

02-11 WHEEL ALIGNMENT

WHEEL ALIGNMENT

PRE-INSPECTION	02-11-1
FRONT WHEEL ALIGNMENT	02-11-1
Specification (Unloaded)*1*2	02-11-1
Maximum Steering Angle Adjustment	02-11-2
Caster Adjustment	02-11-2

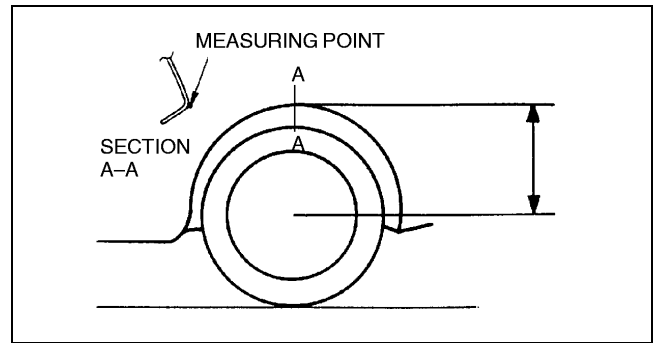
Camber Adjustment	02-11-3
Total Toe-in Adjustment	02-11-3
REAR WHEEL ALIGNMENT	02-11-4
Specification (Unloaded)*1*2	02-11-4
Total Toe-in Adjustment	02-11-4
Camber Adjustment	02-11-5

02-11

WHEEL ALIGNMENT PRE-INSPECTION

A5U021101013W01

1. Inspect the tire inflation, and adjust to the recommended pressure as necessary.
2. Inspect the front wheel bearing play and correct as necessary. (See 03-11-1 Wheel Bearing Play.)
3. Inspect the wheel and tire runouts. (See 02-50-1 SUSPENSION TECHNICAL DATA.)
4. Inspect the ball joints and steering linkage for excessive looseness.
5. The vehicle must be on level ground and carry no luggage or passengers.
6. Measure the height from the center of the wheel to the fender brim. The difference between the left and right measurement must not exceed **10 mm {0.39 in}**.



X3U211WA4

FRONT WHEEL ALIGNMENT

Specification (Unloaded)*1*2

A5U021101015W01

Item		Specification
Total toe-in	(mm {in})	3±4 {0.12±0.16}
	(degree)	0°18'±24'
Maximum steering angle	Inner	38°±3°
	Outer	33°±3°
Steering axis inclination (reference value)		11°38'
Camber angle*3	Height from center of wheel to front fender brim (mm {in})	327—336 {12.9—13.2}
		337—346 {13.3—13.6}
		347—356 {13.7—14.0}
		357—366 {14.1—14.4}
		367—376 {14.1—14.8}
Caster angle*3	Height from center of wheel to rear fender brim (mm {in})	346—355 {13.7—13.9}
		356—365 {14.1—14.3}
		366—375 {14.5—14.7}
		376—385 {14.9—15.1}
		386—395 {15.2—15.5}

*1 : Fuel tank full. Engine coolant and engine oil are at specified level. Spare tire, jack and tools are in designated position.

*2 : Adjust to the median when carrying out wheel alignment.

*3 : Difference between left and right must not exceed **1°30'**.

WHEEL ALIGNMENT

Maximum Steering Angle Adjustment

1. Remove the steering gear boot clamp.
2. Loosen the tie-rod end locknuts.
3. Turn the tie rods equally to provide the correct maximum steering angle.
4. After adjustment, tighten the locknuts to the specified torque.

