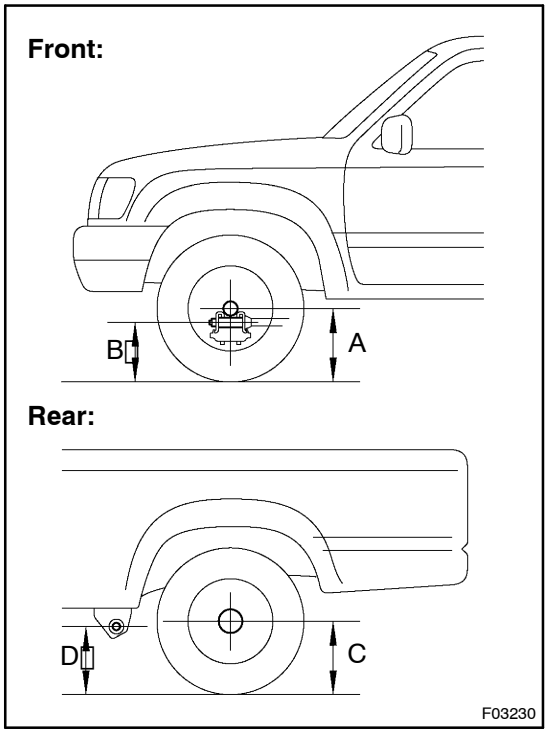


FRONT WHEEL ALIGNMENT (2WD)

SA0LB–02

INSPECTION

1. MEASURE VEHICLE HEIGHT (See page SS–4)

Front: A – B

Rear: C – D

Measuring points:

A: Ground clearance of spindle center.

B: Ground clearance of lower suspension arm bolt center.

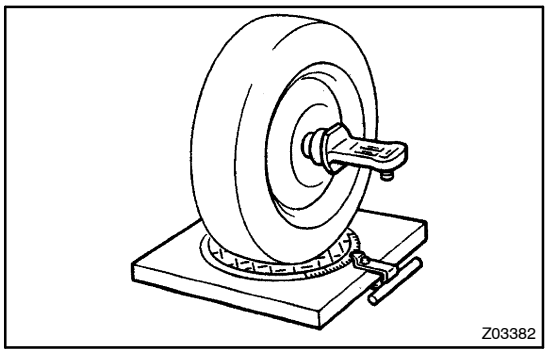
C: Ground clearance of rear axle shaft center.

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

NOTICE:

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

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

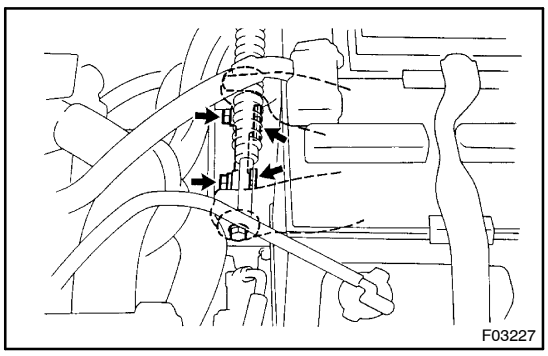


2. INSTALL CAMBER–CASTER–KINGPIN GAUGE OR POSITION VEHICLE ON WHEEL ALIGNMENT TESTER

Follow the specific instructions of the equipment manufacturer.

3. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION (See page SS–4)

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 2 bolts.

(b) Adjust the camber and caster by adding or removing shims on the upper suspension arm.

HINT:

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

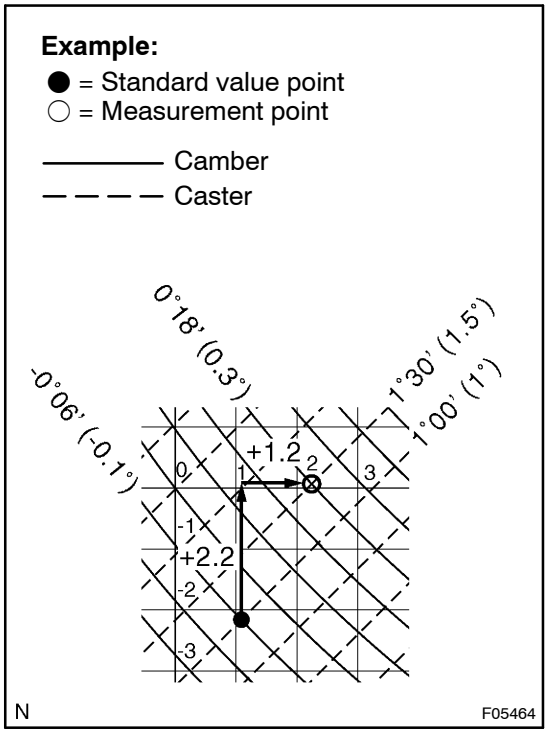
Shim thickness:

4.0 mm (0.157 in.)	1.6 mm (0.063 in.)	1.2 mm (0.047 in.)

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 6.8 mm (3.8 – 10.8 mm), and adjust the difference between the front and rear of the upper suspension arm shaft to within 4 mm.



