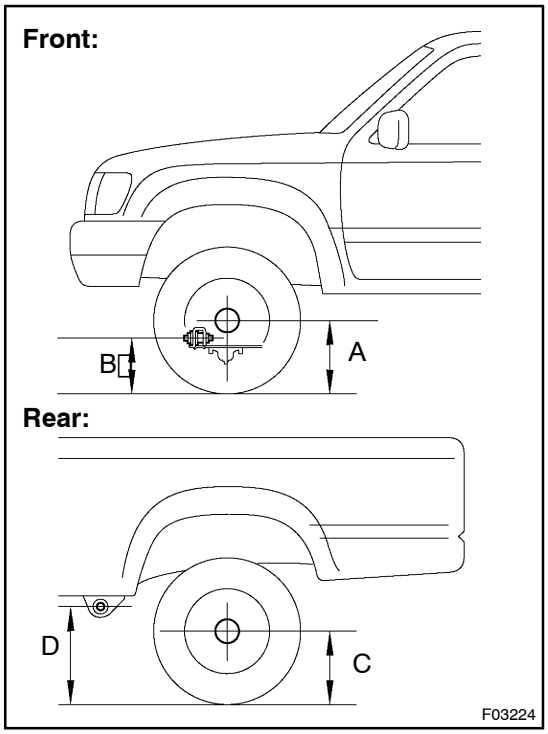
FRONT WHEEL ALIGNMENT (4WD and PRE RUNNER)

SA1FL–02

INSPECTION

HINT:
Pre runner is the model described below.
LN190L–PRPSXW



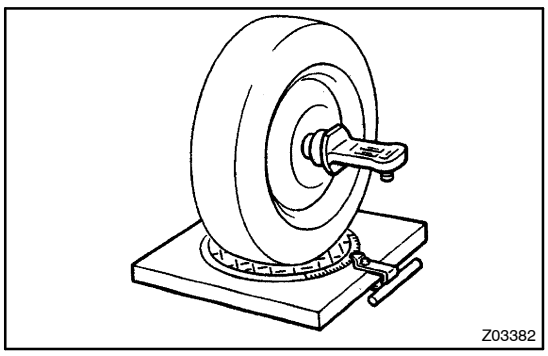
1. MEASURE VEHICLE HEIGHT (See page SS–4)

Front: A – B
Rear: C – D
Measuring points:
A: Ground clearance of spindle center.
B: Ground clearance of lower suspension arm front 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.

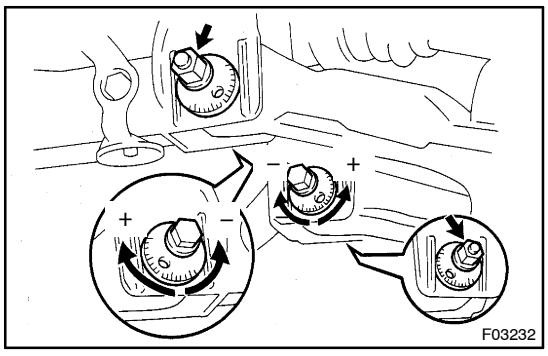


2. INSTALL CAMBER–CASTER–KINGPIN GAUGE OR POSITION VEHICLE ON WHEEL ALIGNMENT TESTER

Follow the specific instructions of the equipment manufacturer.

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

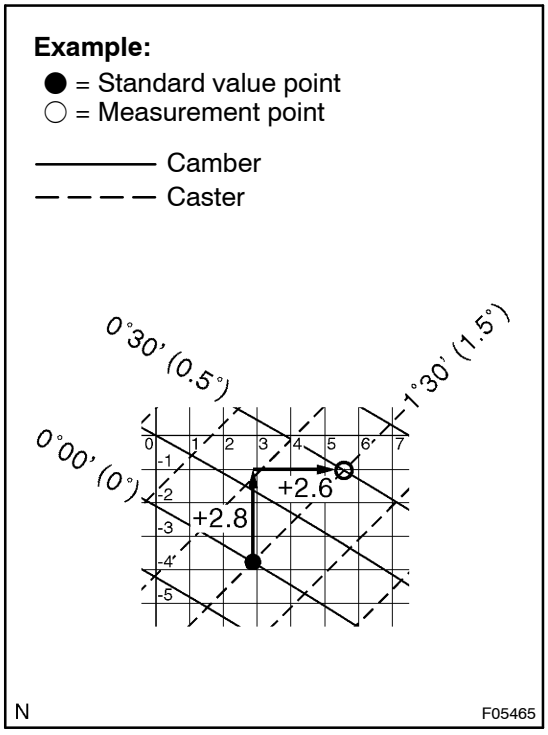
If the steering axis inclination is not within the specified value, after the camber and caster have been correctly adjusted, re-check the steering knuckle and front wheel for bearing or looseness.



