

# FRONT WHEEL ALIGNMENT

## ADJUSTMENT

### 1. INSPECT TIRES

- (a) Inspect the tires (see page [TW-1](#)).

### 2. MEASURE VEHICLE HEIGHT

#### NOTICE:

**Before inspecting the wheel alignment, adjust the vehicle height to the specification.**

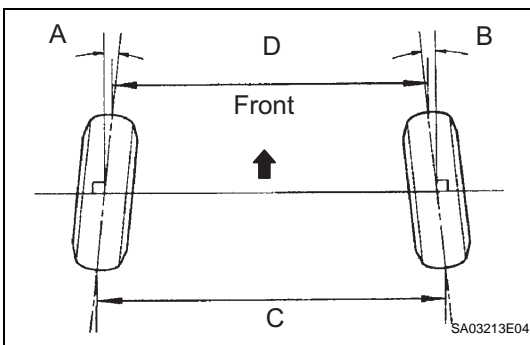
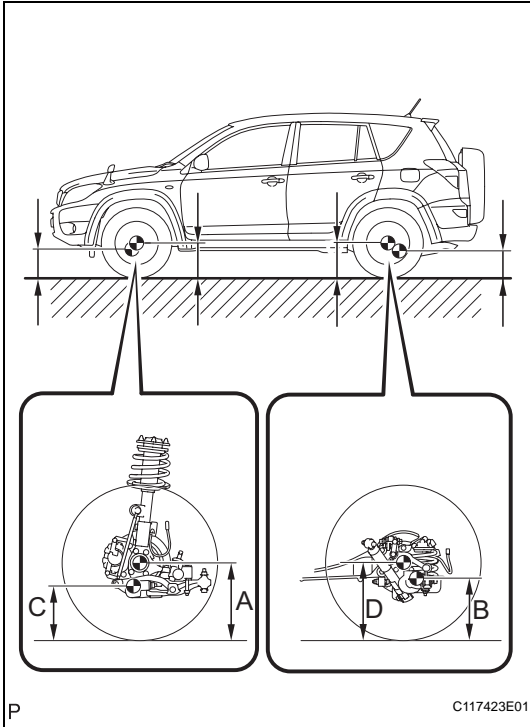
- (a) Press down on the vehicle several times to stabilize the suspension, and measure the vehicle height.
- (b) Measure the front vehicle height.
- (1) Measure the distance from the ground to the center of the lower suspension arm front mounting bolt.
- (c) Measure the rear vehicle height.
- (1) Rear Measure the distance from the ground to the center of the body side No. 2 suspension arm mounting bolt.

#### Standard vehicle height (unloaded vehicle)

Tire Size	Front C - A	Rear D - B
215/70R16	89 mm (3.50 in.)	57 mm (2.24 in.)
225/65R17 235/55R18	97 mm (3.82 in.)	65 mm (2.56 in.)
225/65R17*	97 mm (3.82 in.)	54 mm (2.13 in.)

#### HINT:

- \*: w/ 3rd seat.
- If the vehicle height is not as specified, press down on the vehicle several times to stabilize the suspension. Then measure the vehicle height again.

