



Haynes
shows you how

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

12 Oil pan - removal and installation

Note:

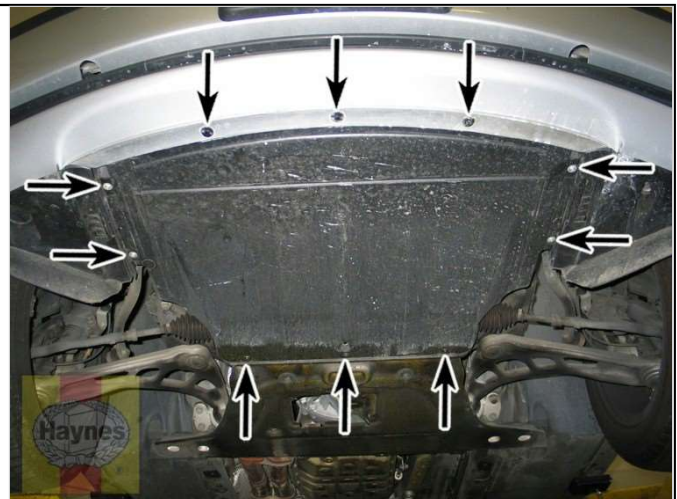
A new oil pan gasket, a new dipstick tube seal and suitable gasket sealant will be required on installation.

Removal

1 Apply the parking brake, then jack up the front of the vehicle and support it securely on jackstands.

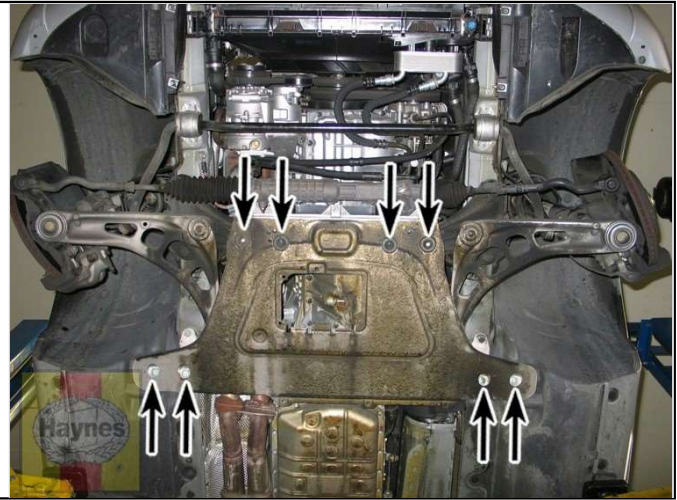
2 Remove the engine splash shield (see illustration) and drain the engine oil (see [Chapter 1](#)).

12.2 Location of the engine splash shield retaining screws and plastic expansion rivets



3 Coupes manufactured before November 1999, and Sedans and Sport Wagons manufactured before December 2000 are equipped with a triangular-shaped tubular front end reinforcement bolted to the underside of the front subframe. To detach the reinforcement from the subframe, remove the reinforcement mounting bolts. All convertibles, Coupes manufactured November 1999 and later, and Sedans and Sport Wagons manufactured December 2000 and later are equipped with an aluminum reinforcement plate (see illustration), which is secured to the subframe by mounting bolts. To detach the reinforcement plate, remove these bolts.

12.3 Location of the reinforcement plate/frame bolts



4 Unscrew the retaining bolts and/or nuts, and remove the alternator air ducting from the front of the vehicle.

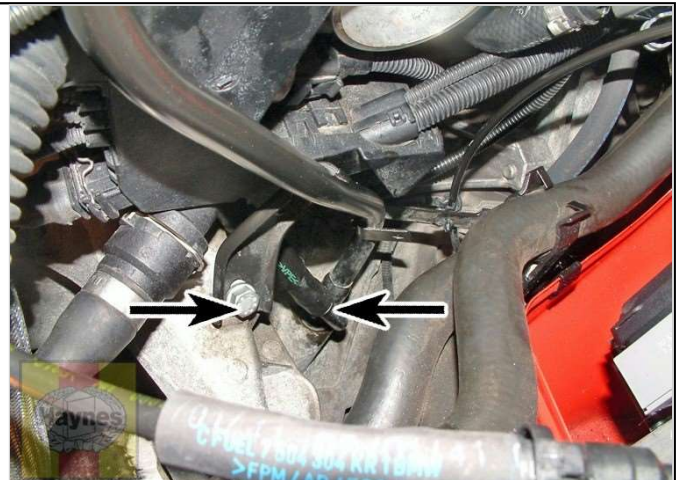
5 Remove the air filter housing (see [Chapter 4](#)).

