

**Haynes**
shows you how

BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual

5 Engine overhaul - disassembly sequence

1 It is much easier to disassemble and work on the engine if it is mounted on a portable engine stand. These stands can often be rented from a rental yard. Before the engine is mounted on a stand, the flywheel/driveplate should be removed, so that the stand bolts can be tightened into the end of the cylinder block/ crankcase.

2 If a stand is not available, it is possible to disassemble the engine with it blocked up on a sturdy workbench, or on the floor. Be extra-careful not to tip or drop the engine when working without a stand.

3 If you are going to obtain a reconditioned engine, all the external components must be removed first, to be transferred to the replacement engine (just as they will if you are doing a complete engine overhaul yourself). These components include the following:

- A. Ancillary unit mounting brackets (oil filter, starter, alternator, power steering pump, etc.)
- B. Thermostat and housing (see [Chapter 3](#)).
- C. Dipstick tube.
- D. All electrical switches and sensors.
- E. Intake and exhaust manifolds - where applicable (see [Chapter 4](#)).
- F. Ignition coils and spark plugs - as applicable (see [Chapter 4](#)).
- G. Flywheel/driveplate (see Chapter [2A](#) or [2B](#)).

Note:

When removing the external components from the engine, pay close attention to details that may be helpful or important during installation. Note the fitted position of gaskets, seals, spacers, pins, washers, bolts, and other small items.

4 If you are obtaining a “short block” (which consists of the engine cylinder block/ crankcase, crankshaft, pistons and connecting rods all assembled), then the cylinder head, oil pan, oil pump, and timing chain will have to be removed also.

5 If you are planning a complete overhaul, the engine can be disassembled, and the internal components removed, in the order given below, referring to Part A or B of this Chapter unless otherwise stated.

- A. Intake and exhaust manifolds - where applicable (see [Chapter 4](#)).

B. Timing belt or chains, sprockets and tensioner(s).

C. Cylinder head.

D. Flywheel/driveplate.

E. Oil pan.

F. Oil pump.

G. Piston/connecting rod assemblies ([Section 9](#)).

H. Crankshaft ([Section 10](#)).

6 Before beginning the disassembly and overhaul procedures, make sure that you have all of the correct tools necessary. Refer to *“Tools and working facilities”* for further information.

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