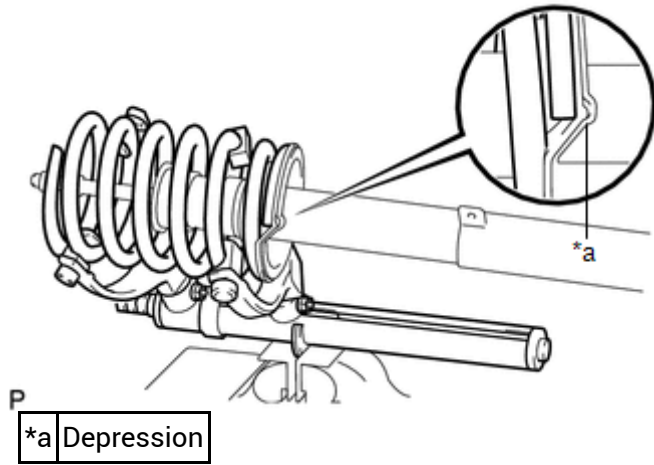
- Make sure that the front coil spring is installed so that the distance between the upper and lower arms of SST is at the maximum.
- Make sure that the claws of the arms are securely attached.

f. Using SST, compress the front coil spring.

CAUTION:

- If the front coil spring bends during compression, immediately stop compression and reinstall SST.
- Do not excessively compress the front coil spring so that the coils contact each other.
- Do not use an impact wrench. It will damage SST.

g. Install the front coil spring to the front shock absorber assembly.

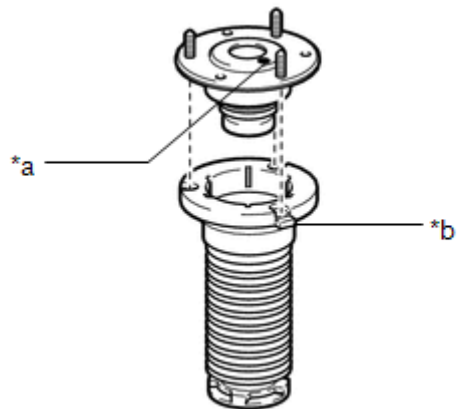


NOTICE:

Make sure that the end of the front coil spring is positioned in the depression of the front lower spring seat.

h. Install the front spring bumper to the front suspension support assembly.

i. Install the front upper coil spring insulator to the front suspension support assembly as shown in the illustration.



P	*a Identification Character
	*b Protrusion

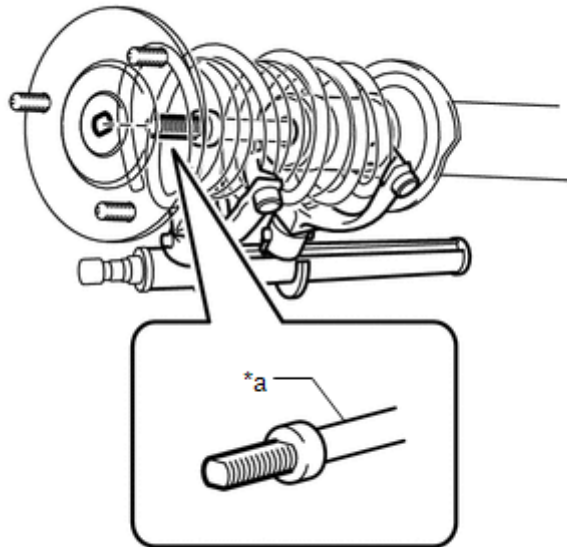
NOTICE:

Align the identification character on the front suspension support assembly with the protrusion on the upper part of the front upper coil spring insulator.

- j. Install the front suspension support assembly to the front shock absorber assembly.

NOTICE:

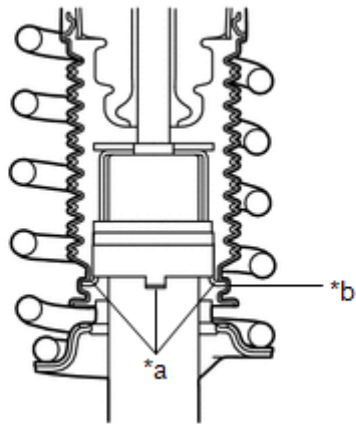
Match the shape of the front shock absorber assembly piston rod end to the shape of the front suspension support assembly.



