adaptive air suspension

The adaptive air suspension – air suspension with controlled damping – provides the full-size models like the A6 allroad quattro (Combined fuel consumption in l/100 km: 8.9 – 6.1; Combined CO_2-emissions in g/km: 206 - 159)** with smooth ride comfort and sporty handling.

In the front suspension struts, air springs enclose the shock absorbers; these components are separated in the rear suspension. The compressor operates highly efficiently; the aluminum pressure vessel in the spare wheel well holds 5.8 liters of air at a pressure of 18 bar.

The adaptive air suspension sets the height of the body at different levels depending on the vehicle speed and the driver's request. At continuously higher speeds, it lowers the level by 15 millimeters (0.59 in) in automatic mode. At speeds up to 80 km/h (49.71 mph), it raises the level by 35 millimeters (1.38 in) – this allroad mode is ideal for rough terrain. When driving slowly, the driver can select a lift mode, increasing the ground clearance of the A6 allroad quattro by another ten millimeters (0.39 in). The driver can choose these settings via the Audi drive select driving dynamics system.

The CDC (continuous damping control) shock absorbers also operate with high flexibility. Their control unit acts according to road conditions, the driver's style, and the mode specified in Audi drive select (dynamic, auto, comfort, allroad or lift). The computer individually adjusts the damping forces for each wheel in millisecond cycles. Electromagnetically actuated valves control the flow of the hydraulic fluid between the inner and outer tubes, with the damper characteristics changing as the cross-section becomes larger or smaller.

**Figures depend on the tires/wheels used.

Status: 2012

Source: www.audi-technology-portal.com
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