

BMW

320i
530i
630CSi

DESCRIPTION

Strut type suspension consisting of a vertically mounted strut assembly. Strut assembly is mounted to chassis frame at top by means of thrust bearing. Lower end of strut assembly is mounted to ball joint which is bolted to lower control arm. Strut assembly connects to ball joint by means of a steering knuckle which is bolted to strut assembly and ball joint. Strut assembly consists of a shock absorber built into strut tube. A coil spring is mounted on outside of strut assembly. A stabilizer bar is mounted to front of crossmember and is connected at ends to lower control arms. A strut rod connects lower control arm to crossmember.

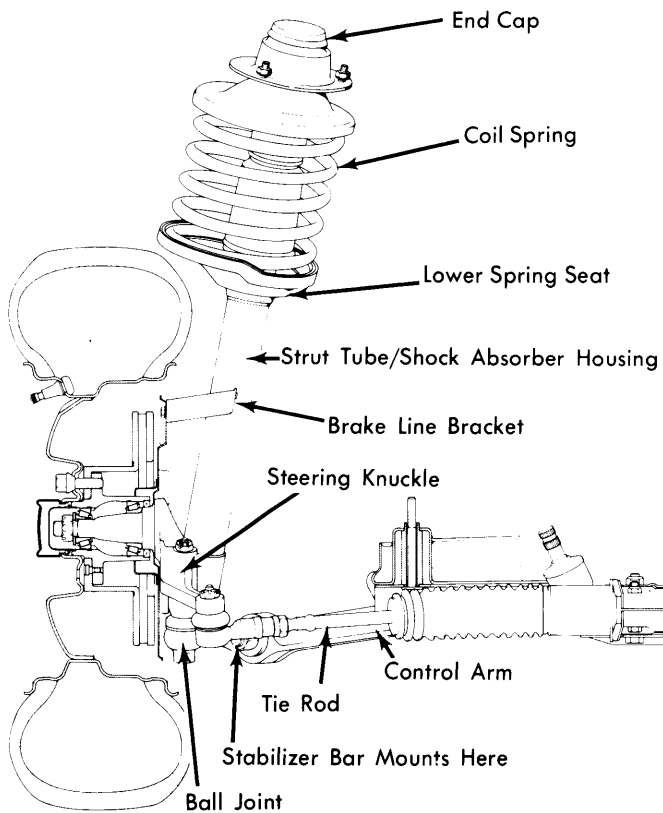


Fig. 1 BMW 320i Front Suspension Assembly

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARINGS

See *Wheel Bearings* in **WHEEL ALIGNMENT** Section.

BALL JOINT CHECKING

See *Ball Joint Checking* in **WHEEL ALIGNMENT** Section.

REMOVAL & INSTALLATION

FRONT SUSPENSION ASSEMBLY

Removal — 1) Raise and suitably support vehicle. Remove bracket mounting brake lines on strut tube. Disconnect disc brake caliper and hang out of way. On 320i models, disconnect stabilizer bar at frame.

2) Disconnect steering shaft at pinch bolt and index mark shaft. Disconnect power steering hoses, if equipped, then plug openings. Remove nuts securing left and right engine mounts. Remove clamps mounting automatic transmission cooling lines, if equipped.

3) Disconnect strut assembly at top inside fender panel. Loosen heat shield and remove, if equipped. Support engine with an overhead hoist and place a jack under suspension. Disconnect crossmember from chassis, lower and remove complete suspension assembly.

