

## 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 & Pickup** — To check lower ball joint, jack up lower suspension arm and check for ball joint looseness by moving wheel vertically and horizontally. Movement limit in vertical direction should be less than .04" (1 mm) Corona and .20" (5.0 mm) Pickup. Movement limit in horizontal direction should be less than .08" (2 mm) Corona and .09" (2.3 mm) Pickup.

**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** — Inspect ball joints for excessive wear or play. Replace ball joint as necessary. See *Triumph* in *SUSPENSION* Section.

## VOLKSWAGEN

**Type 1** — Raise front of vehicle and turn steering to one side. Place pry bar tool over nut or bolt head mounting steering

knuckle to strut. Compress ball joint spring and place vernier caliper over top of ball joint and over bottom stud. Note caliper reading, then release lever and record caliper travel. Increased reading is ball joint play. Replace ball joints as necessary.

**Type 2** — Raise front of vehicle and turn steering to one side. Insert pry bar tool VW 281a (or equivalent) under lower control arm and over top of strut mounting. Fit a vernier caliper on lower or upper torsion arm and steering knuckle. Record measurement. Press down with lever and measure travel of vernier caliper. If travel exceeds specifications, replace ball joint.

**All Other Models** — Raise and support, then 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 play is exceeded, replace ball joint. See *Volkswagen* in *SUSPENSION* Section.

### Ball Joint Specifications

Application	Travel In.(mm)
Type 2 .....	.08 (2)
All Others .....	.10 (2.5)

## VOLVO

**All Models** — Maximum permitted axial play for lower ball joint is .12" (3 mm). Check ball joint by prying back and forth with a bar. If specifications are exceeded, replace ball joints. See *Volvo* in *SUSPENSION* Section.