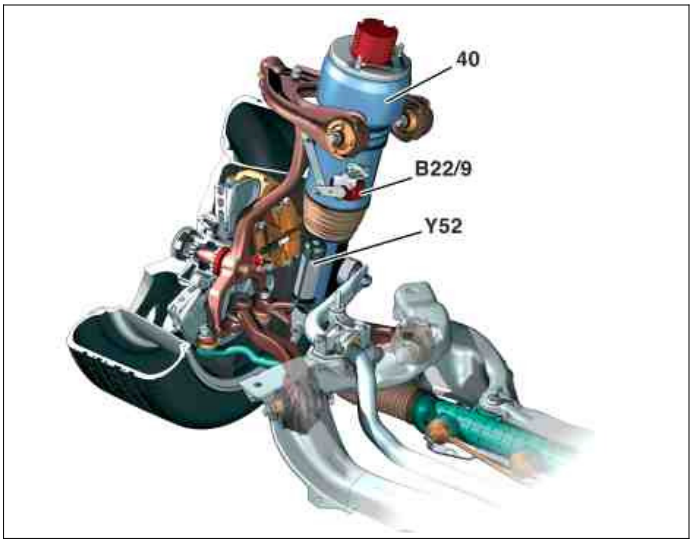
MODEL 219.3 with CODE (489a) Airmatic (semi-active air suspension)

