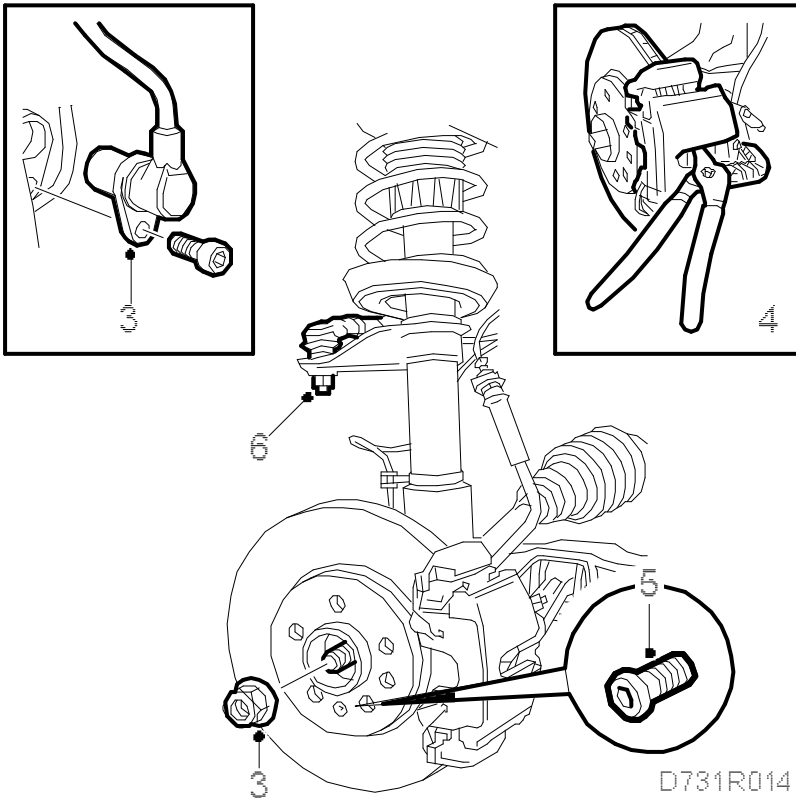


Front damper (MacPherson strut)

To remove

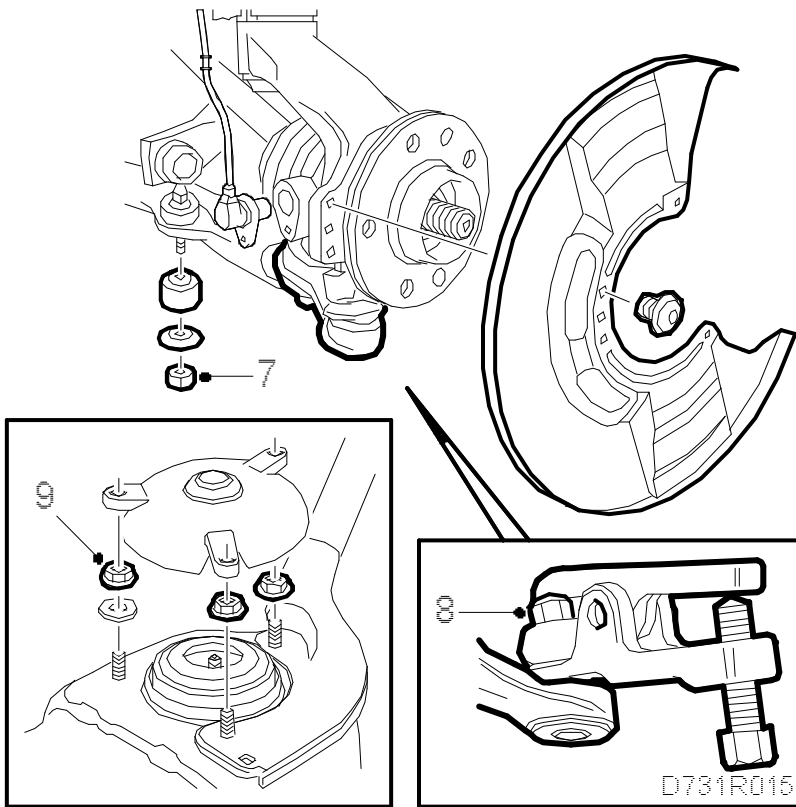


1. Slacken the centre nut when all four wheels of the car are on the ground.
2. Raise the car and remove the wheel.
3. Remove the hub centre-nut completely, undo the wheel sensor and detach the cable from the clip.
4. Press back the brake piston, using a pair of slip-joint pliers.

Remove the brake caliper from the steering swivel member and suspend it from the wheel housing with a cable tie.

