

## OPEL

### Opel

#### DESCRIPTION

Independent type suspension consisting of upper and lower control arms. Upper control arm pivots on a shaft bolt attached to crossmember and is connected to steering knuckle by a ball joint. Lower control arms are connected in same manner. A coil spring is mounted between lower control arm and crossmember. Shock absorbers mount between top of upper control arm and inner fender panel. All models are equipped with a stabilizer bar.

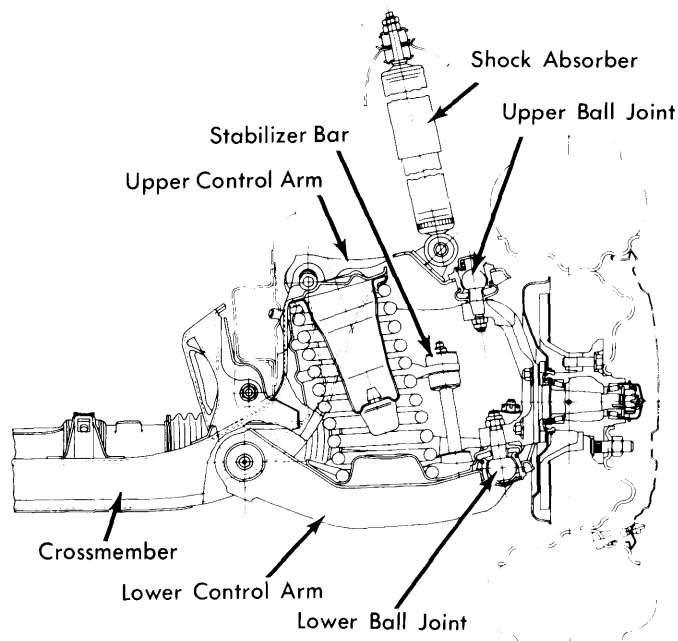


Fig. 1 Front View of Suspension Components Showing Relationship of Parts

#### ADJUSTMENTS

##### 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.

##### BALL JOINT CHECKING

See *Ball Joint Checking* in **WHEEL ALIGNMENT** Section.

#### REMOVAL & INSTALLATION

##### SHOCK ABSORBER

**Removal** – Raise vehicle and suitably support with safety stands. Remove tire and wheel. Disconnect shock absorber

from upper control arm. Working from inside engine compartment, remove shock absorber mounting nuts. Maneuver shock absorber from vehicle.

**Installation** – To install shock absorber, reverse removal procedure.

##### STABILIZER BAR

**Removal** – Raise vehicle and suitably support with safety stands. Remove protective under cover. Remove stabilizer bar mounting on lower control arm. Disconnect and remove clamps securing stabilizer bar to body.

**Installation** – Install new bushing on stabilizer bar. Install stabilizer bar and hold in place with mounting clamps. Fit stabilizer bar to lower control arms and tighten nut to end of bolt threads.

##### UPPER CONTROL ARM & BALL JOINT

**Removal** – 1) Raise vehicle and suitably support on safety stands. Remove tire and wheel. Remove upper brake caliper bolt and move hose clip back about 1/2". Disconnect lower end of shock absorber and compress upward. Using a jack, raise lower control arm until level, then support with jack stand.

2) Loosen upper ball joint and disconnect from steering knuckle using tool J-26407-1 (or equivalent). If only ball joint is being removed, take off two bolts connecting ball joint and control arm. If entire control arm is being taken off, remove pivot shaft bolt. Maneuver control arm from vehicle.

**Installation** – To install upper control arm and ball joint, reverse removal procedure and note the following. Fit ball joint so straight cut edge is outward.

##### LOWER CONTROL ARM, BALL JOINT AND COIL SPRING

**Removal** – 1) Raise vehicle and suitably support with jack stands. Remove tire and wheel. Disconnect tie-rod from steering knuckle. Disconnect and remove stabilizer bar from lower control arm. Remove upper caliper mounting bolt and slide hose clip back about 1/2".

2) Disconnect shock absorber lower mount and compress shock upward. Place a jack at outer edge of control arm and disconnect ball joint from steering knuckle. Suspend steering and hub assembly out of way.

3) With coil spring compressed until spring clears seat, lower jack under control arm. Using tools J-9519 and J-9519-14 (or equivalent) ball joint can be removed from control arm. If control arm is being removed, remove bolts connecting lower control arm to crossmember and body. Coil spring can now be removed.

**Installation** – To install, reverse removal procedure and note: Use installer J-9519 and receiver J-9519-4 (or equivalent) to install ball joint.

**NOTE** – DO NOT hammer on ball joint bottom.

# Front Suspension

OPEL (Cont.)

