

FRONT WHEEL ALIGNMENT INSPECTION

SA0WR-01

1. MEASURE VEHICLE HEIGHT

Tire size	Front*1	Rear*2
225/55R16	190.5 mm (7.500 in.)	246.2 mm (9.693 in.)

*1: Front measuring point

Measure the distance from the ground to the center of the lower suspension arm front mounting bolt.

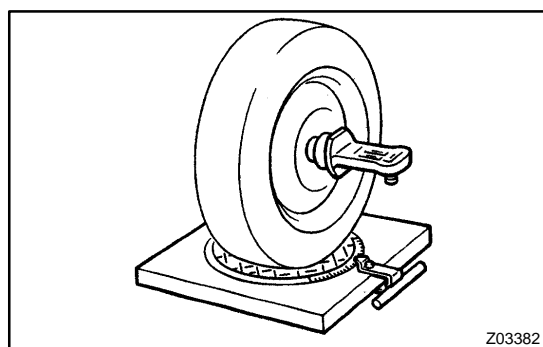
*2: Rear measuring point

Measure the distance from the ground to the center of the No.2 lower suspension arm mounting bolt.

NOTICE:

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

If the vehicle height is not within the standard, try to adjust it by pushing down on or lifting the body.



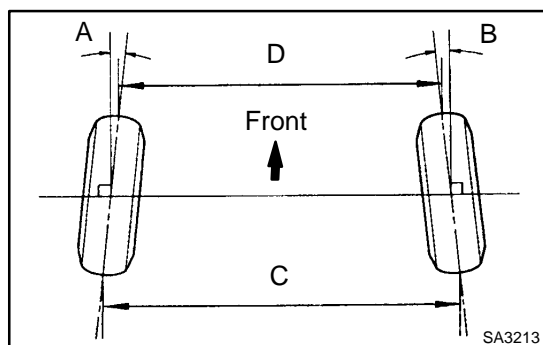
2. INSTALL CAMBER-CASTER-KINGPIN GAUGE POSITION VEHICLE ON WHEEL ALIGNMENT TESTER

Follow the specific instructions of the equipment manufacturer.

3. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION

Camber	Left-right error	$0^{\circ}02' \pm 45'$ ($0.03^{\circ} \pm 0.75^{\circ}$) 30' (0.5°) or less
Caster	Left-right error	$3^{\circ}01' \pm 45'$ ($3.02^{\circ} \pm 0.75^{\circ}$) 30' (0.5°) or less
Steering axis inclination	Left-right error	$9^{\circ}02' \pm 45'$ ($9.03^{\circ} \pm 0.75^{\circ}$) 30' (0.5°) or less

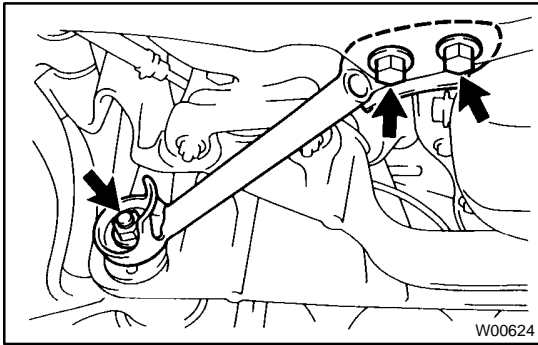
If the steering axis inclination is not as specified, after camber and caster have correctly adjusted, recheck the steering knuckle front wheel for bearing or looseness.



4. INSPECT TOE-IN

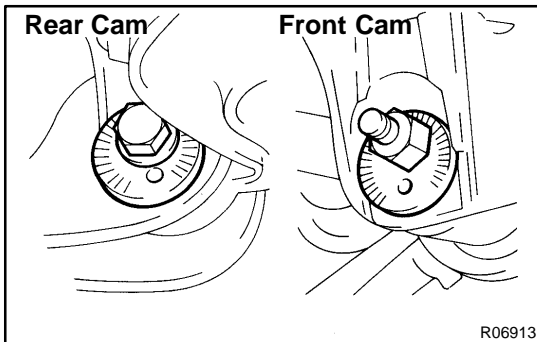
Toe-in (total)	A + B: $0^{\circ}06' \pm 12'$ ($0.1^{\circ} \pm 0.2^{\circ}$)
	C - D: 1 ± 2 mm (0.04 ± 0.08 in.)

