

# Front Suspension

## DATSUN 200SX, 210, 280ZX, 510 & 810

### DESCRIPTION

Strut type suspension consisting of a vertically mounted strut assembly, lower control arm, stabilizer bar and compression rod. Strut assembly is mounted at top to chassis frame by a thrust bearing and at bottom to lower control arm by a ball joint. Strut assembly consists of a shock absorber built into outer strut tube, a coil spring mounted on outside of strut tube, and a wheel spindle integral with bottom of strut tube. Compression rod is mounted between lower control arm and chassis. Stabilizer bar is mounted to front chassis member and is connected at end of lower control arm.

### ADJUSTMENTS

#### WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See *Wheel Alignment Specifications & Procedures* in *WHEEL ALIGNMENT* Section.

#### WHEEL BEARING ADJUSTMENT

**All Models** — Tighten spindle nut to torque specifications in table. Spin wheel and retorque spindle nut. Loosen nut according to specifications in table and then tighten to align cotter pin hole. Check preload. If not to specification, repeat procedure until correct preload is acquired.

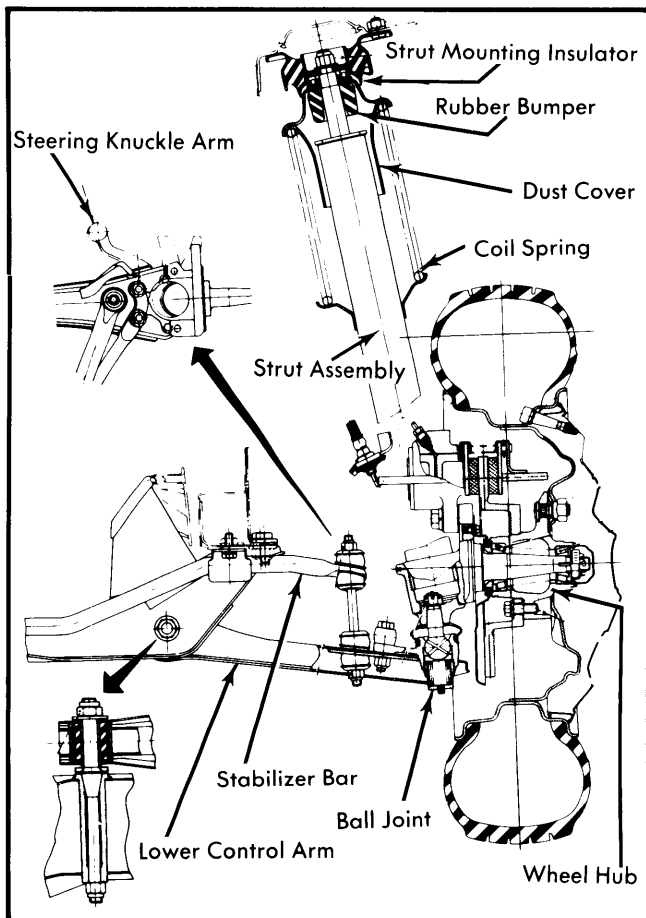
Wheel Bearing Adjustment			
Application	Torque		Preload Lbs. (N)
	Ft. Lbs. (N·m)	Loosen	
200SX, 810	18-22 (25-29)	60° .....	Ⓢ 1.5-3.3 (6.9-14.7)
210	22-25 (29-34)	90° .....	Less Than 2.6 (11.8)
280ZX	18-22 (25-29)	60° .....	Less Than 4.0 (17.7)
510	22-25 (29-34)	90° .....	Less Than 2.6 (11.8)

Ⓢ — Figures given are for new wheel bearings. Used bearings are .4-1.8 (2.0-7.8).

#### BALL JOINT CHECKING

**All Models** — Remove lower control arm. Use appropriate gauge and attach it to top of ball joint stud nut. Measure force (INCH lbs.) required to turn ball joint stud. If measurement is not within specifications, replace ball joint.

Ball Joint Turning Torque		
Application	New	Used
	In. Lbs. (N·m)	In. Lbs. (N·m)
200SX	35-87 (3.9-9.8)	17-69 (2.0-7.8)
210, 510	35-87 (3.9-9.8)	Less Than 17 (2.0)
280ZX	22-69 (2.5-7.8)	Less Than 13 (1.5)
810	35-87 (3.9-9.8)	Less Than 13 (1.5)



**Fig. 1 Assembled View of 210 Front Suspension, (All Other Models Are Similar)**

### REMOVAL & INSTALLATION

#### SPRING & STRUT ASSEMBLY

**Removal** — 1) Raise and support front of vehicle. Remove front wheels. Detach brake hose from bracket on front strut (if required). Remove caliper assembly retaining bolts and remove caliper from axle.

2) Remove bolts holding strut to knuckle arm. Detach knuckle arm from bottom of strut. If necessary, pry lower control arm away from strut to ease removal. Remove strut assembly.

3) Place jack under strut to support it when nuts are removed. Remove 3 nuts holding strut to hood ledge and remove strut and spring as an assembly.

**Disassembly** — 1) Thoroughly clean strut assembly. Fix assembly in suitable holding tool (KV48100300) and clamp tool in vise.

2) With spring compressor, press spring down just far enough to permit turning of strut mounting insulator and remove self-locking nut.

