5.8L ENGINE MECHANICAL SPECIFICATIONS

Description	English Specifications	Metric Specifications
6 Service limit: 10 percent loss pressure		
7 Service limit: 0.005 in. (0.127mm)		
8 Pin bushing and crankshaft bore must be parallel and in the same vertical plane with specified total difference when measured at the ends of an 8-inch long bar, 4 inches on each side of the rod centerline		
9 Measured at the piston pin bore centerline at 90 degrees to the pin		
10 Service limit: 0.002 in. (.0508mm) maximum increase in clearance		
11 Maximum allowable lift loss: 0.005 in. (0.127mm)		
12 Service limit: 0.006 in. (0.1524mm)		
13 Camshaft journal runout: 0.005 in. (0.127mm) TIR maximum		
14 Distance in inches/millimeters that the front edge of the bearing is installed below the front face of the cylinder block		

6.8L ENGINE MECHANICAL SPECIFICATIONS

Description	English Specifications	Metric Specifications
General Information		
Type	Liquid Cooled, Overhead Camshaft	
Displacement	415 cid	6.8L
Number of cylinders	10	
Bore	3.55 in.	90.2mm
Stroke	4.17 in.	105.8mm
Compression ratio	9.0:1	
Firing order	1-6-5-10-2-7-3-8-4-9	
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
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.	0.190mm
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