

WHEEL ALIGNMENT 4WD

1. MAKE FOLLOWING CHECKS AND CORRECT ANY PROBLEMS

- (a) Check the tires for wear and proper inflation.
Cold tire inflation pressure: See page A-25
- (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. ADJUST VEHICLE HEIGHT

Adjust the vehicle height to the standard vehicle height for wheel alignment inspection.

HINT: With non-loaded vehicles, there is a difference in the vehicle height according to the model.

Although the wheel alignment standard value changes according to the vehicle height, by setting the vehicle height to the standard height the standard alignment value becomes the same for all models.

Front: $A - B = 58.5 \text{ mm (2.303 in.)}$

A: Height at center of tip of drive shaft

B: Height at center of tip of front side adjusting cam bolt

Rear: $C - D = 61.0 \text{ mm (2.402 in.)}$

C: Height of center of rear leaf spring front bush 1

D: Height of center of rear axle shaft

HINT: For the vehicle height of non-loaded vehicles for each model and the alignment standard values, refer to page A-25.

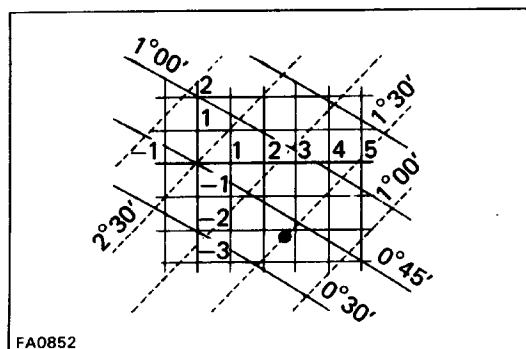
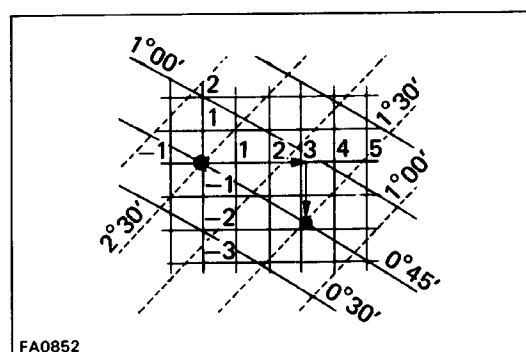
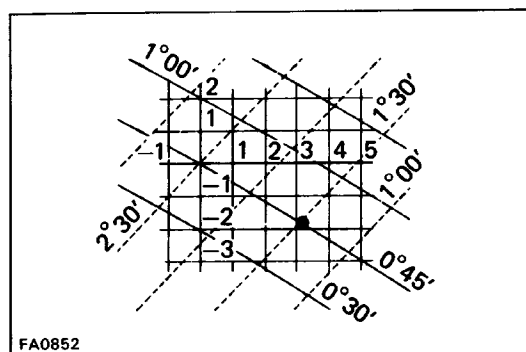
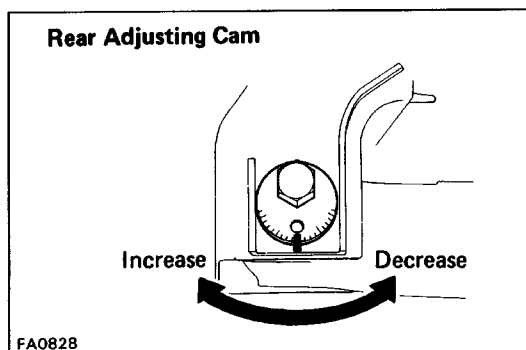
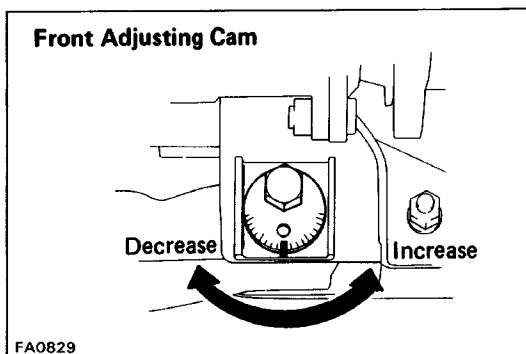
3. INSTALL WHEEL ALIGNMENT EQUIPMENT

Follow the specific instructions of the equipment manufacturer.

