

4.6L ENGINE MECHANICAL SPECIFICATIONS

Description	English Specifications	Metric Specifications
Cylinder Block		
Cylinder bore diameter		
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.	72.402-72.422mm
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	0.075-0.076 in.	1.920-1.928mm
Connecting rod bearing journal diameter	2.087-2.867 in.	52.988-53.003mm
Crankshaft free end-play	0.130-0.301 in.	0.0051-0.012mm
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)	5.93 in.	150.7mm
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