SUBARU

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DESCRIPTION

Suspension is strut type, utilizing a hydraulic shock absorber/coil spring assembly forming a strut. Strut is secured at top to body and at bottom to steering knuckle. Steering knuckle pivots on ball joint attached to lower control arm. Lower control arms are attached to front crossmember. Radius rods are bolted to lower control arms and attached to rear crossmember with rubber bushings, washers and nuts. A stabilizer bar is attached to rear crossmember and to radius rods with clamps and rubber bushings.

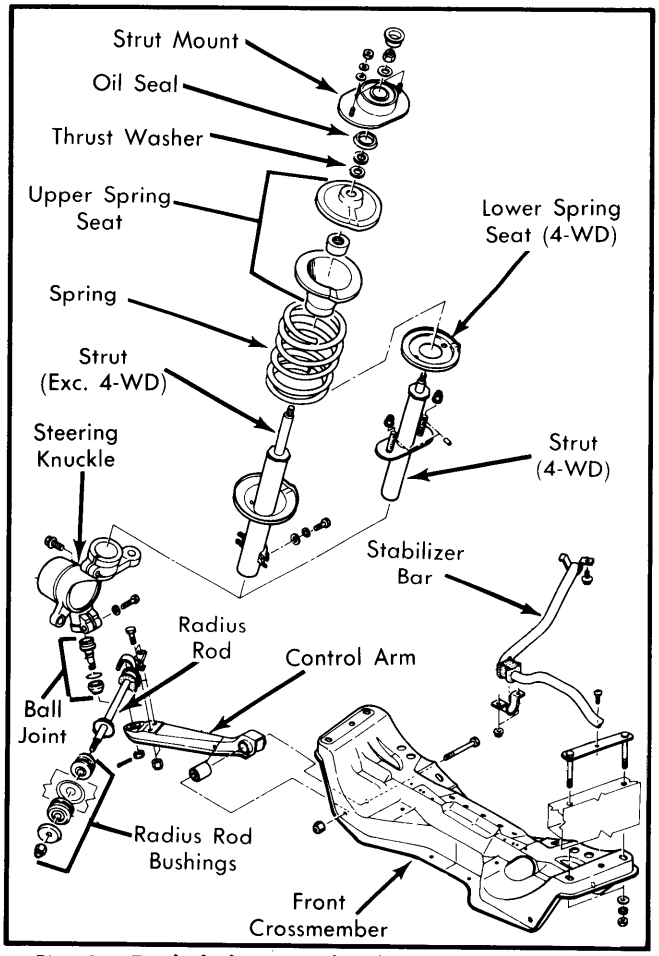

Fig. 1 Exploded View of Subaru Front Suspension

ADJUSTMENTS

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See Wheel Alignment Specifications and Procedures in WHEEL ALIGNMENT Section.

WHEEL BEARING ADJUSTMENT

Front wheel bearing is not adjustable. Tighten spindle nut (axle shaft nut) to 145 ft. lbs. (197 N·m). If cotter pin hole is not aligned, tighten further a maximum of 30° to align hole.

BALL JOINT CHECKING

Check ball joints for excessive play or looseness. Also check rubber boot for damage. Replace components as necessary.

REMOVAL & INSTALLATION

FRONT SUSPENSION

Removal – 1) Detach battery ground cable. Raise and support vehicle and remove front wheel(s).

2) Remove parking brake cable hanger from tie rod end, remove cable end from caliper lever, remove outer cable clip from caliper, remove cable bracket from housing and remove cable mounting bracket from lower control arm.

3) Disconnect brake hose from brake line and plug line. Drive out spring pins from inner ends of drive axles nearest transaxle housing.

4) Remove self-locking nut and bolt holding control arm to crossmember. Pull control arm downward from crossmember.

5) Use suitable tool to separate tie rod end from steering knuckle arm.

6) Detach radius rod from rear crossmember. Remove stabilizer bar brackets.

7) Remove upper strut assembly mounting nuts. Pull drive shaft from transaxle and remove suspension assembly from vehicle.

