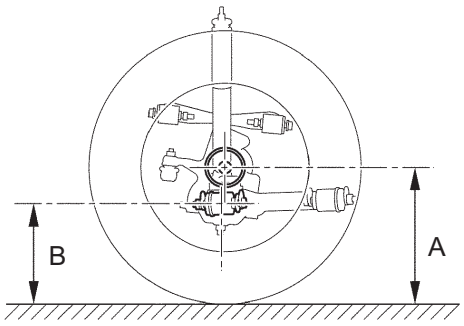
FRONT WHEEL ALIGNMENT (for 2WD)

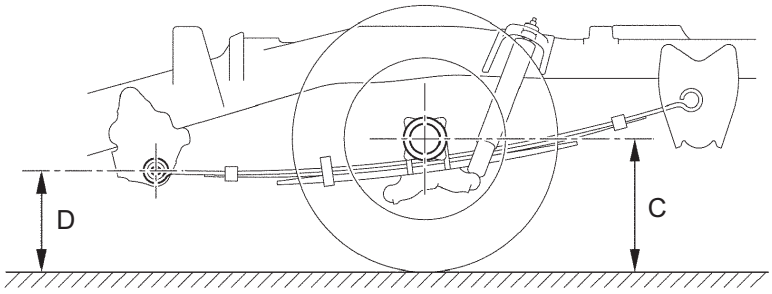
ADJUSTMENT

1. **INSPECT TIRES (See page TW-1)**
2. **MEASURE VEHICLE HEIGHT**

Front:



Rear:



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Vehicle height:

Vehicle Model	Tire Size	A - B	C - D
TRN220L-TRMDKA	P215/70R15	87 mm (3.43 in.)	48 mm (1.89 in.)
TRN220L-TRPDKA	P215/70R15	88 mm (3.46 in.)	48 mm (1.89 in.)
TRN225L-CRMDKA	P215/70R15	86 mm (3.39 in.)	50 mm (1.97 in.)
TRN225L-CRPDKA	P215/70R15	87 mm (3.43 in.)	50 mm (1.97 in.)
GRN225L-CRFDKA	P255/45R18	118 mm (4.65 in.)	85 mm (3.35 in.)

Measuring points:

A:
Ground clearance of front wheel center

B:
Ground clearance of adjustment cam bolt center (front side)

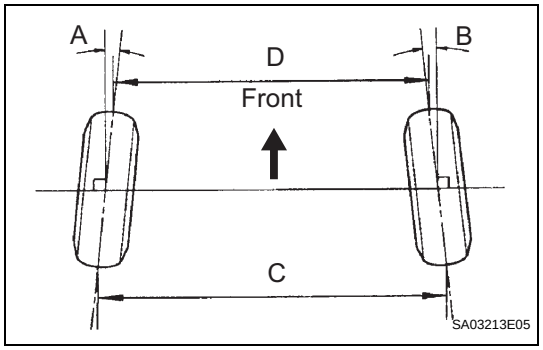
C:
Ground clearance of rear wheel center

D:
Ground clearance of rear leaf spring front side bush center

NOTICE:

Before inspecting the wheel alignment, check the vehicle height.

Bounce the vehicle up and down at the corners to stabilize the suspension before inspecting the vehicle height.



3. INSPECT TOE-IN

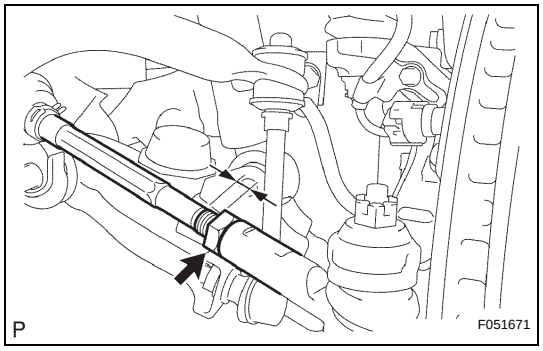
Toe-in

Vehicle Model	Tire Size	A + B	C - D
TRN220L-TRMDKA	P215/70R15	4.8' +- 6.5' (0.081° +- 0.108°)	0.96 +- 2 mm (0.038 +- 0.08 in.)
TRN220L-TRPDKA	P215/70R15	4.3' +- 6.5' (0.072° +- 0.108°)	0.86 +- 2 mm (0.034 +- 0.08 in.)
TRN225L-CRMDKA	P215/70R15	5.3' +- 6.5' (0.089° +- 0.108°)	1.06 +- 2 mm (0.042 +- 0.08 in.)
TRN225L-CRPDKA	P215/70R15	4.8' +- 6.5' (0.081° +- 0.108°)	0.96 +- 2 mm (0.038 +- 0.08 in.)
GRN225L-CRFDKA	P255/45R18	1.8' +- 6.5' (0.030° +- 0.108°)	0.36 +- 2 mm (0.014 +- 0.08 in.)