5. Remove the brake disc and the cover plate.
 6. Slacken the tie-rod end nut slightly.
- Press out the tie-rod end bolt with [Puller 89 96 696](#).
- Undo the nut and lift the tie-rod end bolt out of the hole.
- 7.

Unscrew the nut securing the anti-roll bar to the suspension arm.



8. Undo the nut on the outer ball joint. Put [Puller 89 96 696](#) on the link arm and press the ball joint out of the steering swivel member.

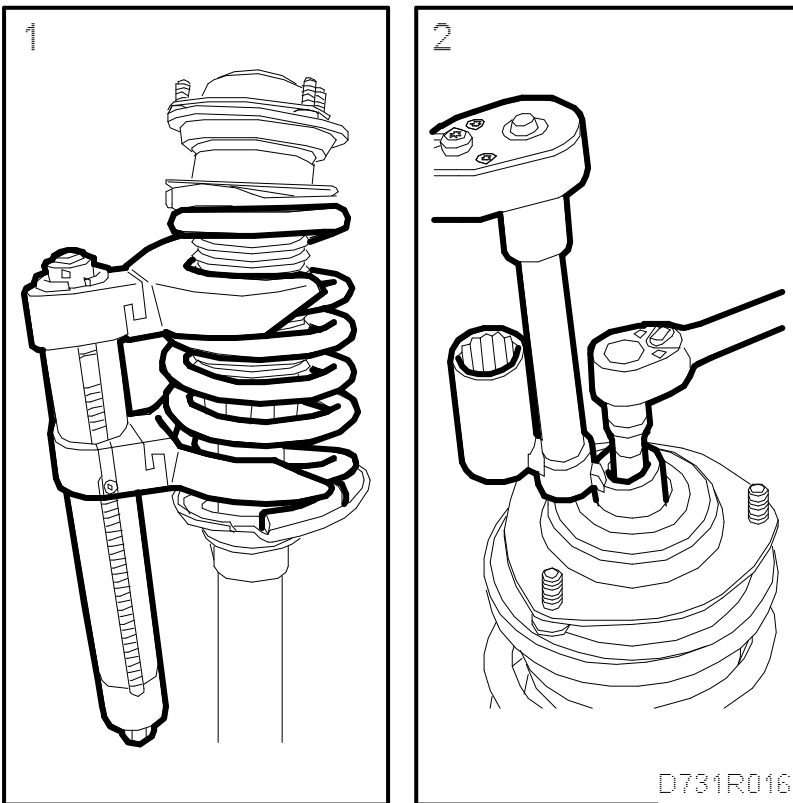
Remove the nut. This nut is of self-locking type and must not be reused.

