PORSCHE

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 spare tire included.*

911 (Front) – 1) Checking or adjusting riding height can only be performed with vehicle on level surface. Mark center of front wheel hub cap (grease retainer cup). Jounce vehicle several times to settle suspension. Measure distance "A" shown in *Fig. 1.* Measure distance "B" in same figure. Difference between measurements should be as shown in table.

2) If necessary, loosen or tighten torsion bar adjusting bolt until correct height is obtained. Jounce vehicle several times and recheck height. Make sure difference between right and left side measurements does not exceed .20" (5 mm).

Riding Height Specifications①

Application	Front	Rear
911/SC	4.25±.20"	.468±.20"
	(108±5 mm)	(12±5 mm)
Turbo	3.3±.20"	1.5±.20"
	(84.5±5 mm)	(37±5 mm)

① – Measurement is difference between "A" and "B".

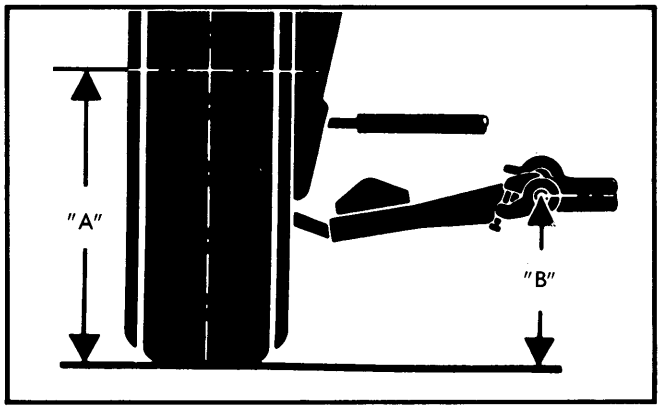

Fig. 1 Front Suspension Riding Height Measuring Points

911 Series (Rear) – Checking or adjusting riding height can only be performed with vehicle on level surface. Mark center of rear wheel. Bounce vehicle several times to settle suspension. Measure distance "a" as shown in illustration. Distance "a" plus .468" (12 mm) equals "b"; however, distance "b" is difficult to measure because the torsion bar is mounted off center in its rubber bushing. Therefore it is necessary to measure distance "b1" and add .585" (14.8 mm), radius of bushing. This total should be equal to "b". After calculating "b", difference between "a" and "b" should be .468"±.20" (12±5mm). Difference in height from left to right should not exceed .197" (5 mm). If values are not within specifications, check front height and rear torsion bar adjustment. Correct as required.

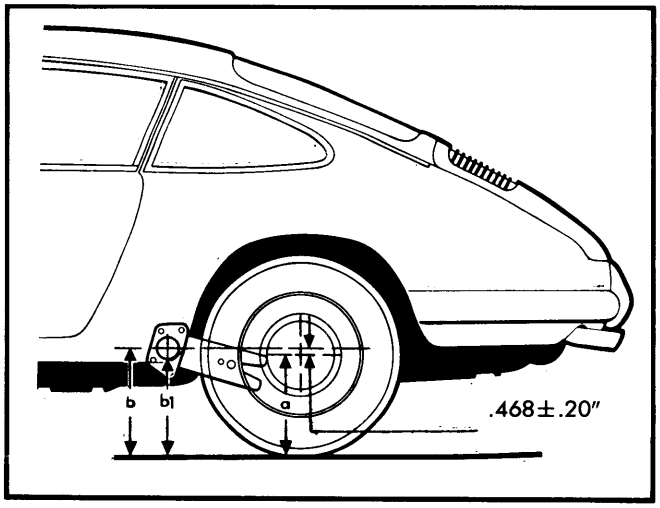

Fig. 2 Porsche 911/SC Rear Suspension Riding Height Measuring Points and Dimensions

NOTE – *If spring plate angle is 19° (with stabilizer bar) or 23° 40' (without stabilizer bar), vehicle height will be correct.*

924 (Rear) – Rear height is adjusted at 2-piece spring plate; spring plate removal is not required. Loosen mounting bolt *(Fig. 3)* and adjust vehicle height with eccentric bolt. Height should be .315" ±.004" (8 mm ±.10 mm) when measured from torsion bar center to center of wheel.

