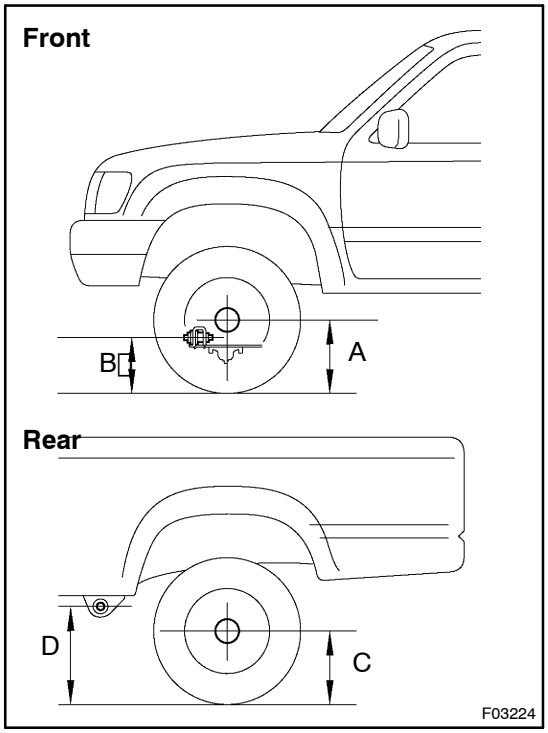


FRONT WHEEL ALIGNMENT (4WD)

SA1ZY–03

INSPECTION

1. MEASURE VEHICLE HEIGHT (See page SS–9)

Front: A – B

Rear: C – D

Measuring points:

A: Ground clearance of spindle center

B: Ground clearance of lower suspension arm front bolt center

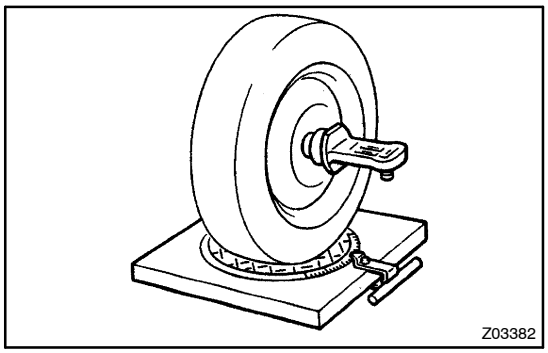
C: Ground clearance of rear axle shaft center

D: Ground clearance of leaf spring front hanger pin center

NOTICE:

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

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

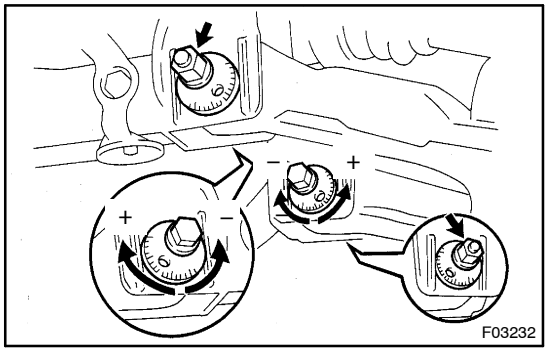


2. INSTALL CAMBER–CASTER–KINGPIN GAUGE OR TIRE ONTO WHEEL ALIGNMENT TESTER

Follow the specific instructions of the equipment manufacturer.

3. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION (See page SS–9)

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



4. ADJUST CAMBER AND CASTER

(a) Loosen the front and/or rear adjusting cam nuts.

