

**Haynes**
shows you how

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

Specifications

General

Engine code

1992 through 1995	M42
1996 on	M44

Displacement

M42	109.6 cubic inches (1.8 liters)
M44	115.6 cubic inches (1.9 liters)

Direction of engine rotation

Clockwise (viewed from front of vehicle)

No. 1 cylinder location

Timing chain end of engine

Firing order

1-3-4-2

Compression ratio

10.0 : 1

Minimum compression pressure

142 to 156 psi

Camshafts

Endplay	0.0025 to 0.0059 inch
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Oil clearance

M42 engine	0.0008 to 0.0024 inch
M44 engine	0.0016 to 0.0032 inch

Lubrication system

Minimum oil pressure at idle speed	18 psi
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Oil pressure relief valve spring free-length	3.31 inches
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Oil pump rotor clearances:

Outer rotor-to-pump body	0.005 to 0.008 inch
Outer rotor-to-inner rotor	0.005 to 0.008 inch
Rotor endplay	0.008 to 0.0035 inch

Ft-lbs (unless otherwise indicated)

Torque specifications

Main bearing cap bolts

- Step 1 15
- Step 2 Tighten an additional 50-degrees

Cylinder head bolts*

- Step 1 22
- Step 2 Tighten an additional 90-degrees
- Step 3 Tighten an additional 90-degrees

Valve cover bolts 79 in-lbs

Upper and lower timing chain cover bolts 79 in-lbs

Crankshaft rear oil seal housing bolts 79 in-lbs

Flywheel bolts* 89

Crankshaft vibration damper/pulley-to-hub bolts 16

Crankshaft pulley hub/sprocket bolt* 244

Connecting rod bearing cap bolts*

- Step 1 15
- Step 2 Tighten an additional 70-degrees

Camshaft bearing cap nuts 11

Camshaft sprocket bolts 11

Timing chain tensioner cover plug 18

Oil pump cover 79 in-lbs

Front subframe bolts* 77

*Use new bolts