4. ADJUST CAMBER, STEERING AXIS INCLINATION AND CASTER

Camber, Steering axis inclination, Caster: See page A-25, 26

If the steering axis inclination is not as specified after camber and caster have been correctly adjusted, re-check the steering knuckle and front wheel for bending or looseness.



If camber and/or caster are not within specification, adjust by front and/or rear adjusting cams.
(See Adjustment Chart)

How to Read the Chart

(Alignment measured with vehicle height set to standard height for wheel alignment inspection)

- (a) Mark on the adjustment chart the alignment values measured with the vehicle at standard height.

Example: Camber 0°45'
Caster 1°30'

- (b) To calculate the amounts by which the front and/or rear cams are to be adjusted, read from the adjustment chart the distance from the center of the chart to the mark you have made, as shown in the illustration.

Example: Front cam -1.8
Rear cam + 3.1

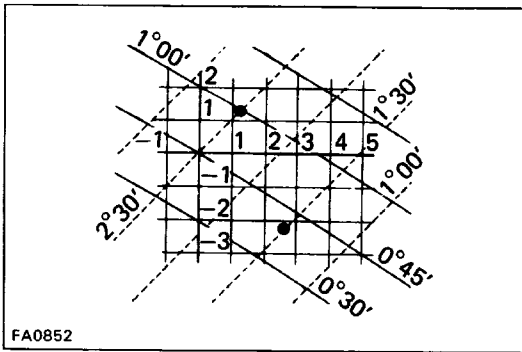
- (c) Torque the front and/or rear cam nuts.
Torque: 196 N-m (2,000 kgf-cm, 145 ft-lbf)

How to Read the Chart

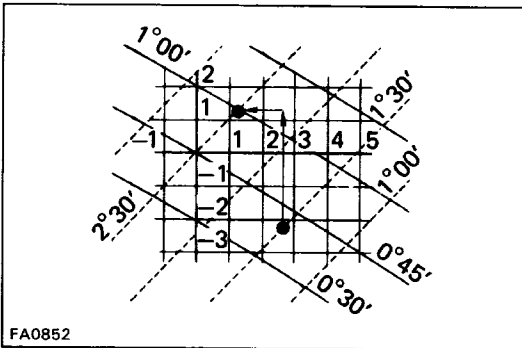
(Wheel alignment measured at vehicle height of non-loaded vehicle)

- (a) Find the wheel alignment standard value applicable for the particular model in non-loaded condition.
(See page A-33)
- (b) Mark the selected standard value on the adjustment chart.

