

VOLVO

DL
GL
GLT

GLE
Bertone
Diesel

DESCRIPTION

Strut type suspension consisting of a vertically mounted strut assembly. Strut assembly is mounted to chassis frame at top by means of a thrust bearing. Lower end of strut assembly is mounted to a ball joint which is bolted to lower control arm. Steering knuckle is an integral part of strut assembly. Strut assembly consists of a shock absorber built into strut outer tube; a coil spring mounted on outside of strut assembly; and a spindle integral with bottom of strut. A stabilizer bar connects the control arms through rubber mounted links.

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING ADJUSTMENT

While rotating hub, tighten nut to 50 ft. lbs. (68 N·m). Loosen nut $\frac{1}{3}$ turn and check for hub rotating freely with no end play. If necessary to align cotter pin holes, loosen nut and install cotter pin.

BALL JOINT CHECKING

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.

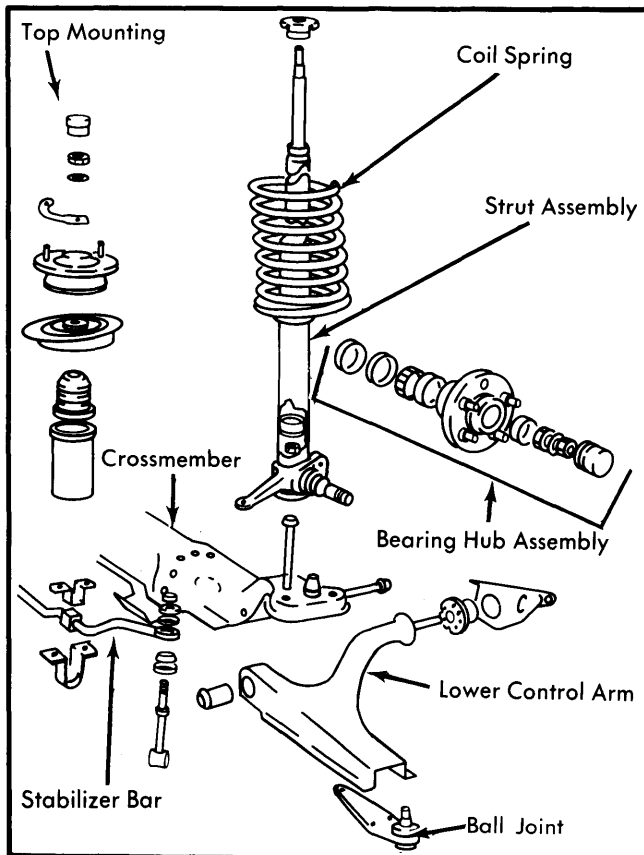


Fig. 1 Exploded View of Front Suspension Assembly

REMOVAL & INSTALLATION

CONTROL ARM

Removal – Raise vehicle and support on safety stands, then remove wheel and tire. Disconnect stabilizer bar-to-link assembly. Disconnect ball joint from control arm at three attaching bolts. Remove front attaching bolt for control arm. Remove bracket attaching rear of control arm to chassis, then remove control arm from vehicle. If control arm bushing is being replaced, press out using proper adapter (9995085) and driver (9995091).

Installation – Inspect all components for wear or damage. Use proper adapter (9995085) and driver (5555084) to install new bushings if necessary. If bushing in bracket is replaced, ensure that small slots on new bushing will point in a horizontal position when bracket is installed on vehicle. Install bracket, with control arm, to chassis but do not tighten bolts. Install front attaching bolt for control arm but do not tighten. Install ball joint to control arm and tighten bolts. Position a jack under control arm and raise so coil spring is compressed. Connect stabilizer bar to link. Tighten control arm attaching nuts and bolts. Install wheel and tire.

NOTE – Tighten rear bushing nut with vehicle weight resting on wheel.

SHOCK ABSORBER

Removal – 1) Raise vehicle and support on safety stands, then remove wheel and tire. Position jack under control arm and raise slightly to provide support. Using a spring compressor, compress coil spring being sure to engage five coils with tool. Disconnect steering rod from steering arm and stabilizer bar from link at control arm. Remove bolt attaching brake line bracket. Remove cover on upper end of strut and spring assembly. Remove center nut using tool as indicated in Fig. 2.

