

## PEUGEOT

**All Models** — Inspect ball joints for roughness or excessive wear. Replace ball joints as necessary. See *Peugeot in SUSPENSION Section*.

## PORSCHE

**All Models** — When moving ball pin some friction torque should be felt. If ball pin can be moved without resistance and end play is shown, replace ball joint.

## RENAULT

**All Models** — Inspect ball joints for wear or excessive play. Replace ball joints as necessary.

## SAAB

**All Models** — If ball joint exhibits excessive play, it must be replaced as a complete unit. See *Saab in SUSPENSION Section*.

## SUBARU

**All Models** — Check ball joint for excessive play by pushing and pulling on ball joint stud. Allowable looseness is less than .012". If play exceeds this specification, ball joint must be replaced. See *Subaru in SUSPENSION Section*.

## TOYOTA

**Corona, Mark II & Hi-Lux** — To check lower ball joint, jack up lower suspension arm and check for ball joint looseness by shaking wheel vertically and horizontally. Looseness limit in vertical direction should be less than .04" (1 mm) Corona & Mark II or .20" (5 mm) Hi-Lux. Looseness limit in horizontal direction should be less than .08" (2 mm) Corona & Mark II or .09" (2.3 mm) Hi-Lux. **NOTE** — *Ensure other suspension parts are tight before checking ball joints.* To check upper ball joints, disconnect upper suspension arm from steering knuckle. Turn ball stud and check for excessive looseness or tightness. Replace ball joint if it is excessively loose or tight.

**All Other Models** — Check for excessive looseness, proper operation and damaged ball stud. Replace as necessary.

## TRIUMPH

**All Models** — Check for damaged ball stud and replace as necessary. Ball joint should move freely in joint and if tight at any spot should be adjusted with shims to eliminate tight spot.

## VOLKSWAGEN

**Types 1 (Exc. Super Beetle) & 2** — Raise vehicle and turn steering to one side. Install a suitable levering tool so that torsion arms may be pried away from each other. Place a vernier caliper over ball joint with one jaw on steering knuckle and other jaw on ball joint stud. Note reading. Pry on levering tool until ball joint is expanded. Note this reading. Difference between two readings is ball joint play. If play exceeds specifications, replace ball joint. See *Volkswagen in SUSPENSION Section*.

**Super Beetle, Type 4 & Dasher** — Raise vehicle and turn steering to one side. Install suitable levering tool so that ball joint spring may be compressed. With spring compressed, position a vernier caliper with lower jaw on ball joint stud and upper jaw on top of clamping bolt for ball joint stud. Note reading. Slowly release tension from spring and note travel of caliper. This reading indicates ball joint play. If specified allowable play is exceeded, replace ball joint. See *Volkswagen in SUSPENSION Section*.

### Ball Joint Specifications

Application	Lower	Upper
	In. (mm)	In. (mm)
Type 1 (Exc. Super Beetle)	.04 (1)	.08 (2)
Type 2	.08 (2)	.08 (2)
Super Beetle, Type 4 & Dasher	.10 (2.5)	

## VOLVO

**All Models** — Check upper ball joint for excessive wear by shaking wheel. If play is evident, replace ball joint. **NOTE** — *Do not confuse axial play of wheel bearing with worn ball joint.* Check lower ball joint with vehicle under normal load. Place suitable gauge (2967 or 2968) over ball joint. If length exceeds gauge, ball joint should be replaced. See *Volvo in SUSPENSION Section*.