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E61 Sport Wagon

Model: 530xiT

Production: From April 2005

OBJECTIVES

After completion of this module you will be able to:

- Know the differences between the E60 and E61
- Know the location of various components in the E61

Suspension

The E61 features an all-aluminium chassis as already introduced on the E60. A variant of the integral link rear axle IV has been developed for the Touring that makes for a completely flat luggage compartment floor while providing a very large through-load space. The 530xiT is equipped with an automatic self-levelling suspension provided by air suspension at the rear axle as standard.

Air Suspension

The air spring installed in the E61 is similar in operation to the system installed in the E65.

The advantages of an air spring on the rear axle can be felt particularly in vehicles with high payload (such as a sport wagon) as mainly the axle load at the rear axle changes when loading and unloading the car.

With a conventional steel spring, the change in the axle load affects not only the ride height but also the vibration and suspension geometry.

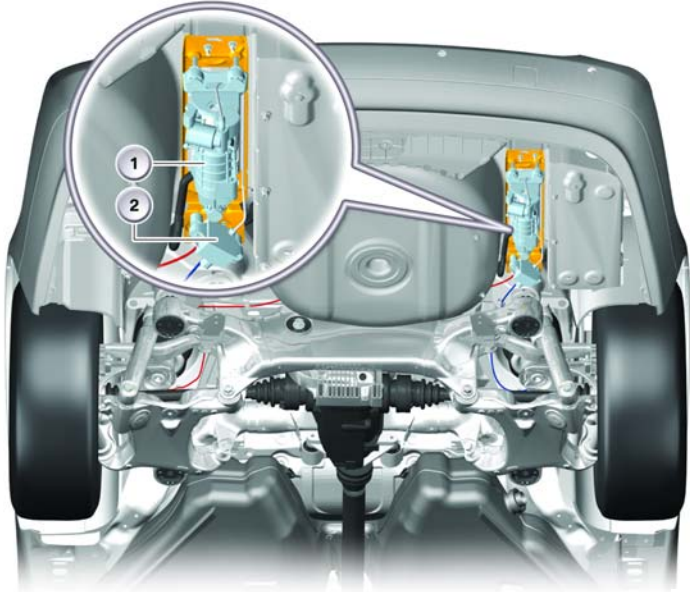
There would also be a change in the camber of the rear axle wheels at high payload - this would result in increased load at the inner shoulders of the tires which in turn would mean reduced load bearing capacity of the tires.

The air springs and dampers are supported independently on the floor pan of the car body.



Rear Air Suspension

In previous air suspension systems the air supply unit was located in the luggage compartment under the spare tire. For the first time, the air supply system (LVA) on the E61 is not located in the vehicle interior but rather on the underbody between the spare wheel well and battery box.



Index	Explanation
1	Pressure accumulator with compressor
2	Valve block

Location of air supply system

Since the air required to raise the vehicle can no longer be drawn from the vehicle interior, air must be taken via a filter from a protected area. The area between the wheel arch paneling of the rear right wheel is used for this purpose.



Location of air filter for LVA