Front axle spring strut

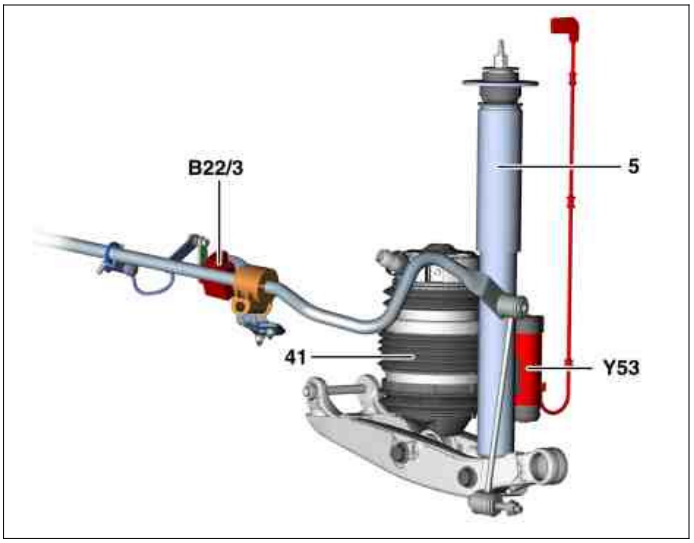
40 Front axle suspension strut



P32.22-2279-81

Rear strut

5 Rear shock absorber
41 Rear axle spring strut

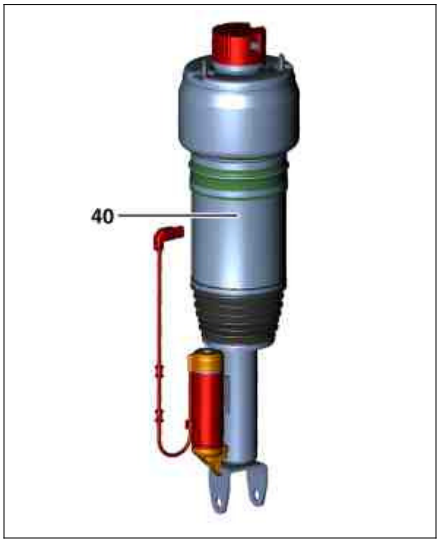


P32.22-2125-81

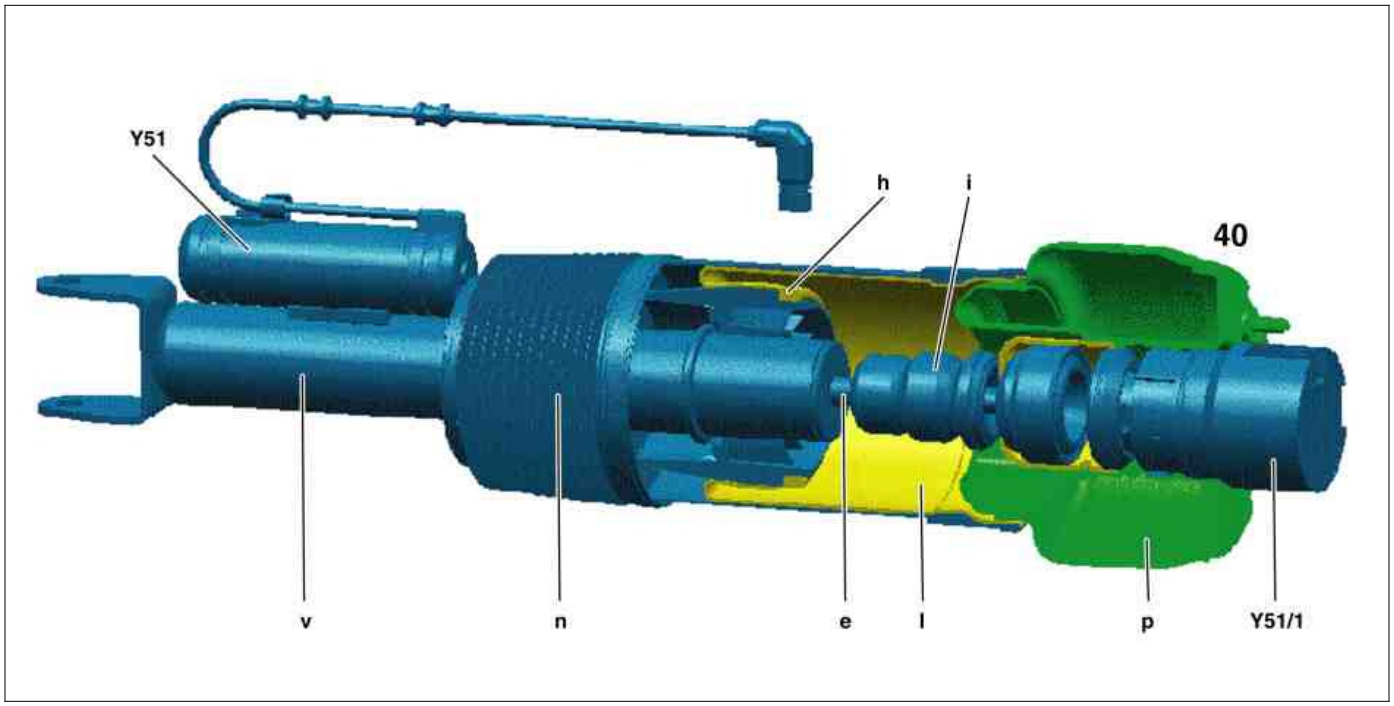
Task

40 Front axle suspension strut

The suspension strut performs all the functions to be carried out in connection with suspension, level control and level setting, and damping.



P32.22-2126-72



P32.22-2118-79

Setup of front suspension strut (shown on left suspension strut)

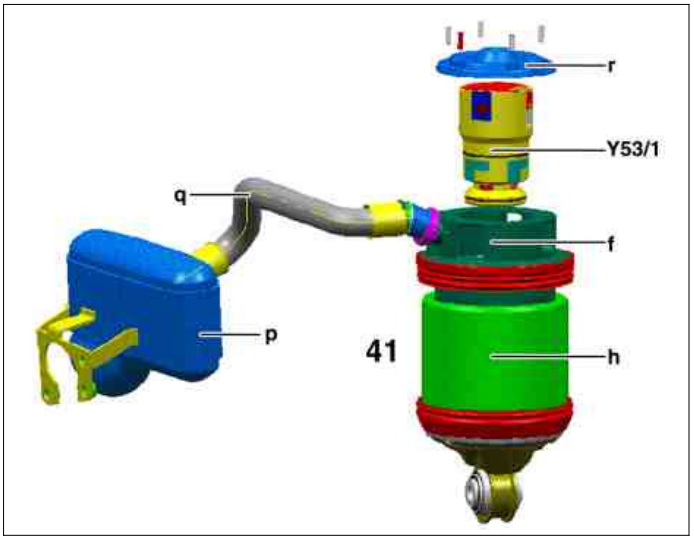
40	*Front axle suspension strut*
e	*Piston rod*
h	*Air spring bellows*
i	*Stop buffer*
l	*Air chamber*
n	*Protective boot*
p	*Auxiliary air volume container*
v	*Shock absorber*
Y51	*Left front axle damping valve unit*
Y51/1	*Left front suspension strut AIRmatic valve unit*

Integrated into the front-axle suspension strut for the auxiliary air volume is a single-pipe gas-filled shock absorber and a chamber (auxiliary air volume container (p)).
The front axle left damping valve unit (Y51) is mounted to the shock absorber (v).