C
*a | Piston Rod

- k. for 2UR-GSE:

1. Engage the end of the front upper coil spring insulator to the front shock absorber assembly claws.



C

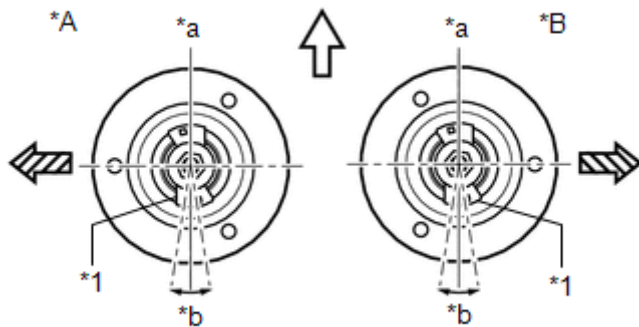
*a	Front Shock Absorber Assembly Claw
*b	End of Front Upper Coil Spring Insulator

NOTICE:

- Make sure that the end of the front upper coil spring insulator is engaged securely to the 4 front shock absorber assembly claws.
- Be careful not to deform the bellows of the front upper coil spring insulator.
- Keep the front upper coil spring insulator free of oil and grease.



I. w/ AVS:

1. Install the front actuator support bracket to the front shock absorber assembly as shown in the illustration.



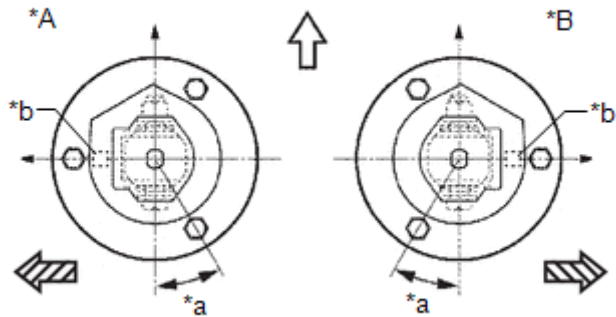
C

*A	LH Side
*B	RH Side



*1	Front Actuator Support Bracket
*a	Front actuator support bracket center line
*b	0° +/- 10°
	Front of the Vehicle
	Outside of the Vehicle

m. Temporarily tighten a new lock nut.

n. Adjust the front suspension support assembly so that the bolts come to the positions as shown in the illustration, and remove SST from the front coil spring.



*A	LH Side
*B	RH Side
*a	30° +/- 2°
*b	Identification Character

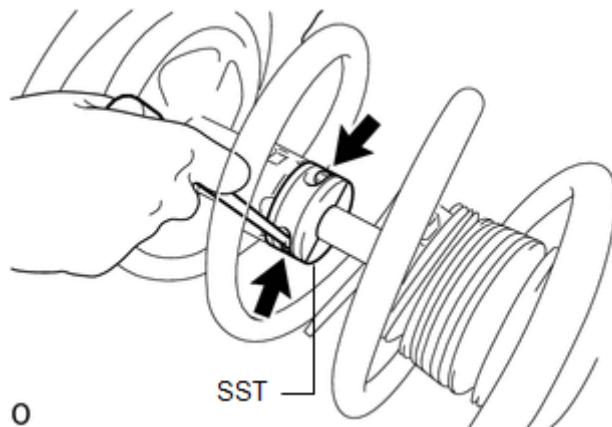
	Front of the Vehicle
	Outside of the Vehicle

NOTICE:

- **Do not use an impact wrench. It will damage SST.**
- **Make sure that the width across flat on the front shock absorber piston rod end is located parallel to the front shock absorber bushing.**
- **Make sure of the direction of the front suspension support assembly when removing SST.**

o. except 2UR-GSE:

1. Fold back the front upper coil spring insulator and then use a long ball hexagon 5 to remove SST (09727-58100) and SST (09727-58110) from the front shock absorber assembly.