9. Remove the cover.

10. Remove the three nuts from the upper MacPherson strut mounting.

11. Remove the MacPherson strut.

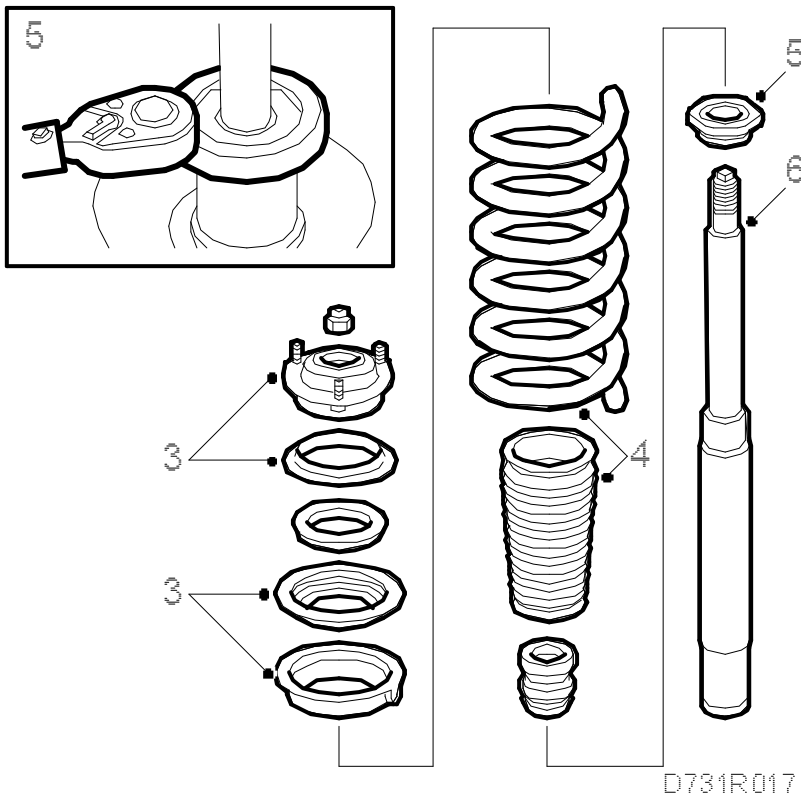
To dismantle



1. Clamp the MacPherson strut in a vice.

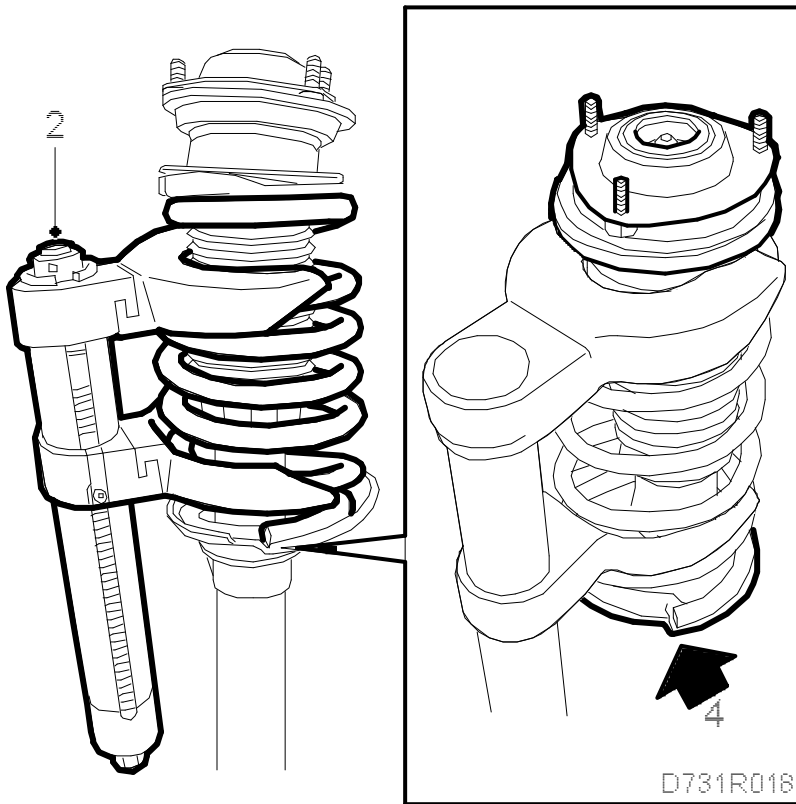
Compress the spring with [88 18 791 Spring compressor](#) and holder.

2. Grip the piston rod using a 9 mm, long hexagon socket and remove the nut using [Socket, MacPherson strut 89 96 613](#). The nut is of self-locking type and must not be reused.
3. Remove the bearing and upper spring seat.



4. Remove the spring, rubber gaiter and compression stop.
5. Remove the damper using [Spanner, damper insert 89 96 670](#).
6. Lift the damper out of the strut.

To assemble



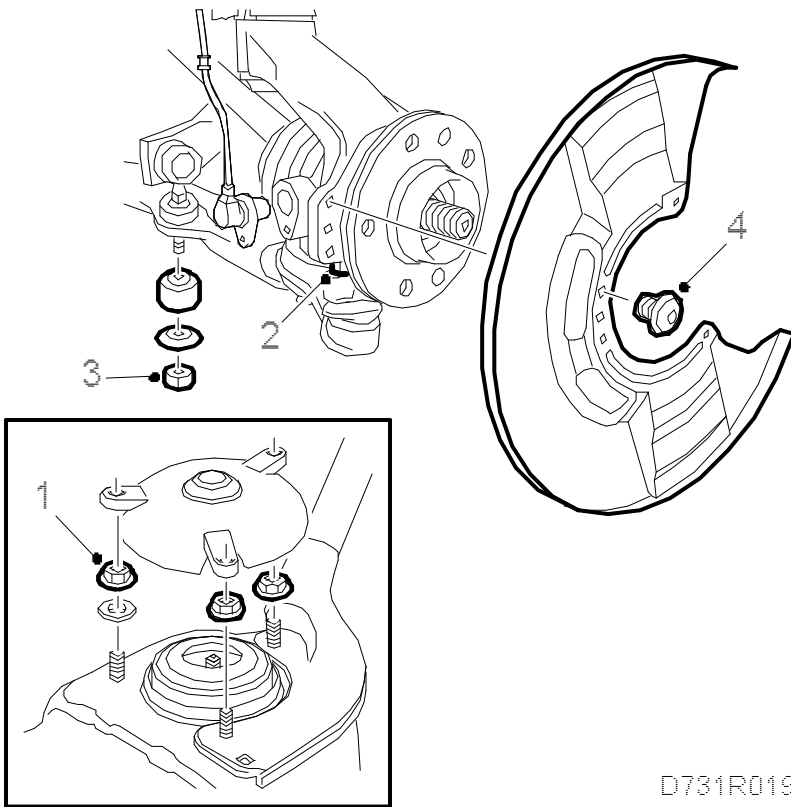
1. Inspect the gaiter and bushes for damage.
2. Bolt on the damper using [Spanner, damper insert 89 96 670](#).

