

AMERICAN MOTORS

Concord
Eagle
Spirit

DESCRIPTION

Independent front suspension is used on all models. Each wheel is attached by means of a steering knuckle, upper and lower control arm and ball joint assembly. Front wheels are held in proper relation by linkage which attaches to steering knuckle. Inner end of lower control arm is attached to front crossmember by a pivot bolt-eccentric assembly and outer end is connected to steering knuckle by a ball joint. Inner end of upper control arm is attached to wheelhouse panel with pivot bolts and outer end is connected to steering knuckle by a ball joint. Coil springs are located between seats in wheelhouse panels and seats attached to upper control arms. Conventional type shock absorbers are located inside the coil springs.

ADJUSTMENT

CASTER & CAMBER

See *Caster and Camber Adjustments and Specifications in WHEEL ALIGNMENT Section.*

FRONT WHEEL BEARINGS

Concord & Spirit — Raise and support front of vehicle. Remove hub cap, grease cap and "O" ring, cotter pin and nut lock. Tighten spindle nut $\frac{1}{3}$ turn. While rotating wheel, tighten spindle nut to 6 INCH lbs. Install locking nut on spindle nut and install new cotter pin.

Eagle — Bearing assembly is sealed and requires no periodic maintenance. If worn, replacement of axle hub assembly is recommended.

BALL JOINT CHECKING

See *Ball Joint Checking in WHEEL ALIGNMENT Section.*

REMOVAL & INSTALLATION

COIL SPRING

Removal — 1) Remove shock absorbers and mounting brackets. Lubricate bolt threads of spring compressor tool (J-23474) and install tool through upper spring seat opening and seat ball joint in socket support.

2) Place tool lower attaching bolts through shock absorber mounting holes in lower spring seat, install lower tool retainer and tighten to 5 ft. lbs. Remove lower spring seat pivot bolt retaining nuts.

3) Using ratchet handle, turn compressor tool compression nut clockwise until spring is compressed approximately 1". Raise front of vehicle until control arms are free of lower spring seat. Support front of vehicle and remove wheel. Pull lower spring seat away from vehicle.

4) Turn compression nut counterclockwise and guide lower spring seat out and over upper control arm. Remove compressor tool, lower retainer, spring seat and spring.

Installation — 1) Install suitable spring compressor tool (J-23474) through upper spring seat opening and seat ball joint in socket support. Install upper spring cushion on top of spring coil and tape in place. Position spring on lower seat with end against formed shoulder of seat

NOTE — Lower coil end and shouldered end of spring seat must be located facing toward engine compartment.

2) Place spring against upper seat. Align and install compressor lower attachment screws through shock absorber mounting holes in lower spring seat, then install lower retainer and retaining nuts of tool. Align lower spring seat pivot so retaining studs will enter upper control arm when spring is in position.

CAUTION — Spring lower coil end must be properly positioned on seat. Lower coil end must butt against formed shoulder in spring seat.

3) Compress spring by turning compression nut clockwise until lower spring seat pivot studs can be aligned with holes in upper control arm. Turn compression nut counterclockwise and guide spring seat pivot studs into control arm. Replace wheel and lower car. Install and tighten lower spring seat pivot retaining nuts. Remove tool and install shock absorbers.

UPPER CONTROL ARM

Removal — 1) Remove shock absorber and install spring compressor tool (J-23474) through upper spring seat opening. Seat ball socket support. Place tool lower attachment bolts through shock absorber mounting holes in lower spring seat. Tighten to 5 ft. lbs.

2) Remove lower spring seat pivot nuts and turn compression nut on tool clockwise until spring is compressed about 2". Raise front of vehicle and support at side sills, allowing control arms to fall free of lower spring seat.

3) Remove wheel, then remove ball joint retaining nut. Remove ball stud from steering knuckle with suitable tool (J-9656). Remove inner pivot bolts and control arm from suspension support panel.

Installation — 1) Place control arm in position in suspension support panel and install inner pivot bolts.

NOTE — Pivot bolt nuts should not be tightened until vehicle is supported by wheel.

