FIAT X1/9

X1/9

DESCRIPTION

Fiat X1/9 is a rear engine mounted and rear wheel driven vehicle utilizing independent rear suspension. All rear suspensions consists of the following: Lower control arms, bearing housings, and hydraulic, strut type, shock absorbers. Control arms are attached to chassis in rubber bushings and to bearing housing with a ball joint. Hydraulic strut assembly attaches to bearing housing just above axle shaft and mounts at top to inside of engine compartment. A reaction rod is also attached to bearing housing and is used to adjust rear wheel alignment.

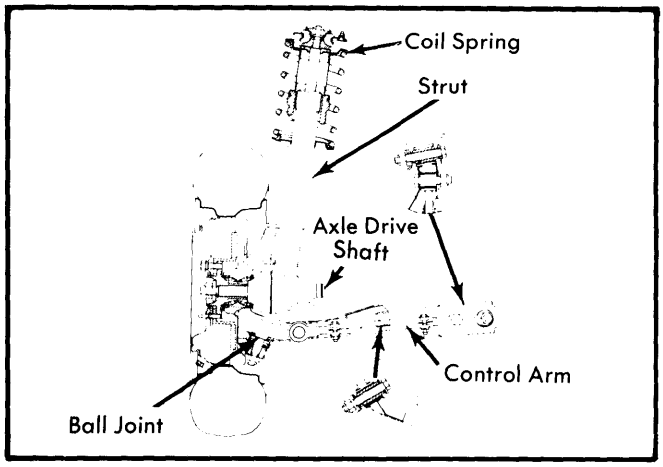

Fig. 1 Sectional View of Fiat X1/9 Rear Suspension Assembly

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.

REMOVAL & INSTALLATION

SUSPENSION ASSEMBLY

Removal – Raise and support vehicle; remove tire and wheel. Remove rear brake caliper and disconnect parking brake. NOTE – *See appropriate article in BRAKE Section.* Remove exhaust pipe. Note number and position of shims on control arm. Separate front and rear ends of lower control arm from chassis; do not lose shims. Remove hub nut and washer. Remove nuts mounting strut assembly at top. Slide suspension off axle shaft and secure axle to prevent pulling out of differential.

Installation – To install suspension assembly, reverse removal procedure. Make sure axle nut is properly torqued before lowering vehicle. Tighten all remaining bolts with weight of vehicle on all four wheels. Ensure correct amount of shims are installed.

STRUT ASSEMBLY

Removal – Raise and support vehicle; remove tire and wheel. Disconnect upper strut assembly mounts from inside engine compartment. Remove bolts mounting strut to bearing housing and carefully maneuver strut assembly from vehicle.

Disassembly – 1) Using a suitable spring compressor, collapse spring coil. With spring compressed, 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 marks. 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, use one of same class.

Reassembly – Using same spring compressor as previously implemented, reverse disassembly procedure.

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 bearing housing using suitable puller.

Disassembly – Inspect ball joint for wear or excessive play. If ball joint is defective, replace complete control arm. Inspect bushings for wear or damage. If defective bushings are found, drill out bushing metal sleeve and force rubber from control arm.

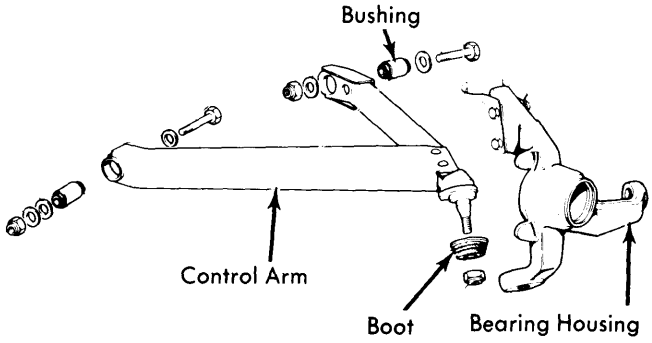

Fig. 3 Exploded View of Control Arm Assembly

Reassembly – Position outer washer, bushing and sleeve on centering pin of a suitable installer (mandrel). Place control arm over bushing and install bushing and washer for opposite side. Using suitable mandrel and necessary adaptors press in new bushing until properly seated. Repeat procedure for other side.

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

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Wheel Hub Nut	112 (15.5)
Reaction Rod-to-Control Arm	50.6 (7.0)
Ball Joint Nut	72.3 (10.0)
Control Arm Pivot Pin Nut	72.3 (10.0)
Strut-to-Bearing Housing Bolts	43.4 (6.0)
Brake Caliper-to-Bearing Housing	36.2 (5.0)
Wheel Bearing Nut	43.4 (6.0)