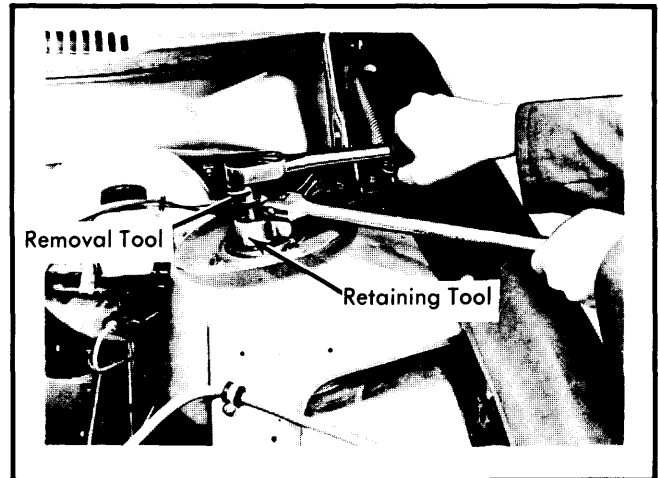


Fig. 2 View Showing Removal of Strut Assembly Center Nut

2) Lower jack supporting control arm while supporting strut assembly so brake lines and hoses are not damaged. Hook special tool (9995045) to strut assembly and stabilizer to support unit during remaining removal procedures. Remove the spring seat and rubber bumper. Remove coil spring with compressor tool attached. Remove shock absorber retaining nut while holding strut outer casing at the weld. Pull shock absorber from casing.

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Installation — 1) Install new shock absorber and retaining nut while holding strut outer casing at the weld. Pull shock absorber spindle to fully extended position. Install coil spring onto strut assembly making sure spring end is properly aligned on strut bracket. Install rubber bumper and install spring seat on coil spring. Guide strut assembly into upper mount and shock absorber spindle through upper mount. Connect stabilizer bar to stabilizer link.

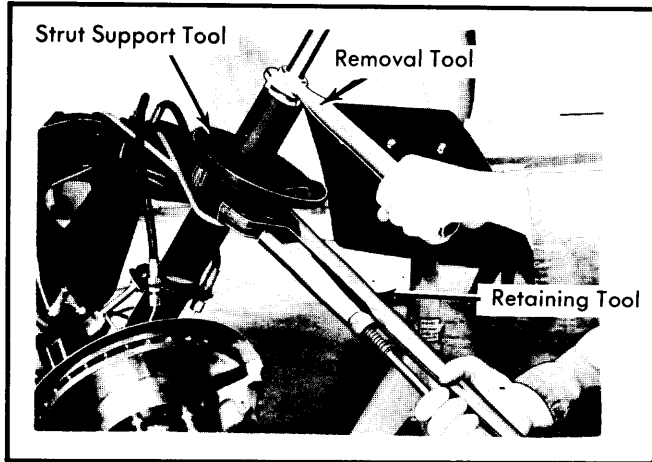


Fig. 3 View Showing Removal of Shock Absorber Nut

2) Position jack under control arm and raise slightly. Install and tighten washer and nut to shock absorber spindle while using proper retaining tool. Install cover, then connect brake line bracket to chassis. Connect steering arm to steering rod and remove coil spring compressor tool slowly. Install wheel and tire.

WHEEL BEARINGS

Removal — 1) Raise vehicle and support with stands. Remove wheel and grease cap. Remove cotter pin and loosen outer bearing nut.

2) Remove caliper mounting bolts and remove caliper. Remove outer bearing nut, washer, outer bearing and disc. Remove seal from disc and remove inner bearing.

Installation — To install, reverse removal procedure.

BALL JOINTS

Removal — Raise vehicle and support with safety stands. Loosen shock absorber nut. Remove 4 bolts attaching ball joint to strut assembly. Remove ball joint from control arm, then remove ball joint nut and separate from attachment.

Installation — Position new ball joint to attachment and tighten nut. Install ball joint assembly to strut assembly and to control arm. Tighten shock absorber retaining nut.

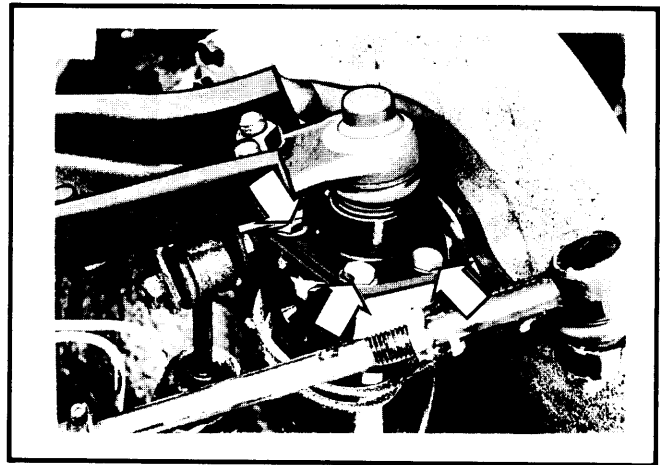


Fig. 4 View Showing Ball Joint Retaining Bolts

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N·m)
Ball Joint-to-Control Arm	70-95 (95-129)
Ball Joint Assembly-to-Strut	15-20 (20-27)
Ball Joint-to-Bracket	35-50 (48-68)
Control Arm Bracket-to-Frame	22-36 (30-49)
Control Arm Retaining Bolts	
Front	40-70 (54-95)
Rear	36-43 (49-58)