

## FRONT WHEEL ALIGNMENT (2WD) INSPECTION

SA092-04

### 1. MEASURE VEHICLE HEIGHT (See page SS-63)

Measuring points:

A: Ground clearance of spindle center

B: Ground clearance of lower suspension arm bolt center

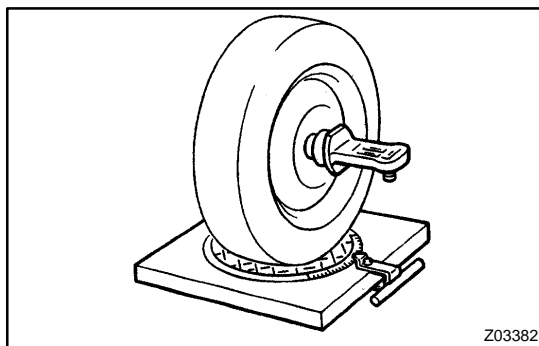
C: Ground clearance of rear axle shaft center

D: Ground clearance of leaf spring front hanger pin bolt center

#### NOTICE:

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

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



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

Follow the specific instructions of the equipment manufacturer.

### 3. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION (See page SS-63)

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

### 4. ADJUST CAMBER AND CASTER

(a) Loosen the upper suspension arm set bolts.

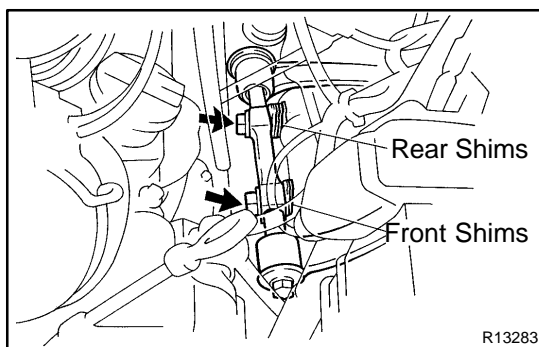
(b) Adjust the camber and caster by adding or removing shims (See adjustment chart).

#### Shim thickness:

4.0 mm (0.157 in.)	1.6 mm (0.063 in.)	1.2 mm (0.047 in.)
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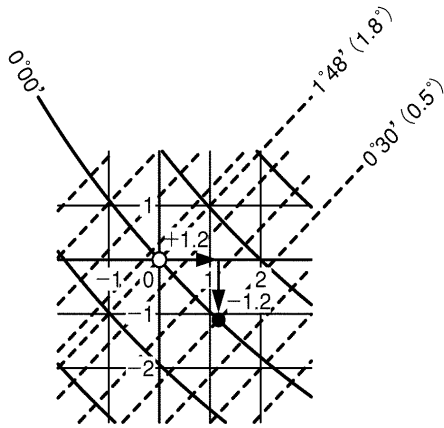
#### HINT:

Try to adjust the camber and caster to the center of the specified values.



**Example**

- Standard value point
- Measurement point
- Camber
- - - Caster



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- (c) How to read adjustment chart.
- (1) Find the wheel alignment standard value applicable for the particular model (See page [SS-63](#)).
  - (2) Mark the selected standard value on the adjustment chart.

**Example:**

**Camber: 0°00'**

**Caster: 0°30' (0.5°)**

- (3) Mark the alignment value measured when the vehicle was non-loaded on the adjustment chart.