6 In order to remove the oil pan, the engine must be suspended and the front crossmember must be lowered. This can be accomplished with an engine lifting hoist and lifting chain or sling attached to the eye at the front of the cylinder head, or with an engine support fixture attached to the lifting eye. Take up the weight of the engine.

7 On automatic transmission models, disconnect the transmission fluid lines from the transmission oil pan. Be prepared for fluid spillage.

8 Remove the retaining bolt and detach the oil return hose from the oil separator, and pull the dipstick guide tube and return hose from the oil pan (see illustration) . Discard the O-ring seal; a new one must be installed.

12.8 Dipstick guide tube, oil return hose and mounting bracket bolt



9 Check that the steering wheel is facing straight-ahead, and engage the steering lock. Make alignment marks between the steering column joint flange and the steering rack pinion, then loosen the pinch-bolt, and pull the joint from the pinion. While the column is separated from the rack, it is essential that neither the steering wheel nor front wheels are moved from their positions (see illustration) . To prevent the steering wheel from turning,

make sure the steering column lock is engaged, or run the seat belt through the steering wheel and clip it into place.

12.9 Remove the pinch-bolt and pull the joint from the pinion



10 Remove the drivebelt as described in [Chapter 1](#) .

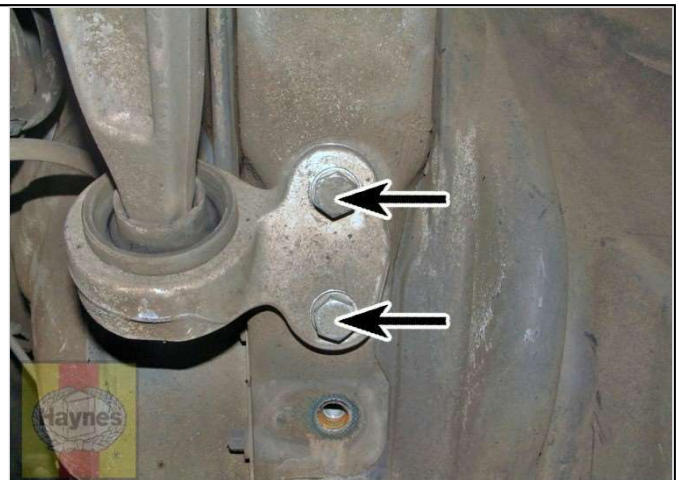
11 Unbolt the power steering support bracket from the rear of the pump, then unbolt the pump mounting bracket from the alternator mounting bracket, and move the pump to one side, clear of the engine, leaving the fluid lines connected. Make sure that the pump is adequately supported, and do not strain the fluid lines.

12 Unscrew the nuts securing the left and right-hand engine mounts to the chassis. Using the engine hoist or support fixture, raise the engine approximately 10 to 15 mm, ensuring that the rear of the cylinder head does not crush or trap the brake lines along the engine compartment firewall. **Caution:** *Do not lift the engine excessively or the radiator cooling fan and/or radiator may be damaged.*

13 Where applicable, unclip any lines, hoses and/or wiring from the engine mounting brackets, and oil pan.

14 Remove the bolts and detach the left and right-hand control arm brackets from the chassis (see illustration) . Also separate the left inner balljoint from the chassis (see [Chapter 10](#)).

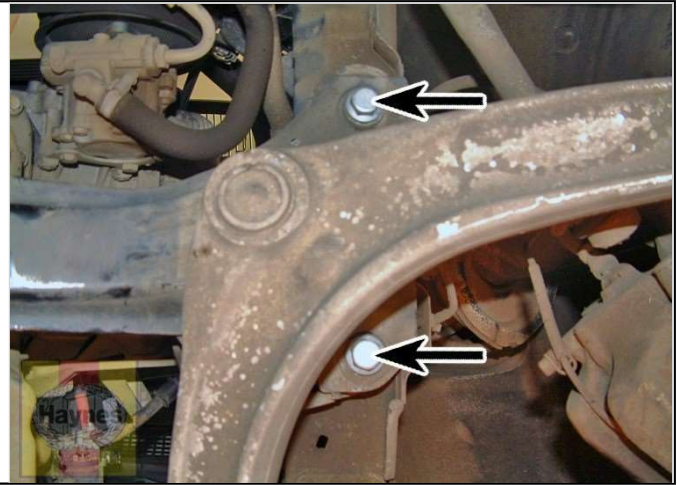
12.14 Remove the control arm-to-chassis bolts on each side



15 Unscrew the stabilizer bar clamp bolts (see [Chapter 10](#)).

16 Support the crossmember with a floor jack, then remove the crossmember-to- chassis bolts (see illustration) . Slowly lower the crossmember, taking care not to strain the power steering hoses. Where installed, remove the rubber bushings from between the crossmember and the oil pan.

