4.6L ENGINE MECHANICAL SPECIFICATIONS

Description	English Specifications	Metric Specifications
Connecting Rod (cont'd)		
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		
Coded red	3.550-3.551 in.	90.177-90.197mm
Coded blue	3.5507-3.5515 in.	90.190-90.210mm
Coded yellow	3.5513-3.5521 in.	90.203-90.223mm
Piston-to-bore clearance	0.0005-0.001 in.	0.012-0.026mm
Piston pin bore diameter	0.864-0.865 in.	21.959-21.979mm
Piston pin bore length	2.44-2.443 in.	61.93-62.05mm
Piston pin-to-rod clearance	0.0006-0.00157 in.	0.015-0.040mm
Piston pin-to-piston clearance	0.0002-0.0004 in.	0.005-0.010mm
Piston ring side clearance		
Upper compression ring	0.0016-0.0035 in.	0.040-0.090mm
Lower compression ring	0.0012-0.0031 in.	0.030-0.080mm
Oil control ring	0.05 in.	1.25mm
Piston ring groove width		
Upper compression ring	0.060-0.0610 in.	1.530-1.550mm
Lower compression ring	0.060-0.0602 in.	1.520-1.530mm
Oil control ring	0.2750-0.2844 in.	6.996-7.224mm
Piston ring gap		
Upper compression ring	0.01-0.02 in.	0.23-0.49mm
Lower compression ring	0.01-0.02 in.	0.23-0.49mm
Oil control ring	0.006-0.026 in.	0.15-0.66mm
Oil Pump		
Oil pump gear radial clearance (idler and drive)	0.0055-0.002 in.	0.125-0.050mm
Oil pump gear end height (extends below the housing)	0.0033-0.0004 in.	0.085-0.010mm

5.4L SOHC ENGINE MECHANICAL SPECIFICATIONS

Description	English Specifications	Metric Specifications
General Information		
Type	Liquid Cooled, Overhead Camshaft	
Displacement	330 cid	5.4L
Number of cylinders	8	
Bore	3.55 in.	90.2mm
Stroke	4.17 in.	105.8mm
Compression ratio	9.0:1	
Firing order	1-3-7-2-6-5-4-8	
Oil Pressure	40-70 psi @ 1500 RPM (engine hot)	
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