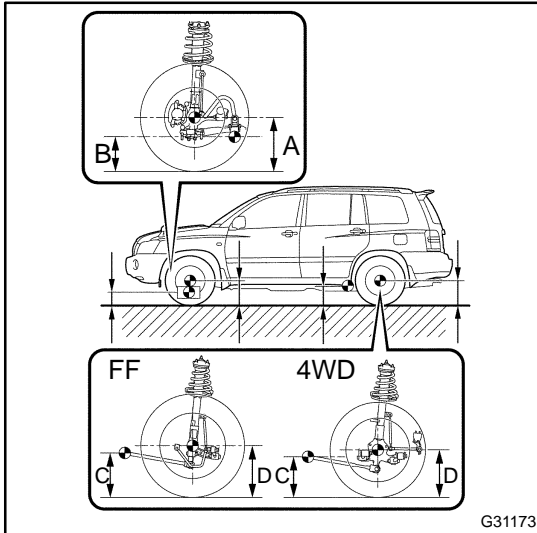


# FRONT WHEEL ALIGNMENT ADJUSTMENT

260H7-03

## 1. INSPECT TIRE (SEE PAGE 26-7 )



## 2. MEASURE VEHICLE HEIGHT

Vehicle height:

	Front A - B	Rear D - C
FF	120.1 mm (4.73 in.)	40.5 mm (1.59 in.)
4WD	110.1 mm (4.33 in.)	30.5 mm (1.20 in.)

Measuring points:

**A:** Ground clearance of front wheel center

**B:** Ground clearance of lower suspension arm No.2 bush set bolt center

**C:** Ground clearance of strut rod set bolt center

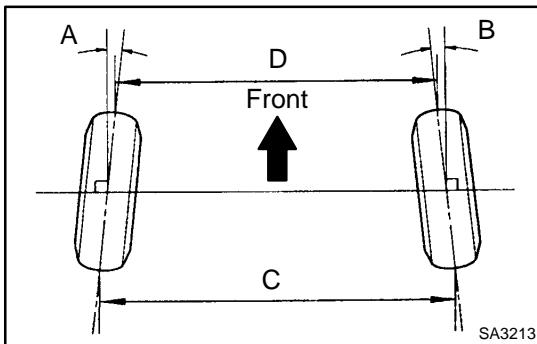
**D:** Ground clearance of rear wheel center

**NOTICE:**

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

**HINT:**

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



## 3. INSPECT TOE-IN

Toe-in:

Toe-in (total)	A + B: $0^\circ \pm 10'$ ( $0^\circ \pm 0.16^\circ$ ) C - D: $0 \pm 2$ mm ( $0 \pm 0.08$ in.)
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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 by equal amounts 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 and length difference: 1.5 mm (0.059 in.) or less**

(e) Torque the tie rod end lock nuts.

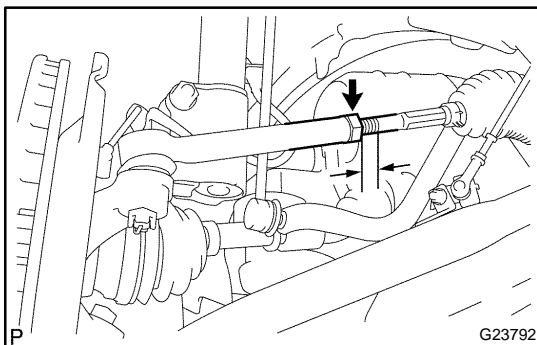
**Torque: 74 N·m (755 kgf·cm, 55 ft·lbf)**

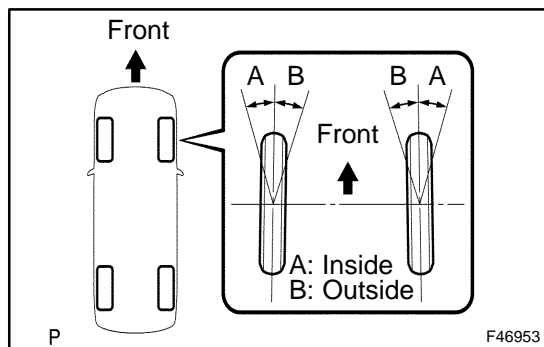
(f) Place the boots on the seats and install the clips.

**HINT:**

Make sure that the boots are not twisted.

(g) Perform VSC system calibration (see page 05-765 ).