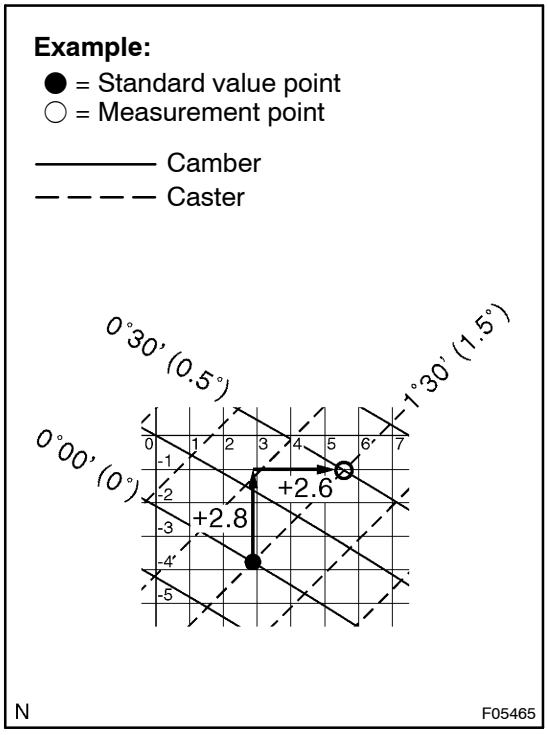
(b) Adjust the camber and caster by front and/or rear adjusting cams (See page SA–9).

HINT:

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

(c) Torque the front and/or rear adjusting cam nuts.

Torque: 195 N·m (2,000 kgf·cm, 145 ft·lbf)



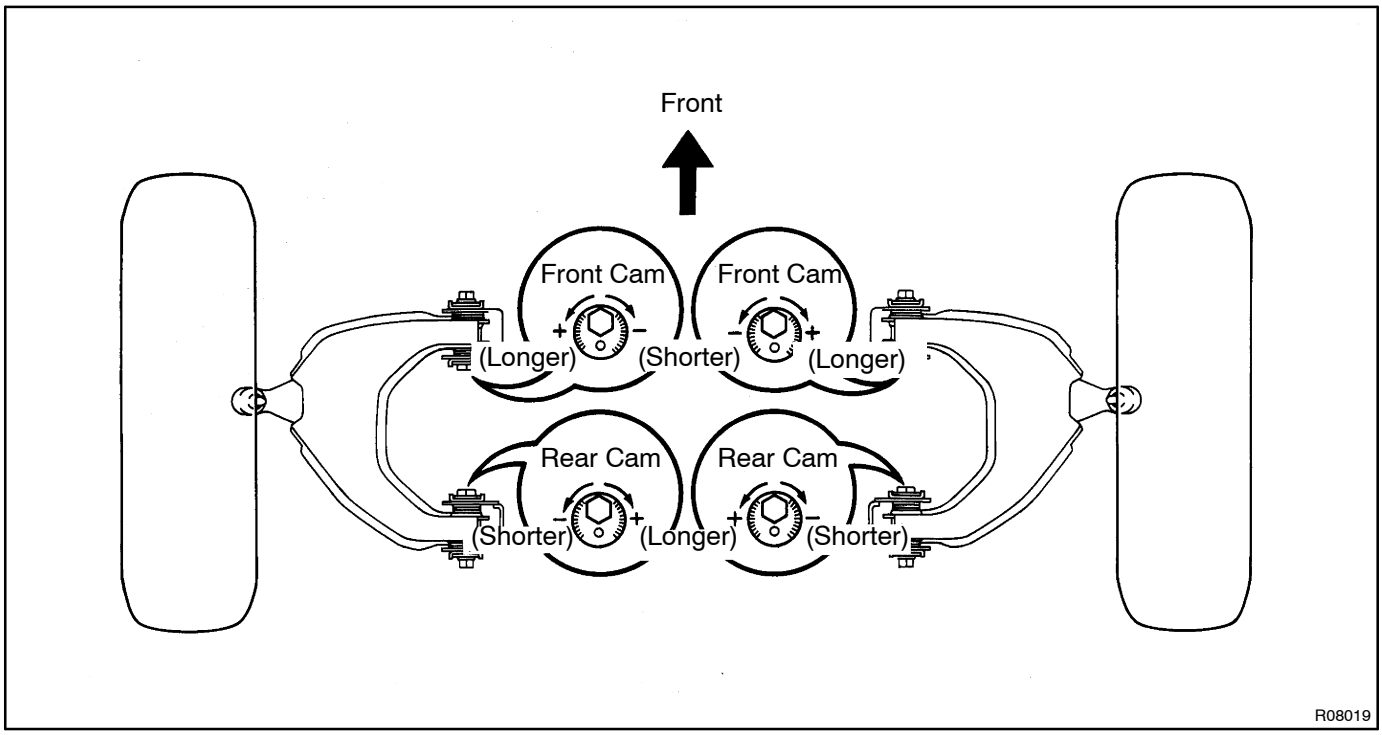
5. HOW TO READ ADJUSTMENT CHART.