Tightening torque

35—50 N·m {3.5—5.1 kgf·m, 26—36 ft·lbf}

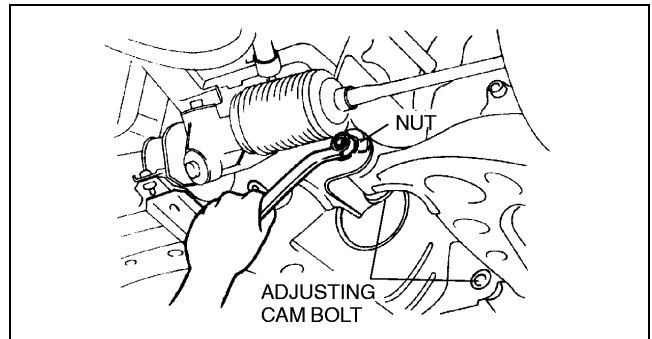
5. Adjust the toe-in.
6. Verify that the boot is not twisted, and install the boot clamp.

Caster Adjustment

Caution

- **Adjust the caster before adjusting the camber.**

1. Loosen the front and/or rear cam nuts.



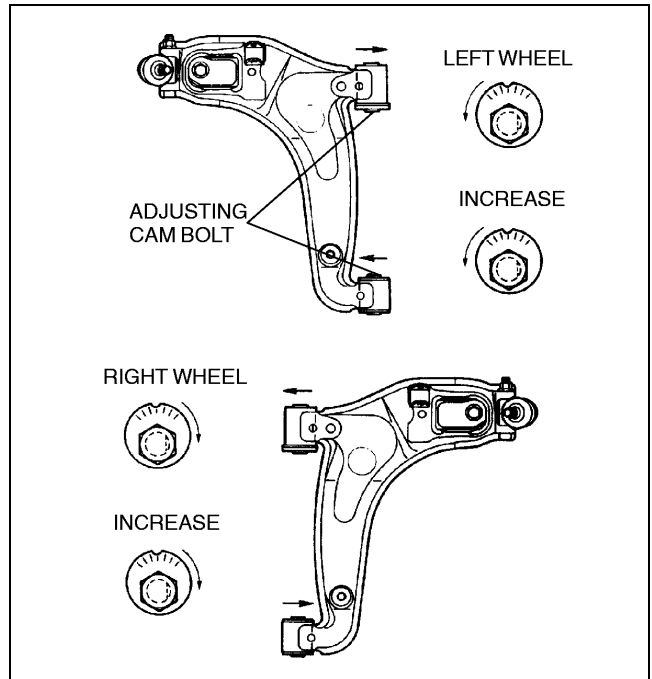
2. Turn the front and/or rear adjusting cam bolts equally to provide the correct caster angle.

Caster	Left wheel		Right wheel	
	Front cam	Rear cam	Front cam	Rear cam
Increase	Counter-clockwise	Counter-clockwise	Clockwise	Clockwise
Decrease	Clockwise	Clockwise	Counter-clockwise	Counter-clockwise

Note

- Turning the front cam one graduation on the scale changes the caster angle about **25'** and the camber about **29'**. Turning the rear cam one graduation changes the caster angle about **25'** and the camber about **2'**.

3. Adjust the camber and the toe-in.



WHEEL ALIGNMENT

Camber Adjustment

Caution

- Adjust the camber after adjusting the caster.

1. Loosen the front and rear cam nuts.
2. Turn the front and rear adjusting cam bolts the same amount in the opposite direction equally to provide the correct camber angle.

Camber	Left wheel		Right wheel	
	Front cam	Rear cam	Front cam	Rear cam
Positive	Counter-clockwise	Clockwise	Clockwise	Counter-clockwise
Negative	Clockwise	Counter-clockwise	Counter-clockwise	Clockwise

Note

- Turning the front cam one graduation changes the camber about **29'** and the caster about **25'**. Turning the rear cam one graduation changes the camber about **2'** and the caster about **25'**.

Note

- If the cam cannot be turned far enough to make the adjustment, begin adjustment of the caster again using the other cam.

3. Tighten the nuts.

Tightening torque

94—112 N·m {9.5—11.5 kgf·m, 69—83 ft·lbf}

4. Adjust the toe-in.

Total Toe-in Adjustment

1. Remove the steering gear boot clamp.
2. Loosen the left and right tie rod locknuts, and turn the tie rods by the same amount.
3. Loosen the left and right tie rod locknuts and turn the tie rods equally. Both tie rods are right threaded, so turning the right tie rod toward the front of the vehicle and the left toward the rear increases toe-in.

