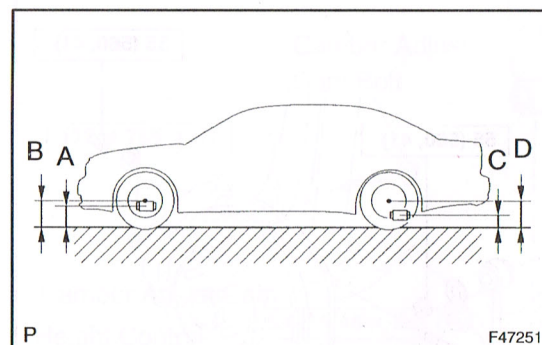


# FRONT WHEEL ALIGNMENT

## ADJUSTMENT

### 1. INSPECT TIRE (SEE PAGE 28-1)



### 2. MEASURE VEHICLE HEIGHT

Vehicle height:

Except air suspension:

Tire Size	Front B-A	Rear D-C
P225/55R17	105 mm (4.13 in.)	91 mm (3.58 in.)
245/45R18	104 mm (4.09 in.)	89 mm (3.50 in.)

Air suspension:

Front B-A	Rear D-C
115 mm (4.53 in.)	109 mm (4.29 in.)

Measuring points:

**A:** Ground clearance of lower suspension arm No.1 bushing set bolt center

**B:** Ground clearance of front wheel center

**C:** Ground clearance of rear suspension arm No.2 set bolt center

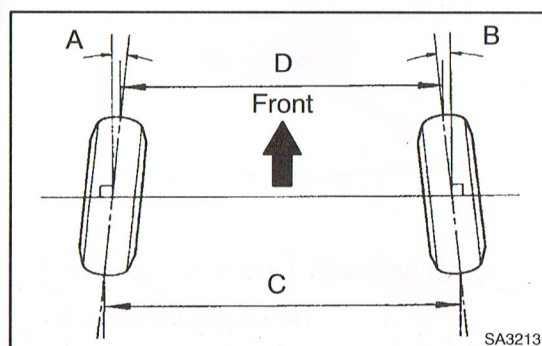
**D:** Ground clearance of rear wheel center

**NOTICE:**

Before inspecting the wheel alignment, adjust the vehicle height to the specified value.

**HINT:**

Bounce the vehicle up and down to stabilize the suspension and inspect the vehicle height.



### 3. INSPECT TOE-IN

Toe-in:

Toe-in (total)	A + B: $0^{\circ}06' \pm 12'$ ( $0.1^{\circ} \pm 0.2^{\circ}$ ) C - D: $1 \pm 2$ mm ( $0.04 \pm 0.08$ in.)
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If the toe-in is not within the specified range, adjust it at the rack ends.

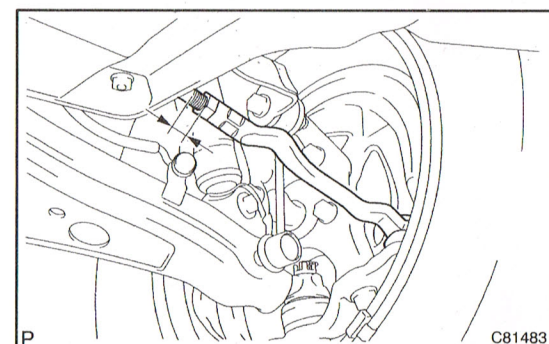
### 4. ADJUST TOE-IN

- Remove the rack boot set clips.
- Loosen the tie rod end lock nuts.
- Turn the right and left rack ends by equal amounts to adjust the toe-in.

**HINT:**

Try to adjust the toe-in to the center of the specified value.

- Make sure that the lengths of the right and left rack ends are the same.
- Torque the tie rod end lock nuts.  
**Torque: 56 N·m (570 kgf·cm, 41 ft·lbf)**
- Place the boots on the seats and install the clips.



**HINT:**

Make sure that the boots are not twisted.

- Perform the zero point calibration of yaw rate and deceleration sensor (see page 05-435).

### 5. INSPECT WHEEL ANGLE

- Turn the steering wheel fully left and right to measure the turning angle.