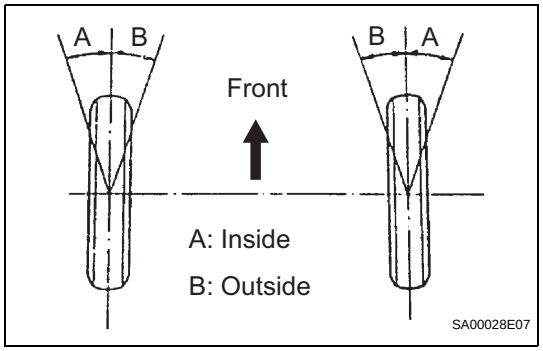
If the toe-in is not within the specified range, adjust it at the rack ends.

4. ADJUST TOE-IN

(a) Remove the rack boot set clips.
(b) Loosen the tie rod end lock nuts.
(c) Turn the right and left rack ends uniformly to adjust the toe-in.
HINT:
Try to adjust the toe-in to the middle of the specified range.



(d) Make sure that the lengths of the right and left rack ends are the same.
(e) Torque the tie rod end lock nuts.
Torque: 55.5 N*m (566 kgf*cm, 41 ft.*lbf)
(f) Install the boots onto the seats with the clips.
HINT:
Make sure that the boots are not twisted.



5. INSPECT WHEEL TURNING ANGLE

(a) Turn the steering wheel fully, and measure the turning angle.
Wheel turning angle

Inside wheel	Outside wheel (Reference)
38°48' (36°48' to 39°48') 38.80° (36.80° to 39.80°)	32°30' (30°30' to 33°30') 32.50° (30.50° to 33.50°)

If the right and left turning angles of the inside and outside wheels are not within the specified ranges, check the right and left rack end lengths.

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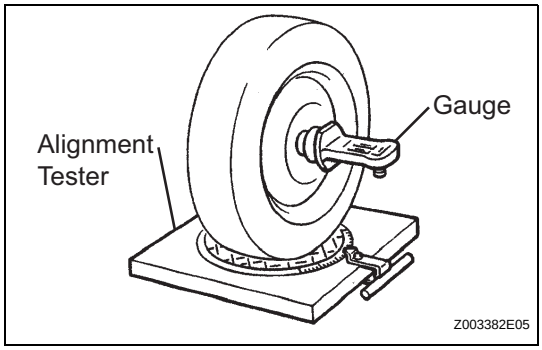

6. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION

(a) Install the camber-caster-kingpin gauge and position the front wheel on the wheel alignment tester.

(b) Inspect the camber, caster and steering axis inclination.

Camber, caster and steering axis inclination

Vehicle Model	Tire Size	Camber	Caster	Steering Axis Inclination
TRN220L-TRMDKA	P215/70R15	0°13' +- 45' (0.22° +- 0.75°)	3°52' +- 45' (3.86° +- 0.75°)	10°42' +- 45' (10.70° +- 0.75°)
TRN220L-TRPDKA	P215/70R15	0°12' +- 45' (0.20° +- 0.75°)	3°52' +- 45' (3.86° +- 0.75°)	10°44' +- 45' (10.73° +- 0.75°)
TRN225L-CRMDKA	P215/70R15	0°14' +- 45' (0.24° +- 0.75°)	4°01' +- 45' (4.01° +- 0.75°)	10°41' +- 45' (10.69° +- 0.75°)
TRN225L-CRPDKA	P215/70R15	0°13' +- 45' (0.22° +- 0.75°)	4°01' +- 45' (4.02° +- 0.75°)	10°42' +- 45' (10.70° +- 0.75°)
GRN225L-CRFDKA	P255/45R18	-0°40' +- 45' (-0.66° +- 0.75°)	5°09' +- 45' (5.15° +- 0.75°)	11°34' +- 45' (11.56° +- 0.75°)

NOTICE:

- **Perform the inspection while the vehicle is empty (without spare tires or tools on board).**
- **The tolerance for the difference between the left and right wheels is 30' (0.50°) or less for both the camber and caster.**

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

7. ADJUST CAMBER AND CASTER

NOTICE:

Inspect the toe-in after the camber has been adjusted.

(a) Loosen the 2 nuts.

(b) Turn the camber adjust cam and adjust the camber and caster.

