

**Haynes**
shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

20 Anti-lock braking system (ABS) components - removal and installation

Hydraulic unit

1 Although it is possible for the home mechanic to remove the hydraulic unit, the unit's self-diagnosis system must be interrogated by dedicated test equipment before and after removal, and the unit must be bled by BMW service test equipment. Consequently, we recommend that removal and installation of the hydraulic unit should be entrusted to a BMW dealer or suitably-equipped specialist.

Accumulator (models with ASC+T)

2 For the same reasons given in Step 1, we recommend that removal and installation of the accumulator should be entrusted to a BMW dealer or other qualified repair shop.

Electronic control unit (ECU)

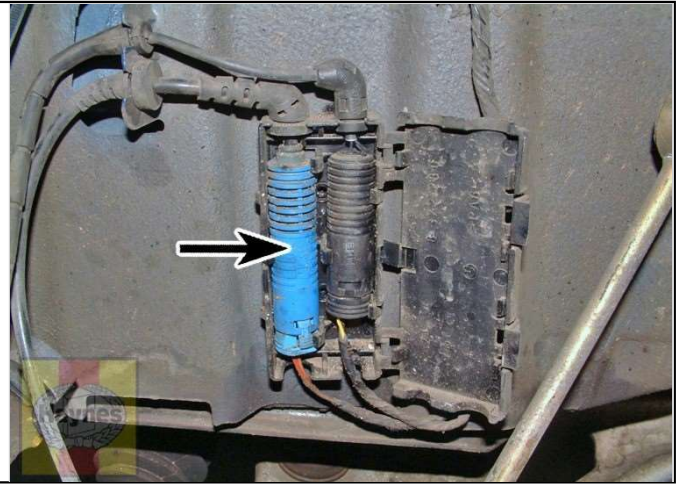
3 In order to remove the ABS/ASC+T ECU, the hydraulic unit must first be removed, as the ECU is screwed to the side of the hydraulic unit. Consequently, we recommend that removal and installation of the ECU is entrusted to a BMW dealer or other qualified repair shop.

Front wheel sensor

Removal

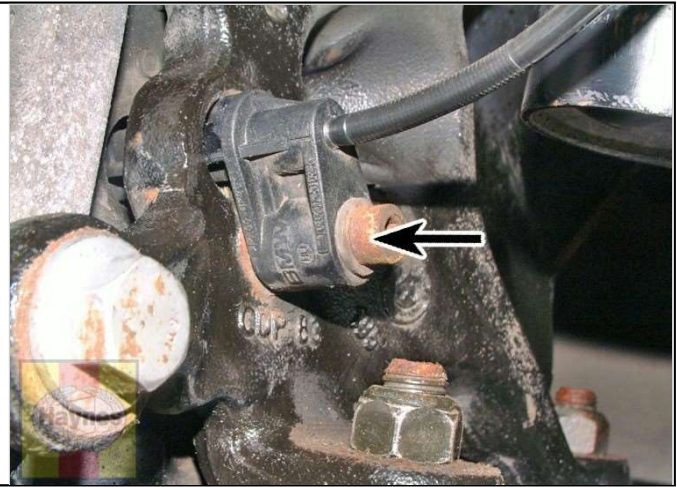
4 Chock the rear wheels, then firmly apply the parking brake, jack up the front of the vehicle and support on jackstands. Remove the appropriate front wheel. Trace the wiring back from the sensor to the connector that is located in a protective plastic box. Unclip the lid, then free the wiring connector and disconnect it from the main harness (see illustration) .

20.4 Unclip the lid, release and disconnect the ABS sensor electrical connector



5 Loosen and remove the bolt securing the sensor to the steering knuckle, and remove the sensor and lead assembly from the vehicle (see illustration) . **Note:** On some models, the front wheel sensors are handed, and are marked L and R accordingly. Additionally, the right-hand sensor has two green markings between the sensor and the grommet.

20.5 Remove sensor retaining bolt



Installation

6 Prior to installation, apply a thin coat of multi-purpose grease to the sensor tip (BMW recommend the use of Staborax NBU 12/k).

7 Ensure that the sensor and steering knuckle sealing faces are clean and then fit the sensor to the knuckle. Ensure that, where applicable, the sensor is installed to the correct side of the vehicle (see Paragraph 5). Install the retaining bolt and tighten it to the specified torque.

8 Ensure that the sensor wiring is correctly routed and retained by all the necessary clips, and reconnect it to its wiring connector. Install the sensor connector into the box and securely clip the lid in position.

9 Install the wheel, then lower the vehicle to the ground and tighten the wheel bolts to the torque listed in the [Chapter 1 Specifications](#) .

Rear wheel sensor

Removal

10 Chock the front wheels, then jack up the rear of the vehicle and support it on jackstands. Remove the appropriate wheel.

11 Remove the sensor as described in paragraphs 4 and 5.

Installation

12 Install the sensor as described above in paragraphs 6 to 9.

Front reluctor rings

13 The front reluctor rings are fixed onto the rear of wheel hubs. Examine the rings for damage such as chipped or missing teeth. If replacement is necessary, the complete hub assembly must be dismantled and the bearings replaced, with reference to [Chapter 10](#) .

Rear reluctor rings

14 The rear reluctor rings are pressed onto the driveaxle outer joints. Examine the rings for signs of damage such as chipped or missing teeth, and replace as necessary. If replacement is necessary, the driveaxle assembly must be replaced (see [Chapter 8](#)).