

Specifications (Cont'd)

Side bearing adjusting shim thickness (cont'd)	2.45 mm	0.0965 in.
	2.50 mm	0.0984 in.
	2.55 mm	0.1004 in.
	2.60 mm	0.1024 in.
	2.65 mm	0.1043 in.
	2.70 mm	0.1063 in.
	2.75 mm	0.1083 in.
	2.80 mm	0.1102 in.
	2.85 mm	0.1122 in.
	2.90 mm	0.1142 in.

Torque Specifications

Part tightened	kg-cm	ft-lb	N-m
Ring gear x Differential case	985	71	97
Transaxle housing x Transmission case	300	22	29

FRONT AXLE AND SUSPENSION**Specifications**

Cold tire inflation pressure		2.1 kg/cm ²	30 psi	210 kPa
Chassis ground clearance		Front		Rear
		221 mm (8.70 in.)		205 mm (8.07 in.)
Front wheel alignment	Inspection STD		Adjustment STD	
	Toe-in	1 ± 2 mm (0.04 ± 0.08 in.)		1 ± 1 mm (0.04 ± 0.04 in.)
	Camber	0°15' ± 45'		0°15' ± 30'
	Left-right error	30' or less		30' or less
	Steering axis inclination	12°05' ± 45'		—
	Left-right error	30' or less		
	Caster	5°05' ± 45'		5°05' ± 30'
	Left-right error	30' or less		30' or less
Side slip		3.0 mm/m (0.118 in./3.3 ft) or less		
Wheel angle		Max.	Inside wheel	36°30' ± 1°
			Outside wheel (Reference)	32°00'
		at 20° (Outside wheel)	Inside wheel	21°
Disc wheel lateral runout	Max. limit	1.2 mm	0.047 in.	
Hub axial play	Max. limit	0.05 mm	0.0020 in.	
Ball joint vertical play	Max. limit	0 mm	0 in.	

Torque Specifications

Part tightened	kg-cm	ft-lb	N-m
Steering knuckle x Shock absorber	1,450	105	142
Steering knuckle x Tie rod end	500	36	49
Steering knuckle x Ball joint	820	59	80
Stabilizer link x Stabilizer bar	650	47	64
Stabilizer bar link x Shock absorber	650	47	64
Steering knuckle x Disc brake caliper	900	65	88
Suspension support x Piston rod	500	36	49
Suspension support x Body	360	26	35
Brake caliper union bolt	310	22	30
Strut bar x Lower arm	1,150	83	113
Strut bar x Body	1,150	83	113
Stabilizer bar bracket x Body	195	14	19

REAR AXLE AND SUSPENSION

Specifications

Rear wheel alignment			Inspection STD	Adjustment STD
	Toe-in		5 ± 2 mm (0.20 ± 0.08 in.)	5 ± 1 mm (0.20 ± 0.04 in.)
	Camber Left-right error		-55' ± 45' 30' or less	-55' ± 30' 30' or less
Rear axle and suspension	Disc wheel lateral runout	Limit	1.2 mm (0.047 in.) or less	
	Hub bearing axial direction play	Limit	0.05 mm	0.0020 in.
	Drive shaft grease capacity			
	Outboard joint		120 – 130 g	0.26 – 0.29 lb
	Inboard joint	4A-GE	M/T	212 – 222 g
			A/T	165 – 175 g
		4A-GZE		90 – 100 g
	Side gear shaft	4A-GZE		43 – 53 g
	Drive shaft length			
	LH	4A-GE	M/T	434.2 – 444.2 mm
			A/T	431.3 – 441.3 mm
		4A-GZE	M/T	382.2 – 392.2 mm
			A/T	410.9 – 420.9 mm
	RH	4A-GE	M/T	679.9 – 689.9 mm
			A/T	681.8 – 691.8 mm
		4A-GZE	M/T	680.6 – 690.6 mm
			A/T	699.4 – 709.4 mm
	Ball joint vertical play	Limit	0 mm	0 in.
	Ball joint rotation condition		10 – 30 kg-cm (9 – 26 in.-lb, 1.0 – 2.9 N-m)	

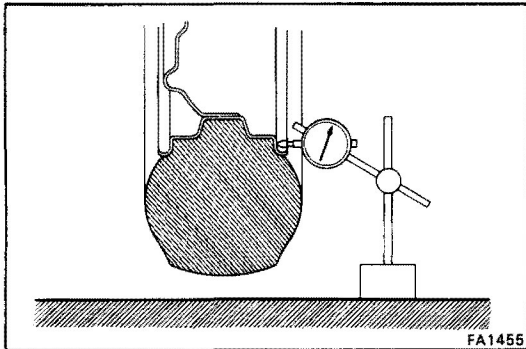
FRONT WHEEL ALIGNMENT

1. MAKE FOLLOWING CHECKS AND CORRECT ANY PROBLEMS

- (a) Check the tires for wear and proper inflation.