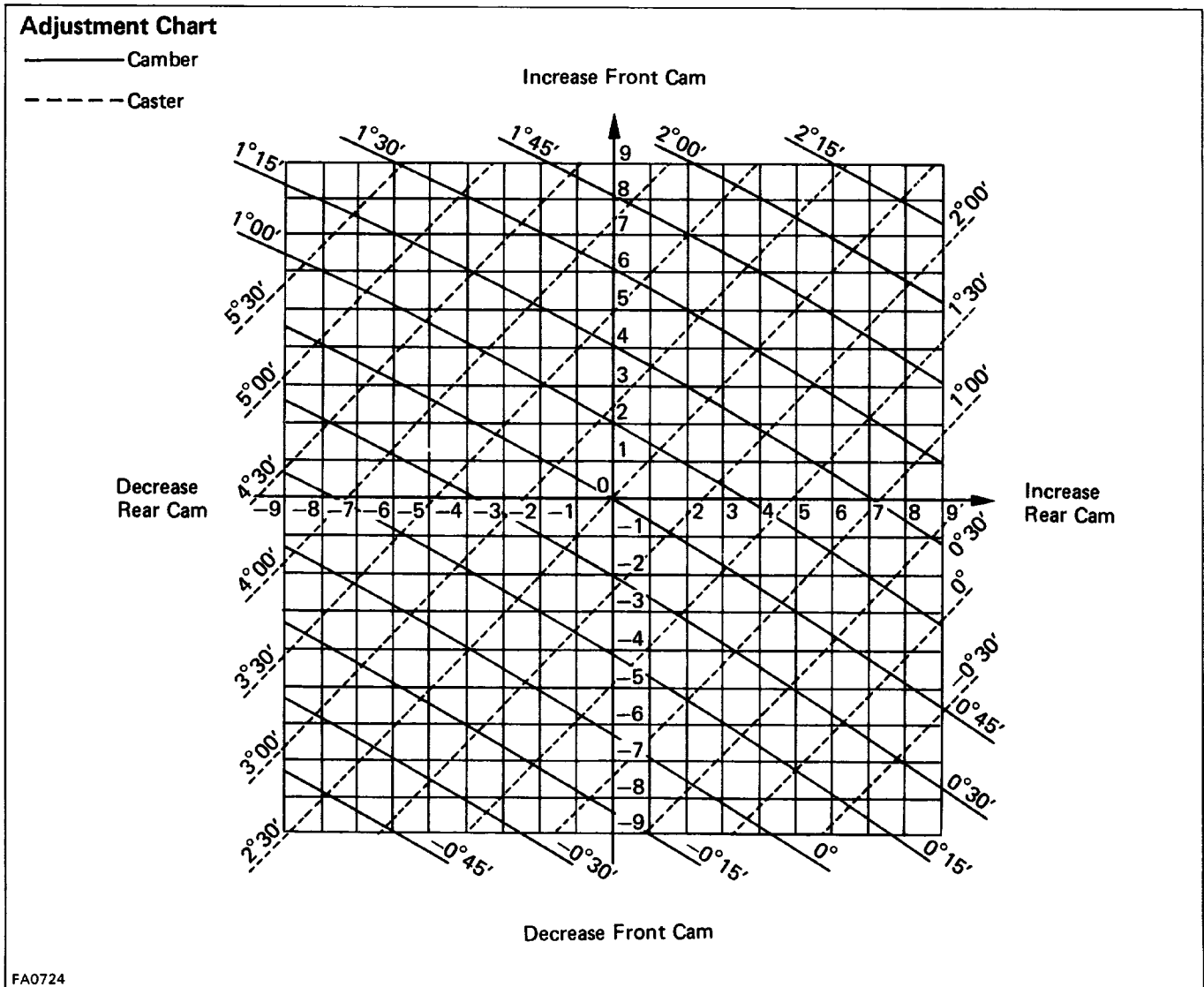
Example: Camber 0°40'
Caster 1°30'

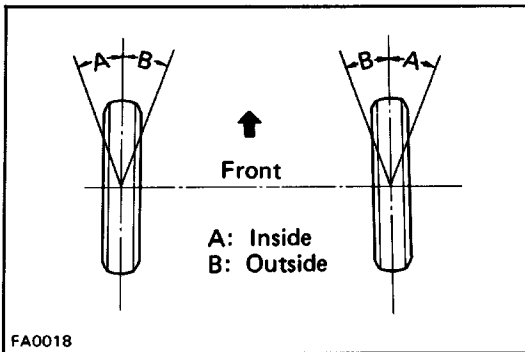


- (c) Mark on the adjustment chart the alignment values measured at the non-loaded vehicle height.
Example: Camber 1°00'
Caster 2°30'



- (d) As shown in the illustration, read the distance from the standard value to the measured value, and adjust the front and/or rear adjusting cams accordingly.
Example: Front cam + 3.4
Rear cam -1.6
- (e) Torque the front and/or rear cam nuts.
Torque: 196 N-m (2,000 kgf-cm, 145 ft-lbf)





5. ADJUST WHEEL ANGLE

Remove the caps of the knuckle stopper bolts and check the steering angles.

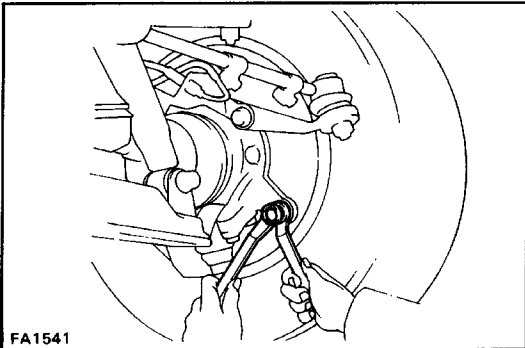
Wheel angle		
Max.	Inside wheel	$32^{\circ}00' +1^{\circ}$ -2°
	Outside wheel	31°
at 200 (outside wheel)	Inside wheel	$21^{\circ} 10'$

HINT: When the steering wheel is fully turned, make sure that the wheel is not touching the body or brake flexible hose.