(c) How to read adjustment chart.

(1) Find the wheel alignment standard value applicable for the particular model.

(2) Mark the selected standard value on the adjustment chart.

Example:

Camber: –0°06' (–0.1°)

Caster: 1°00' (1°)

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

Example:

Camber: 0°18' (0.3°)

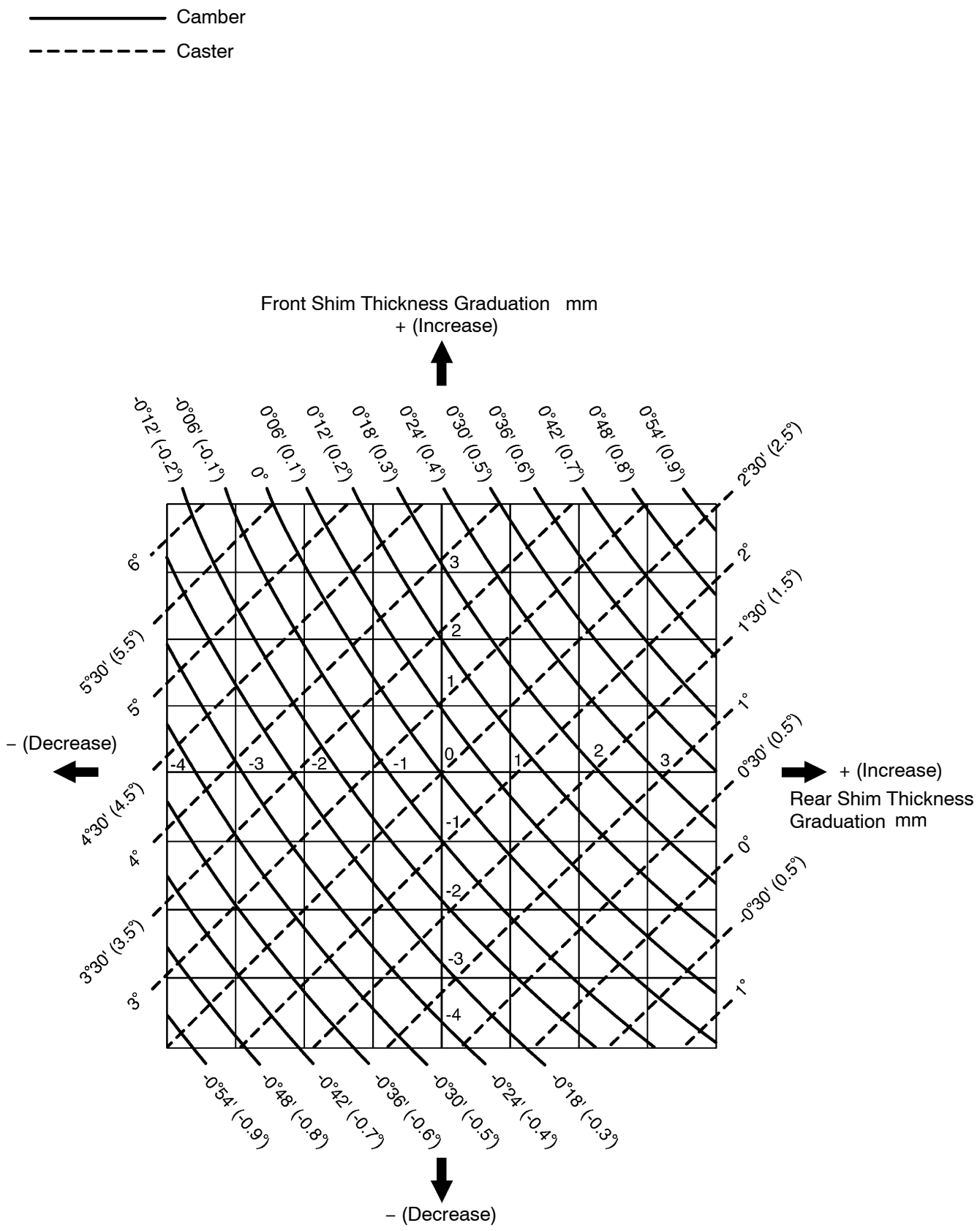
Caster: 1°30' (1.5°)

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

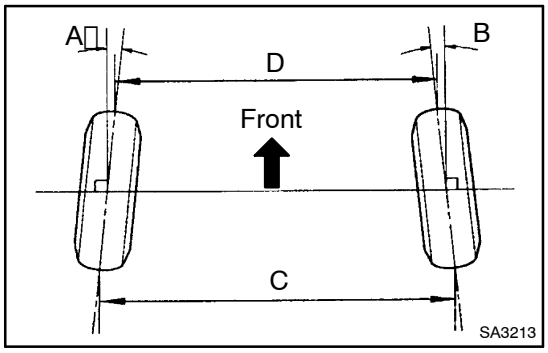
Example:

Front shim: +(Increase) 2.2 mm

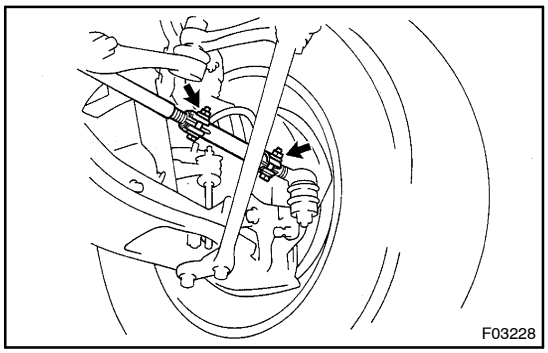
Rear shim: +(Increase) 1.2 mm


Camber
Caster
Front Shim Thickness Graduation mm
+ (Increase)
– (Decrease)
+ (Increase)
Rear Shim Thickness Graduation mm
– (Decrease)
-0°12' (-0.2°)
-0°06' (-0.1°)
0°
0°06' (0.1°)
0°12' (0.2°)
0°18' (0.3°)
0°24' (0.4°)
0°30' (0.5°)
0°36' (0.6°)
0°42' (0.7°)
0°48' (0.8°)
0°54' (0.9°)
2°30' (2.5°)
6°
5°30' (5.5°)
5°
4°30' (4.5°)
4°
3°30' (3.5°)
3°
2°
1°30' (1.5°)
1°
0°30' (0.5°)
0°
-0°30' (0.5°)
1°
-0°54' (-0.9°)
-0°48' (-0.8°)
-0°42' (-0.7°)
-0°36' (-0.6°)
-0°30' (-0.5°)
-0°24' (-0.4°)
-0°18' (-0.3°)
-4
-3
-2
-1
0
1
2
3
-4
-3
-2
-1
0
1
2
3
F03255

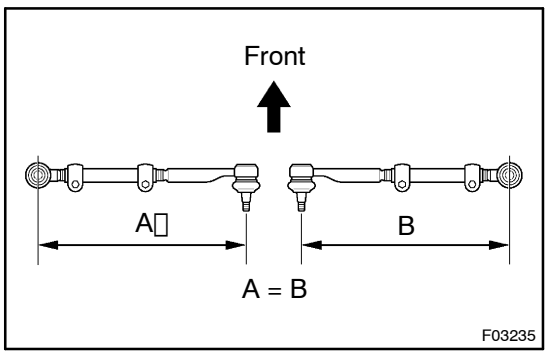
(d) Tighten the 2 bolts.
Torque: 96 N·m (980 kgf·cm, 71 ft·lbf)



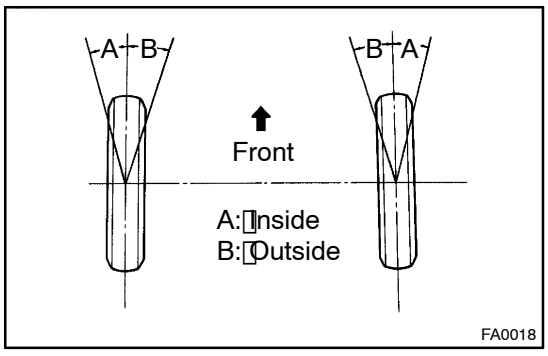
5. INSPECT TOE–IN (See page SS–4)
If the toe–in is not within the specified value, adjust the tie rod ends.



6. ADJUST TOE–IN
(a) Remove the 2 clamp nuts.

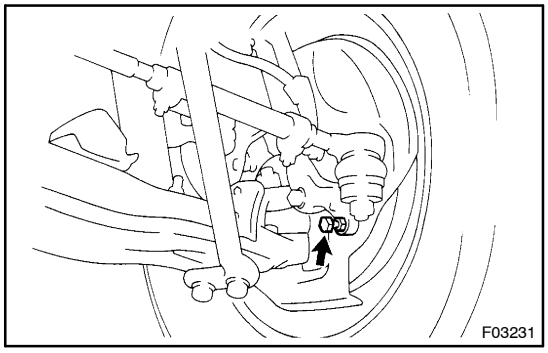


(b) Adjust toe–in by turning the right and left tie rod tubes an equal amount.
HINT:
Try to adjust the toe–in to the center of the specified value.
(c) Make sure that the lengths of the right and left tie rod ends are equal.
Tie rod end length difference:
3.0 mm (0.118 in.) or less
(d) Torque the clamp nuts.
Torque: 25 N·m (260 kgf·cm, 19 ft·lbf)



7. INSPECT WHEEL ANGLE
Turn the steering wheel fully, and measure the wheel turning angle.
Wheel turning angle:

Item	Inside wheel	Outside wheel: Reference
Manual steering	36° (34° – 37°)	32°
Power steering	38° (36° – 39°)	34°



If the right and left inside wheel turning angles differ from the specified value, adjust the wheel turning angle with the knuckle stopper bolts.

Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)

If the wheel turning angle still cannot be adjusted within limits, inspect and replace damaged or worn steering parts.