Note

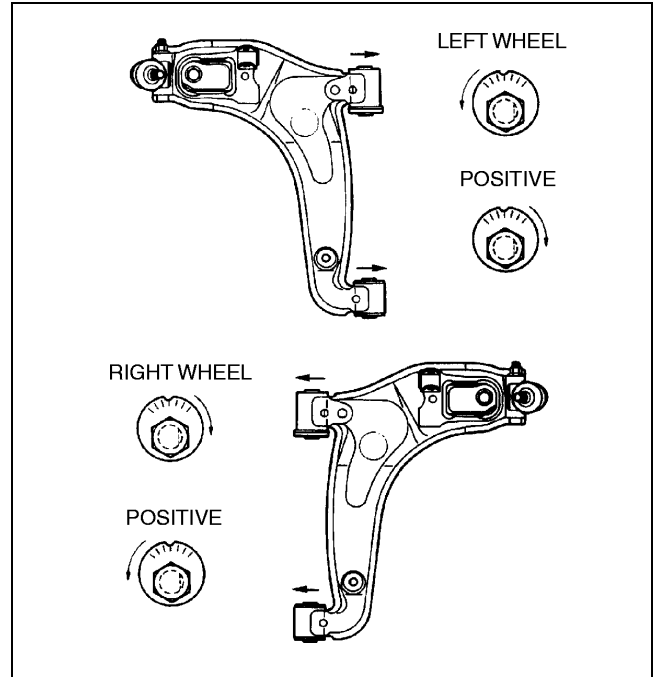
- Turning both tie rods one complete turn changes toe-in by about **7 mm {0.28 in}**.

4. Tighten the tie rod locknuts to the specified torque.

Tightening torque

35—50 N·m {3.5—5.1 kgf·m, 26—36 ft·lbf}

5. Verify that the boot is not twisted, and install the boot clamp.



U5U21104

WHEEL ALIGNMENT

REAR WHEEL ALIGNMENT

Specification (Unloaded)*1*2

A5U021101016W01

Item			Specification
Total toe-in		(mm {in})	3±4 {0.12±0.16}
		(degree)	0°18'±24'
Camber angle*3	Height from center of wheel to rear fender brim (mm {in})	346—355 {13.7—13.9}	−1°14'±1°
		356—365 {14.1—14.3}	−0°59'±1°
		366—375 {14.5—14.7}	−0°47'±1°
		376—385 {14.9—15.1}	−0°38'±1°
		386—395 {15.2—15.5}	−0°32'±1°
Thrust angle			0°±48'

*1 : Fuel tank full. Engine coolant and engine oil are at specified levels. Spare tire, jack and tools are in designated position.

*2 : Adjust to the median when carrying out wheel alignment.

*3 : Difference between left and right must not exceed 1°30'.

Total Toe-in Adjustment

Caution

- Adjust the toe-in before adjusting the camber.

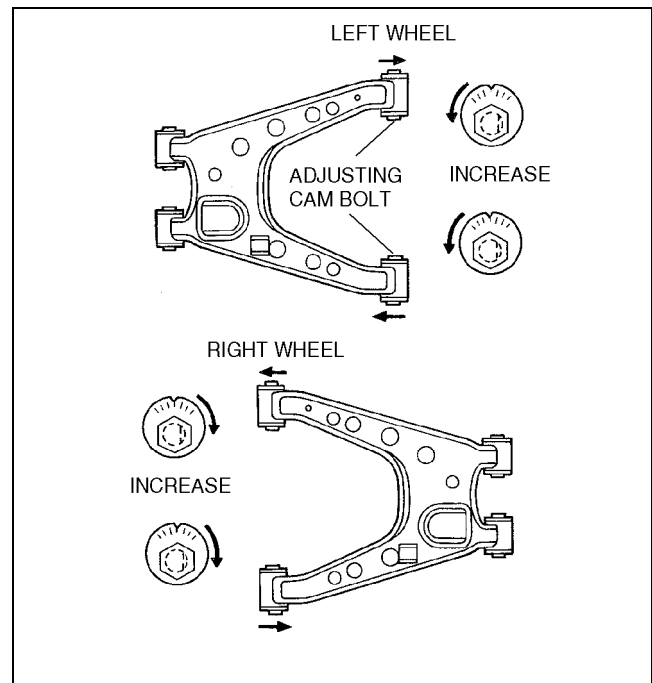
- Loosen the front and/or rear cam nuts.
- Turn the front and/or rear adjusting cam bolts equally to provide the correct toe-in.