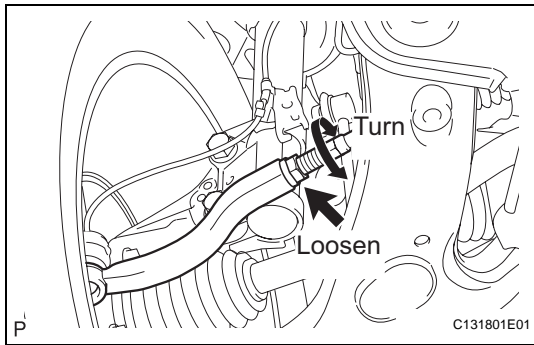


### 3. INSPECT TOE-IN

#### Standard toe-in (unloaded vehicle)

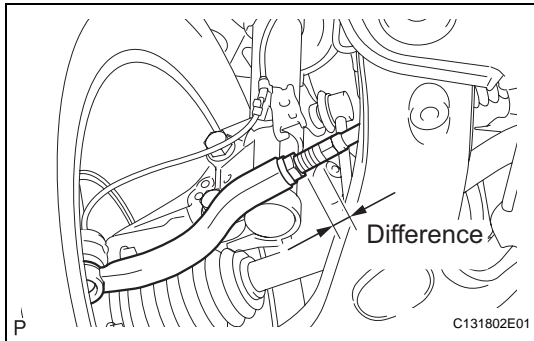
Tire Size	Front A + B Rear C - D
215/70R16	A + B: 0°05' +10' (0.08°+0.16°)
225/65R17 235/55R18	C - D: 1.0 +-2.0 mm (0.04 +-0.08 in.)

If the toe-in is not as specified, adjust it at the rack ends.



#### 4. ADJUST TOE-IN

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



- Make sure that the length of the right and left rack ends are approximately the same.

**Standard difference:**

**1.5 mm (0.059 in.) or less**

- Tighten the tie rod end lock nuts.
- Place the boots on the seats and install the clips.

**HINT:**

Make sure that the boots are not twisted.

#### 5. INSPECT WHEEL ANGLE

- Turn the steering wheel to the left and right full lock positions, and measure the turning angle.

**Standard wheel angle (unloaded vehicle)**

Tire Size	Inside Wheel Angle	Outside Wheel Angle (Reference)
215/70R16	38°55' (36°55' to 40°55') (38.9°{36.9° to 40.9°})	32°20' (32.3°)
225/65R17 235/55R18	35°50' (33°55' to 37°55') (35.8°{33.8° to 37.9°})	30°29' (30.5°)

If the angles are not as specified, check and adjust the right and left rack end lengths.

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

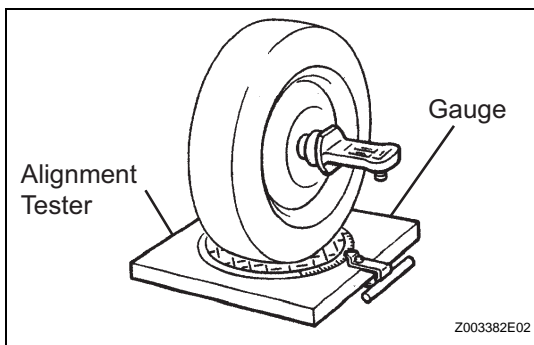
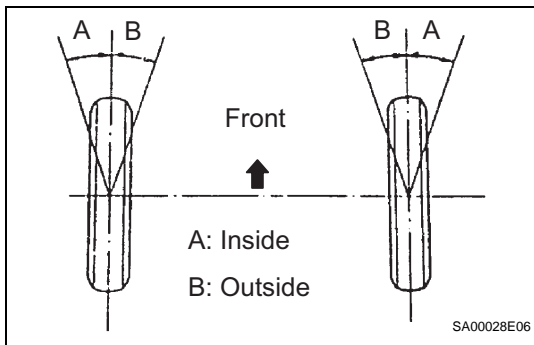
- Install the camber-caster-kingpin gauge or place the front wheels on the center of the wheel alignment tester.
- Inspect the camber, caster and steering axis inclination.

