

**Haynes**
shows you how**BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual**

10 Starter motor - removal and installation

Four-cylinder models

Removal

1 Disconnect the battery negative lead. **Caution:** *If the radio in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery.*

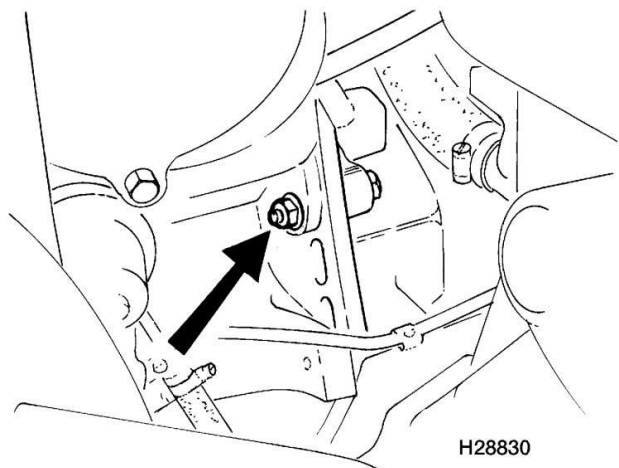
2 Unscrew the nuts and disconnect the wiring from the rear of the starter motor.

3 Working from the engine compartment, reach down behind the engine and unscrew the upper starter motor securing nut and bolt. For improved access to the bolt, unscrew the bolt securing the dipstick tube bracket to the engine, then pull the dipstick tube from the cylinder block.

4 Apply the parking brake, then jack up the front of the vehicle and support securely on axle stands.

5 Working underneath the vehicle, unscrew the lower starter motor securing nut and bolt (see illustration) .

10.5 Working under the vehicle, unscrew the lower starter motor securing nut and bolt (arrow) - four-cylinder model



6 Still working underneath the vehicle, pull the starter motor back to release it from the transmission bellhousing, then turn the motor so that the solenoid is at the top.

7 Pivot the rear of the motor down and manipulate it out from under the vehicle.

Installation

8 Installation is a reversal of removal, but check the condition of the O-ring at the bottom of the dipstick tube and replace if necessary.

Six-cylinder models

Removal

9 Remove the intake manifold (see [Chapter 4B](#)).

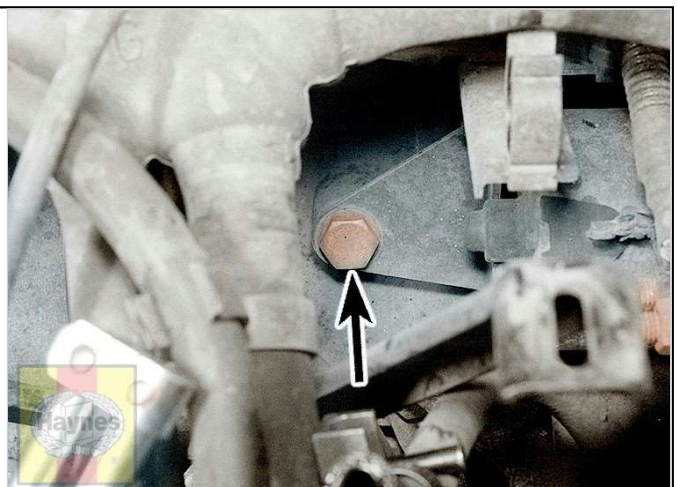
10 Unscrew the nuts and disconnect the wiring from the starter motor terminals (see illustration) .

10.10 Disconnect the starter motor wiring (arrows) - six-cylinder model



11 Unscrew the bolt securing the starter motor front mounting bracket to the cylinder block, then unscrew the two nuts securing the bracket to the motor, and remove the bracket (see illustration)

10.11 Unscrew the bolt (arrow) securing the starter motor bracket to the cylinder block - six-cylinder model



12 Unscrew the two rear motor securing nuts and bolts, noting that an open-end wrench may be required to

counterhold the bolts, as there is insufficient clearance to use a socket (see illustration) .

10.12 Lower starter motor securing nut (arrow) - six-cylinder model



13 Manipulate the starter motor out from the engine compartment (see illustration) .

10.13 Removing the starter motor - six-cylinder model



Installation

14 Installation is a reversal of removal, but install the intake manifold (see [Chapter 4B](#)).

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