Tire size: 185/60 R 14 82 H

Cold tire pressure: 2.1 kg/cm² (30 psi, 206 kPa)



- (b) Check the wheel runout.

Lateral runout: 1.2 mm (0.047 in.) or less

- (c) Check the front wheel bearings for looseness.
 (d) Check the front suspension for looseness.
 (e) Check the steering linkage for looseness.
 (f) Check that the front absorbers work properly by using the standard bounce test.

2. MEASURE CHASSIS GROUND CLEARANCE

Chassis ground clearance:

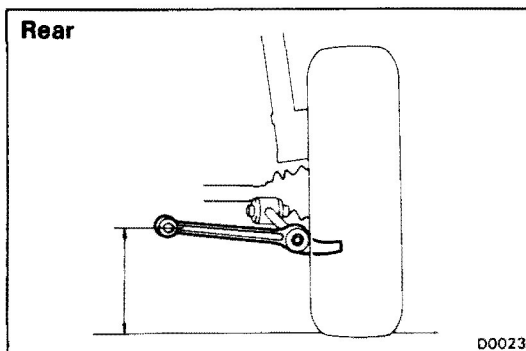
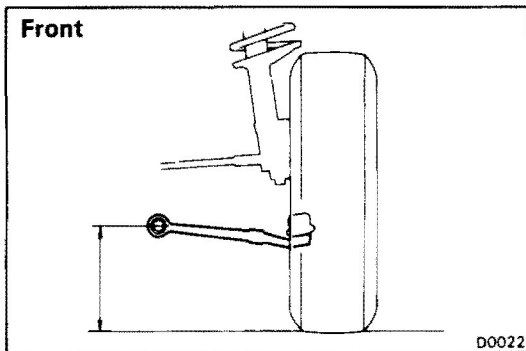
Front 221 mm (8.70 in.)

Rear 205 mm (8.07 in.)

If the clearance of the vehicle is not as specified, try to level the vehicle by rocking it down.

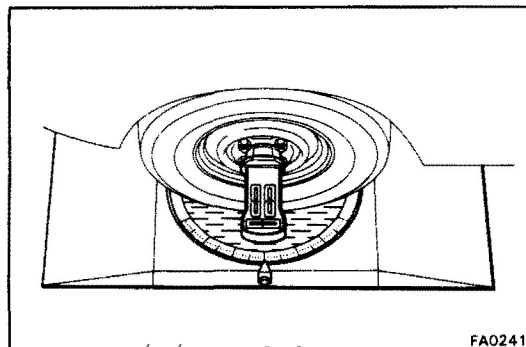
If still not correct, check for bad springs or suspension parts.

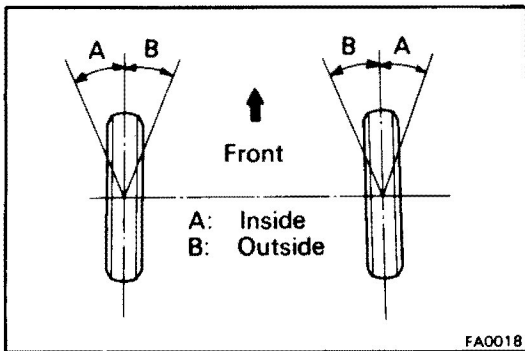
NOTE: When measuring the chassis ground clearance, measure from the ground to the center of the bolt.



3. INSTALL WHEEL ALIGNMENT EQUIPMENT

Follow the specific instructions of the equipment manufacturer.





