

FIAT X 1/9

DESCRIPTION

Fiat X 1/9 is a rear wheel driven vehicle, with its engine mounted in the rear. It utilizes independent rear suspension. Rear suspensions consist of lower control arms, bearing housings, and MacPherson strut type shock absorbers.

Control arms are attached to chassis by rubber bushings and to bearing housing with a ball joint. MacPherson strut assembly is attached to bearing housing just above axle shaft, and mounts at top to inside of engine compartment.

A strut rod is also attached to bearing housing, and is used to adjust rear wheel alignment.

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING

Spin hub to seat bearing while tightening spindle nut to 112 ft. lbs. (152 N.m). Stake collar of spindle nut into machined slot on spindle.

BALL JOINT CHECKING

1) Raise vehicle, and supported under lower control arms. Grasp wheel assembly at top and bottom, and try to shake. If excessive movement is noted, remove control arm.

2) Check ball joint for excessive play or damage, to swivel and rubber boot. Control arm and ball joint are assembled as a unit. If ball joint is bad, replace lower control arm.

REMOVAL & INSTALLATION

WHEEL BEARING

Removal

1) Raise vehicle, and support with safety stands. Remove wheel assembly. Remove brake caliper and bracket, and support out of the way. Remove rotor, plate retaining bolt, and centering stud.

2) Disconnect ball joint from bearing housing. Remove strut bar from control arm. Remove bolts from MacPherson strut. Remove bearing housing from vehicle.

3) Remove hub-to-bearing housing retaining nut, and press hub from housing. Remove bearing retaining ring nut, and pull out bearing.

Installation

To install, reverse removal procedures. Always use a new ring nut. Perform final tightening of suspension bolts with vehicle on floor.

BALL JOINT

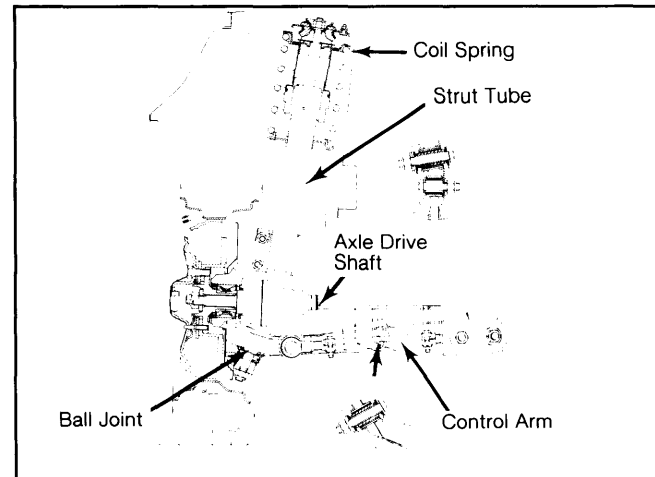
To replace ball joints, lower control arm and ball joint must be replaced as a unit.

SUSPENSION ASSEMBLY

Removal

1) Raise and support vehicle with safety stands. Remove wheel assemblies. Remove rear brake caliper, and disconnect parking brake cable.

Fig. 1: Sectional View of Rear Suspension Assembly



2) 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).

3) Remove hub nut and washer. Remove nut mounting strut assembly at top. Slide suspension off axle shaft, and secure axle, to prevent pulling out from differential.

Installation

To install, reverse removal procedure. Make sure axle nut is properly torqued before lowering vehicle. Tighten all remaining bolts with vehicle on floor. Ensure correct amount of shims are installed.

STRUT ASSEMBLY

Removal

Raise and support vehicle with safety stands. Remove wheel assembly. Disconnect upper strut assembly mounts from inside engine compartment. Remove bolts mounting strut to bearing housing, and remove strut assembly from vehicle.

Disassembly

1) Using a 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 spring for cracks or distortion. Springs are manufactured in 2 classes, and are 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

To reassemble, reverse procedures.

Installation

To install, reverse removal procedure. Do not tighten strut assembly lower mount until vehicle is on the floor.

CONTROL ARM

Removal

Remove complete suspension assembly as previously outlined. Remove ball joint stud nut, and separate ball joint from bearing housing using puller.

Rear Suspension

FIAT X 1/9

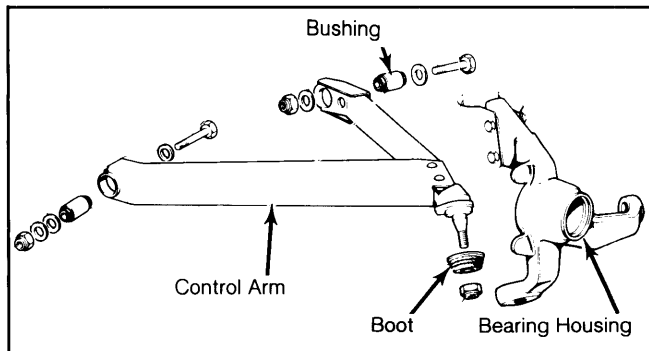
Inspection

Inspect ball joint for wear or excessive play. If ball joint is defective, replace complete control arm. Inspect bushings for wear or damage.

Disassembly

If defective bushings are found, drill out bushing metal sleeve, and force rubber from control arm.

Fig. 2: Exploded View of Control Arm Assembly



Reassembly

Position outer washer, bushing, and sleeve on centering pin of installer (mandrel). Place control arm over bushing, and install bushing and washer for opposite side. Using 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. (N.m)
Ball Joint Nut	72 (98)
Brake Caliper-to-Bearing Housing	36 (49)
Control Arm Pivot Pin Nut	72 (98)
Strut Rod-to-Control Arm	51 (69)
Strut-to-Bearing Housing Bolts	43 (58)
Wheel Bearing Ring Nut	43 (58)
Rear Wheel Spindle Nut	112 (152)