Audi magnetic ride

Audi magnetic ride is a suspension technology employed in the A3, TT and R8 families. This system continually adapts the function of the shock absorbers to the road profile and the driver’s style.

A synthetic hydrocarbon oil containing tiny magnetic particles between 3 and 10 thousandths of a millimeter in diameter – one tenth the thickness of a human hair – circulates in the shock absorber pistons. When voltage is applied to a coil integrated in the damper, a magnetic field is produced and the particles realign. They orient themselves crosswise with respect to the direction of oil flow in the piston channels, obstructing its flow. The process is completed in a few milliseconds.

The controller, which receives signals from a sophisticated system of sensors, continuously computes the optimal values for each individual wheel. It analyzes the driver’s style and the condition of the road and adaptively adjusts the function of the dampers. The Sport button allows the driver to switch between normal mode and sport mode. In normal mode – when fluid viscosity is low – the car offers up a balanced ride. In sport mode – when flow is obstructed – it is uncompromisingly firm on the road.

Status: 2011

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