4. ADJUST WHEEL ANGLE

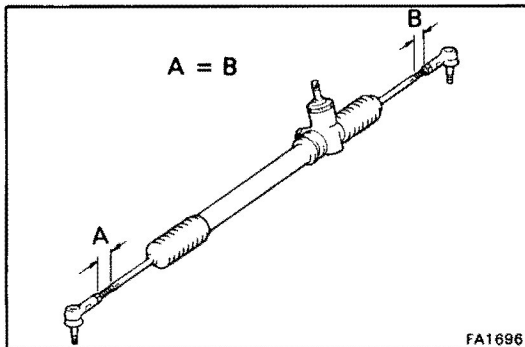
Wheel angle:

Max.		at 20° (Outside wheel)
Inside wheel	Outside wheel	Inside wheel
36°30' ± 1°	32°00'	21°00'

If wheel angles differ from the standard specifications, check to see if the lengths of the left and right tie rods are the same.

NOTE: If the tie rod lengths are not equal, the wheel angle cannot be adjusted properly.

Reinspect the toe-in after adjusting the tie rod lengths.



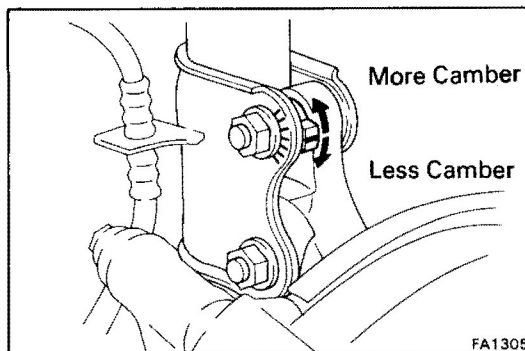
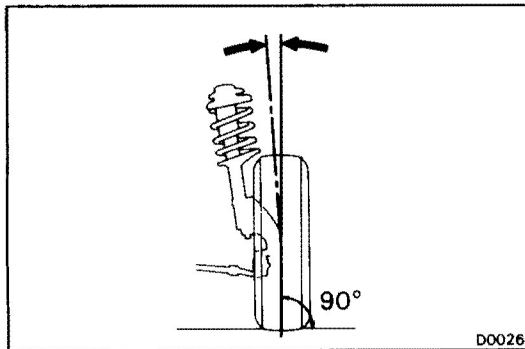
5. ADJUST CAMBER

Camber:

Inspection standard 0°15' ± 45'

Adjustment standard 0°15' ± 30'

Left-right error 30' or less



If camber is not within specification, adjust by turning the camber adjusting cam.

(a) Loosen the shock absorber set nut.

(b) Turn the cam to adjust.

NOTE: Camber angle increases about 18' with each graduation of the cam.

(c) Tighten to the specified torque.

Torque: 1,450 kg-cm (105 ft-lb, 142 N·m)

(d) After installing the wheel, rock the vehicle up and down and recheck the angle.

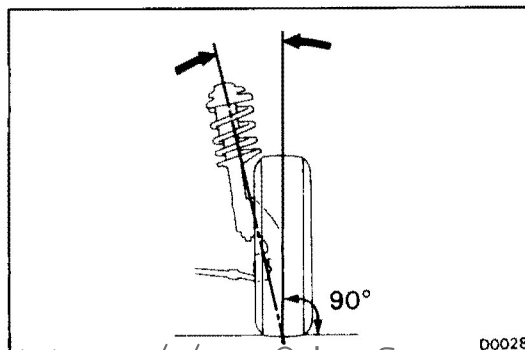
6. INSPECT STEERING AXIS INCLINATION

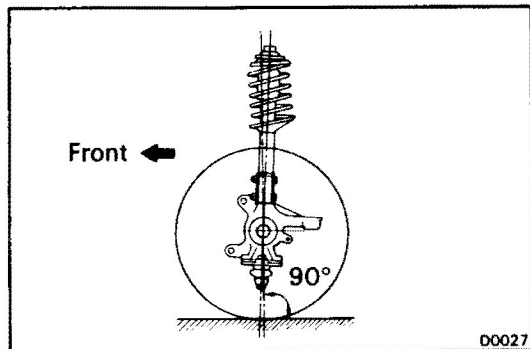
Steering axis inclination:

Inspection standard 12°05' ± 45'

Left-right error 30' or less

Steering axis inclination is not adjustable. If measurement is not within specification, inspect and replace the suspension parts as necessary.





