

# Wheel Alignment

## PORSCHE (Cont.)

### 911SC (Rear)

To adjust rear wheel toe-in, loosen nuts on retaining bolts and adjusting eccentrics at rear axle flange. Turn toe-in eccentric until toe-in is set to specifications. Hold eccentric stationary and tighten all lock nuts.

### 924 & 944 (Rear)

To adjust toe-in, reposition control arm flange in slots of spring plate. Use of adjusting tool (9171) is suggested.

### 928 (Rear)

To adjust rear toe-in, use eccentric located on front control arm bushing.

## TORSION BAR ADJUSTMENT

### 911SC (Rear)

1) Place torsion bar into transverse tube with inner end splines first. Slip radius arm onto outer end splines of torsion bar.

2) Place leveling tool (VW 261) on lower edge of door opening and adjust level so bubble is in center of glass.

3) Check adjustment (degrees) of free hanging radius arm with same leveling tool. If not to specifications, adjust by turning torsion bar and radius arm in opposite directions. Adjustment of both radius arms must each equal  $36\ 3/4^\circ \pm 1/4^\circ$ .

# RENAULT

## ADJUSTMENT

### TIRE INFLATION (COLD)

Before attempting to check or adjust wheel alignment, make sure tires are properly inflated. Refer to manufacturer's specifications given in owner's manual.

### RIDING HEIGHT

**NOTE:** Riding height should be set with fuel tank full and without additional weight in vehicle.

#### Front

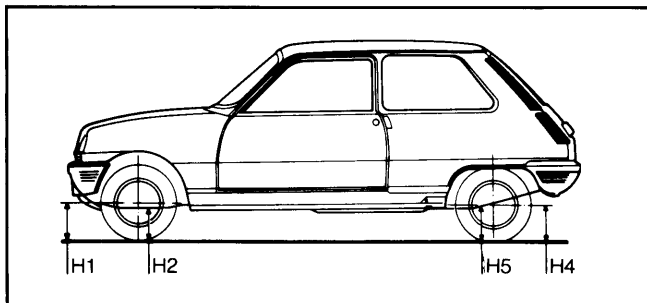
1) Checking or adjusting riding height can only be performed with vehicle on level floor. To calculate front riding height, measure distance from floor to center of wheel (H1) and distance from floor to front side member (H2) in line with wheel centers. See Fig. 1.

2) Subtract the 2 measurements (H1 from H2). Variation between right and left sides should not exceed 3/8" (9.5 mm). To adjust front riding height, mark position of torsion bar in bracket. Remove and rotate torsion bar until correct riding height is obtained.

#### Rear

1) On all models, rear riding height is calculated by measuring from floor to center of wheel (H4). Then measure from floor to the punched out hole in rear side member (H5). See Fig. 1. On Fuego measure between floor and center of front bolt at side arms (H5).

Fig. 1: Measurement Location Points For Riding Height



Fuego measurement (H5) is from floor to center of forward bolt on side arm.

2) The variation between right and left sides should not exceed 3/8" (9.5 mm). Adjust rear riding height in same manner as front riding height.

## CASTER

### Le Car

To adjust caster angle, loosen both lower control arm mounting bolts and add or remove shims to adjust caster to specifications. The addition or removal of 1 shim equals about 1° change in caster angle.

**NOTE:** Never use more than 2 shims between bushing and side member. Always check steering box height after caster adjustment.

### All Others

Vehicle riding height controls caster angle. Caster is not adjustable.

## CAMBER

### All Models

Vehicle riding height controls camber. Camber angle is not adjustable. If not within specifications, inspect

## CASTER ANGLE SPECIFICATIONS

Difference Between H2 & H5	Caster Angle
18i	
1 3/8" (35 mm)	3°
2 5/32" (55 mm)	2 1/2°
2 3/4" (70 mm)	2°
3 35/64" (90 mm)	1 1/2°
Le Car	
1 9/16" (40 mm)	12 1/2°
2 3/8" (60 mm)	12°
3 3/16" (80 mm)	11 1/2°
3 15/16" (100 mm)	11°
4 3/4" (120 mm)	10 1/2°
5 1/2" (140 mm)	10°
Fuego	
3/4" (20 mm)	3° 1/2'
1 3/8 (35 mm)	3°
2 5/32" (55 mm)	2° 1/2'
2 3/4" (70 mm)	2°

# Wheel Alignment

## RENAULT (Cont.)

front suspension for wear or damage and repair or replace components as necessary.