Wheel turning angle:

Inside wheel	$42^{\circ}10'$ ( $42.2^{\circ}$ )
Outside wheel: Reference	$36^{\circ}15'$ ( $36.3^{\circ}$ )

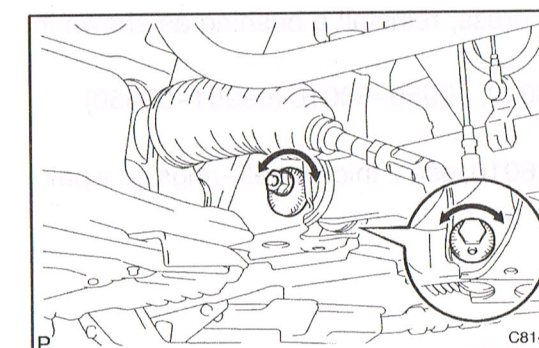
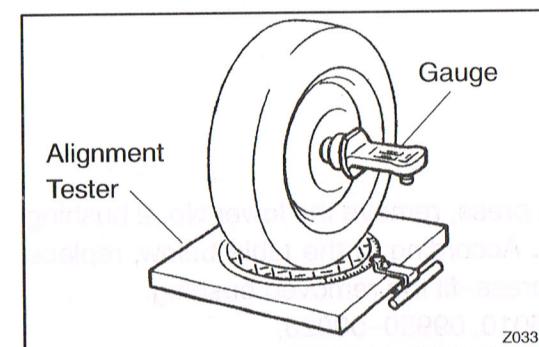
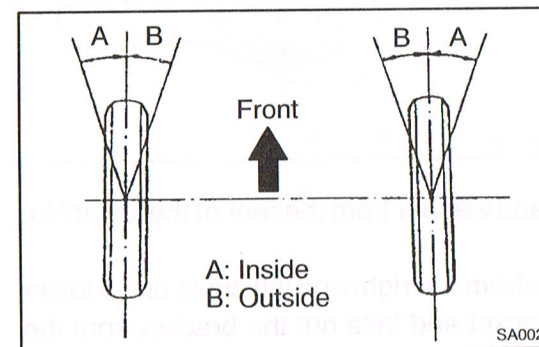
If the right and left inside wheel angles differ from the specified value, check and adjust the right and left rack end lengths.

### 6. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION

- Put the front wheel on the center of the alignment tester.
- Set the camber-caster-kingpin gauge at the center of the axle hub.

Camber, caster and steering axis inclination:

	w/o Electronic modulated air suspension	w/ Electronic modulated air suspension
Camber	$-0^{\circ}05' \pm 45'$ ( $-0.08^{\circ} \pm 0.75^{\circ}$ )	$-0^{\circ}15' \pm 45'$ ( $-0.25^{\circ} \pm 0.75^{\circ}$ )
Left-right error	30' (0.5°) or less	30' (0.5°) or less
Caster	$6^{\circ}45' \pm 45'$ ( $6.75^{\circ} \pm 0.75^{\circ}$ )	$7^{\circ}15' \pm 45'$ ( $7.25^{\circ} \pm 0.75^{\circ}$ )
Left-right error	30' (0.5°) or less	30' (0.5°) or less
Steering axis inclination	$9^{\circ}00' \pm 45'$ ( $9^{\circ} \pm 0.75^{\circ}$ )	$9^{\circ}15' \pm 45'$ ( $9.25^{\circ} \pm 0.75^{\circ}$ )
Left-right error	30' (0.5°) or less	30' (0.5°) or less



### 7. ADJUST CAMBER

**HINT:**

- After adjusting the camber, inspect the caster and toe-in.
  - Try to adjust the camber to the center value.
- Loosen the camber adjusting cam nut.
  - Turn the camber adjusting cam and adjust the camber.

**HINT:**

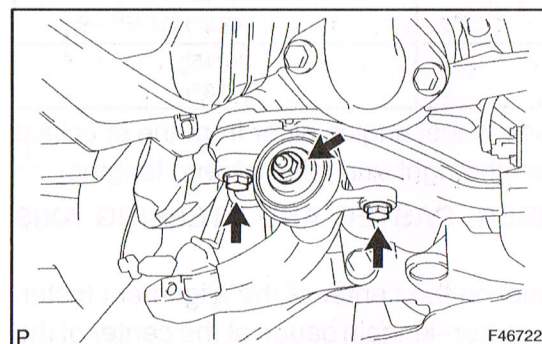
Camber changes about  $6'18''$  ( $0.11^{\circ}$ ) with each graduation of the cam.