Installation – To install, reverse removal procedure, noting the following points:

- Be sure to align spring pin holes in drive axle before installing.
- When installing strut top mount, be sure stud marked "FRONT" is forward on Sedan, Hatchback and Hardtop models, and stud marked "VAN/4WD" is forward on Station Wagon and 4-WD models.
- When installing stabilizer, be sure slit in bushing is facing downward in clamp.
- Replace all self-locking nuts.
- Before installing radius rod bushing, soak it in soapy solution or rubber lubricant to assist installation.
- When installing castellated nuts on ball joints, tighten nut, as required, beyond specified torque setting to align cotter pin hole.
- Always use new spring pins for attaching inner end of drive shaft.
- Bleed brake system.

STRUT ASSEMBLY

Removal – 1) Detach battery ground cable. Raise and support vehicle. Remove front wheel. Disconnect brake hose from brake line, strut and brake caliper. Plug brake line.

2) Remove strut-to-knuckle bolts and pull strut out of knuckle. Remove upper strut mounting nuts. Remove strut from vehicle.

Disassembly – 1) Mount strut in spring compressor/holding fixture (925651000) and place in horizontal position. Compress spring until upper seat is separated from coil spring.

2) Use wrench portion of tool to hold upper mounting plate while removing self-locking nut from top end of strut. Remove thrust washer, oil seal and thrust bearing. Remove the upper spring seat from rod.

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3) Carefully remove tension from coil spring and remove tool and spring from strut.

Reassembly – To reassemble, reverse diassembly procedures, replacing self-locking nut with a new one. Place small amount of grease on thrust washer.

Installation – To install, reverse removal procedure, noting the following:

- Be sure upper strut mounting plate is facing in proper direction as described under "Front Suspension" installation procedure in this article.
- When reattaching brake line and hose, be sure to allow enough clearance from wheel apron.
- Bleed brake system.

WHEEL BEARING

Removal – 1) Disconnect negative battery cable. Apply hand brake. Remove wheel cap, cotter pin and loosen castle nut and wheel nuts. Raise vehicle and support with stands.

2) Release parking brake. Disconnect parking brake cable from (inner end) lever of brake caliper. Remove clip of outer part of parking brake cable and disconnect cable from brake caliper.

3) Remove 2 retaining bolts to disc brake caliper assembly, and secure assembly out of the way. Remove 2 damper strut retaining bolts. Remove cotter pin and castle nut of tie rod end ball stud, and remove ball stud from knuckle arm housing using a puller.

4) Remove retaining bolt and separate transverse link from housing. Disconnect strut from housing. Remove castle nut on housing and remove disc and hub assembly from axle shaft.

5) Remove disc shield by removing retaining bolt. Attach puller tool (921121000) to housing and turn tool handle to pull housing off axle shaft.

6) Using a plastic hammer and aluminum or brass bar, tap on inner race to remove outer bearing and outer race to remove inner bearing.

Installation – To install, reverse removal procedure.

STABILIZER BAR

Removal – Raise front of vehicle, and support with safety stands. Remove clamps securing stabilizer bar to radius rod. Remove clamps attaching stabilizer bar to rear crossmember.

Installation – Check all bushings for wear or damage and replace as necessary. Check stabilizer bar for possible cracking. To install, reverse removal procedure.

LOWER CONTROL ARM

Removal – Raise front of vehicle, support with safety stands, and remove wheel and tire. Disconnect brake cable bracket from control arm. Disconnect stabilizer bar from radius rod. Disconnect radius rod from control arm. Remove control arm-to-front crossmember bolt. Remove ball joint-to-knuckle bolt and separate ball joint from knuckle. Remove control arm from vehicle. Remove ball joint castle nut and separate ball joint from control arm.

Installation – Check ball joint for wear or damage. Check pivot bushing for wear or damage. To install lower control arm, reverse removal procedure and note: Torque ball joint castle nut and continue tightening until cotter pin hole is aligned.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N·m)
Ball Joint-to-Control Arm	29 (39)
Ball Joint-to-Knuckle	22-29 (30-39)
Control Arm-to-Crossmember	40-47 (54-64)
Lower Strut End-to-Knuckle	22-29 (30-39)
Radius Rod-to-Rear Crossmember	51-62 (69-84)
Stabilizer Bracket Nuts	13-16 (18-22)
Strut-to-Piston Rod Nut	43-54 (58-73)
Tie Rod End Ball Joint Nut	18-22 (24-30)
Upper Strut Mounting Nuts	22-29 (30-39)
Wheel Nuts	58-72 (79-98)