### TOE-IN

#### Fuego

To adjust toe-in, loosen jam nuts by holding ball joint with wrench. Turn tie rod sleeves equal amounts to adjust toe-in to specifications. Tighten jam nuts and recheck toe-in.

### All Others

If toe-in is not to specifications, disconnect tie rod at rack end, loosen jam nut on steering end of fitting. To increase toe-in, unscrew end fitting. To decrease, screw in fitting. Tighten jam nut and connect tie rod. Recheck toe-in.

## SAAB

### ADJUSTMENT

#### TIRE INFLATION (COLD)

Before attempting to check or adjust wheel alignment, make sure tires are properly inflated. Refer to manufacturer's specifications given in owner's manual.

#### CASTER

To adjust caster, add or remove shims under upper control arm bushing brackets. Changing shims from front to rear bracket increases caster angle. Moving shims from rear to front decreases caster angle.

**NOTE:** Same shim thicknesses removed from front must be placed under rear and vice versa. Change in caster also affects camber.

#### CAMBER

To adjust camber, add or remove same number of shims under upper control arm bushing brackets. Increasing shims under both brackets reduces camber angle and removing shims under both increases camber.

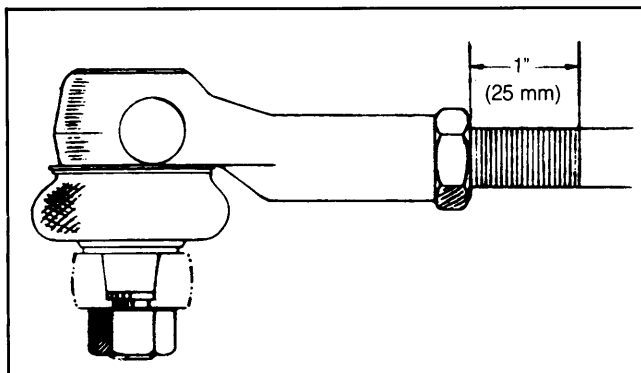
**NOTE:** Always add or remove same thickness of shims at front and rear or caster angle will be affected.

### TOE-IN

1) With wheels in straight ahead position, loosen tie rod jam nuts and turn adjustable sleeves until correct toe-in is obtained. Tighten jam nuts and recheck toe-in.

2) After adjustment of toe-in, measure thread width of tie rod. Manual steering must not exceed 15/16" (24 mm) or 1" (25 mm) for power steering models. For tie rods opposite each other, the difference between measurements must not exceed 3/32" (2 mm).

**Fig. 1: Tie Rod Length Measurement, Vehicle with Power Steering**



## SUBARU

### ADJUSTMENT

#### TIRE INFLATION (COLD)

Before attempting to check or adjust wheel alignment, make sure tires are properly inflated. Refer to manufacturer's specifications given in owner's manual.

#### RIDING HEIGHT

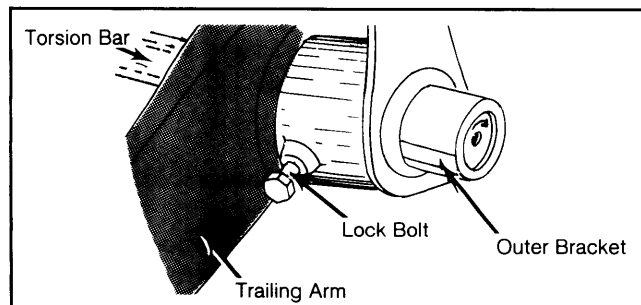
##### Front (All Models)

Place vehicle on level floor. Measure distance between floor and front end of lower control arm at center of inboard attaching bolt. Adjust clearance by turning nuts (at same time) on strut until specified height is obtained. See Riding Height Specifications table.

##### Rear (4-WD)

Place vehicle on level floor. Measure distance between floor and lowest point of crossmember pipe. Adjust clearance by turning adjusting bolt (through service hole in floor) clockwise to increase riding height and counter-clockwise to decrease height. See Riding Height Specifications table.

**Fig. 1: Installed View of Torsion Bar Outer End Attachment**



##### Rear (2-WD)

1) Riding height is adjusted by changing the angle between trailing arm center line and markings on outer bracket. See Fig. 1. Trailing arm and outer bracket have full serrations around torsion bar mounting hole, while torsion bar has 1 missing serration, thus allowing torsion bar to be inserted at any angle.