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**BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual**

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## 2 Repair operations possible with the engine in the vehicle

Many major repair operations can be accomplished without removing the engine from the vehicle.

Clean the engine compartment and the exterior of the engine with some type of pressure washer before any work is done. A clean engine will make the job easier and will help keep dirt out of the internal areas of the engine.

Depending on the components involved, it may be necessary to remove the hood to improve access to the engine as repairs are performed (see [Chapter 11](#) if necessary).

If vacuum, exhaust, oil or coolant leaks develop, indicating a need for gasket or seal replacement, the repairs can generally be made with the engine in the vehicle. The intake and exhaust manifold gaskets, valve cover gasket and cylinder head gasket are all accessible with the engine in place. Changing the oil pan gasket, however, requires virtually removing the engine to provide enough clearance for oil pan removal. Information on engine removal is in Part C.

Exterior engine components such as the intake and exhaust manifolds, the water pump, the starter motor, the alternator, the distributor and the fuel injection system can be removed for repair with the engine in place.

Since the cylinder head can be removed without pulling the engine, valve component servicing can also be accomplished with the engine in the vehicle.

The following operations can be carried out without having to remove the engine from the vehicle:

- A. Removal and installation of the cylinder head.
- B. Removal and installation of the timing chain and sprockets.
- C. Removal and installation of the camshafts.
- D. Removal and installation of the oil pan.
- E. Removal and installation of the connecting rod bearings, connecting rods, and pistons.\*
- F. Removal and installation of the oil pump.
- G. Replacement of the engine/ transmission mounts.
- H. Removal and installation of the flywheel/driveplate.

*\*Although it is possible to remove these components with the engine in place, for reasons of access and cleanliness it is recommended that the engine is removed.*

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