**Example:**

**Camber: 0°00'**

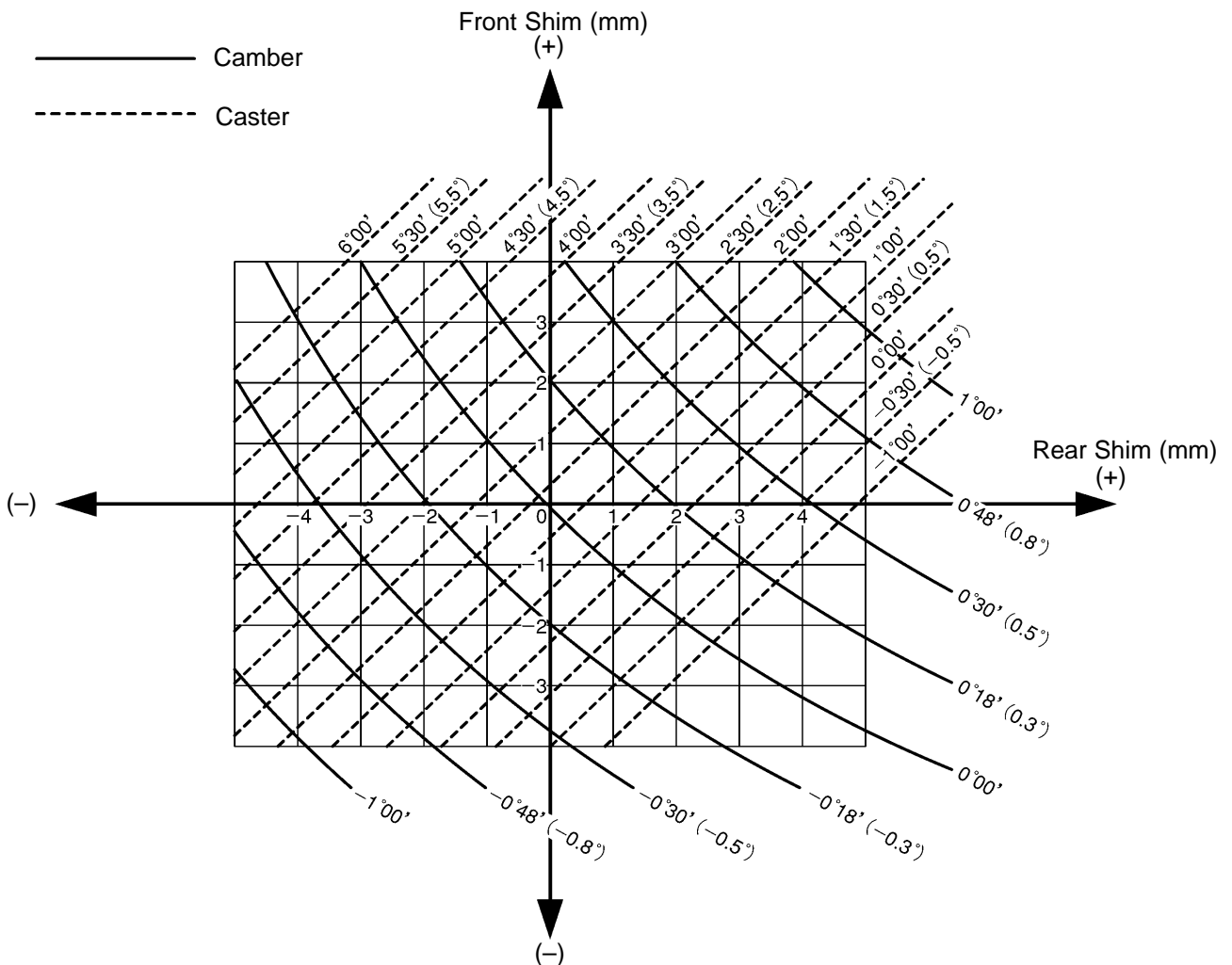
**Caster: 1°48' (1.8°)**

- (4) As shown in the chart, read the distance from the measured value to the standard value, and adjust the front and/or rear shim thickness accordingly.

**Example:**

**Front shim thickness: -1.2 mm (-0.047 in.)**

**Rear shim thickness: +1.2 mm (0.047 in.)**



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(d) Torque the upper suspension arm set bolts.