4. ADJUST CAMBER AND CASTER

(a) Loosen the front and/or rear adjusting cam nuts.
(b) Adjust the camber and caster by front and/or rear adjusting cams.

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



(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.

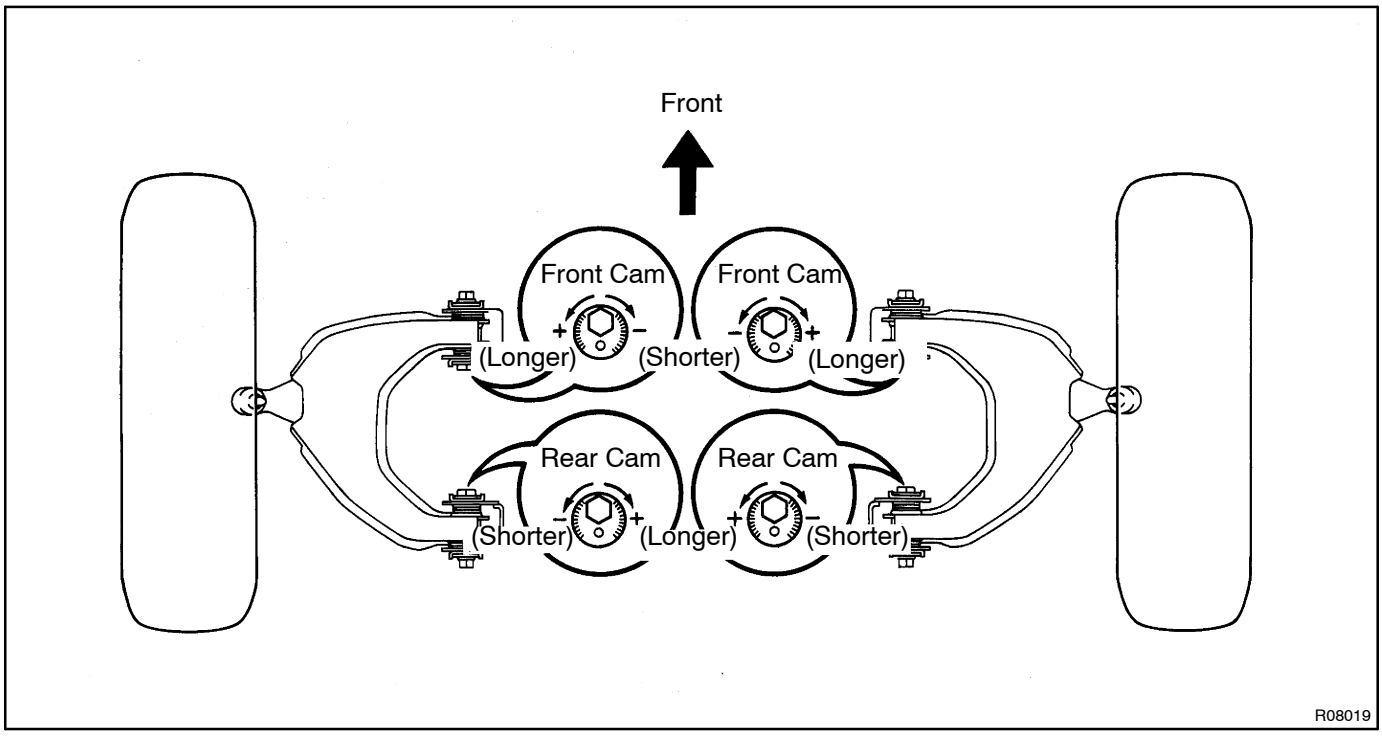
Example:
Camber: 0°00' (0°)
Caster: 1°30' (1.5°)