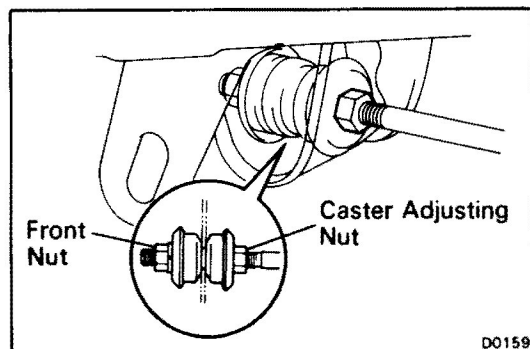
7. ADJUST CASTER

Caster:

Inspection standard $5^{\circ}05' \pm 45'$

Adjustment standard $5^{\circ}05' \pm 30'$

Left-right error 30' or less



If caster is not within specification, adjust by turning the nut.

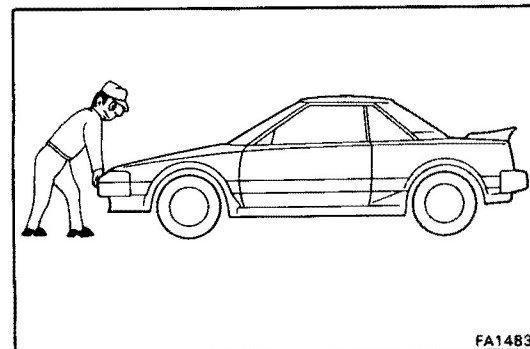
(a) Loosen the strut bar front nut.

(b) Turn the camber adjusting nut to adjust.

NOTE: Each revolution of the nut alters the caster angle by 18'.

(c) Tighten the strut bar front nut.

Torque: 1,150 kg-cm (83 ft-lb, 113 N·m)

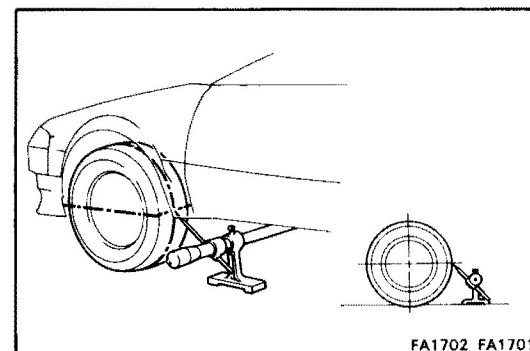


8. ADJUST TOE-IN

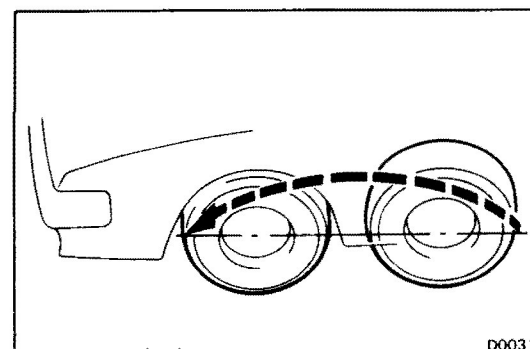
Adjust toe-in with a toe-in gauge in the following procedure.

(a) Rock the vehicle up and down to stabilize the suspension.

(b) Move the vehicle forward about 5 m (16.4 ft) with the front wheels in the straight-ahead position on a level place.

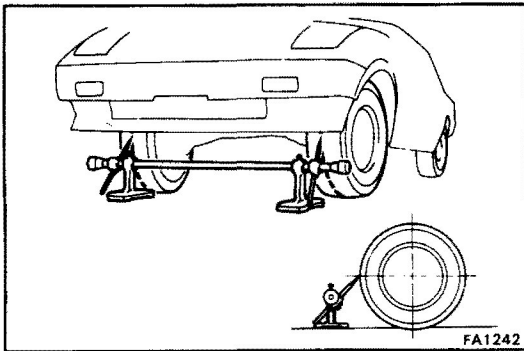


(c) Mark the center of each rear tread and measure the distance between the marks of the right and left tires.

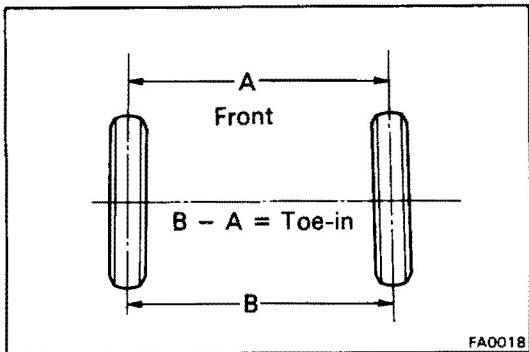


(d) Advance the vehicle until the marks on the rear sides of the tires come to the measuring heights of the gauge on the front side.