- Torque the camber adjusting cam.  
**Torque: 172 N·m (1,755 kgf·cm, 127 ft·lbf)**

**8. ADJUST CASTER****HINT:**

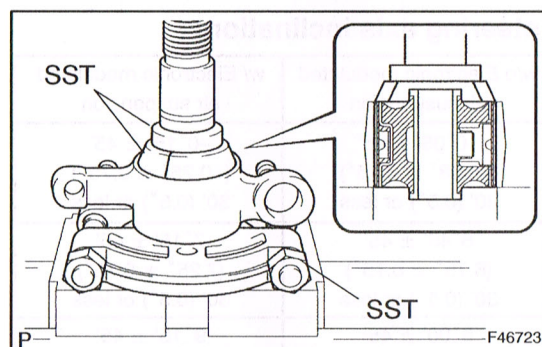
The caster can be adjusted by replacing the No. 2 bushing bracket.

- (a) Jack up the vehicle and make the wheels in full rebound condition.



- (b) Remove the nut and washer from the rear of the lower No. 2 bushing.

- (c) Remove the bolts from the right and left sides of the lower No. 2 bushing bracket and take out the bracket from the lower arm.



- (d) Using SST and a press, remove the lower No. 2 bushing from the bracket. According to the table below, replace the bracket and press-fit the removed bushing.

SST 09613-26010, 09950-00020,  
09950-60010 (09951-00650)

Part No.	Adjustment Amount
48652-50040	+30'
48652-50050	-30'

**HINT:**

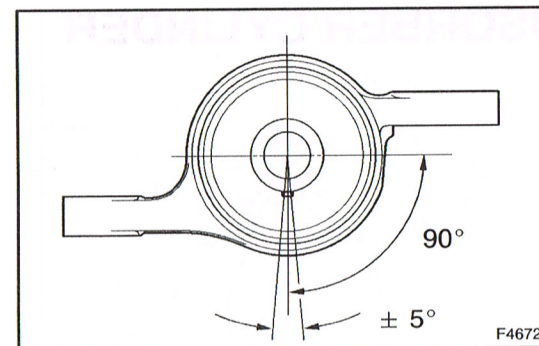
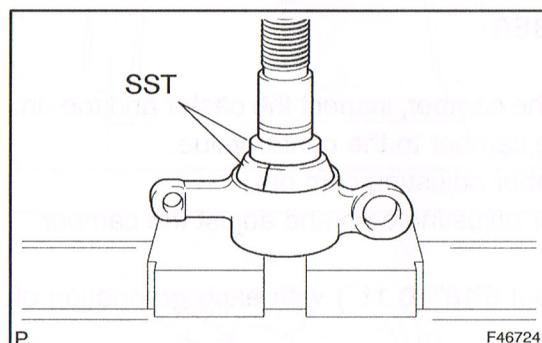
- Push the part shown in the illustration to remove.
- For SST 09613-26010, use 2 thicker half-rings as a pair.

- (e) Using SST and a press, reinstall a bushing as shown in the illustration.

SST 09613-26010, 09950-60010 (09951-00650)

**HINT:**

- For SST 09613-26010, use 2 thicker half-rings as a pair.



- Set the protrusion of the bushing to the position shown in the illustration.
- (f) Install the lower bracket into the lower arm shaft. Temporarily install the washer and nut removed in (b) until it goes by hand.

**NOTICE:**

**Do not install them completely in this stage.**

- (g) install the 2 bolts that removed in (c).

**Torque:**

**Vehicle inside: 60 N·m (612 kgf·cm, 44 ft·lbf)**

**Vehicle outside: 137 N·m (1,395 kgf·cm, 101 ft·lbf)**

- (h) Put down the vehicle and, with its wheels completely grounded, tighten the nut that is temporarily installed in (e).

**Torque: 137 N·m (1,395 kgf·cm, 101 ft·lbf)**