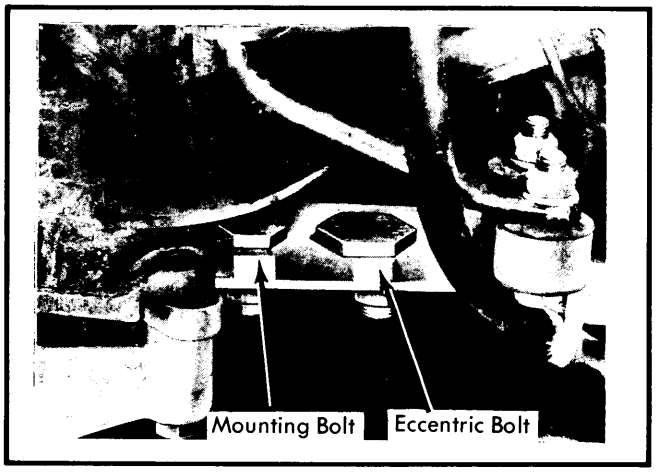

Fig. 3 Location of 924 Rear Riding Height Adjusting bolt

928 (Front) – Park vehicle on level ground. Place wheels in straight-ahead position. Measure distance from boss (on forward underside of lower control arm) to ground. Distance should be about 7.48" (190 mm). Height is determined by coil spring and is not adjustable at front axle.

928 (Rear) – Park vehicle on level ground. Place front wheels to face straight ahead. Measure distance from boss located on

PORSCHE (Cont.)

underside of lower control arm (inner arm) mounting bracket to ground. Distance should be about 7.20" (183 mm).

- To adjust vehicle upward turn coil spring adjusting nut (located at under side of lower spring retainer) clockwise.
- Rear height must be adjusted to match front height. EXAMPLE: If front height is .394" (10 mm) too high, rear height must be raised .394" (10 mm).

CASTER

911 Series & Turbo Carrera – If caster angle is not to specifications, it will be necessary to remove adjuster plate which attaches to front shock absorber. Remove enough front compartment carpet to allow access to top of each shock absorber. Mark position of each movable plate, located below each Allen screw. Loosen each screw and upper shock absorber nut. Move assembly lengthwise to obtain correct caster angle. Tighten all three screws and shock absorber nut.

924 – Adjust caster by moving the rear of suspension control arm form side-to-side. See *Fig. 4*.

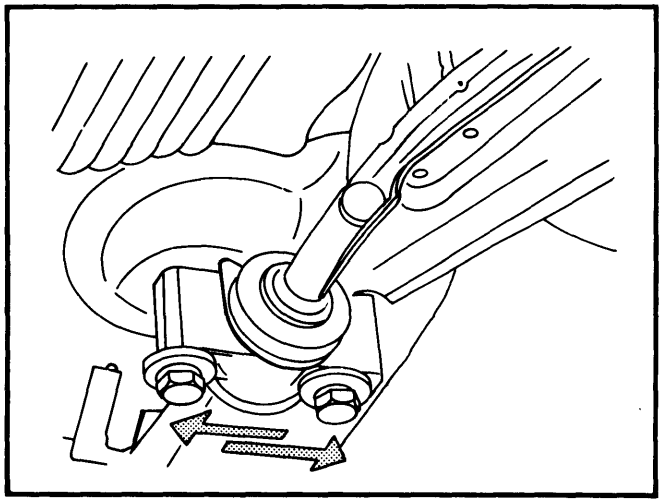

Fig. 4 924 Caster Adjustment Location

928 – Caster is adjusted at eccentric located on lower control arm. To adjust caster, use eccentric closest to brake disc.

CAMBER

911 Series & Turbo Carrera (Front) – If camber angle is not to specifications, it will be necessary to move adjuster plate which attaches to front shock absorber. Remove enough carpet to allow access to top of each shock absorber. Mark position of each movable plate located below each Allen screw. Loosen each screw and upper shock absorber nut. Move assembly from side to side-to-obtain correct camber angle. Tighten all three screws and shock absorber nut.

911 Series (Rear) – In order to obtain correct camber value at rear wheels, it is necessary that rear torsion bars be adjusted first. See *Torsion Bar Adjustment*. Now, loosen nuts on retaining bolts and on eccentric bolt at rear axle flange. Turn camber eccentric until camber angle is within specifications. Tighten retaining nuts and eccentric bolt nuts.

924 (Front) – Adjust camber by turning eccentric bolt shown in *Fig. 5*.

924 (Rear) – Loosen bolts between spring plate and diagonal arm flange. Bring camber to specification by turning eccentric.

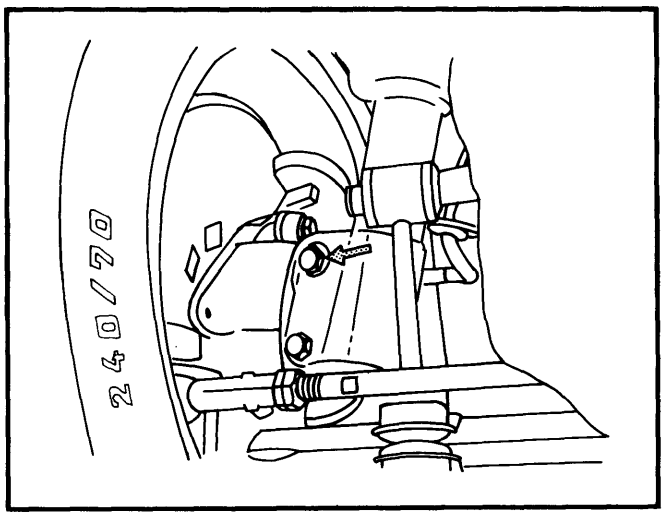

Fig. 5 924 Camber Eccentric Bolt Location

928 (Front) – Camber is adjusted at eccentric located on lower control arm. To adjust camber, use eccentric furtherest away from brake disc.