NOTE: If the tire rolls too far, repeat from step (b).



- (e) Measure the distance between the marks on the front of the tires.

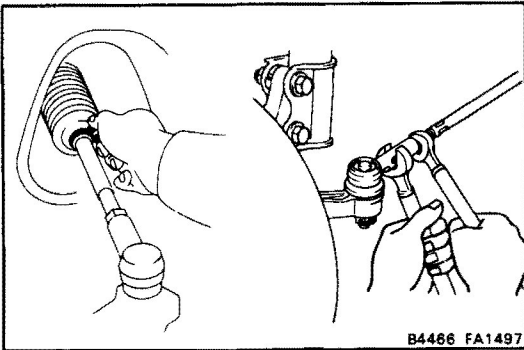


- (f) Measure the toe-in.

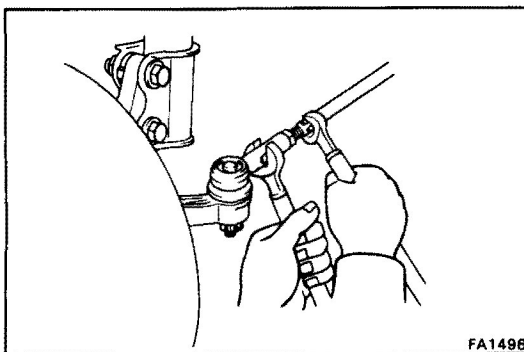
$$\text{Toe-in} = B - A$$

Inspection standard: $1 \pm 2 \text{ mm}$ ($0.04 \pm 0.08 \text{ in.}$)

If toe-in is not within specification, adjust by left and right tie rod ends.



- (g) Remove the boot clips and loosen the tie rod lock nuts.



- (h) Adjust toe-in by turning the left and right rack ends an equal amount.

Adjustment standard: $1 \pm 1 \text{ mm}$ ($0.04 \pm 0.04 \text{ in.}$)

- (i) Check that the lengths of the left and right tie rods are the same.

- (j) Torque the tie rod lock nuts.

Torque: 480 kg-cm (35 ft-lb , $47 \text{ N}\cdot\text{m}$)

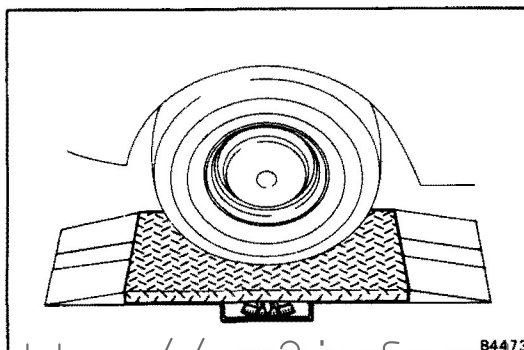
- (k) Install the boot clips.

NOTE: Check that the boots are not twisted.

9. INSPECT SIDE SLIP WITH SIDE SLIP TESTER

Side slip: 3.0 mm/m (0.118 in./3.3 ft) or less

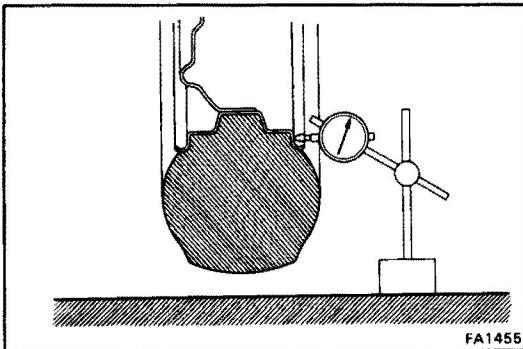
If the side slip exceeds the limit, the toe-in or other front wheel alignment may not be correct.



REAR WHEEL ALIGNMENT

1. MAKE FOLLOWING CHECKS AND CORRECT ANY PROBLEMS

- (a) Check the tires for wear, size and proper inflation.
(See page FA-3)



- (b) Check wheel runout.

- (c) Check the rear wheel bearings for looseness.

Lateral runout: 1.2 mm (0.047 in.) or less

- (d) Check the rear suspension for looseness.