If the toe-in is not within the specification, adjust by the rack end.



5. ADJUST CAMBER AND CASTER

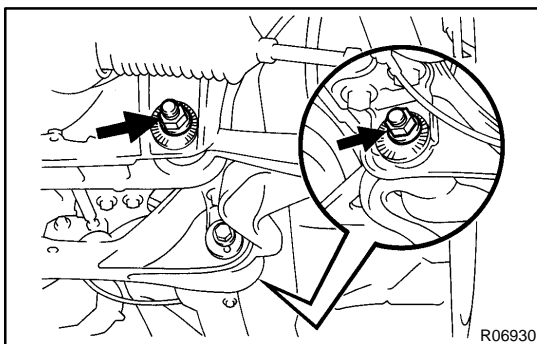
- Remove the engine under cover.
- Remove the nut, 2 bolts and front lower suspension arm bracket stay.



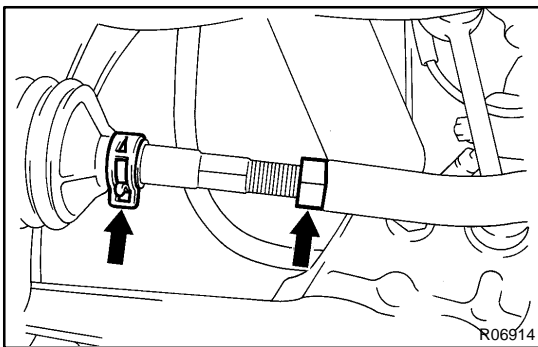
- Loosen the front and/or rear adjusting cam nuts.
- Adjust the camber and caster by front and/or rear adjusting cams. (See adjustment chart)

HINT:

Try to adjust the camber and caster to the center value.



- Torque the front and/or rear adjusting cam nuts.
Torque: 226 N·m (2,300 kgf-cm, 166 ft-lbf)
- Install the front lower suspension arm bracket stay.
Torque:
Bolt: 43 N·m (440 kgf-cm, 32 ft-lbf)
Nut: 59 N·m (600 kgf-cm, 43 ft-lbf)
- Install the engine under cover.

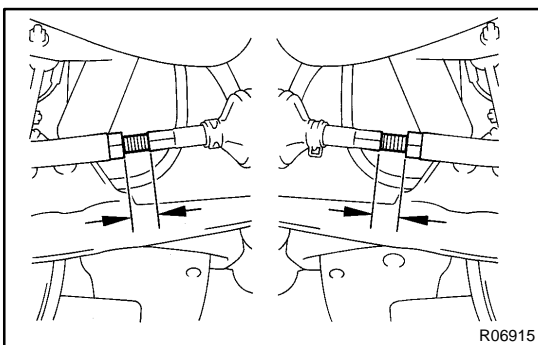


6. ADJUST TOE-IN

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

HINT:

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



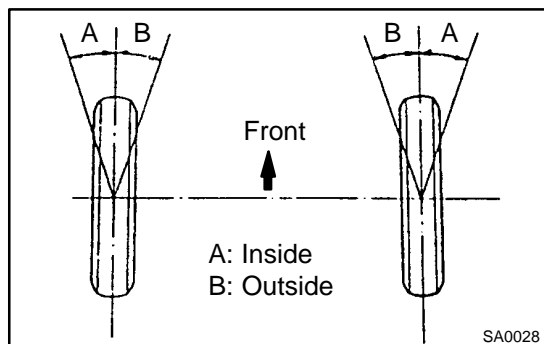
- Make sure that the length of the left and right rack ends is the same.

Rack end length difference:
1.5 mm (0.059 in.) or less

- Tighten the tie rod end lock nut.
Torque: 56 N·m (570 kgf-cm, 41 ft-lbf)
- Place the boot on the seat and clip it.