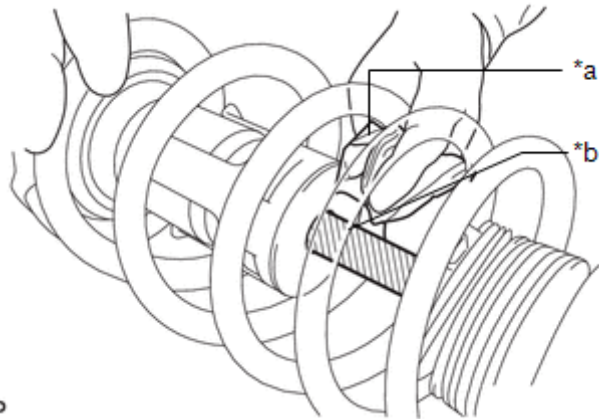


NOTICE:

- **Thoroughly remove SST (09727-58100) and SST (09727-58110).**
 - **Check that front upper coil spring insulator is not excessively deformed or crushed.**
2. Using a piece of cloth, etc., clean the shock rod of the front shock absorber assembly and remove any foreign matter and oil.

NOTICE:

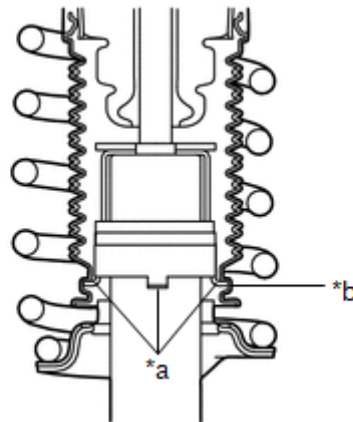
Thoroughly clean the shock rod to prevent damage to the front shock absorber assembly due to contact of foreign matter.



P

*a	Cloth, etc.
*b	Shock Rod

3. Engage the end of the front upper coil spring insulator to the front shock absorber assembly claws.



C

*a	Front Shock Absorber Assembly Claw
*b	End of Front Upper Coil Spring Insulator

NOTICE:

- Make sure that the end of the front upper coil spring insulator is engaged securely to the 4 front shock absorber assembly claws.

- **Be careful not to deform the bellows of the front upper coil spring insulator.**
- **Keep the front upper coil spring insulator free of oil and grease.**

2. TEMPORARILY TIGHTEN FRONT SHOCK ABSORBER WITH COIL SPRING

- a. Install the front shock absorber with coil spring (upper side) and front No. 3 spring support reinforcement with the 3 nuts.

Torque : 67 Nm (683 kgf-cm, 49 ft-lbf)

- b. Temporarily tighten the front shock absorber with coil spring (lower side) to the front lower suspension arm assembly with the bolt and nut.

NOTICE:

- **Insert the bolt from the rear of the vehicle.**
- **Because the nut has its own stopper, do not turn the nut. Tighten the bolt with the nut secured.**

HINT:

Fully tighten the bolt after stabilizing the suspension.

- c. Fully tighten the lock nut.

Torque : 27.5 Nm (280 kgf-cm, 20 ft-lbf)

NOTICE:

Perform this step only when the front shock absorber with coil spring has been disassembled.

- d. w/o AVS:

1. Install the upper shock absorber cap to the lock nut.

3. INSTALL ABSORBER CONTROL ACTUATOR (w/ AVS)

Click here [[SUSPENSION CONTROL: ABSORBER CONTROL ACTUATOR \(for Front Side\): INSTALLATION+](#)]

4. INSTALL UPPER SHOCK ABSORBER CAP (w/ AVS)

Click here [[SUSPENSION CONTROL: ABSORBER CONTROL ACTUATOR \(for Front Side\): INSTALLATION+](#)]

5. INSTALL FRONT UPPER SUSPENSION ARM ASSEMBLY

- a. Install the front upper suspension arm assembly to the steering knuckle with the nut.

Torque : 87 Nm (887 kgf-cm, 64 ft-lbf)

NOTICE:

Prevent oil from adhering to the threaded and tapered parts.

- b. Install a new clip.

NOTICE:

Further tighten the nut up to 60° if the holes for the clip are not aligned.