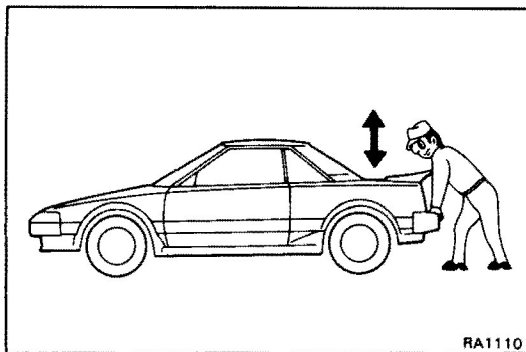
- (e) Check that the rear absorbers work properly by using the standard bounce test.

2. MEASURE CHASSIS GROUND CLEARANCE (See page FA-3)

If the clearance of the vehicle is not as specified, try to level the vehicle by shaking it down.

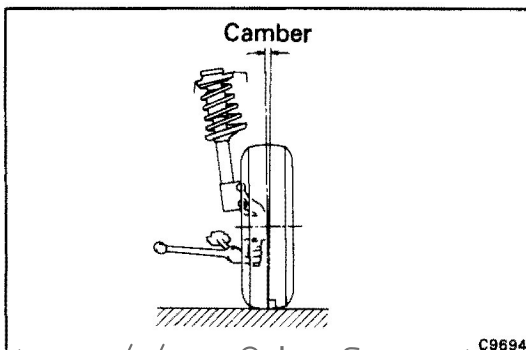
If the height of the vehicle is still not correct, check for bad springs worn or loose suspension parts.

NOTE: Before inspecting wheel alignment, adjust chassis ground clearance to spec.



3. INSPECT CAMBER

- (a) Rock the vehicle up and down to stabilize the suspension.



- (b) Inspect the camber.

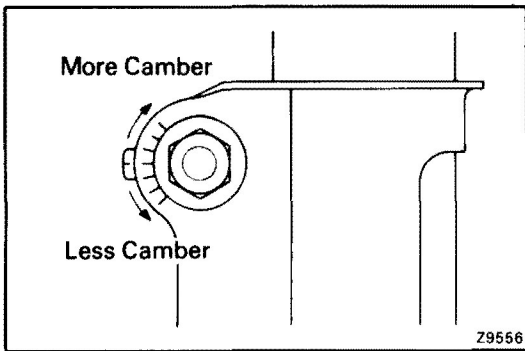
Camber:

Inspection standard: $-55' \pm 45'$

Left-right error: 30' or less

If not within specification, inspect and replace any damaged or worn rear suspension parts.

NOTE: After replacing damaged or worn suspension parts, inspect the camber. If camber is still not within standard, adjust the camber.



4. ADJUST CAMBER

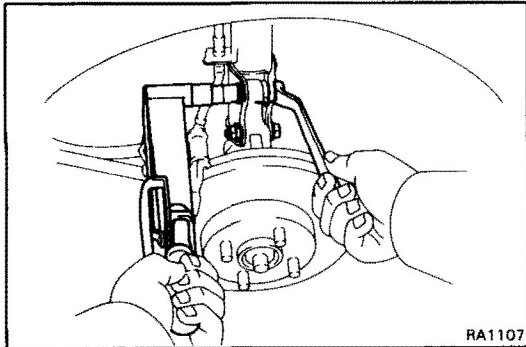
- (a) Loosen the shock absorber set nut.
- (b) Turn the cam to adjust.

NOTE: Camber changes about 18' with each graduation of the cam.

Camber:

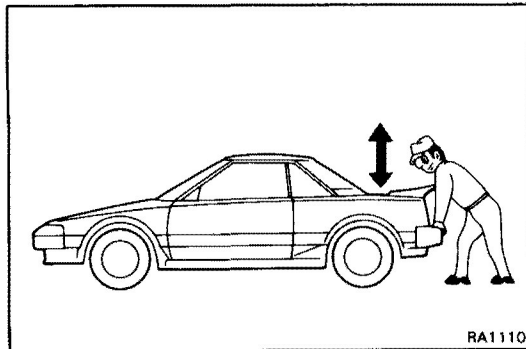
Adjustment standard: $-55' \pm 30'$

Left-right error: 30' or less



- (c) Torque the shock absorber set nut.