**NOTE** — Be sure spring tool evenly engages on at least 3 coils. Do not hit piston rod of strut with spring tool.

3) Take out strut insulator, bearing, dust seal, upper spring seat, spring and rubber bumper.

4) Push piston rod down until it bottoms. Remove gland packing using suitable wrench (ST35500001). Remove "O" ring from top of piston rod guide and lift out piston rod and cylinder.

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**NOTE** — The piston rod, piston rod guide and cylinder are furnished as a matched set with precision mating surfaces.

**5)** Drain fluid from inner and outer cylinder and discard. Wash all parts in solvent.

**Reassembly** — **1)** Install strut outer casing onto suitable holding tool (KV48100300). Install cylinder and piston rod assembly (shock absorber kit) in outer casing.

**2)** Where present, remove piston rod guide from cylinder. Pour in specified amount of new fluid (outer casing).

Strut Oil Replacement Amounts	
Application	Oz.
200SX, 210 & 810 .....	11.0
280ZX .....	9.3
510	
Atsugi Brand .....	11.0
Kayaba Brand .....	13.3

**3)** Install piston rod guide (bushing), taking care not to damage guide with threaded portion of rod. On 210, 510 and 280ZX, install new "O" ring over rod guide. Lube inner edge of sealing lips of gland packing and install with gland packing guide (ST35520000).

**4)** To correctly bleed strut assembly, stand strut vertically with spindle end down and pull piston rod up to end of stroke. Turn strut assembly until spindle end is up and depress piston rod to end of stroke. Repeat several times until there is no variation of pressure between pushing and pulling piston rod.

**5)** Pull piston rod fully out and install rubber bumper. Place spring on lower spring seat and compress with proper tool (ST35651001). Lubricate dust seal and then install dust cover, spring seat, dust seal, mounting bearing and insulator.

**6)** Install new self-locking nut hand tight only (tighten to specification after unit is installed in vehicle). To prevent entry of dirt, apply a thick coat of multi-purpose grease around upper seal. After positioning spring between upper and lower seats, release spring compressor slowly. Raise rubber bumper to upper spring seat.

**Installation** — Reverse removal procedures to install.

### WHEEL BEARINGS

**Removal** — **1)** Raise vehicle. Support with safety stands. Remove tire, wheel and splash guard. Remove caliper and wire out of way. Remove cap, cotter pin, adjusting cap and wheel bearing nut.

**2)** Remove wheel hub with rotor. Remove retaining bolts and separate wheel hub from rotor. Lift or pry out wheel bearings, washers and grease seals, then drive out bearing races.

**Installation** — Reverse removal procedures to install, noting the following: Make sure bearing races are fully seated. Pack hub, cap and bearings thoroughly with grease. Lubricate contact surface of grease seals, threaded part of spindle and bearing washer to bearing contact face before final assembly. Adjust wheel bearings.

### LOWER CONTROL ARM & BALL JOINT

**Removal** — **1)** Raise vehicle. Support with stands. Remove tire, wheel and splash guard (if equipped).

**2)** Detach tie rod at ball socket. Remove steering knuckle arm bolts and separate arm from bottom of strut. Separate compression rod and stabilizer bar from lower control arm. Remove bolt connecting lower control arm to crossmember. Remove lower control arm with ball joint and knuckle arm.

**3)** Place arm in vise, loosen control arm ball joint bolts and remove ball joint (exc. 810). Place steering knuckle arm in vise and press out ball joint.

**4)** Remove bushing from lower control arm.

**Installation** — Press bushing into control arm. To install lower control arm, reverse removal procedure. Do not tighten nuts and bolts to final torque until weight of vehicle is on front wheels.

### COMPRESSION & STABILIZER BARS

**Removal** — Raise vehicle and support with safety stands. Remove tire and wheel. Remove splash guard and back off nuts securing compression rod to mounting bracket. Remove bolts attaching compression rod to lower control arm. Remove rod. Remove nuts securing stabilizer bar to connecting rod. Remove stabilizer bracket bolts and brackets, and remove stabilizer bar.

**Installation** — Reverse removal procedures to install.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N•m)
Stabilizer Bar Bracket Bolts	
210 .....	12-15 (16-20)
200SX & 510 .....	23-31 (31-42)
280ZX & 810 .....	20-27 (26-36)
Compression Rod-to-Lower Control Arm	
200SX, 210 & 510 .....	37-44 (50-60)
280ZX & 810 .....	33-40 (44-54)
Compression Rod Nut .....	33-40 (44-54)
Gland Packing Nut	
200SX & 810 .....	72-87 (98-118)
210 .....	58-80 (78-108)
280ZX & 510 .....	72-94 (98-127)
Strut Self-Locking Nut .....	43-54 (59-74)
Lower Control Arm-to-Crossmember	
200SX .....	46-55 (63-75)
210 & 510 .....	37-44 (50-60)
280ZX & 810 .....	58-80 (78-108)
Ball Joint-to-Lower Control Arm	
200SX, 210 & 510 .....	37-44 (50-60)
280ZX & 810 .....	33-40 (44-54)
Knuckle Arm-to-Strut .....	53-72 (72-97)
Ball Joint-to-Knuckle Arm	
200SX, 280ZX & 810 .....	71-88 (96-120)
210 & 510 .....	40-72 (54-98)
Tie Rod Ball Joint	
200SX, 210 & 510 .....	22-51 (29-69)
280ZX & 810 .....	40-72 (54-98)