Front Suspension

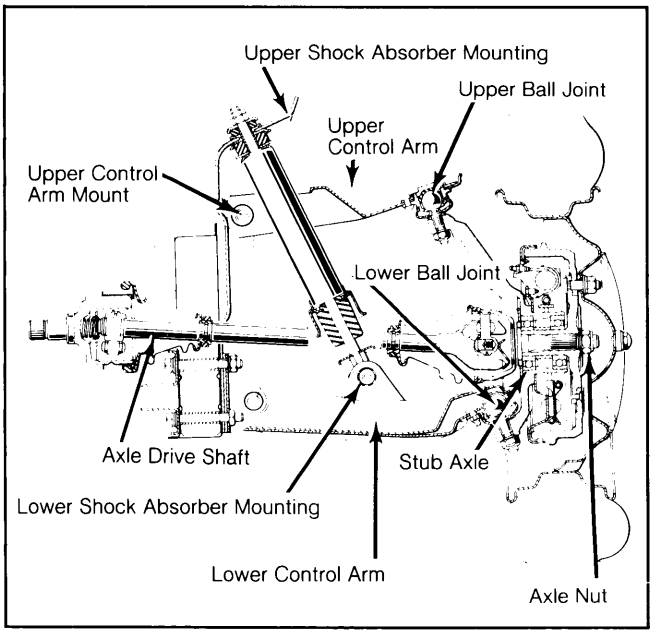
RENAULT LE CAR

DESCRIPTION

Le Car uses independent type suspension, consisting of upper and lower control arms. Stub axles are mounted in steering knuckle, between upper and lower control arms held by ball joints.

Upper control arm pivots on shaft attached to frame. Lower arm pivots on shaft secured to the crossmember. Shock absorbers mount to body brackets at top and control arms at the bottom.

Fig. 1: Cutaway View of Front Suspension



ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See Wheel Alignment Specifications & Procedures in WHEEL ALIGNMENT section.

WHEEL BEARING

No adjustment is necessary on wheel bearings. Tighten stub axle nuts to specifications.

BALL JOINT CHECKING

Inspect ball joints for excessive wear or play, (replace if necessary).

REMOVAL & INSTALLATION

WHEEL BEARING

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove caliper and bracket. Attach leverage holding tool (Rou. 604) to keep rotor from turning and loosen stub axle nut.

2) Attach slide hammer to wheel studs and remove hub and rotor. Remove hub-to-rotor retaining bolts. Separate hub from rotor. Pull outer bearing from inside of hub.

3) Disconnect tie rod end from steering knuckle. Disconnect control arm ball joints from knuckle. Remove knuckle. Remove bearing cover from inside of knuckle. Press out inner bearing.

Installation

To install, reverse removal procedures. Use sealer when installing bearing cover to knuckle. Assemble hub and rotor to steering knuckle and install to stub axle as a complete assembly.

UPPER CONTROL ARM & BALL JOINT

Removal

1) Take out overflow tank and remove ignition coil. Using removal tool (T. AV. 476) disconnect upper ball joint. Remove nut from inboard edge of pivot shaft.

2) Place a lock nut on outer end of pivot shaft and turn retaining nut to remove shaft. Pivot shaft will clear brake lines. Remove control arm from vehicle. Inspect rubber bushings for cracks or distortion, (replace if necessary).

Replacement (Bushings & Ball Joints)

1) Use a press and mandrel to remove and replace worn bushings. To replace ball joint, place control arm in a vise and drill out rivet heads.

2) Fit new ball joint with shim placed on top of control arm. Tighten replacement nuts and bolts to specifications. Make sure bolt head is installed on dust cover side of joint.

Installation

To install, reverse removal procedures. Apply a light coat of grease to pivot shaft before inserting in control arm. If ball joint has been replaced, check riding height and wheel alignment.

LOWER CONTROL ARM & BALL JOINT

Removal

1) Raise vehicle and support with safety stands. Remove stub axle nut. Disconnect and remove torsion bars. Disconnect sway bar from brackets and mounting on control arm.

2) Separate bottom of shock absorber from mounting. Remove lower control arm from crossmember. Place removal tool (T. Av. 235) in brake drum or hub.

3) With a spacer located between thrust screw and axle drive shaft, force shaft inward and free ball joint. Inspect rubber bushings and sleeve inserts for cracks, excessive damage or wear.

NOTE: Make sure axle drive shaft is not removed.

Replacement (Bushings & Ball Joints)

1) Use a mandrel and press to replace bushings. Make sure each bushing is centered and has adequate protrusion out each side of control arm.

2) Place control arm in holding fixture. Chisel or drill out rivet heads. Remove nuts, (if necessary). Separate joint from control arm.

3) Fit new ball joint into control arm. Make sure bolt heads face dust cover side. Tighten to specifications.

Installation

To install, reverse removal procedures. Make sure castor adjusting shims are under bushing. Check riding height and wheel alignment.

RENAULT LE CAR (Cont.)

SHOCK ABSORBER

Removal

Raise vehicle and support with safety stands. Remove lock nut, retaining nut, and bushing attaching shock absorber to upper bracket. Remove lower retaining bolt holding shock absorber to lower control arm. Remove shock absorber from vehicle.

Installation

To install, reverse removal procedure.

STUB AXLE

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove hub and disc assembly. Using removal tool (T. Av. 476). Disconnect upper and lower ball joints.

2) Separate tie rod end. Using a slide hammer withdraw drum/hub assembly. Make sure axle drive shaft does not drop.