Toe-in	Left wheel		Right wheel	
	Front cam	Rear cam	Front cam	Rear cam
Increase	Counter-clockwise	Counter-clockwise	Clockwise	Clockwise
Decrease	Clockwise	Clockwise	Counter-clockwise	Counter-clockwise

Note

- Turning the front cam one graduation changes the toe-in about **2.3 mm {0.1 in}** and the camber about **13'**. Turning the rear cam one graduation changes the toe-in about **2.3 mm {0.1 in}** and the camber about **8'**.

- Adjust the camber.



Z5U0211W101

WHEEL ALIGNMENT

Camber Adjustment

Caution

- Adjust the camber after adjusting the toe-in.

1. Loosen the front and rear cam nuts.
2. Turn the front and rear adjusting cam bolts the same amount in the opposite direction equally to provide the correct camber angle.

Camber	Left wheel		Right wheel	
	Front cam	Rear cam	Front cam	Rear cam
Positive	Counter-clockwise	Clockwise	Clockwise	Counter-clockwise
Negative	Clockwise	Counter-clockwise	Counter-clockwise	Clockwise

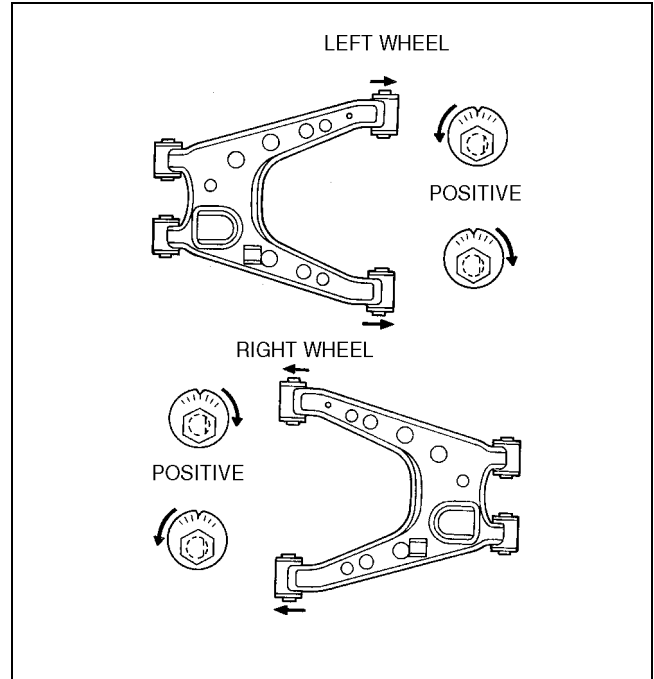
Note

- Turning the front cam one graduation changes the camber about **13'** and the toe-in about **2.3 mm {0.1 in}**. Turning the rear cam one graduation changes the camber about **8'** and the toe-in about **2.3 mm {0.1 in}**.
- If the cam cannot be turned far enough to make the adjustment, begin adjustment of the toe-in again using the other cam.

3. Tighten the nuts.

Tightening torque

73—95 N·m {7.4—9.7 kgf·m, 54—70 ft·lbf}



Z5U0211W102

02-11