HINT:

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

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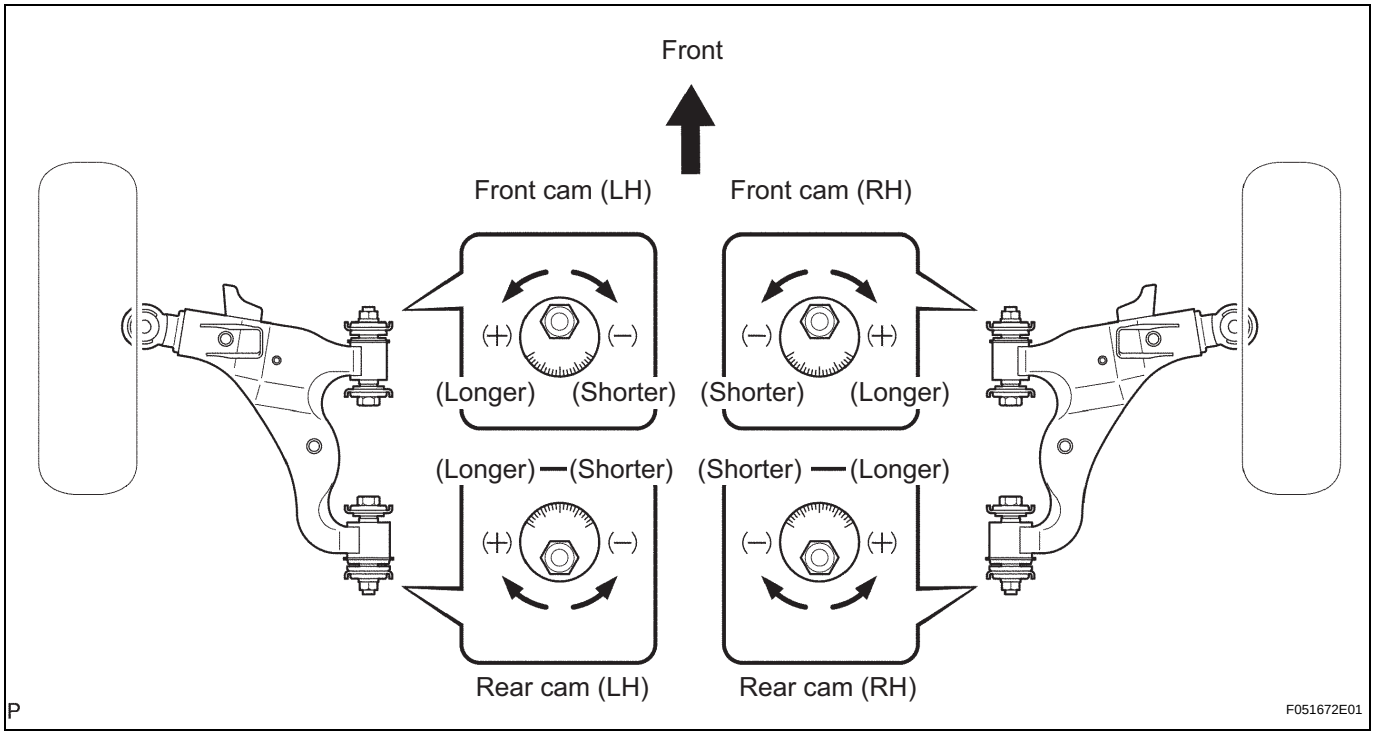

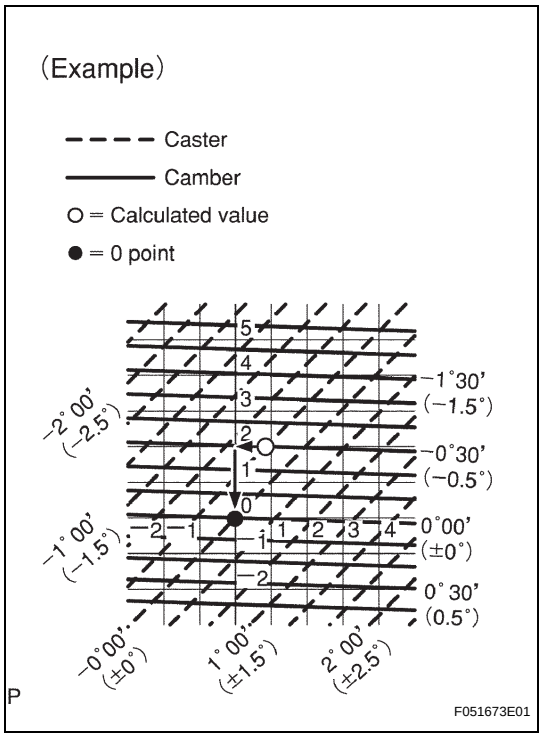

(c) How to read the adjustment chart (using examples).

(1) Measure the present alignment.

Camber:
-0°17' (0.28°)
Caster:
3°30' (3.50°)

(2) Calculate the difference between the standard value (A) and the measured value (B) on the adjustment chart.

Standard value:
Camber:
0°13' (0.22°)
Caster:
3°50' (3.84°)
Formula:
B - A = C
Camber:
-0°17' - 0°13' = -0°30'
Caster:
3°30' - 3°50' = -0°20'

(3) As shown in the chart, read the distance from the marked point to 0 point, and adjust the front and/or rear adjusting cams accordingly.