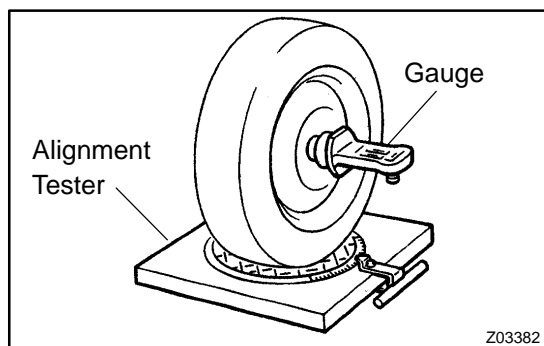
## 5. INSPECT WHEEL ANGLE

- (a) Turn the steering wheel fully left and right to measure the turning angle.

### Wheel turning angle:

	Inside wheel	Outside wheel: Reference
FF	$35^{\circ}28' \pm 2^{\circ}$ ( $35.47^{\circ} \pm 2^{\circ}$ )	$31^{\circ}13' (31.22^{\circ})$
4WD	$35^{\circ}41' \pm 2^{\circ}$ ( $35.68^{\circ} \pm 2^{\circ}$ )	$31^{\circ}22' (31.37^{\circ})$

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

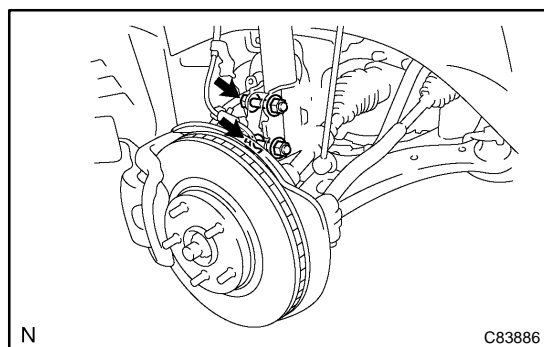


## 6. INSPECT CAMBER, CASTER AND STEERING AXIS INCLINATION

- (a) Put the front wheel on the center of the alignment tester.  
(b) Set the camber - caster - kingpin gauge at the center of the axle hub or drive shaft.

### Camber, caster and steering axis inclination:

	FF	4WD
Camber	$-0^{\circ}40' \pm 45'$ ( $-0.67^{\circ} \pm 0.75^{\circ}$ )	$-0^{\circ}35' \pm 45'$ ( $-0.58^{\circ} \pm 0.75^{\circ}$ )
Right-left error	45' (0.75°) or less	45' (0.75°) or less
Caster	$2^{\circ}45' \pm 45'$ ( $2.75^{\circ} \pm 0.75^{\circ}$ )	$2^{\circ}45' \pm 45'$ ( $2.75^{\circ} \pm 0.75^{\circ}$ )
Right-left error	45' (0.75°) or less	45' (0.75°) or less
Steering axis inclination	$10^{\circ}45' \pm 45'$ ( $10.75^{\circ} \pm 0.75^{\circ}$ )	$10^{\circ}35' \pm 45'$ ( $10.58^{\circ} \pm 0.75^{\circ}$ )
Right-left error	45' (0.75°) or less	45' (0.75°) or less



If the caster and steering axis inclination are not within the specified values after the camber has been correctly adjusted, re-check the suspension parts for damage and/or wear.

## 7. ADJUST CAMBER

### NOTICE:

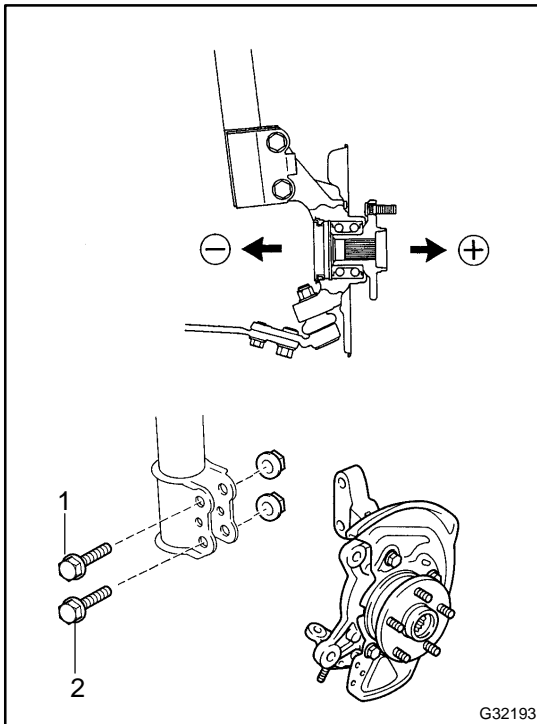
**Inspect toe-in after the camber has been adjusted.**

- (a) Remove the front wheel.  
(b) Remove the 2 nuts on the lower side of the shock absorber.