HINT:

Make sure that the boots are not twisted.



7. INSPECT WHEEL ANGLE

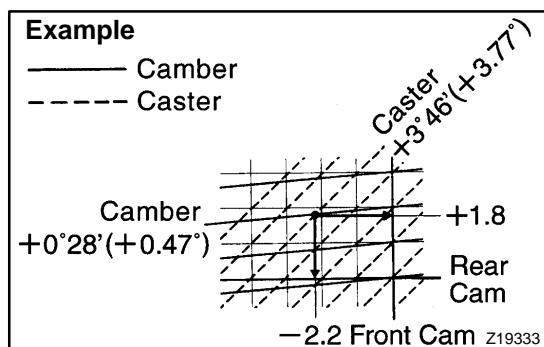
Turn the steering wheel fully, and measure the turning angle.

Inside wheel	37°04' (35°04' – 38°04') 37.07° (35.07° – 38.07°)
Outside wheel (Reference)	32°23' (32.38°)

If the wheel angle differ from the standard specifications, check to see if the length of the left and right rack ends is the same.

HINT:

If the rack ends length are not equal, the wheel angle cannot be adjusted properly. Reinspect the toe-in after adjusting the rack ends length.



8. HOW TO READ ADJUSTMENT CHART

- (a) Mark on the graph the measurements taken from the vehicle.

Example:

Camber +0°28' (+0.47°)

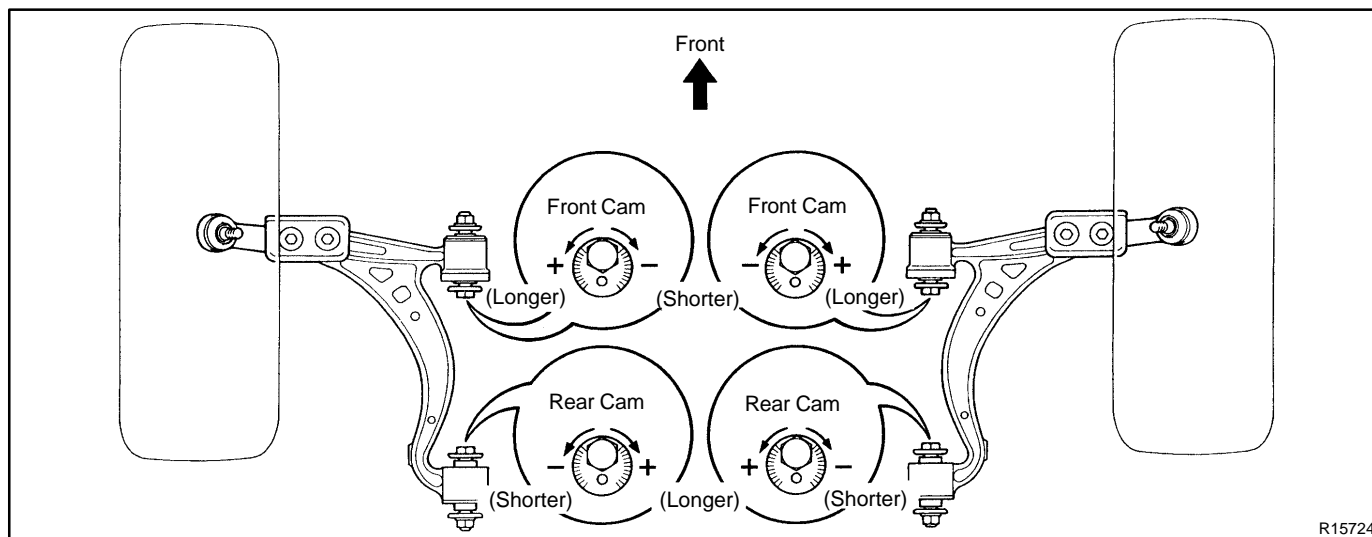
Caster +3°46' (+3.77°)

- (b) As shown in the illustration, read from the graph the amounts by which the front and/or rear cams are to be adjusted.