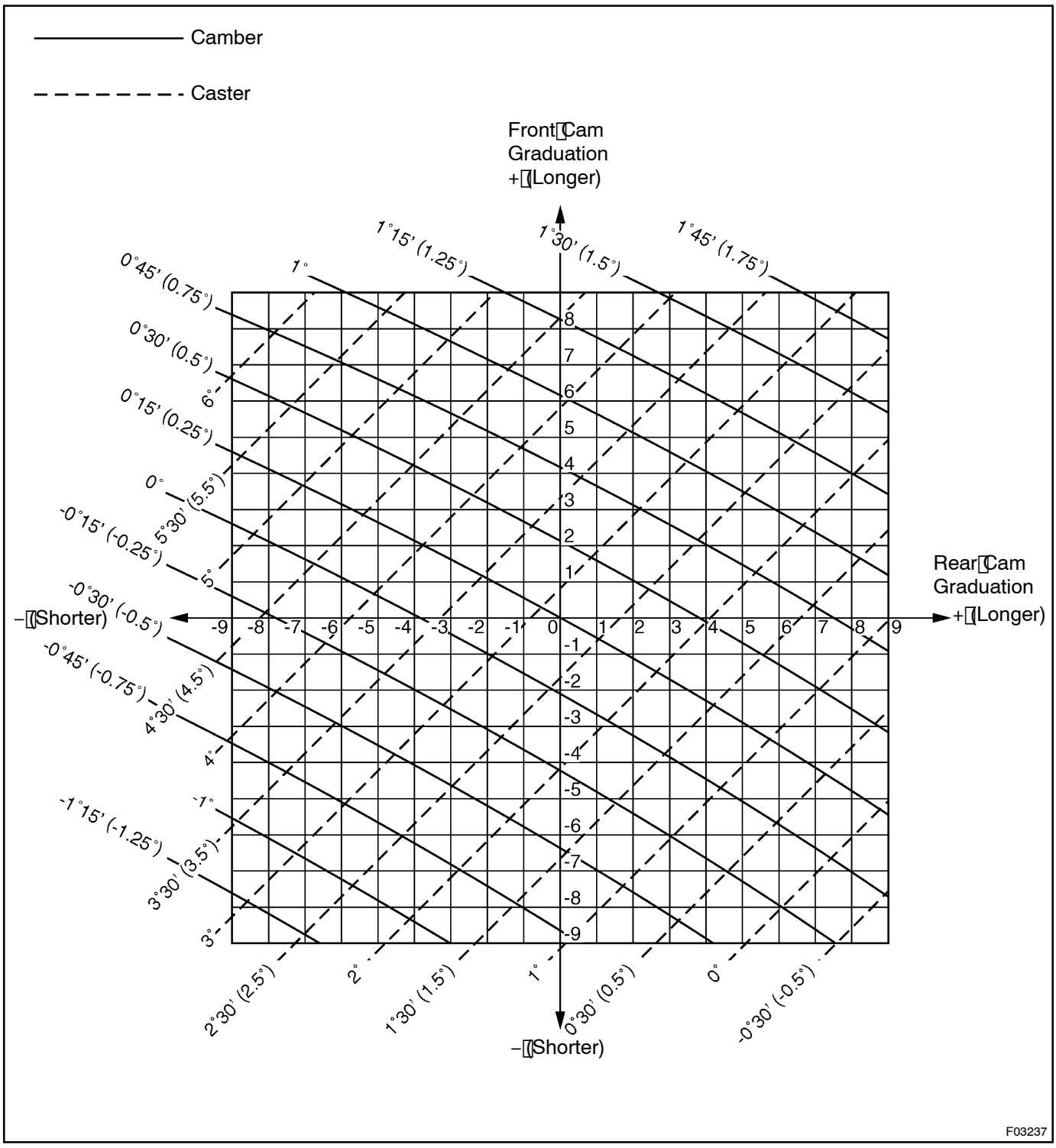
(a) Find the wheel alignment standard value applicable for the particular model.

