

FIAT SPIDER 2000

DESCRIPTION

Independent wishbone-type front suspension with coil springs and double-acting shock absorbers are used. Shock absorbers are mounted inside coil springs, between upper and lower control arms. Control arms are connected to steering knuckle with ball joints.

ADJUSTMENTS

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING

1) While rotating hub, tighten spindle nut to 14.5 ft. lbs. (20 N.m) to seat bearing. Loosen nut, and retighten to 5 ft. lbs. (7 N.m). Loosen nut 30°, and stake collar of spindle nut into machined slot on spindle.

2) Check hub end play with dial indicator. Play should be .001-.004" (.03-.10 mm). If play exceeds this amount and wheel bearing is in good condition, repeat procedure until correct end play is obtained.

NOTE: Whenever spindle nut is removed, it must be replaced with a new one.

BALL JOINT CHECKING

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

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, the entire control arm must be replaced.

REMOVAL & INSTALLATION

WHEEL BEARING

Removal

1) Raise and support vehicle with safety stands. Remove wheel assembly. Remove brake caliper, and support out of the way. Remove bolts holding rotor to wheel hub, and remove plate.

2) Remove grease cup and retaining nut. Pull hub from spindle. Remove grease seal, snap ring, and inner and outer bearings from hub.

Installation

To install, reverse removal procedures, and note the following. Pack bearings and space between them in hub with grease before final assembly.

BALL JOINT

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

FRONT SUSPENSION ASSEMBLY

Removal

1) Raise and support vehicle with safety stands. Remove wheel assemblies and shock absorbers. Compress coil spring with spring compressor to relieve tension from lower control arm.

2) Disconnect and cap brake lines. Using a puller, disconnect tie rod from steering knuckle arm. Remove pivot bolt, and detach upper control arm from body. Remove nuts and bolts securing lower control arm to crossmember, and remove suspension.

Installation

To install, reverse removal procedure. Tighten all nuts and bolts, bleed brakes, and check wheel alignment.

STEERING KNUCKLE

Removal

1) Raise and support vehicle with safety stands. Remove wheel assembly. Remove brake caliper, and support out of the way. Remove brake disc. Using a puller, remove front grease cap.

2) Remove hub using puller (A.47015). Remove inner race from inside hub bearing with a puller. Remove arm from steering knuckle.

3) Remove nut attaching lower control arm to steering knuckle, and place removal tool (A.47042) between control ball joint, remove lower ball joint.

4) Remove nut attaching upper ball joint to steering knuckle. Separate upper ball joint from steering knuckle.

Installation

Inspect all parts for signs of wear or damage. To install, reverse removal procedures.

COIL SPRING

Removal

1) Raise and support vehicle so suspension hangs freely. Remove wheel assemblies and MacPherson type struts. Disconnect stabilizer bar from lower control arm.

2) Support lower control arm with a floor jack, and disconnect lower ball joint stud from steering knuckle. Install spring compressor, and rotate lower control arm down carefully. Coil spring may now be removed.

Installation

To install, reverse removal procedure.

STABILIZER BAR

Removal

Remove front stabilizer bar by removing nuts and bolts securing bar to crossmember. Remove nuts and bolts attaching ends of stabilizer bar to lower control arms, and remove stabilizer bar.

Installation

To install, reverse removal procedure.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Lower Control Arm Pin-to-Crossmember	43 (58)
Lower Control Arm-to-Crossmember	72 (98)
Upper Control Arm	65 (88)
Lower Shock Absorber	43 (58)
Steering Arm-to-Steering Knuckle	43 (58)
Brake Caliper	36 (49)
Crossmember-to-Side Member	69 (94)