Front adjust cam:
- (Shorter) 1.9
Rear adjust cam:
- (Shorter) 0.8

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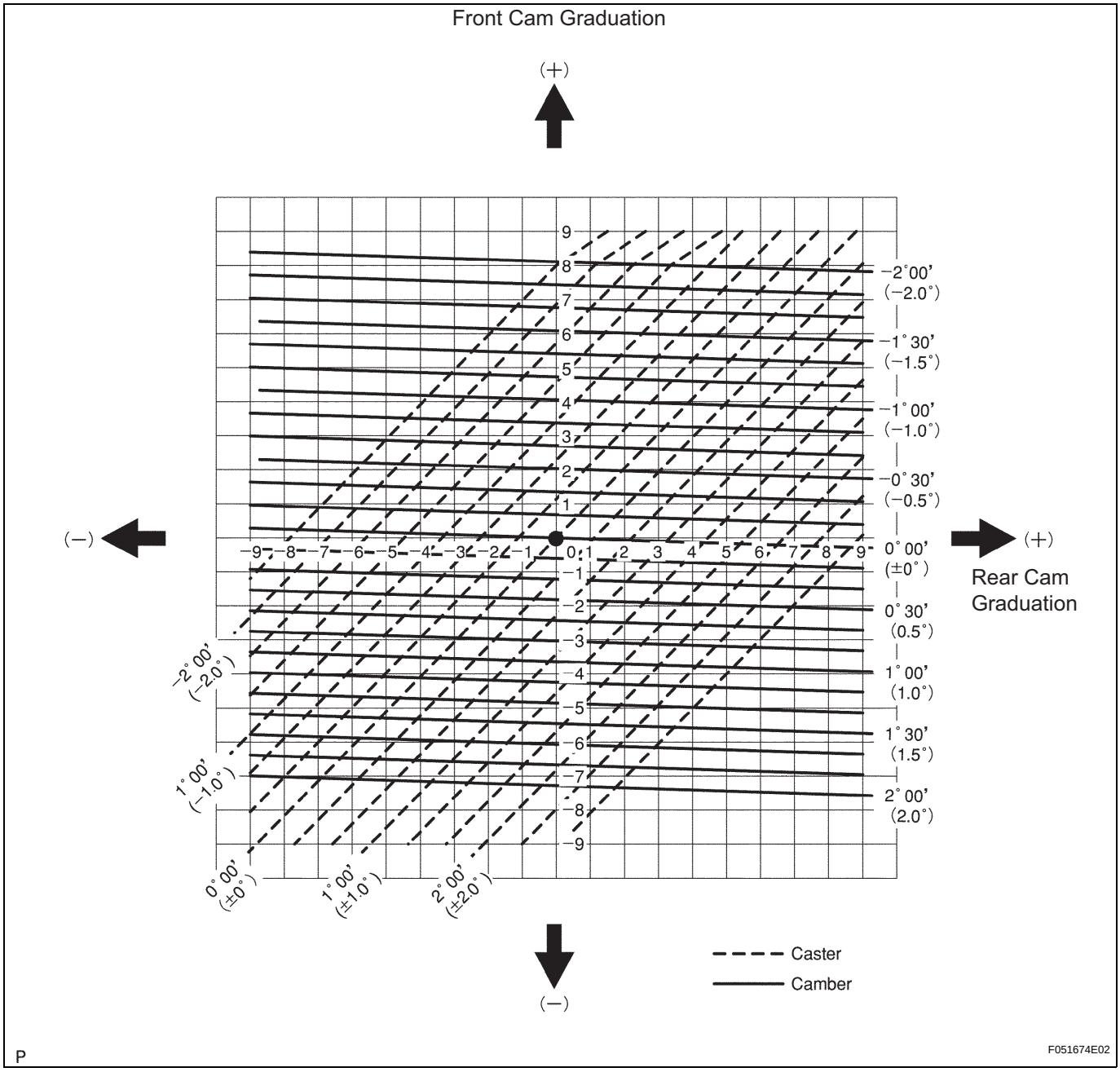
Front Cam Graduation
(+)
(−)
(−)
(+)
Rear Cam Graduation
9
8
7
6
5
4
3
2
1
0
−1
−2
−3
−4
−5
−6
−7
−8
−9
−2°00'
(−2.0°)
−1°30'
(−1.5°)
−1°00'
(−1.0°)
−0°30'
(−0.5°)
0°00'
(±0°)
0°30'
(0.5°)
1°00'
(1.0°)
1°30'
(1.5°)
2°00'
(2.0°)
−2°00'
(−2.0°)
1°00'
(−1.0°)
0°00'
(±0°)
1°00'
(±1.0°)
2°00'
(±2.0°)
Caster
Camber
P
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