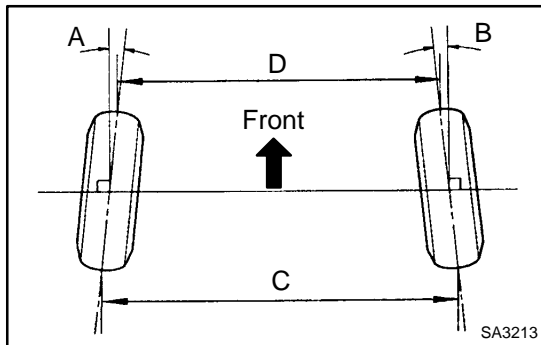
**Torque: 130 N·m (1,300 kgf·cm, 94 ft·lbf)**

HINT:

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

**NOTICE:**

**Adjust the shim thickness to 7 mm (4 – 11 mm), and adjust the difference between the front and rear of the upper suspension arm shaft to within 4 mm.**

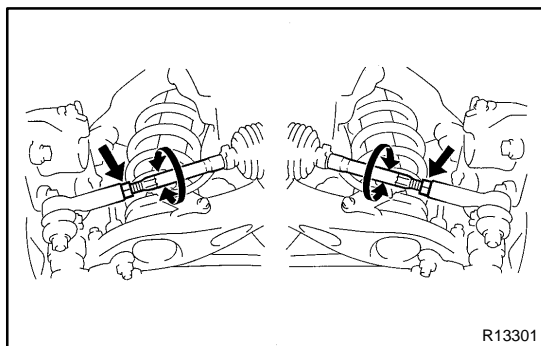


**5. INSPECT TOE-IN (See page SS-63)**

If the toe-in is not within the specified value, adjust the rack ends.

**6. ADJUST TOE-IN**

(a) Remove the 2 clips.

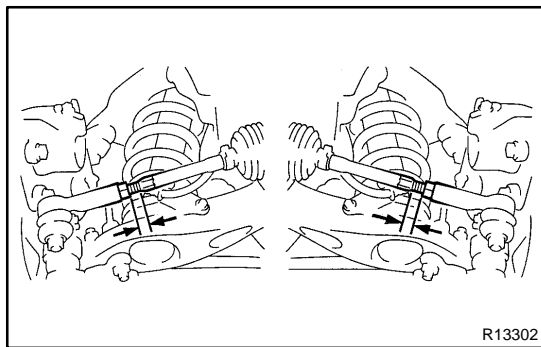


(b) Loosen the tie rod end lock nuts.

(c) Turn the right and left rack ends by an equal amount to adjust the toe-in.

HINT:

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



(d) Make sure that the lengths of the right and left rack ends are the same.

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

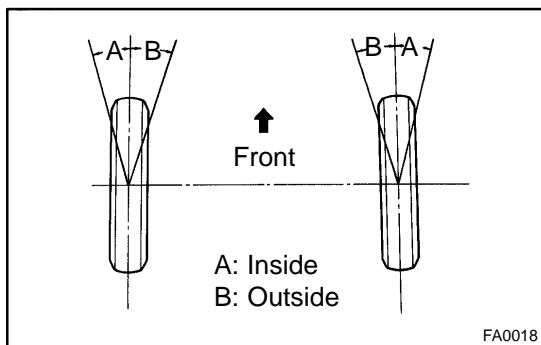
(e) Tighten the tie rod end lock nuts.

**Torque: 54 N·m (550 kgf·cm, 40 ft·lbf)**

(f) Place the boots on the seats and install the clips.

HINT:

Make sure that the boots are not twisted.



**7. INSPECT WHEEL ANGLE**

Turn the steering wheel fully and measure the turning angle.

**Wheel turning angle:**

Item	Inside wheel	Outside wheel: Reference
Max.	36° (33° – 36°)	31° (28° – 31°)

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

**HINT:**

If the rack ends lengths are not equal, the wheel turning angle cannot be adjusted properly.

Reinspect the toe-in after adjusting the rack ends lengths.