Installation

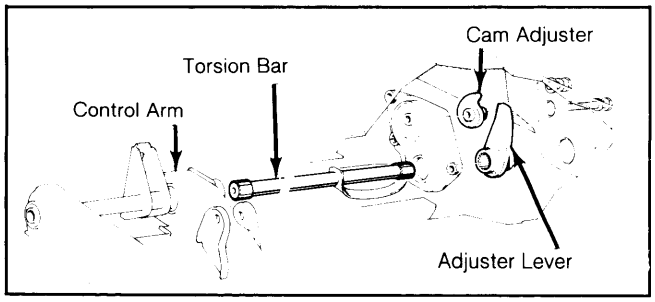
Install stub axle into position while guiding ball joints into position. Pull drive shaft into carrier housing. To complete installation, reverse removal procedures.

TORSION BAR

Removal

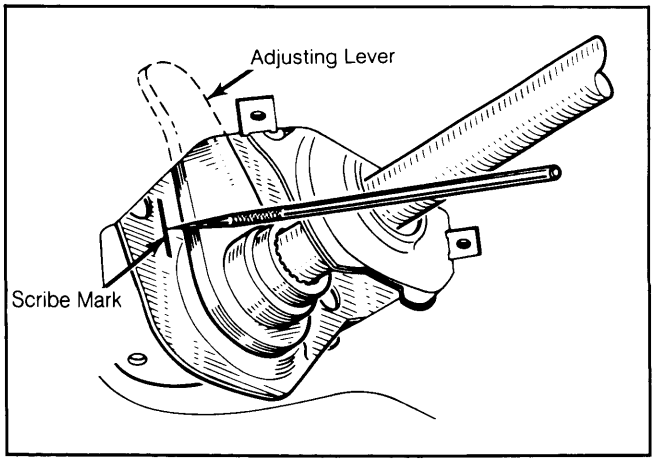
1) Slide seat forward and tilt. Loosen lock nut and turn cam screw counterclockwise to zero. Raise vehicle and support with safety stands. Remove dust cover from adjusting lever.

Fig. 2: Exploded View of Torsion Bar Assembly



2) Install removal tool (545) on adjusting lever. From inside vehicle, remove lever housing attachment bolts. Remove housing cover cam assembly from adjusting lever. Slowly release pressure on wrench.

Fig. 3: Scribing Marks on Floor Crossmember



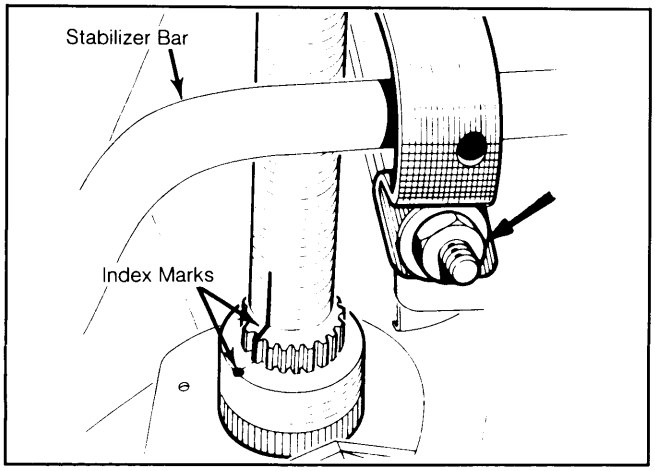
3) Index mark position of adjusting lever with floor crossmember. Mark position of torsion bar on lower arm anchor sleeve. Disconnect stabilizer bar brackets.

4) Remove bar from arm and check that mark made on lower arm anchor sleeve is aligned with punch mark on torsion bar. If punch marks do not align, count number of revolutions and spines displaced to align marks.

Installation

1) Lightly grease torsion bar ends. Reassemble cover seal, cam housing, and adjusting lever over torsion bar. Insert bar into lower control arm, aligning index mark made during removal.

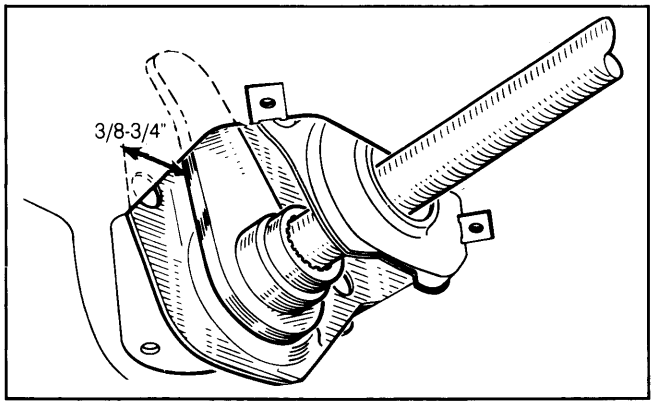
Fig. 4: Lower Arm Anchor Sleeve Scribe Mark



2) Install adjusting lever on splines, aligning with mark on floor crossmember. Place adjusting lever 3/8-3/4" (10-20 mm). *See Fig. 5.* Insert wrench (545) and take up tension on bar.

3) Center the cover by resetting cam. Hold assembly with vise grips and insert retaining bolts. Adjust under body height by turning adjusting cams.

Fig. 5: Position of Adjusting Lever



TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Lower Shock Absorber Bolt	30 (41)
Lower Ball Joint	40 (54)
Upper Ball Joint	25 (34)
Lower Control Arm Nuts	75 (102)
Stub Axle Nut	90 (122)