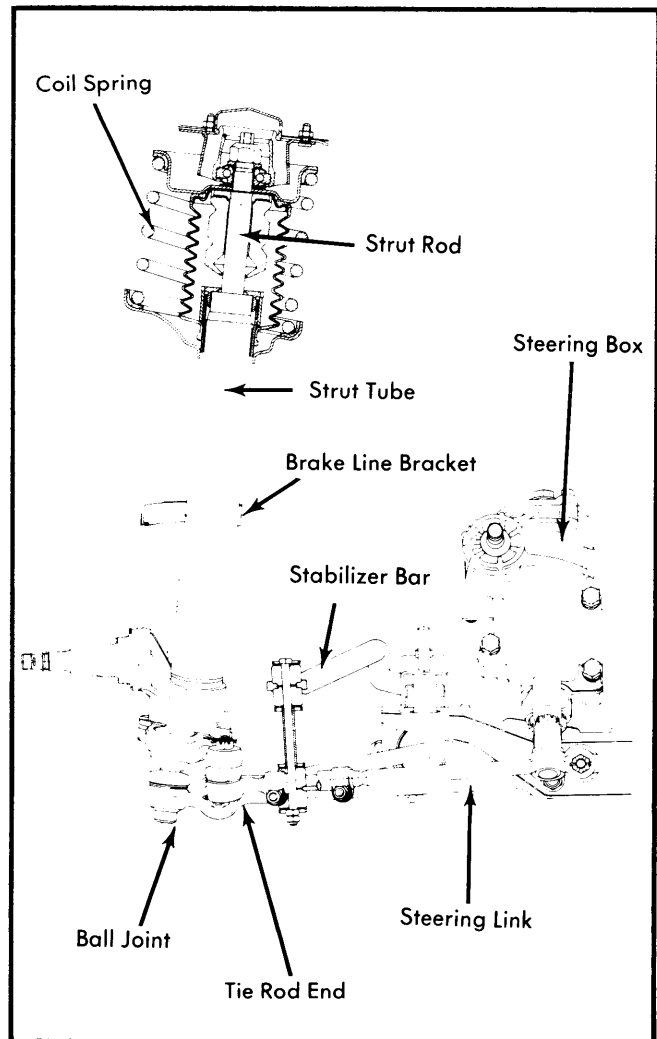


Fig. 2 BMW 530i and 630CSi Front Suspension Assembly

Installation — To install reverse removal procedure and note the following: Make sure shoulder of engine mount engages

Front Suspension

BMW (Cont.)

properly in opening. Reconnect steering shaft while front wheels are pointing straight ahead. Ensure steering shaft index marks are aligned and that mounting screw engages safety groove. Check wheel alignment and bleed power steering unit, if equipped.

LOWER CONTROL ARM AND STEERING KNUCKLE

Removal — 1) Raise and support vehicle with safety stands. Remove tire and wheel. Disconnect stabilizer bar from lower control arm. On 530i and 630CSi models, disconnect strut rod from its mounting through the control arm.

2) On 320i models, remove castle nut mounting control arm to steering knuckle. Press off control arm.

3) On 530i and 630CSi models, take off safety wire. Remove nuts and separate control arm from shock absorber assembly. Remove cotter pin and castle nut, then press off tie rod. Remove control arm.

Inspection — Check axial play of ball joint. If play exceeds .055" (1.4 mm) for 320i or 630CSi, replace control arm. If play exceeds .094" (2.4 mm) for 530i, replace control arm.

Installation — To install, reverse removal procedure and note: Make sure convex side of washers face bushings in lower control arm. Safety wire nuts.

STRUT TUBE ASSEMBLY

Removal — Raise and support vehicle, then remove wheel and guard plate. Disconnect brake line bracket from strut tube and place out of way. Separate caliper assembly and hang out of way. Remove safety wire and lower strut tube mountings. Disengage tie rod end. Remove upper strut mounting nuts at inner fender panel, then maneuver strut assembly from vehicle.

Disassembly — 1) Place strut tube assembly in spring compressor. Slightly collapse spring. Remove end cap. Unscrew piston rod lock nut. Slowly release spring pressure and remove upper spring seat bearing and mounting hardware.

2) Remove auxiliary spring off piston rod. Remove shock absorber cap nut. Slide out shock absorber. Pour out used fluid.

Reassembly — 1) Fill strut housing with SAE 30 engine oil. 320i models use about 1 ounce and 530i and 630CSi models use about 1.5 ounces.

2) Fit shock absorber. Tighten cap nut. Slide on auxiliary spring. Guide coil spring into lower spring seat. Reset upper bearing mount (upper spring seat) on top of coil spring.

piston rod through opening. Extend piston rod as far as possible. Collapse coil spring enough to install upper mounting nut.

Installation — To install, reverse removal procedure and tighten all nuts and bolts.

STABILIZER BAR

Removal, 320i — Raise and support vehicle. Remove tire and wheel for easier access. Remove nuts mounting stabilizer bar through control arms. Disengage bushing clamps that mount stabilizer to frame near front of vehicle. Pull stabilizer bar toward front of vehicle and remove downward.

NOTE — Before installation, inspect bushings for excessive wear and replace as necessary.

Installation — To install, reverse removal procedure.

STRUT ROD (TRAILING ARM)

Removal, 530i & 630CSi — 1) Raise vehicle and place on safety stands. Remove tire and wheel.

2) Separate stabilizer bar from control arm. Remove nut and thrust washer mounting strut rod to control arm.

3) Remove opposite end strut rod nut. Separate control arm from crossmember (axle carrier) and remove strut rod.

Installation — To install, reverse removal procedure and note: Convex side of thrust washer faces nut.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Stabilizer Bar-to-Control Arm	
320i	50-65
Stabilizer Bar Clamp-to-Frame	
320i	34-37 (4.7-5.2)
Front Axle-to-Engine Carrier	
320i	31-35 (4.3-4.8)
530i & 630CSi	58-65 (8.1-9.0)
Shock Absorber Cap Nut	87-101 (12.0-14.0)
Tie Rod Castle Nut	25-29 (3.5-4.0)
Caliper-to-Steering Knuckle	
530i & 630CSi	58-69 (8.0-9.5)