Audi SQ7 TDI – 48 volt electrical subsystem with electromechanical active roll stabilization

A new solution in the competitive environment is the electromechanical active body roll stabilization. Here a compact electric motor with a three-stage planetary gearbox separates the two halves of the stabilizer. On an uneven road surface, they are actively decoupled from one another, resulting in improved ride comfort. During sporty driving, the tubes are interconnected and twisted against each other. That significantly reduces body roll, i.e. the lean of the car. Together with the transmission, the electric motors produce anything up to 1,200 Nm *(885.1 lb-ft)* of torque. The effect is taut, sporty handling: The car leans less in bends and the tendency to understeer is further reduced.

The front and rear stabilizer can be adjusted independently of each other. This active distribution of stabilizer forces between the front and rear axle has a positive effect on road behavior. Steering precision and the agility of the car improve significantly.

Compared with conventional hydraulically switched stabilizers, the 48-volt-based system from Audi offers major advantages. It can develop more power, it works faster and it is activated even at low speeds. Because it requires no oil, the electromechanical active roll stabilization is also maintenance-free and environmentally friendly.

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