12.16 Remove the crossmember-to-chassis bolts on each side

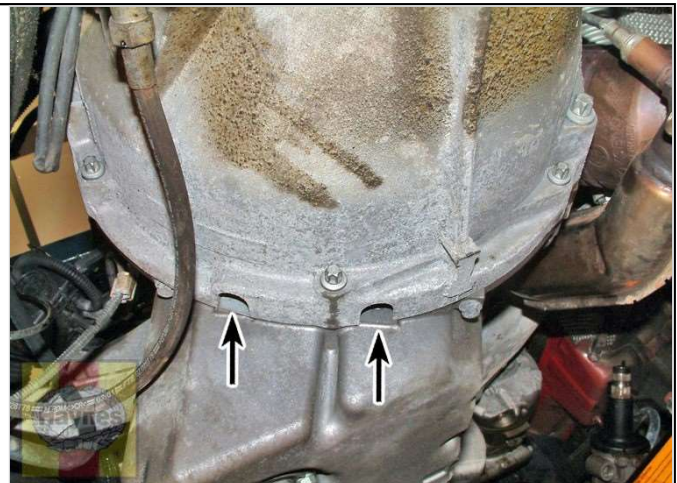


17 Disconnect the front suspension ride-level sensor, if equipped.

18 Disconnect the oil level sensor harness connector located at the bottom of the oil pan.

19 Working under the vehicle, progressively remove all the oil pan retaining bolts. Note that the rear oil pan retaining bolts are accessible through the holes in the transmission bellhousing (see illustration) . Also note that the three lower transmission-to-engine bolts must be removed, as they screw into the oil pan.

12.19 The rear oil pan bolts are accessible through the cutouts in the transmission housing



20 Lower the oil pan to the ground.

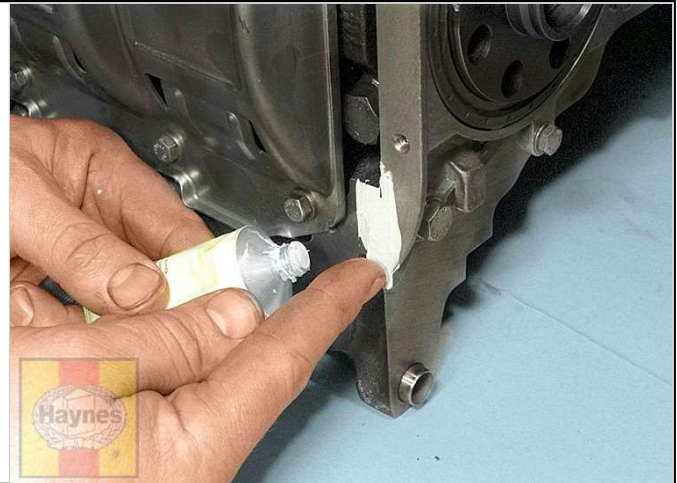
21 Remove the oil pan gasket.

Installation

22 Start installation by thoroughly cleaning the mating surfaces of the oil pan and engine block.

23 Lightly coat the areas where the crankshaft rear oil seal housing and front timing chain cover join the engine block with RTV sealant (see illustration) .

12.23 Apply sealant to the area where the rear oil seal housing and front timing chain cover join the engine block



24 Place the gasket in position on the oil pan flange.

25 Install the oil pan to the engine block, ensuring that the gasket stays in place, and reinstall the oil pan retaining bolts, tightening them finger-tight only at this stage.

26 Tighten the oil pan-to-engine block bolts a little at a time, working from the center bolts outward, to the torque listed in [this Chapter's Specifications](#) .

27 Tighten the transmission-to-engine bolts to the torque listed in [this Chapter's Specifications](#) .

28 Further installation is a reversal of removal, noting the following points.

A. When raising the crossmember into position, make sure that no pipes, hoses and/or wiring are trapped.

B. Install new crossmember and reinforcement plate bolts, and tighten them to the torque listed in [this Chapter's Specifications](#) .

C. Tighten the suspension fasteners to the torque listed in the [Chapter 10 Specifications](#) .

D. Tighten the engine mount nuts securely.

E. Install the drivebelt (see [Chapter 1](#)).

F. When installing the dipstick tube, replace the O-ring seal.

G. On completion, refill the engine with oil as described in [Chapter 1](#) .

H. On automatic transmission models, check the transmission fluid level as described in [Chapter 7B](#) .