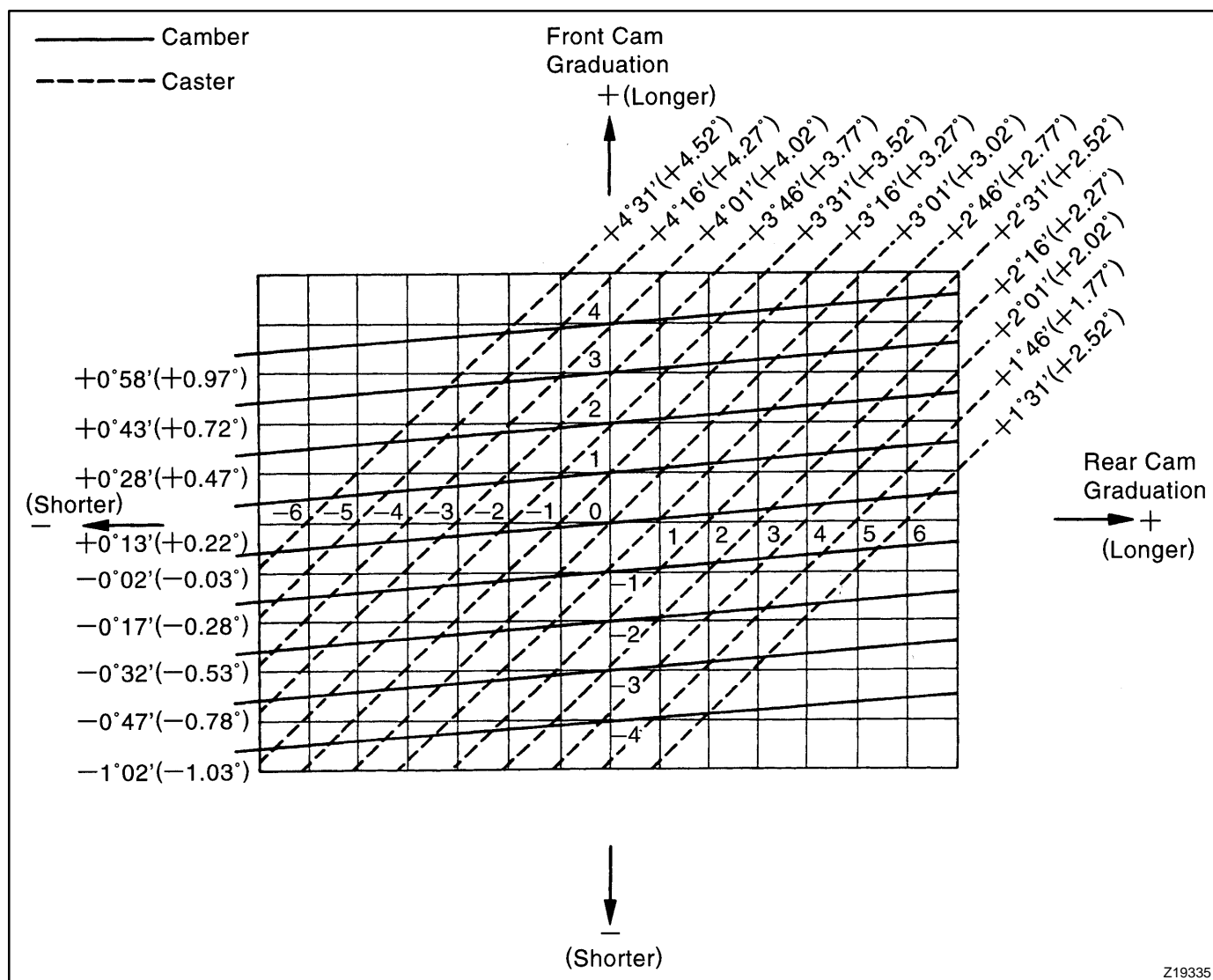
Amount to turn adjusting cam (by graduation):

Front cam + (Longer) 1.8

Rear cam – (Shorter) 2.2



SUSPENSION AND AXLE - FRONT WHEEL ALIGNMENT



Z19335