6. INSTALL FRONT STABILIZER LINK ASSEMBLY

Click here [[FRONT SUSPENSION: FRONT STABILIZER BAR \(for 2WD\): INSTALLATION+](#)]

7. INSTALL SKID CONTROL SENSOR WIRE

- a. Install the skid control sensor wire to the front shock absorber with coil spring and body with the 2 bolts.

Torque : 6.0 Nm (61 kgf-cm, 53 in-lbf)

NOTICE:

- **Be careful not to deform the bracket of the front shock absorber with coil spring when installing the bolt.**
- **Do not twist the skid control sensor wire when installing it.**

- b. Connect the skid control sensor wire connector to the front axle hub sub-assembly.

NOTICE:

Do not twist the skid control sensor wire when installing it.

8. STABILIZE SUSPENSION

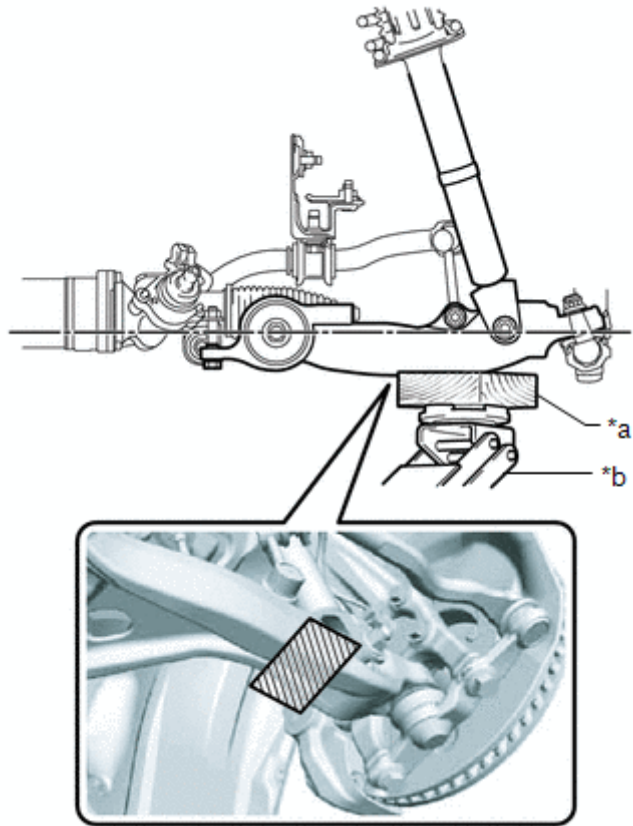
- a. Install the front wheel.

Click here [[TIRE / WHEEL: TIRE AND WHEEL: INSTALLATION](#)]


- b. Lower the vehicle and bounce it up and down several times to stabilize the front suspension.
- c. Remove the front wheel.

Click here [[TIRE / WHEEL: TIRE AND WHEEL: REMOVAL](#)]

- d. Jack up the front lower suspension arm assembly, and place a wooden block under it to avoid damage. Apply load to the suspension so that the front lower suspension arm assembly is placed in a horizontal position.



C

*a	Wooden Block
*b	Jack
	Wooden block placement location

CAUTION:

Do not jack up the front lower suspension arm assembly too high as the vehicle may fall.

NOTICE:

- **When jacking up the front lower suspension arm assembly, be sure to jack it up slowly.**
- **Make sure to perform this operation with the vehicle kept as low as possible.**

9. FULLY TIGHTEN FRONT SHOCK ABSORBER WITH COIL SPRING

- a. Fully tighten the front shock absorber with coil spring bolt.

Torque : 108 Nm (1101 kgf-cm, 80 ft-lbf)

NOTICE:

Because the nut has its own stopper, do not turn the nut. Tighten the bolt with the nut secured.

10. INSTALL FRONT WHEEL

Click here [[TIRE / WHEEL: TIRE AND WHEEL: INSTALLATION](#)]

11. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT

Click here [[ALIGNMENT / HANDLING DIAGNOSIS: FRONT WHEEL ALIGNMENT: ADJUSTMENT](#)]