If maximum steering angles differ from standard value, adjust the wheel angle with the knuckle stopper bolts.

Torque: 47 N-m (480 kgf-cm, 35 ft-lbf)

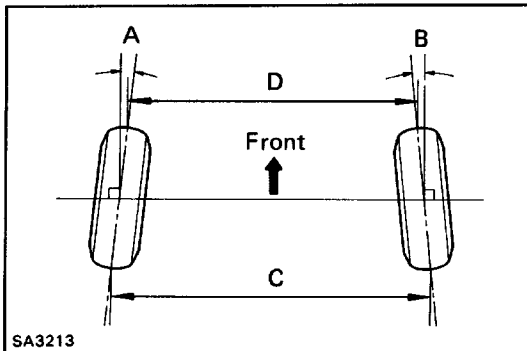
If the wheel angle still cannot be adjusted within limits, inspect and replace damaged or worn steering parts.



6. INSPECT TOE-IN

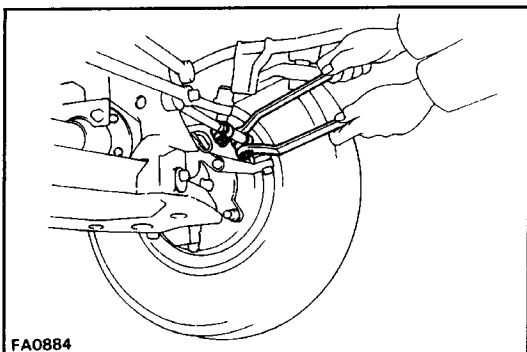
Toe-in: See page A-26

If toe-in is not within specification adjust by the tie rod end.



7. ADJUST TOE-IN

(a) Loosen the clamp bolts and nuts.

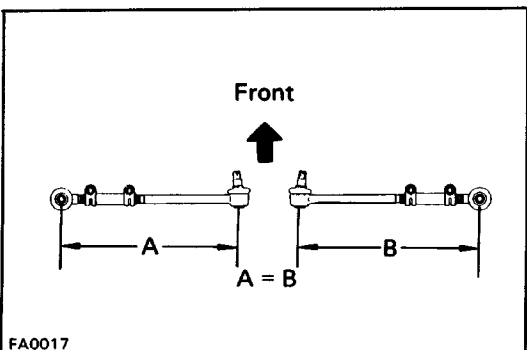


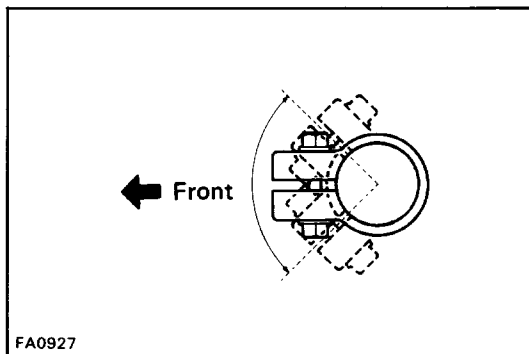
(b) Adjust toe-in by turning the left and right tie rod tubes an equal amount.

Toe-in: See page A-26

(c) Insure that the lengths of the left and right tie rods are equal.

NOTICE: Check that the steering wheel is straightened.

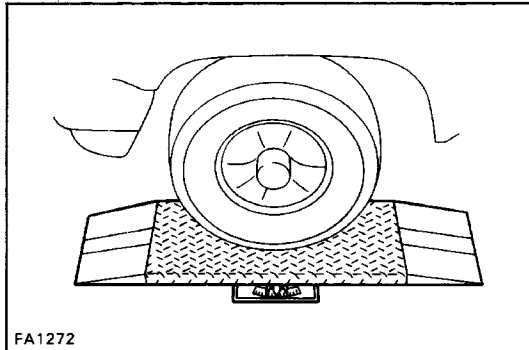




(d) Torque the tie rod.

Torque: 22 N-m (225 kgf-cm, 16 ft-lbf)

HINT: Face the clamp bolt toward the front of the vehicle.



8. INSPECT SIDE SLIP (REFERENCE ONLY)

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