

**Haynes**
shows you how

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

Specifications

General

Engine code

1995 and earlier	M50 B25
1996 on	M52 B28

Displacement

1995 and earlier	152.2 cubic inches (2.5 liters)
1996 on	170.3 cubic inches (2.8 liters)

Direction of engine rotation

Clockwise (viewed from front of vehicle)

No. 1 cylinder location

Timing chain end

Firing order

1-5-3-6-2-4

Compression ratio

1992	10.0:1
1993 thru 1995	10.5:1
1996 on	10.2:1

Minimum compression pressure

142 to 156 psi

Camshafts

Endplay

0.0008 to 0.0021 inch

Oil clearance

0.006 to 0.013 inch

Lubrication system

Minimum oil pressure at idle speed

7 psi

Oil pressure relief valve spring free-length

3.31 inches

Oil pump rotor clearance

Outer rotor-to-pump body	0.004 to 0.007 inch
Outer rotor-to-inner rotor	0.004 to 0.007 inch

Rotor endplay

0.002 to 0.003 inch

Ft-lbs (unless otherwise indicated)

Torque specifications

Main bearing cap bolts*

1995 and earlier

Step 1

15

Step 2

Tighten an additional 50-degrees

1996 on

Step 1

15

Step 2

Tighten an additional 70-degrees

Cylinder head bolts*

1995 and earlier

Step 1

22

Step 2

Tighten an additional 90-degrees

Step 3

Tighten an additional 90-degrees

1996 on

Step 1

30

Step 2

Tighten an additional 90-degrees

Step 3

Tighten an additional 90-degrees

Valve cover bolts

86 in-lbs

Upper and lower timing chain cover nuts and bolts

M6 nuts/bolts

79 in-lbs

M8 nuts/bolts

16

M10 nuts/bolts

35

Crankshaft rear oil seal housing bolts

M6 bolts

79 in-lbs

M8 bolts

16

Flywheel bolts*

89

Crankshaft vibration damper/pulley-to-hub bolts

16

Crankshaft pulley hub bolt*

300

Connecting rod bearing cap bolts*

Step 1

15

Step 2

Tighten an additional 70-degrees

Camshaft bearing cap nuts

11

Camshaft sprocket nuts/bolts

Step 1

4

Step 2

16

Primary timing chain tensioner cover plug	28
VANOS solenoid valve	22
Oil feed pipe to VANOS adjustment unit	24
VANOS oil feed pipe to oil filter housing	37
Oil pump bolts	
M6 bolts	79 in-lbs
M8 bolts	16
Oil pump cover	79 in-lbs
Oil pump sprocket nut	18
Oil filter housing-to-cylinder block bolts	16
Front subframe bolts*	77

**Use new bolts*

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