### HINT:

When removing the nuts, keep the bolts from rotating.

- (c) Clean the installation surface of the shock absorber and the steering knuckle.  
(d) Temporarily install the 2 nuts.



- (e) Fully push or pull the front axle hub in the direction of the required adjustment.  
 (f) Tighten the nuts.

**Torque: 230 N·m (2,350 kgf·cm, 170 ft·lbf)**

**HINT:**

When installing the nuts, keep the bolts from rotating and then torque the nuts.

- (g) Install the front wheel.

**Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)**

**NOTICE:**

**Keep the bolts from rotating and torque the nuts.**

- (h) Install the front wheel.

**Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)**

- (i) Check the camber.

If the measured value is not within the specified range, calculate the required adjustment amount using the formula below.

**(Camber adjustment amount) = Center of the specified range medium - Measured value**















Check installed bolts combination. Select appropriate bolts from the table below to adjust the camber to within the specified range.

Move the axle toward (+) in step (e)	Refer to table (1) (Move the axle toward positive side)
Move the axle toward (-) in step (e)	Refer to table (2) (Move the axle toward negative side)





**Table (1) (Move the axle toward positive side)**

Installed Bolt Adjusting Value	1	No Dot	No Dot	No Dot	No Dot	1 Dot	2 Dots	3 Dots
	2	No Dot	1 Dot	2 Dots	3 Dots	3 Dots	3 Dots	3 Dots
-1°30' to -1°15'								G
-1°15' to -1°00'							G	A
-1°00' to -0°45'						G	A	B
-0°45' to -0°30'					G	A	B	C
-0°30' to -0°15'				G	A	B	C	D
-0°15' to 0°		G	A	B	C	D	E	
0° to 0°15'	A	B	C	D	E	F		
0°15' to 0°30'	B	C	D	E	F			
0°30' to 0°45'	C	D	E	F				
0°45' to 1°00'	D	E	F					
1°00' to 1°15'	E	F						
1°15' to 1°30'	F							

**Selected Bolt Combination**

	A	B	C	D	E	F	G
1	 90105-17012	 90105-17012	 90105-17012	 90105-17013	 90105-17014	 90105-17015	 90105-17012
2	 90105-17013	 90105-17014	 90105-17015	 90105-17015	 90105-17015	 90105-17015	 90105-17012

**Bolt Distinguishing Mark**

No Dot	1 Dot	2 Dots	3 Dots
 90105-17012	 90105-17013	 90105-17014	 90105-17015

F47223

The body and suspension may be damaged if the camber is not correctly adjusted according to the above table.

**NOTICE:**

**Replace the nut with a new one when replacing the bolt.**

(j) Repeat the steps mentioned above. At step (b), replace 1 or 2 selected bolts.















**HINT:**

Replace one bolt at a time when replacing 2 bolts.





**Table (2) (Move the axle toward negative side)**

Installed Bolt Adjusting Value	1	No Dot	No Dot	No Dot	No Dot	1 Dot	2 Dots	3 Dots
	2	No Dot	1 Dot	2 Dots	3 Dots	3 Dots	3 Dots	3 Dots
-1°30' to -1°15'	F							
-1°15' to -1°00'	E	F						
-1°00' to -0°45'	D	E	F					
-0°45' to -0°30'	C	D	E	F				
-0°30' to -0°15'	B	C	D	E	F			
-0°15' to 0°	A	B	C	D	E	F		
0° to 0°15'		G	A	B	C	D	E	
0°15' to 0°30'			G	A	B	C	D	
0°30' to 0°45'				G	A	B	C	
0°45' to 1°00'					G	A	B	
1°00' to 1°15'						G	A	
1°15' to 1°30'							G	

**Selected Bolt Combination**

	A	B	C	D	E	F	G
1	 90105-17012	 90105-17012	 90105-17012	 90105-17013	 90105-17014	 90105-17015	 90105-17012
2	 90105-17013	 90105-17014	 90105-17015	 90105-17015	 90105-17015	 90105-17015	 90105-17012

**Bolt Distinguishing Mark**

No Dot	1 Dot	2 Dots	3 Dots
 90105-17012	 90105-17013	 90105-17014	 90105-17015

F47223

The body and suspension may be damaged if the camber is not correctly adjusted according to the above table.

**NOTICE:**

**Replace the nut with a new one when replacing the bolt.**

(k) Repeat the steps mentioned above. At step (b), replace 1 or 2 selected bolts.

**HINT:**

Replace one bolt at a time when replacing 2 bolts.