FIAT X1/9

X1/9

DESCRIPTION

Independent type front suspension consisting of lower control arms and hydraulic shock absorbers, surrounded by coil springs. Steering knuckle is attached to lower control arm at sealed ball joint. Shock absorber is attached to steering knuckle at bottom and to fender panel at top. Lower control arm pivots in rubber bushings attached to crossmember. Stabilizer bar is mounted to lower control arm and at front, to frame.

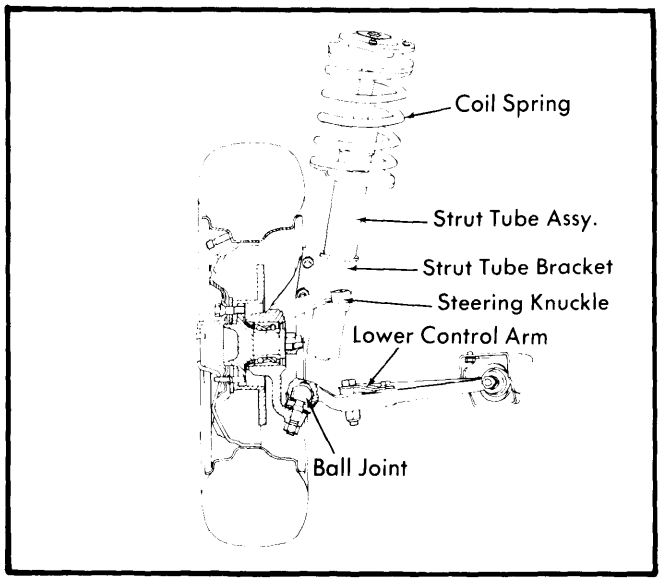

Fig. 1 Sectional View of Front Suspension Assembly

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See Wheel Alignment Specifications and Procedures in WHEEL ALIGNMENT Section.

WHEEL BEARING ADJUSTMENT

See Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.

BALL JOINT CHECKING

See Ball Joint Checking in WHEEL ALIGNMENT Section.

REMOVAL & INSTALLATION

FRONT SUSPENSION ASSEMBLY

Removal – Raise and support vehicle; remove tire and wheel. Remove front disc brake caliper assembly. NOTE – *See appropriate article in BRAKE Section.* Remove bolts and plate holding shock absorber tube to steering knuckle. Separate shock absorber at top by removing upper mounting nuts. Disconnect lower control arm from stabilizer bar bracket and ball joint. Remove tie rod nut and force tie rod from steering knuckle. Maneuver assembly from vehicle.

Inspection – Check rubber bushings in control arm and replace any that appear worn. Inspect ball joints for excessive play or damage; replace as necessary.

Installation – To install suspension assembly, reverse removal procedure ensuring all nuts and bolts are properly torqued.

STRUT ASSEMBLY

Removal – Raise and support vehicle under chassis. Disconnect upper strut assembly mount from inner fender panel. Remove bolts securing strut assembly to steering knuckle and carefully maneuver strut from vehicle.

Disassembly – **1)** Install strut assembly in suitable spring compressor and collapse coil. Remove nut from center of upper mount. Release spring compressor and remove upper mount and coil spring.

2) Inspect springs for cracks or distortion. Springs are manufactured in two classes and identified by paint markings. Class A springs are marked with a yellow stripe on outside of center coils and class B springs are marked with a green stripe. If springs are replaced for any reason, use a spring of same class.

Reassembly – Using same spring compressor as previously outlined, reverse disassembly procedure to assemble strut assembly.

Installation – To install strut assembly, reverse removal procedure. Do not tighten strut assembly lower mount until weight of vehicle is on ground.

CONTROL ARM, BUSHINGS & BALL JOINTS

Removal – Remove complete front suspension assembly as previously outlined. Remove ball joint stud nut and separate ball joint from steering knuckle with a suitable puller.

Disassembly – Inspect ball joint for wear or distortion. If ball joint is defective, complete control arm must be replaced. Inspect bearings for wear or damage. If defective, drill out metal sleeve from inside rubber bushing and extract bushing.

Reassembly – Position outer washer, bushing and sleeve on centering pin of a suitable bushing installation tool. Place control arm over bushing and washer for opposite side. Place control arm, components and tool into a press. Position remaining tool components in sleeve and press into position with a pressure of approximately 2200-2645 pounds.

Installation – To install control arm, attach to steering knuckle, tighten ball joint stud nut and install suspension assembly as previously outlined.

FIAT X1/9 (Cont.)

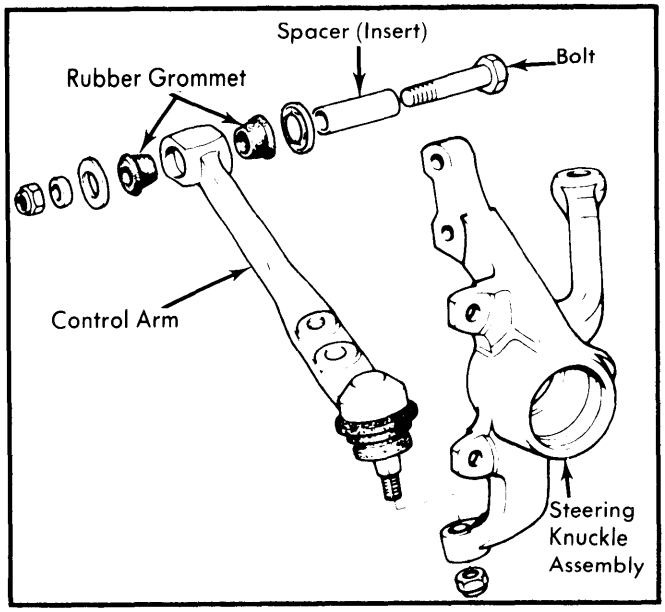

Fig. 2 Exploded View of Lower Control Arm Assembly

STABILIZER BAR

Removal – Raise and support vehicle. Disconnect stabilizer mounting bolt from lower control arm. Remove stabilizer attaching hardware from front end of stabilizer and carefully maneuver bar from vehicle.

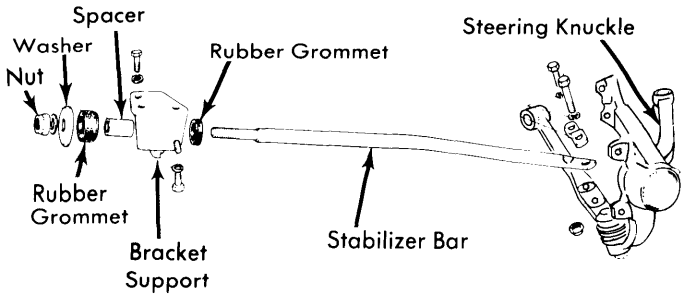

Fig. 3 Exploded View of Stabilizer Bar Assembly

Installation – To install stabilizer bar, reverse removal procedure noting the following: Replace any rubber grommet that appears distorted or severely worn.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Tie Rod Nut	58 (8.0)
Stabilizer Bar-to-Lower Control Arm	51 (7.0)
Lower Control Arm-to-Crossmember	29 (4.0)