

Front Suspension

SUBARU 1600 & 1800

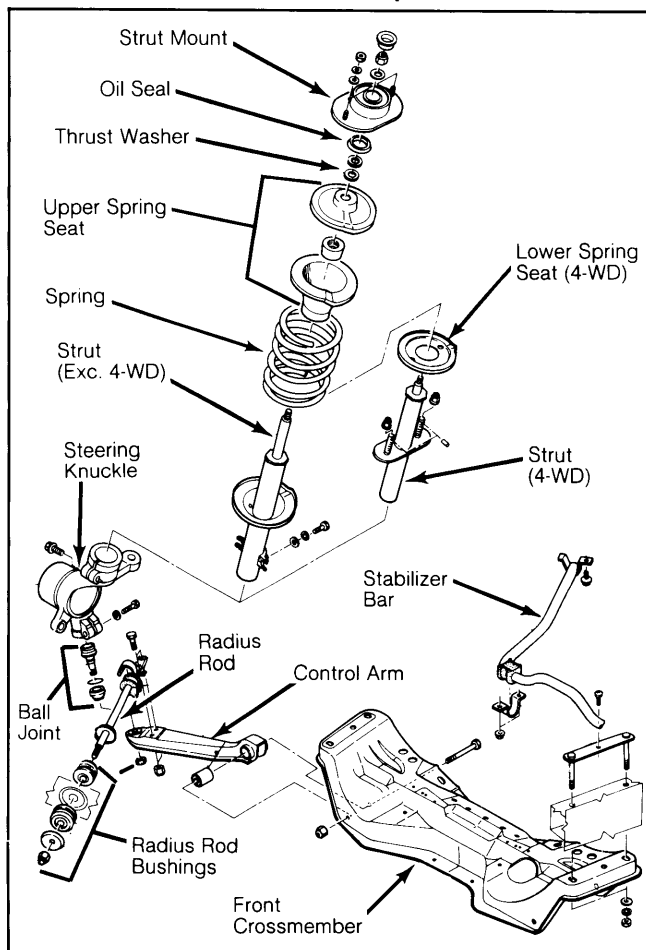
DESCRIPTION

Front suspension is a MacPherson strut type, using a hydraulic shock absorber inside a strut tube. Strut tube is surrounded by coil spring.

Strut is secured at top to the body and at the 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 Front Suspension



ADJUSTMENTS

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See *Wheel Alignment Specifications and Procedures* in **WHEEL ALIGNMENT** section.

WHEEL BEARING

Wheel bearing is not adjustable. Tighten hub nut to 145 ft. lbs. (197 N.m). If cotter pin hole is not aligned, tighten further a maximum of 30° to align hole. Install cotter pin.

BALL JOINT CHECKING

Check ball joints for excessive play or looseness. Also check rubber boot for wear and damage, (replace if necessary).

REMOVAL & INSTALLATION

WHEEL BEARING

Removal

1) Remove dust cap and cotter pin. Loosen hub nut and wheel lug nuts. Raise vehicle and support with safety stands.

2) Disconnect parking brake cable from lever at brake caliper. Remove clip of outer part of parking brake cable and disconnect cable from caliper.

3) Remove retaining bolts to brake caliper assembly, and support assembly out of the way. Remove damper strut retaining bolts. Remove cotter pin and castle nut of tie rod end. Remove tie rod 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 soft mallet 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.

LOWER CONTROL ARM & BALL JOINT

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Disconnect brake cable bracket from control arm. Detach stabilizer bar from radius rod. Detach radius rod from control arm.

2) 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, reverse removal procedures. Torque ball joint castle nut and continue tightening until cotter pin hole is aligned.

FRONT SUSPENSION

Removal

1) Raise vehicle and support with safety stands. Remove wheel assemblies. Remove parking brake cable hanger from tie rod end. Remove cable end from caliper lever.

2) Remove outer cable clip from caliper. Remove cable bracket from housing. Remove cable mounting bracket from lower control arm. Disconnect brake hose from brake line and plug line.

3) Drive out spring pins from inner ends of drive axles nearest transaxle housing. Remove self-locking nut and bolt holding control arm to crossmember. Pull control arm downward from crossmember.

Front Suspension

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4) Use separator tool to separate tie rod end from steering knuckle arm. Detach radius rod from rear crossmember. Remove stabilizer bar brackets.

5) Remove upper strut assembly retaining nuts. Pull drive shaft from transaxle. Remove suspension assembly from vehicle.

Installation

1) To install, reverse removal procedures. Be sure to align spring pin holes in drive axle before installing.

2) When installing strut top mount, be sure stud marked "FRONT" is forward on Sedan, Hatchback and Hardtop models, and stud marked "VAN/4-WD" is forward on Station Wagon and 4-WD models.

3) 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.

4) 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) Raise vehicle and support with safety stands. Remove wheel assembly. Disconnect brake hose from brake line, strut and brake caliper. Plug all brake line openings.

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

Disassembly

1) Place 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.

3) Remove the upper spring seat from rod. Carefully remove tension from coil spring and remove tool and spring from strut.

Reassembly

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

Installation

1) To install, reverse removal procedures. Be sure upper strut mounting plate is facing in proper direction as described under "Front Suspension" installation procedure in this article.

2) When reattaching brake line and hose, be sure to allow enough clearance from wheel apron. Bleed brake system.

STABILIZER BAR

Removal

Raise 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 procedures.

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 Retaining Nuts	22-29 (30-39)
Hub Nut	145 (197)