**Standard camber inclination (unloaded vehicle)**

Tire Size	Camber Inclination
215/70R16	-0°08' +45' (-0.13°+0.75°)
225/65R17 235/55R18	-0°11' +45' (-0.18°+0.75°)

**Standard caster inclination (unloaded vehicle)**

Tire Size	Caster Inclination
215/70R16	5°43' +45' (5.72°+0.75°)
225/65R17 235/55R18	5°50' +45' (5.83°+0.75°)
225/65R17*	5°37' +45' (5.62°+0.75°)



HINT:

\*: w/ 3rd seat

**Standard steering axis inclination (unloaded vehicle)**

Tire Size	Steering Axis Inclination
215/70R16	11°16' ±30' (11.27°±0.50°)
225/65R17 235/55R18	11°26' ±30' (11.43°±0.50°)

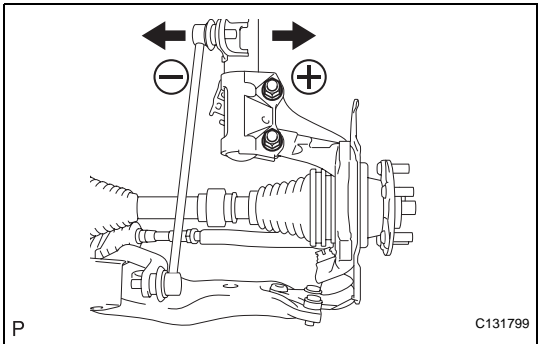
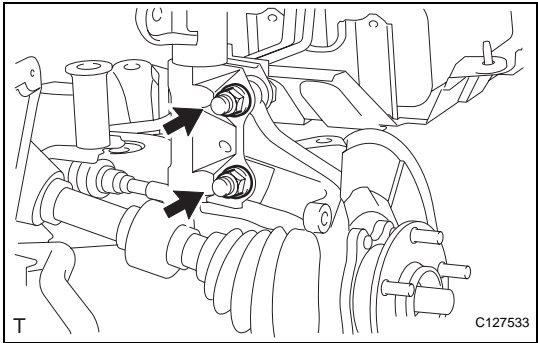
**7. ADJUST CAMBER AND CASTER**

**NOTICE:**

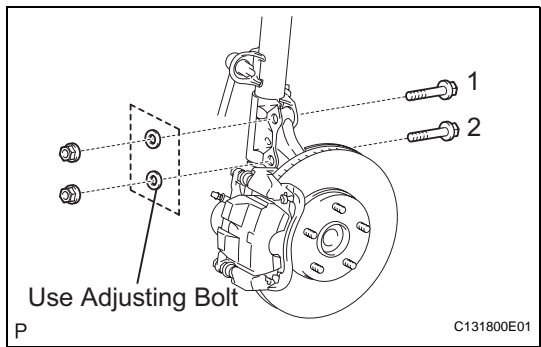
**After the camber has been adjusted, inspect the toe-in.**

- (a) Remove the front wheel.
- (b) Remove the 2 nuts on the lower side of the shock absorber.
- (c) Coat the threads of the nuts with engine oil.
- (d) Temporarily install the 2 nuts.

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- (e) Adjust the camber by pushing or pulling the lower side of the shock absorber in the direction where the camber adjustment is required.
- (f) Tighten the 2 nuts.  
**Torque: 240 N\*m (2,447 kgf\*cm, 177 ft.\*lbf)**
- (g) Install the front wheel.  
**Torque: 103 N\*m (1,050 kgf\*cm, 76 ft.\*lbf)**
- (h) Check the camber.  
If the measured value is not within the specified range, calculate the required adjustment amount using the formula below.



If the camber is not within the specification, estimate how much additional camber adjustment will be required and select the camber adjusting bolt using the following table.

Bolt	Set Bolt		Adjusting Bolt							
			90105-17008		90105-17009		90105-17010		90105-17011	
			1 Dot		2 Dots		3 Dots			
			11		•11		•11•		•11••	
Adjusting Value	1	2	1	2	1	2	1	2	1	2
	15'	●		●						
	30'	●				●				
	45'	●							●	
	1°00'		●						●	
	1°15'				●				●	
	1°30'						●	●		

- (i) Repeat the steps mentioned above. When temporarily installing the 2 nuts, replace 1 or 2 selected bolts.
- HINT:  
Replace 1 bolt at a time when replacing 2 bolts.