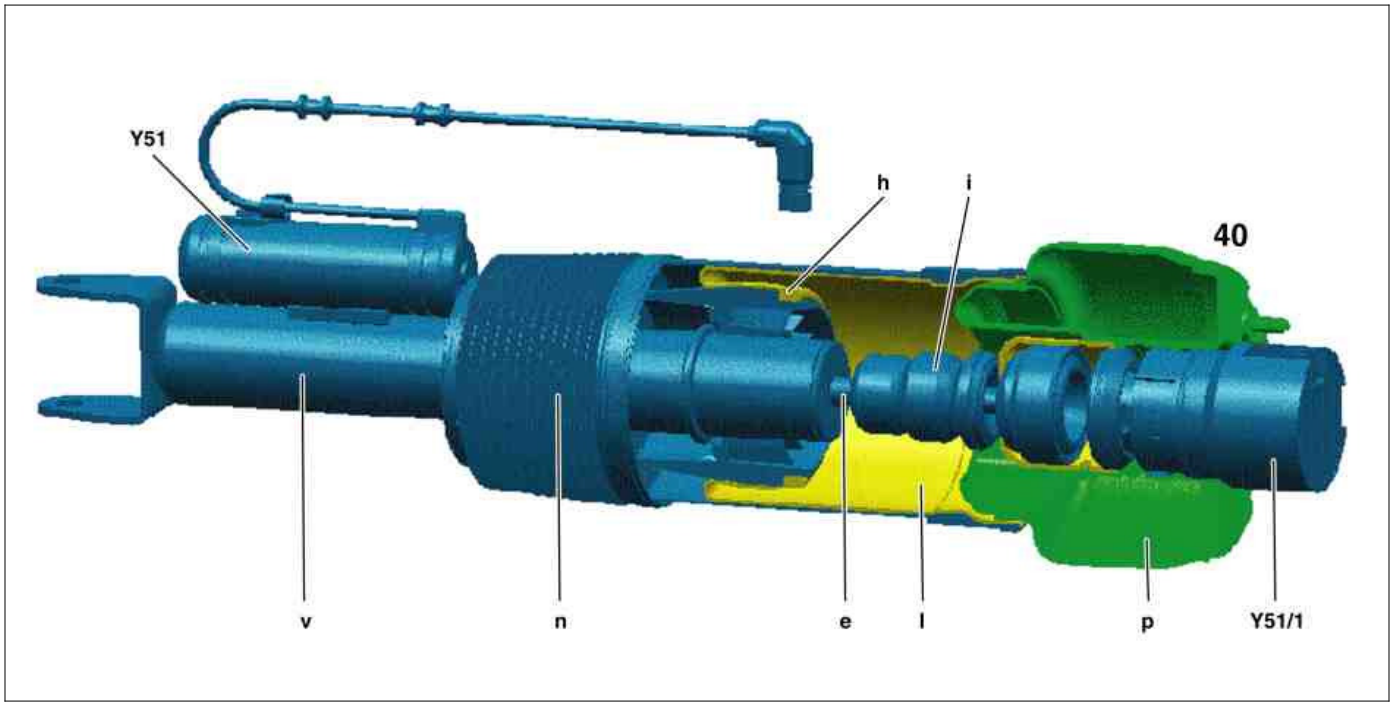
Setup of rear suspension strut (shown on left suspension strut)

41	*Rear axle spring strut*
h	*Air spring bellows*
p	*Auxiliary air volume container*
q	*Connector hose*
r	*Decoupling bearing*

Located on the rear axle, separate to the air suspension strut, is the rear shock absorber (5) with damping valve unit (see picture P32.22-2125-81). A separate auxiliary air volume container (p) is used for the auxiliary air volume.



P32.22-2119-81



P32.22-2118-79

Shown using the example of a front axle suspension strut.

40 *Front axle suspension strut*
e *Piston rod*
h *Air spring bellows*
i *Stop buffer*
l *Air chamber*
n *Protective boot*
p *Auxiliary air volume container*
v *Shock absorber*
Y51 *Left front axle damping valve unit*
Y51/1 *Left front suspension strut AIRmatic valve unit*

Function shown using example of a front axle suspension strut.

The vehicle weight is borne by the compressible air enclosed in the air bellows of the suspension struts. The air is in the air chamber (l) and in the additional volume reservoir (p). The air bellows (h) designed as a hose roller bellows is made of rubber. In the event of dynamic loading while driving, the air bellows unrolls parallel to the McPherson axle and thus ensures the required spring travel. The suspension strut rolling zone is sealed to the outside using a protective boot (n) to protect against dirt.

Lifting/lowering the vehicle level takes place by increasing/reducing the air pressure in the air chamber (l) and in the additional volume container (p), which results in a shortening/lengthening of the front axle suspension strut (40).
As soon as the driving situation requires it, the additional volume valve in the AIRmatic left front suspension strut valve unit (Y51/1) is closed. Because the compressed air volume is reduced in proportion to the effective piston area, this results in a stiffer suspension of the vehicle.