928 (Rear) – Make camber adjustments at eccentric bolt located on inner control arm bushing.

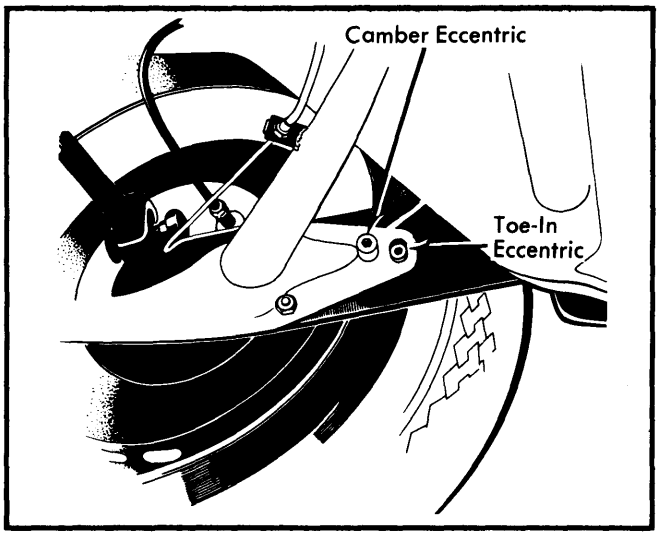

Fig. 6 911 Rear Camber Adjustment Points

TOE-IN

All Models (Front) – Place front wheels in straight-ahead position. Adjust left and right steering links (tie rods) equally to obtain specified setting. Coat each steering link with anti-corrosive compound after adjustment.

PORSCHE (Cont.)

911 Series (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 (Rear) – Adjust toe-in by repositioning control arm flange in slots of spring plate. Use of special tool 1979 is suggested.

928 (Rear) – Rear to adjustments are made at eccentric bolt located on front control arm bushing.

TORSION BAR ADJUSTMENT

911 Series (Rear) – Place torsion bar into transverse tube with inner end splines first. Slip radius arm onto outer end splines of torsion bar. Place suitable leveling tool (VW 261) on lower edge of door opening and adjust level so bubble is in center of glass. 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°45′±15′.

RENAULT

ADJUSTMENT

TIRE INFLATION (COLD)

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

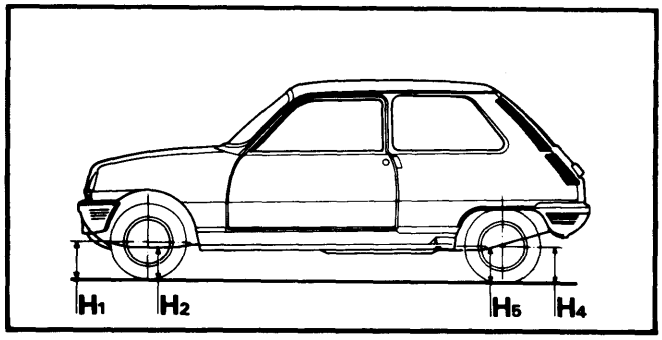

Fig. 1 Riding Height Measurement Points

CASTER

Le Car – 1) Vehicle riding height must be calculated before adjusting caster. Measure distance between ground and rear side member (H5, *Fig. 1*). Measure distance between ground and front side member in line with wheel centers (H2, *Fig. 1*). Subtract measurements and refer to table for correct caster angle.

2) With caster angle determined, loosen both lower control arm mounting bolts. Add or remove caster shims to bring adjustment within specifications. One shim is equal to about 1°.

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

Caster Angle Table

Subtracted Value	Caster Angle
3/4″ (20 mm)	13°
1 9/16″ (40 mm)	12½°
2 3/8″ (60 mm)	12°
3 3/16″ (80 mm)	11½°
3 15/16″ (100 mm)	11°
4 3/4″ (120 mm)	10½°
5 1/2″ (140 mm)	10°

CAMBER

Camber angle is not adjustable. If not within specifications, inspect front suspension for wear or damage and repair or replace components as necessary.

TOE-IN

If toe-in is not to specifications, disconnect steering arm at rack end. Loosen lock nut on steering end fitting. To increase toe-in, unscrew end fitting. To decrease, screw in fitting. Tighten lock nut and connect steering arm. Recheck toe-in.

SAAB

ADJUSTMENT

TIRE INFLATION (COLD)

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

CASTER

All Models – 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 thickness of shims removed from front must be placed under rear and vice versa. Change in caster also effects camber.*