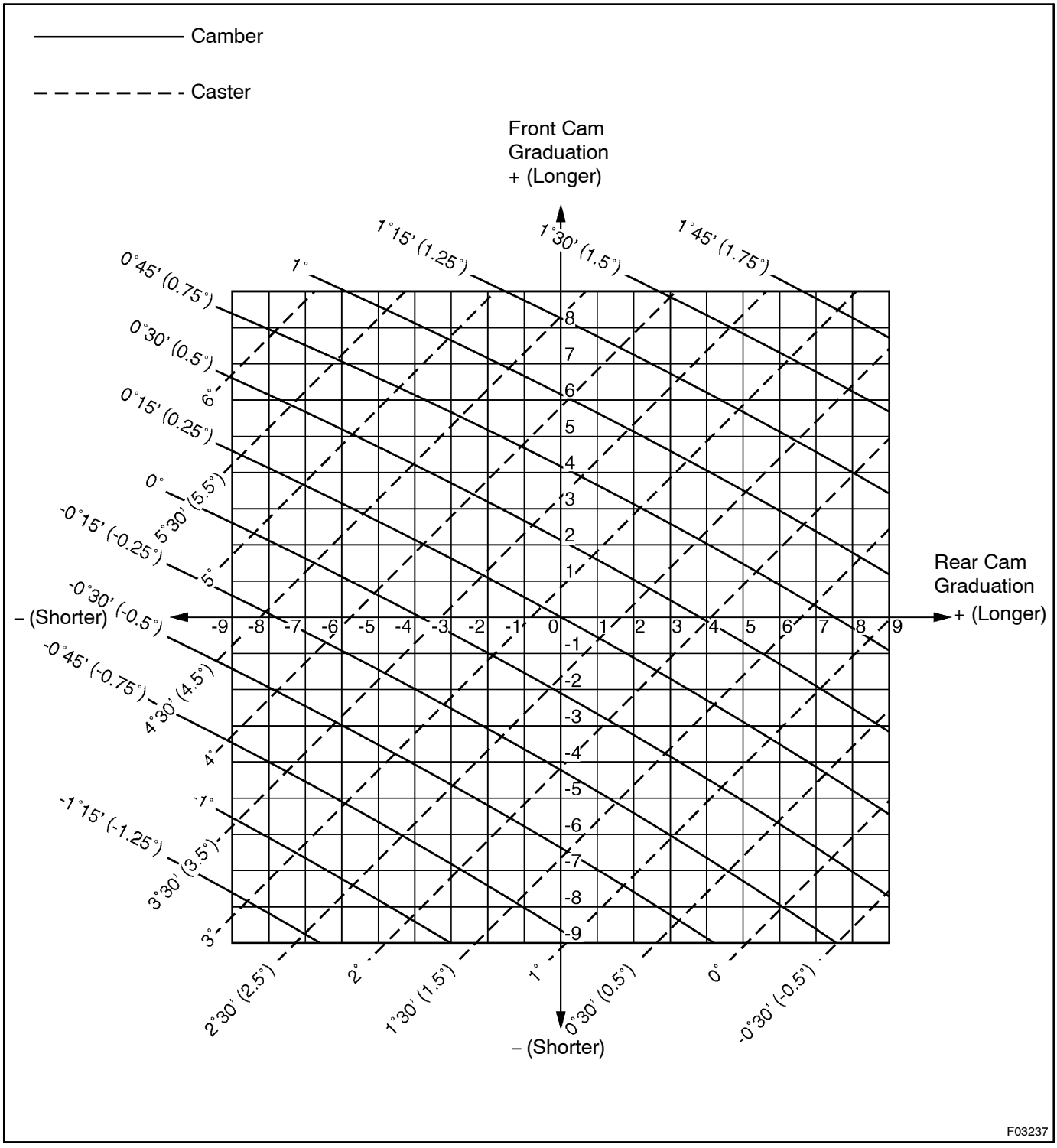
(3) Mark the alignment value measured when the vehicle was non–loaded on the adjustment chart.

Example:
Camber: 0°30' (0.5°)
Caster: 1°30' (1.5°)

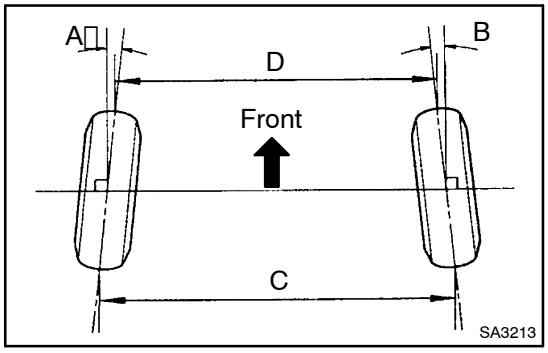
(4) As shown in the chart, read the distance from the standard value to the measured value, and adjust the front and/or rear adjusting cams accordingly.