2) Install steering knuckle and retaining nut onto ball joint stud and tighten nut. Install new cotter pin. Turn spring compressor tool compression nut counterclockwise and guide spring seat pivot studs into control arm.

3) Replace wheel and lower vehicle. Install and tighten lower spring seat pivot retaining nuts. Tighten control arm inner pivot bolts, remove spring compressor tool and install shock absorbers. Check wheel alignment.

UPPER CONTROL ARM BUSHING SERVICE

1) Remove shock absorber and mounting bracket. Using coil spring compressor tool, compress spring approximately 2". Raise and support front of vehicle and remove wheel. Remove control arm pivot bolts and remove arm from wheelhouse by tilting steering knuckle outward and backward using care not to damage brake line. Rotate control arm over disc brake rotor to expose bushings.

Front Suspension

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2) Remove and install bushing using suitable bushing replacement tool (J-24373 or equivalent).

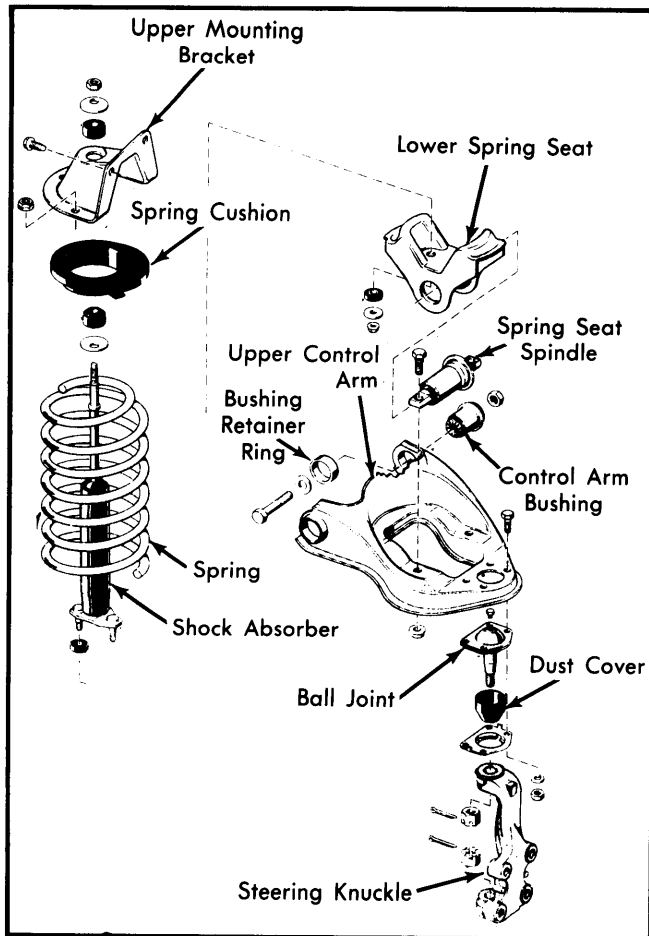


Fig. 1 Exploded View of Upper Control Arm & Coil Spring Components (Concord & Spirit)

NOTE — When installing bushings, ensure retainer ring is installed on rear side of bushing only.

3) To complete service procedure, reverse removal procedure. Do not tighten control arm pivot bolt nuts until weight is supported by wheels. When service is completed, check wheel alignment and correct as necessary.

LOWER CONTROL ARM

Removal (Eagle) — 1) Remove cotter pin, nut lock and hub nut. Raise and support front of vehicle. Remove wheel, caliper and rotor. Remove lower ball joint cotter pin and retaining nut, then remove ball stud from steering knuckle using suitable tool (J-9656).

2) Remove half shaft nuts and half shafts. Remove bolts attaching strut rod to control arm, disconnect stabilizer bar from control arm. Remove inner pivot bolt and remove control arm from crossmember.

Installation (Eagle) — 1) Position control arm in crossmember and install inner pivot bolt. Insert ball stud in steering knuckle and install retaining nut on ball joint stud. Install cotter pin.

NOTE — Do not tighten the inner pivot bolt until vehicle weight is supported by the wheels.