Tightening torque: 215 Nm (159 lbf ft)

3. Fit the coil spring in place. Its lower end should abut against the stop in the bottom spring cup.
4. Fit the upper spring seat (note the protruding marking) and the bearing. Grip the piston rod using a 9 mm, long hexagon socket and remove the nut using [Socket, MacPherson strut 89 96 613](#).

Remove the spring compressor.

To fit



1. Position the MacPherson strut on the car, tighten the three retaining nuts on the top mounting and fit the cover.

Tighten the bolts alternately.

Tightening torque: 18 Nm (13 lbf ft)

2. Tighten the ball joint retaining nut.

Tightening torque: 75 Nm (55 lbf ft).

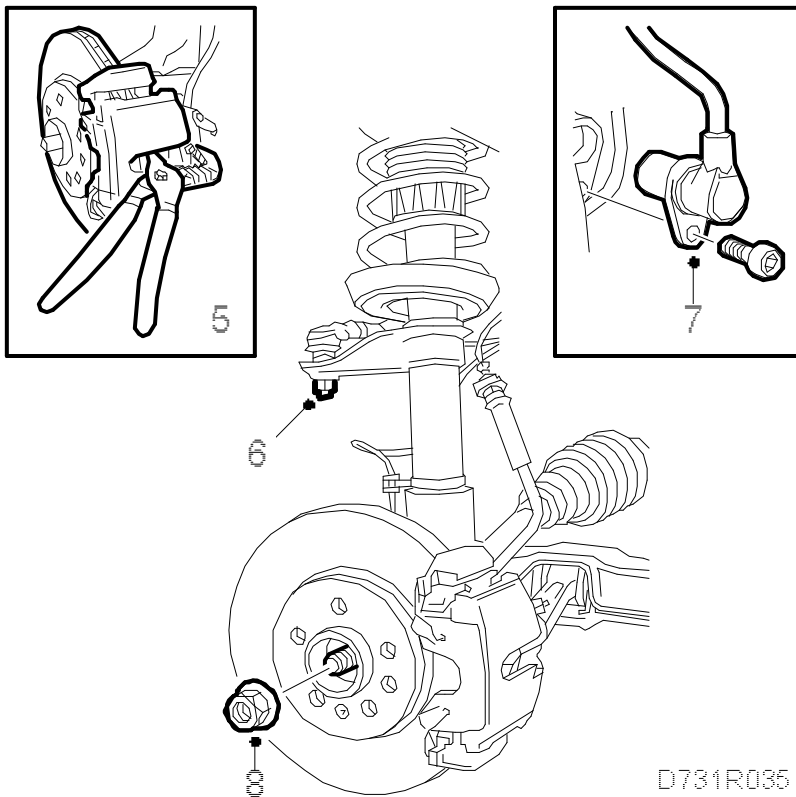
3. Tighten the nut securing the anti-roll bar to the link arm.

Tightening torque: 10 Nm (7 lbf ft)

4. Refit the back plate and brake disc.

- 5.

Check that the brake piston is pressed back into the cylinder. Fit the brake caliper to the steering swivel member.



6. Fit the tie-rod end and tighten it.

Tightening torque: 60 Nm (44 lbf ft)

7. Fit the wheel sensor and its lead.

Important

A new hub centre-nut should always be fitted if it has been loosened as the clamping force of the lock embossing is reduced when refitted. Use nut with top groove.

8. Fit new hub centre-nut and tighten it a few turns.

9. Fit the wheel. See [Wheels](#).

Tightening torque: 110 Nm (81 lbf ft)

10. Lower the car and use a torque wrench to tighten the hub nut when all four wheels of the car are on the ground.

Tightening torque: 170 Nm +45° (125 lbf ft +45°)

11. Tighten the upper mounting nut, using a torque wrench.

Tightening torque: 75 Nm (55 lbf ft).

12. Depress the brake pedal to press out the pistons in the brake calipers.

13. Check the wheel alignment, see [Wheel alignment](#). →