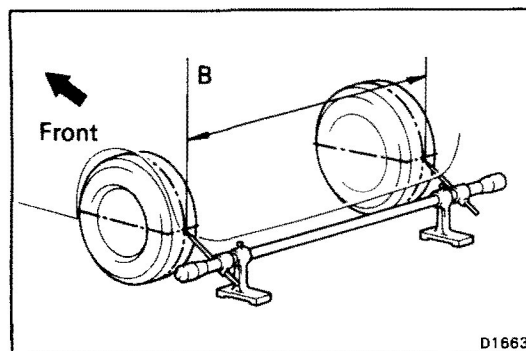
Torque: 2,300 kg-cm (166 ft-lb, 226 N·m)



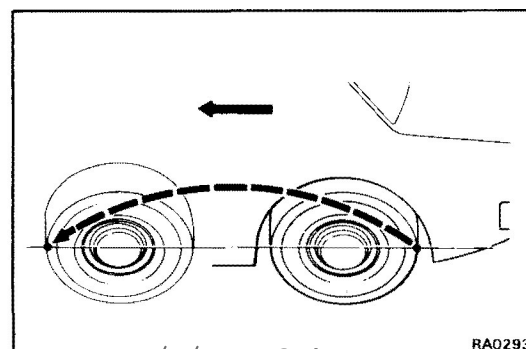
5. INSPECT TOE-IN

Adjust toe-in with a toe-in gauge in the following procedure.

- (a) Bounce the vehicle up and down to stabilize the suspension.
- (b) Move the vehicle forward about 5 m (16.4 ft) with the front wheels in the straight-ahead position on a level place.

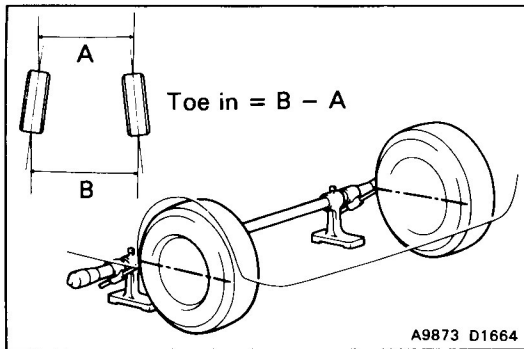


- (c) Mark the center of each rear tread and measure the distance between the marks of the right and left tires.



- (d) Advance the vehicle until the marks on the rear sides of the tires come to the measuring heights of the gauge on the front side.

NOTE: If the tire rolls too far, repeat from step (b).



- (e) Measure the distance between the marks on the front side of the tires.

Toe-in:

Inspection STD 5 ± 2 mm (0.20 ± 0.08 in.)

If not within specification, inspect and replace any damaged or worn rear suspension parts.

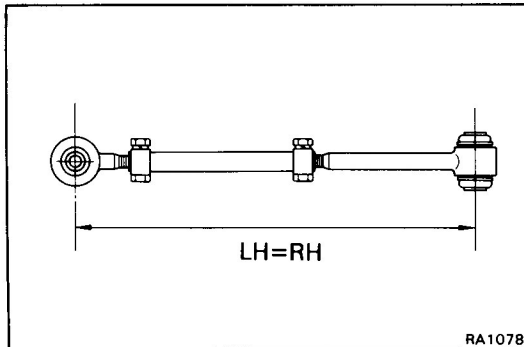
NOTE: After replacing damaged or worn suspension parts, measure the toe-in following (b), (c), (d) and (e) above. If toe-in is still not within standard, adjust the toe-in.

6. ADJUST TOE-IN

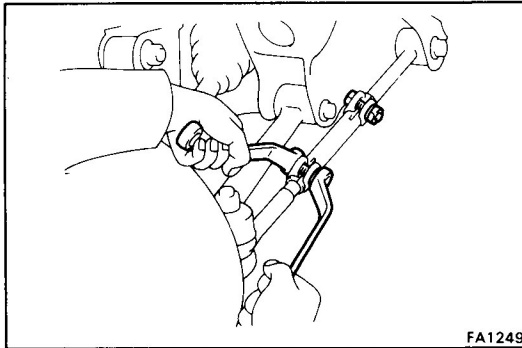
- (a) Measure the lengths of the left and right suspension arms to see if the length are equal.

If not equal, adjust following the procedures below.

- If the toe-in is less than standard, adjust the length of the shorter arm by the tie rod tube.
- If the toe-in is greater than standard, adjust the length of the longer arm by the tie rod tube.



- (b) Loosen the clamp bolts and nuts.



- (c) Turn the left and right tie rod tubes an equal amount.

Toe-in:

Adjustment STD 5 ± 1 mm (0.20 ± 0.04 in.)

- (d) Tighten the clamp bolts and nuts.
- (e) After toe-in adjustment, check that the suspension arm can be rotated by 10° or more.