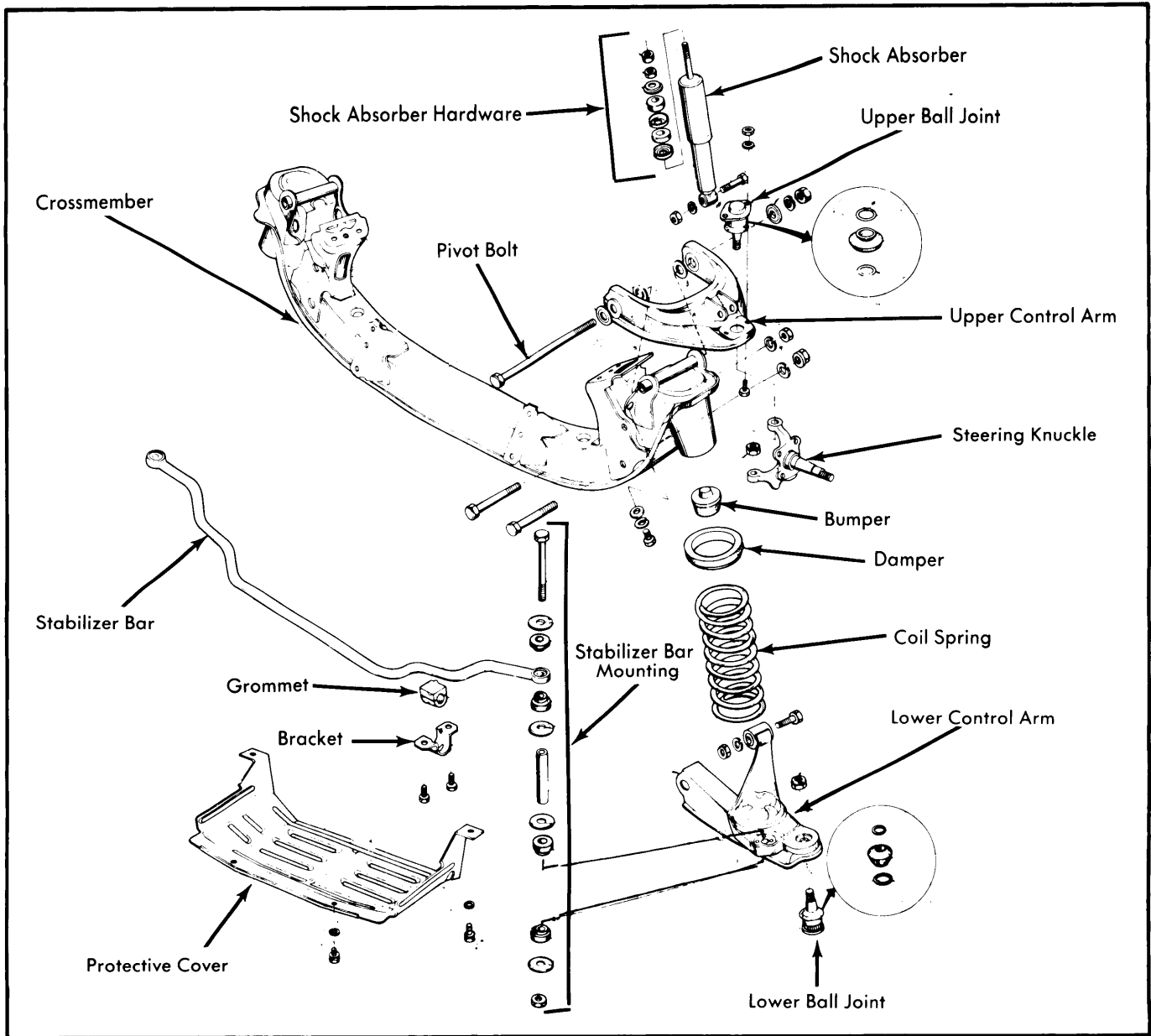


Fig. 2 Exploded View of Opel Front Suspension Components

## STEERING KNUCKLE

**Removal** — 1) Raise vehicle and support on safety stands. Disconnect and compress shock absorber upward. Disconnect and remove caliper assembly, then hang with wire out of way. Disconnect tie rod from steering knuckle. Remove hub and rotor assembly from steering knuckle.

2) Raise lower control arm until level, then support at outside edge. Disconnect upper and lower ball joints from steering knuckle. Remove backing plate.

**Installation** — To install, reverse removal procedure and adjust wheel bearings.

## TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Lower Control Arm Ball Joint-to-Steering Knuckle .....	58 (8.0)
Lower Control Arm-to-Crossmember .....	47 (6.5)
Lower Control Arm-to-Body .....	47 (6.5)
Upper Control Arm Ball Joint-to-Steering Knuckle .....	40 (5.5)
Upper Control Arm Ball Joint-to-Upper Control Arm .....	29 (4.0)
Shock Absorber-to-Upper Control Arm .....	29 (4.0)
Brake Caliper-to-Steering Knuckle .....	36 (5.0)