5.4L DOHC ENGINE MECHANICAL SPECIFICATIONS

Description	English Specifications	Metric Specifications
Cylinder Head and Valve Train		
Valve guide bore diameter	0.3443-0.3433 in.	8.745-8.720
Valve seat width		
Intake	0.074-0.083 in.	1.9-2.1mm
Exhaust	0.074-0.083 in.	1.9-2.1mm
Valve seat angle	45 degrees	
Valve seat run-out	0.00094 in.	0.025mm
Valve stem-to-guide clearance		
Intake	0.00078-0.00272 in.	0.020-0.069mm
Exhaust	0.018-0.0037 in.	0.046-0.095mm
Valve guide inner diameter	0.2773-0.2762	7.044-7.015mm
Valve head diameter		
Intake	1.75 in.	44.5mm
Exhaust	1.34 in.	34.0mm
Valve face run-out limit	0.001 in.	0.05mm
Valve face angle	45.25-45.75 degrees	
Valve stem diameter		
Intake	0.275-0.2746 in.	6.995-6.975mm
Exhaust	0.274-0.2736 in.	6.970-6.949mm
Free length		
Intake	1.976 in.	50.2mm
Exhaust	1.976 in.	50.2mm
Valve spring assembled length	1.566-1.637 in.	39.8-41.6mm
Rocker arm ratio	1.75:1	
Valve tappet diameter	0.63-0.629 in.	16.0-15.98mm
Valve tappet-to-bore clearance	0.00071-0.00272 in.	0.018-0.069mm
Valve tappet service limit	0.00063 in.	0.016mm
Valve tappet leakdown rate	5-25 seconds	
Valve tappet collapsed tappet gap (desired)	0.0335-0.0177 in.	0.85-0.45mm
Camshaft		
Lobe lift		
Intake	0.2594 in.	6.59mm
Exhaust	0.2594 in.	6.59mm
Lobe wear limit (all)	0.005 in.	0.127mm
Theoretical valve lift @ zero lash (all)	0.472 in.	12.0mm
End-play	0.00098-0.0065 in.	0.027-0.190mm
End-play wear limit	0.0075 in.	0.025-0.076mm
Bearing-to-journal clearance	0.00098-0.003 in.	0.025-0.076mm
Bearing-to-journal clearance service limit	0.003 in.	0.076mm
Journal diameter	1.061-1.060 in.	26.962-26.936mm
Bearing journal inside diameter	1.063-1.0625 in.	27.012-26.987mm
Run-out	0.004 in.	0.09mm
Cylinder Block		
Cylinder bore diameter		
Grade 1	3.5512-3.5516 in.	90.20-90.21mm
Grade 2	3.5516-3.5520 in.	90.21-90.22mm
Grade 3	3.5520-3.5524 in.	90.22-90.23mm
Out-of-round	0.0006 in.	0.015mm
Out-of-round (service limit)	0.00079 in.	0.020mm
Taper limit	0.00023 in.	0.006mm
Main bearing bore	2.85-2.851 in.	72.400-72.424mm
Crankshaft		
Main bearing journal diameter	2.65-2.657 in.	67.483-67.503mm
Main bearing journal taper	0.0007 in.	0.02mm
Main bearing journal run-out	0.002 in.	0.05mm
Main bearing-to-crankshaft clearance	0.0011-0.0026 in.	0.027-0.065mm
Bearing wall thickness	0.095-0.10 in.	2.436-2.545mm
Connecting rod bearing journal diameter	2.087-2.867 in.	52.988-53.003mm
Crankshaft free end-play	0.130-0.301 in.	0.075-0.377mm
Crankshaft runout-to-rear face of the block	0.002 in.	0.05mm
Connecting Rod		
Connecting rod bearing-to-crankshaft clearance	0.001-0.0027 in.	0.027-0.069mm
Connecting rod bearing wall thickness	0.096-0.0965 in.	2.444-2.452mm
Connecting rod main bearing bore diameter	2.234-2.24 in.	56.756-56.876mm
Connecting rod length (center-to-center)	6.65 in.	169.1mm
Connecting rod-to-crank side clearance (standard)	0.0006-0.0177 in.	0.015-0.45mm
Connecting rod-to-crank side clearance (maximum)	0.02 in.	0.5mm
Connecting rod main bearing journal taper	0.0005 in.	0.015 mm
Pistons		
Piston diameter	3.550 in.	90.180mm +/- 0.005mm
Piston-to-bore clearance	0.0005-0.001 in.	0.012-0.026mm