



# 1 General information

The independent front suspension (see illustrations) is of the MacPherson strut type, incorporating coil springs and integral telescopic shock absorbers. The MacPherson struts are located by transverse control arms. The steering knuckles, which carry the brake calipers and the hub/disc assemblies, are bolted to the MacPherson struts, and connected to the control arms through balljoints. A stabilizer bar reduces body roll. The stabilizer bar is rubber-mounted and is connected to both suspension struts/control arms (as applicable) by connecting links.

## 1.1a Typical front suspension (Z3 shown, other models similar)

1 Control arm

2 Control arm bushing

3 Center balljoint

4 Outer balljoint

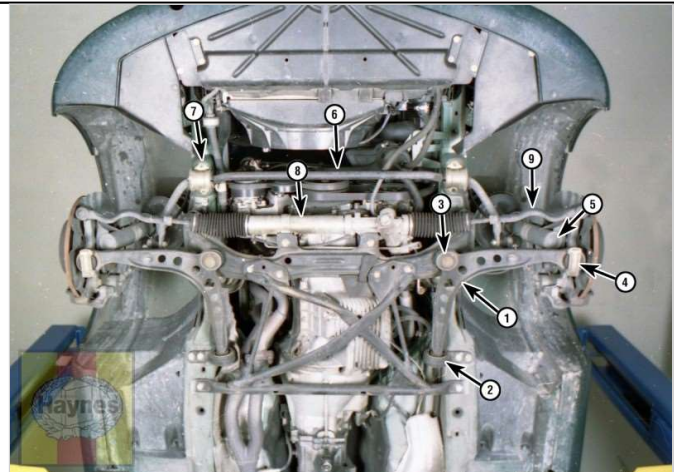
5 Strut assembly

6 Stabilizer bar

7 Stabilizer bar bushing

8 Steering gear

9 Outer tie-rod



### 1.1b Front suspension details (Z3 shown, other models similar)

1 Strut assembly

2 Steering knuckle

3 Control arm

4 Control arm bushing

5 Center balljoint

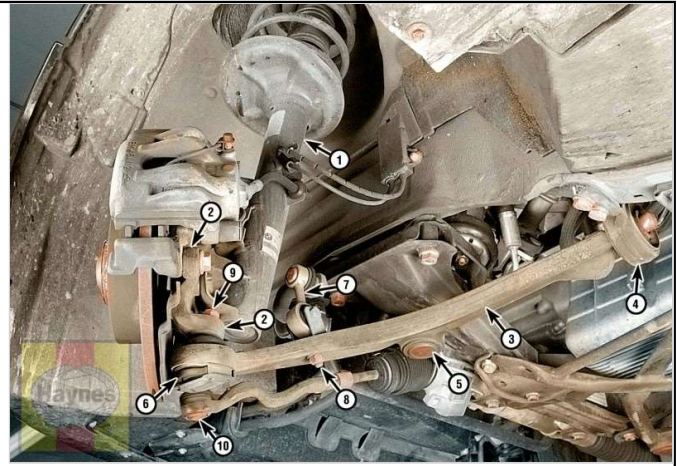
6 Outer balljoint

7 Stabilizer bar link

8 Stabilizer link bracket nut

9 Balljoint nut

10 Outer tie-rod

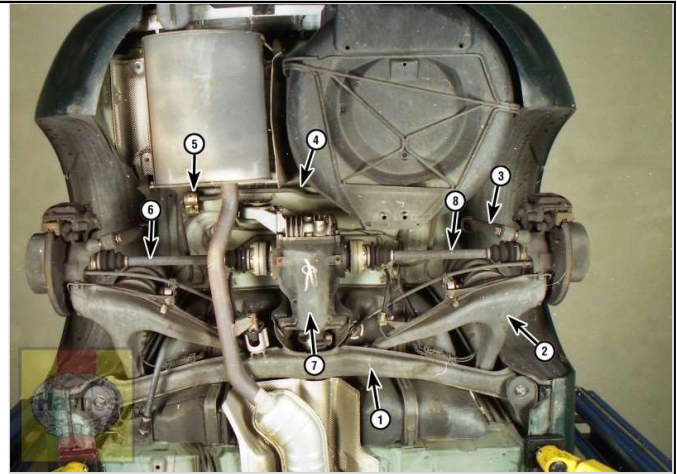


The fully-independent rear suspension on all 3-Series models (except 318ti models) consists of trailing arms, which are linked to the rear axle carrier by upper and lower control arms. Coil springs are installed between the upper control arms and vehicle body, and shock absorbers are connected to the vehicle body and trailing arms. A stabilizer bar minimizes body roll. The stabilizer bar is rubber-mounted and is connected to the upper control arms by connecting links.

The fully-independent rear suspension (see illustration) on 318ti and Z3 models is of the semi-trailing arm type. Coil springs and telescopic shock absorbers are positioned between the trailing arms and the body. A stabilizer bar is attached to the trailing arms via links and to the body with clamps.

### 1.3 Typical rear 318 and Z3 rear suspension (Z3 shown, 318ti similar)

- 1 Rear axle carrier
- 2 Trailing arm
- 3 Shock absorber
- 4 Stabilizer bar
- 5 Stabilizer bar bushing
- 6 Coil spring
- 7 Differential
- 8 Driveaxle assembly



The steering column is connected to the steering gear by an intermediate shaft, which incorporates a universal joint.

The steering gear is mounted onto the front subframe, and is connected by two tie-rods, with balljoints at their outer ends, to the steering arms projecting forwards from the steering knuckles. The tie-rod ends are threaded, to facilitate adjustment.

Power-assisted steering is standard. The hydraulic steering system is powered by a belt-driven pump, which is driven off the crankshaft pulley.

#### Note:

The information contained in this Chapter is applicable to the standard suspension set-up. On M3 models, slight differences will be found. Refer to your BMW dealer for details.