2) Connect stabilizer bar and strut rod to control arm. Install half shaft-to-axle flange bolts and tighten. Place hydraulic jack under lower control arm and raise jack to compress spring slightly and tighten control arm inner pivot bolt.

3) Install rotor, caliper and hub nut. Install nut lock and replacement cotter pin. Install wheel and check front wheel alignment.

Removal (All Others) — 1) Lift front of vehicle and support body. Remove wheel and disc brake caliper and rotor. Disconnect steering arm from steering knuckle, remove lower ball joint stud nut and remove from steering knuckle using suitable tool (J-9656).

2) Disconnect stabilizer bar from control arm. Disconnect strut from control arm, remove inner pivot bolt and remove control arm from crossmember.

Installation (All Others) — 1) Place control arm into position on crossmember and install inner pivot bolt. Install steering knuckle and retaining nut onto ball joint stud and tighten nut. Install cotter pin. Connect strut rod to control arm and tighten.

2) Connect stabilizer bar to control arm and tighten nuts. Connect steering arm to steering knuckle and tighten. Install rotor, caliper and wheel. Place hydraulic jack under control arm and raise slightly to compress spring. Tighten control arm inner pivot bolt, lower vehicle and check alignment.

STEERING KNUCKLE

Removal (Eagle) — 1) Remove cotter pin, nut lock and hub nut. Raise and support front of vehicle. Remove wheel, caliper and rotor. Remove half shaft-to-axle flange bolts. Remove half shaft. Remove steering arm from steering knuckle.

2) Remove caliper anchor plate from steering knuckle. Remove caliper and anchor plate from steering knuckle. Remove front wheel hub assembly attaching bolts. Remove hub assembly from knuckle. Remove rear hub seal from steering knuckle.

3) Remove upper and lower ball joint stud retaining nuts. Remove cotter pin. Remove ball joint studs from steering knuckle with remover tool (J-9656). Strike tool to loosen and remove studs from knuckle.

Installation (Eagle) — 1) Install steering knuckle and ball joint retaining nuts on ball joint studs. Tighten nuts and install replacement cotter pins. Install rear hub seal with installer tool (J-28574).

2) Partially fill hub cavity of steering knuckle with chassis lubricant and install hub assembly in knuckle. Tighten bolts to specifications. Install caliper anchor plate.

3) Install steering arm and bolts. Install half shaft and shaft-to-axle flange bolts. Install rotor, caliper and hub nut. Install wheel, lower vehicle and tighten hub nut. Install nut lock and new cotter pin. Check front wheel alignment.

Removal (All Others) — Raise and support front of vehicle. Remove wheel caliper and rotor. Remove caliper anchor plate, adapter, steering spindle and steering arm from steering

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knuckle. Remove upper and lower ball joint stud nuts, then separate ball joints from steering knuckle and lift off steering knuckle.

Installation (All Others) – Reverse removal procedures and tighten all nuts. Check wheel alignment.

UPPER CONTROL ARM BALL JOINTS

Removal – 1) Position a wooden block (2" x 4" x 5") on side sill under control arm. Raise and support front of vehicle. Remove wheel. On Eagle models, reinstall 2 lug nuts to retain brake rotor in position.

2) Remove ball stud cotter pin and retaining nut. Install suitable removal tool and loosen ball stud in steering knuckle. DO NOT remove tool. Place support under lower control arm.

3) Remove heads from ball joint attaching rivets with chisel or grinding tool. Drive rivets out of ball joints and control arm with hammer and punch. Disengage ball joint from control arm. Remove tool and remove ball joint from steering knuckle.

Installation – Reverse removal procedures and tighten all nuts and bolts while noting following: Use bolts supplied with new ball joint to attach assembly to control arm. Check wheel alignment.

LOWER CONTROL ARM BALL JOINTS

NOTE – On Eagle models, if lower ball joints have to be replaced, the ball joint and lower control arm must be replaced as an assembly.

Removal (Concord & Spirit) – 1) Position a wood block (2" x 4" x 5") on side sill under control arm. Raise and support front of vehicle. Remove wheel, caliper and rotor. Disconnect strut rod at lower control arm.

