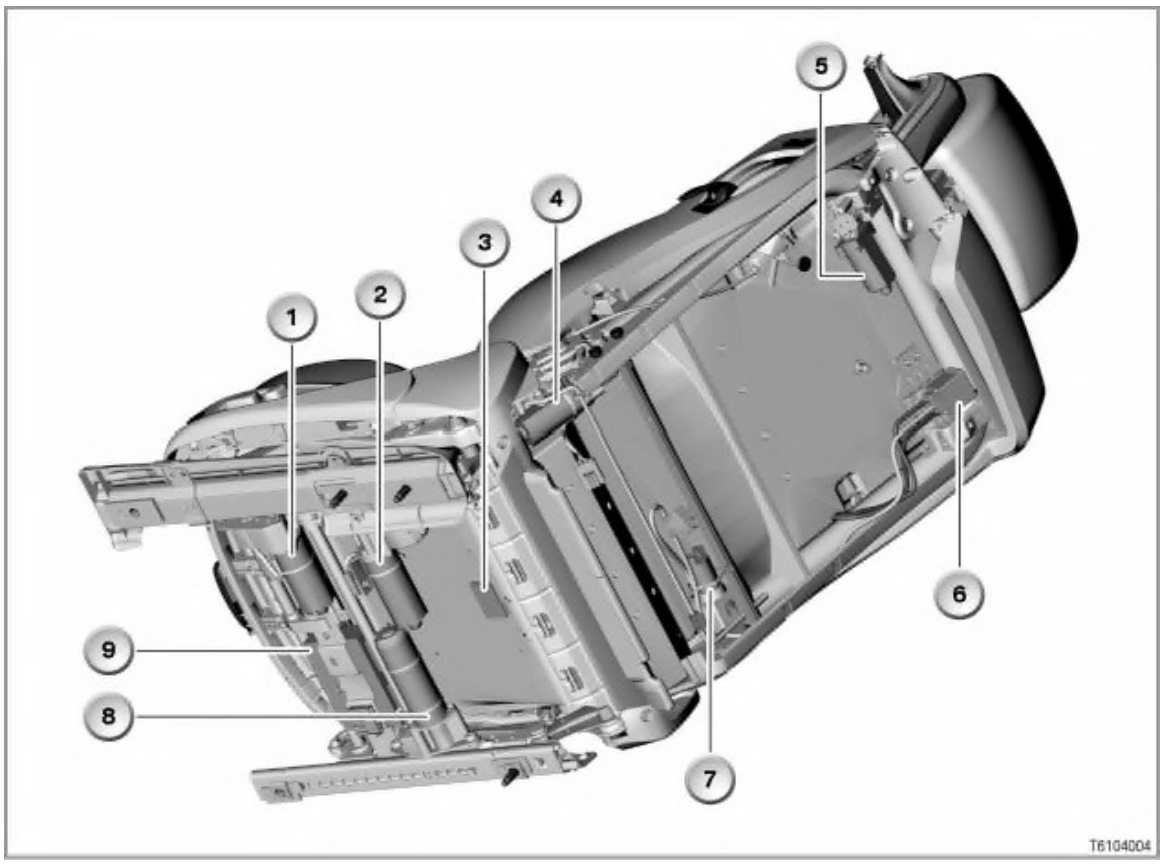
The front seats of the E63 and E64 feature in part tried and tested technology.
The seats from the E46/2 coupe have been modified for the E63
while the seats from the E46/C cabriolet have been modified for the E64.

Construction



Item	Description	Item	Description
1	Drive unit for seat cushion tilt adjustment	2	Drive unit for seat height adjustment
3	Seat-occupancy detector	4	Drive unit for backrest angle adjustment
5	Drive unit for head restraint height adjustment (E64 only)	6	Valve for lumbar support
7	Air pump for lumbar support	8	Drive unit for seat forward/backward adjustment (E64 with 2 adjustment speeds)
9	Seat module		

How it works

Seat adjustment

The standard seat forward/backward adjustment, seat height adjustment, seat cushion tilt adjustment and backrest angle adjustment facilities are each operated with separate electric drive units in all seats. The head restraint height adjustment is driven by an electric drive unit only on the E64.

The head restraint angle is always adjusted manually.

Seat adjustment is controlled via the controls on the outer sides of the seat cushions. The corresponding information is sent to the seat module by pressing the relevant buttons. The seat module then actuates the drive units. The seat assumes the required position.

The passenger's seat in the E63 is a special case. The switch unit is responsible for control of the seat adjustment function in this seat. The drive units are actuated directly by a load circuit.

The limit stop is calculated for each drive unit in order to reduce the load of the electric drive units to a minimum. Automatic recognition of the limit stops is integrated in each of the electric drive units. Hall sensors integrated in the drive units register the adjustment distances which are processed in the seat module. In the event of the drive unit blocking, the detected position value is interpreted as the limit stop. All subsequent adjustments are interrupted just before this point.
Once the obstruction has been removed, adjustment can again extend beyond the newly detected limit stop when the seat adjustment button is pressed again.

The backrest lock is released by correspondingly operating the locking lever and can be folded forward manually. The electric rear easy-entry facility on the E64 is triggered by pressing the button next to the locking lever. The drive unit for the seat forward/backward adjustment is operated in the fast speed stage. (The drive unit for seat forward/backward adjustment can be operated in two speed stages.)
A corresponding message is sent via the K-CAN if the backrest is not locked in correctly. This message is shown as a check control message on the central information display (CID) and on the head-up display (HUD).

The vehicle must be stationary in order to operate the rear easy-entry facility. The system must receive no speed signals from the wheels and the corresponding door must be open. The adjustment procedure is completed even if the vehicle is driven off during the procedure.

A separate rocker switch is provided on the seat to control the lumbar support.
An air pump supplies the lumbar support cushion with compressed air via a control valve. The individual air chambers are filled or emptied corresponding to the selected setting in order to vary the height and thickness of the lumbar support. The lumbar support functions are not sent to the car and key memory and are therefore also not stored. The lumbar support always remains in the position last set.

Seat memory

The seat memory processes the signals supplied by the Hall sensors of the drive units to make available position information. The values determined in this way are stored in the seat module. A total of 7 seat positions can be stored.

- 3 seat positions can be stored and retrieved with the memory buttons on the driver's seat.
- 4 further positions assigned to the ignition key can be stored with the key memory function. The car access system (CAS) sends this information while the vehicle is opened. If the vehicle is opened manually, the data are read out by the transponder in the ignition lock.

The SZM simulates encoding of the seat modules for certain functions. For instance, the customer selects the moment of seat adjustment via the central information display. In the E46, this was possible only via the car memory.