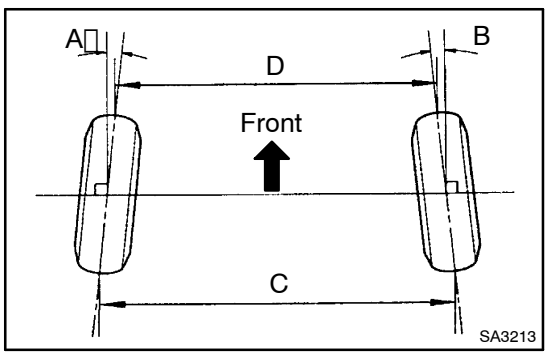
(b) Mark the selected standard value on the adjustment chart.
Example:
Camber: 0°00' (0°)
Caster: 1°30' (1.5°)

(c) 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°)

(d) 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

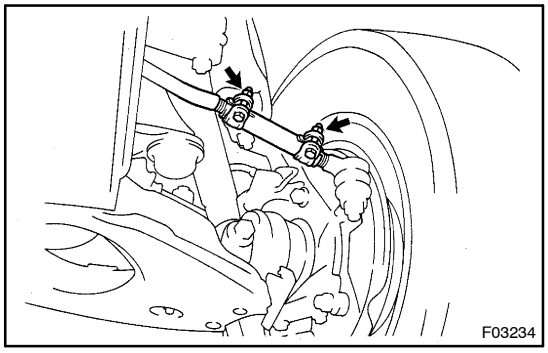






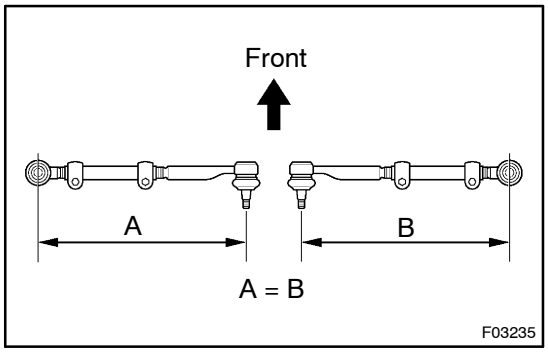
6. INSPECT TOE–IN (See page SS–9)

If the toe–in is not within the specification, adjust the tie rod ends.



7. ADJUST TOE–IN

(a) Remove the 2 clamp nuts.

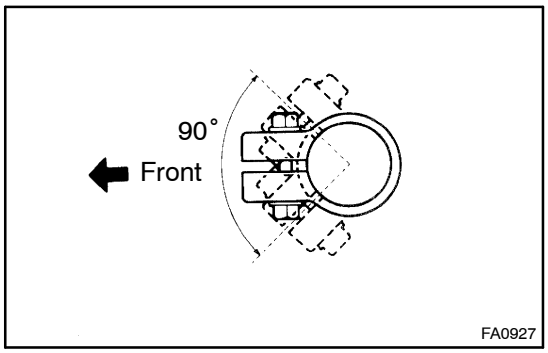


(b) Adjust toe–in by turning the left and right tie rod tubes an equal amount.

HINT:

- Try to adjust the toe–in to the center value.
- Make sure that the length of the left and right tie rod ends are equal.

  Tie rod end length difference:
  3.0 mm (0.118 in.) or less



(c) 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.

8. 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 angle.

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

If the maximum wheel angles differ from standard value, adjust the steering 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 angles.
Clearance: 3.0 ± 1.0 mm (0.118 ± 0.039 in.)
Torque: 72 N·m (730 kgf·cm, 53 ft·lbf)

If the value is not within the standard, adjust the stopper bolt on the steering knuckle side.