Example:
Front cam: +(Longer) 2.8
Rear cam: +(Longer) 2.6



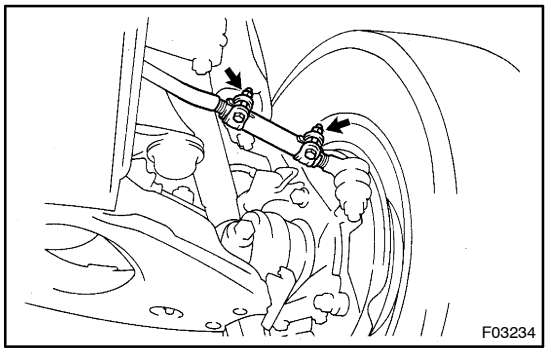


(d) Torque the front and/or rear adjusting cam nuts.
Torque: 195 N·m (2,000 kgf·cm, 145 ft·lbf)



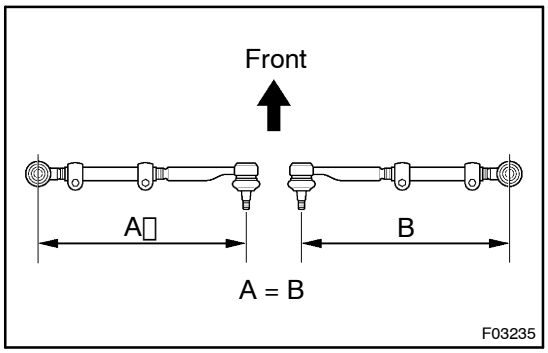
5. INSPECT TOE–IN (See page SS–4)

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.



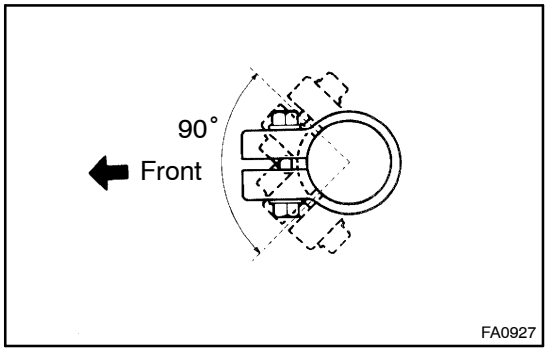
(b) Adjust toe–in by turning the right and left tie rod tubes an equal amount.

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

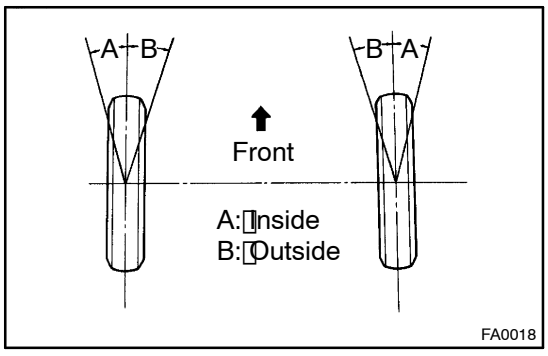


(d) Torque the clamp nuts.

Torque: 22 N·m (225 kgf·cm, 16 ft·lbf)

HINT:

Face the clamp bolts toward the front of the vehicle.



7. INSPECT WHEEL ANGLE

(a) With the vehicle unladen, turn the ignition switch ON and turn the steering wheel (steering effort: 20 N·m (2 kgf·m, 14 ft·lbf)) then measure the wheel turning angle.

Wheel turning angle:

Inside wheel	Outside wheel: Reference
33° (31° – 34°)	32°

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

Torque: 72 N·m (730 kgf·cm, 53 ft·lbf)

(b) Measure the clearance between the stopper bolt on the steering knuckle side and bracket on the lower suspension arm side at the maximum wheel turning angles.

Clearance: 3.0 ± 1.0 mm (0.118 ± 0.039 in.)

Torque: 72 N·m (730 kgf·cm, 53 ft·lbf)

If the wheel turning angle is not within the specified value, adjust the stopper bolt on the steering knuckle side.