2) Disconnect steering arm from steering knuckle. Remove ball stud retaining nut. Install suitable removal tool and loosen ball stud in steering knuckle. DO NOT remove tool.

3) Place support under lower control arm. Remove heads from ball joint attaching rivets with chisel or grinding tool. Drive out rivets with hammer and punch. Disengage ball joints from steering knuckle. Remove tool from ball stud. Remove ball joint from steering knuckle.

Installation (Concord & Spirit) – Reverse removal procedures and tighten all nuts and bolts while noting the following: Apply light coat of chassis grease to steering stops. Attach new ball joints using bolts supplied in replacement kit. Check wheel alignment.

WHEEL BEARINGS

NOTE – Procedures are for Concord and Spirit models only. To replace bearings on Eagle, replace entire axle hub assembly.

Removal – Remove grease cap and loosen wheel retaining nuts. Raise and support vehicle. Remove tire and wheel. Remove brake caliper and suspend out of way. Remove grease cap and "O" ring seal. Remove cotter pin, nut retainer adjusting nut and thrust washer from spindle. Discard cotter pin. Remove outer wheel bearing from hub. Remove hub and rotor from spindle. Remove grease seal from rotor and remove inner wheel bearing.

Installation – Place small amount of grease in rotor hub cavity. Pack wheel bearings with grease and install inner bearing to rotor. Install replacement seal using seal installer (J-9348). Install hub and rotor on spindle. Install outer bearing, thrust washer and spindle nut. Adjust wheel bearings. Install nut retainer and replacement cotter pin. Clean grease cap and coat inside with grease. Install cap and "O" ring. Install caliper. To complete installation, reverse removal procedure.

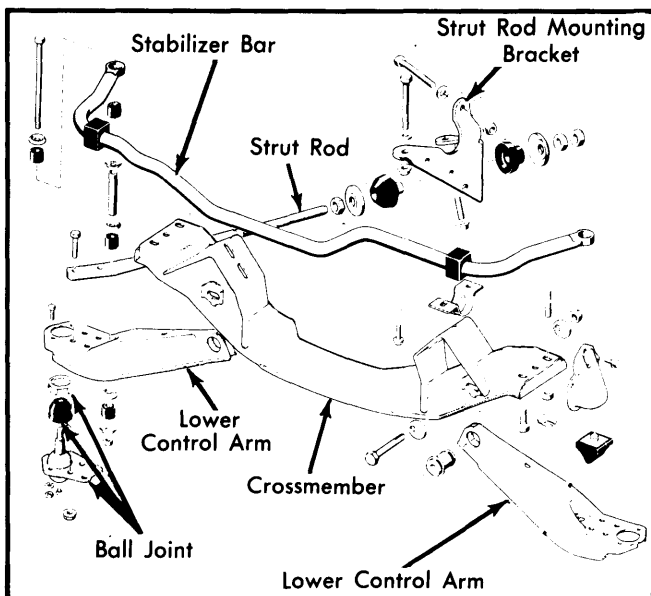


Fig. 2 Exploded View of Lower Control Arm (Concord and Spirit)

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N·m)
Ball Joint Attaching Bolts	25 (34)
Ball Joint Stud Nut	75 (102)
Half Shaft-to-Axle Flange Bolts	45 (61)
Hub Assembly-to-Knuckle (Eagle)	75 (102)
Hub Nut (Eagle)	180 (245)
Lower Spring Seat Pivot Nuts	35 (48)
Lower Control Arm Pivot Bolt	95-120 (129-163)
Upper Control Arm Pivot Bolt	70-90 (95-122)
Spindle-to-Anchor Plate Bolt	50-65 (68-88)
Steering Arm-to-Knuckle	
Concord & Spirit	55 (75)
Eagle	100 (136)
Steering Arm Bolt	
Concord & Spirit	50-65 (68-88)
Eagle	90-110 (122-150)
Strut Rod-to-Bracket	55-80 (75-109)
Strut Rod-to-Lower Control Arm	70-90 (95-122)
Application	INCH Lbs. (N·m)
Stabilizer Bar-to-Control Arm	84 (10)
Shock Absorber Nut	60-168 (7-19)