Engine Mechanical Specifications LT1

Application	Specification	
	Metric	English
General Data		
Engine Type	V8	
Displacement	5.7L	350 CID
Bore	101.60 mm	4.000 in
Stroke	88.39 mm	3.480 in
Compression Ratio	10.4:1	
Firing Order	1-8-4-3-6-5-7-2	
Spark Plug Type	AC41-943	
Spark Plug Gap	1.24 mm	0.050 in
Spark Plug Torque	20 N·m	15 lb ft
Oil Pressure (Minimum Hot)	41.4 kPa at 1,000 engine RPM 124.1 kPa at 2,000 engine RPM 165.4 kPa at 4,000 engine RPM	6.0 psig at 1,000 engine RPM 18.0 psig at 2,000 engine RPM 24.0 psig at 4,000 engine RPM
Oil Filter Torque	20 N·m	15 lb ft
Cylinder Bore		
Diameter	101.618-101.643 mm	4.0007-4.0017 in
Out-of-Round Production	0.02 mm (Maximum)	0.001 in (Maximum)
Out-of-Round Service Limit	0.05 mm (Maximum)	0.002 in (Maximum)
Taper Production Thrust Side	0.012 mm (Maximum)	0.0005 in (Maximum)
Taper Production Relief Side	0.025 mm (Maximum)	0.0010 in (Maximum)
Taper Service Limit	0.025 mm (Maximum)	0.0010 in (Maximum)
Piston		
Piston Bore Clearance-Production	0.025-0.068 mm	0.0010-0.0027 in
Piston Bore Clearance-Service Limit	0.068 mm	0.0027 mm

	(Maximum)	(Maximum)
Piston Rings		
Piston Compression Ring Groove Clearance-Production Top	0.050-0.090 mm	0.0019-0.0035 in
Piston Compression Ring Groove Clearance-Production 2nd	0.050-0.090 mm	0.0019-0.0035 in
Piston Compression Ring Groove Clearance-Service Limit	0.107 mm (Maximum)	0.0042 in (Maximum)
Piston Compression Ring Gap-Production Top	0.25-0.40 mm	0.010-0.016 in
Piston Compression Ring Gap-Production 2nd	0.46-0.66 mm (Maximum)	0.018-0.026 in (Maximum)
Piston Compression Ring Gap-Service Limit	0.88 (Maximum)	0.035 in (Maximum)
Piston Oil Ring Groove Clearance-Production	0.051-0.17 mm	0.002-0.007 in
Piston Oil Ring Groove Clearance-Service Limit	0.20 mm (Maximum)	0.008 in (Maximum)
Piston Oil Ring Gap-Production	0.25-0.76 mm	0.010-0.030 in
Piston Oil Ring Gap-Service Limit	1.65 mm (Maximum)	0.065 in (Maximum)
Piston Pin		
Diameter	23.545-23.548 mm	0.9270-0.9271 in
Clearance in Piston-Production	0.0120-0.0210 mm	0.0004-0.0008 in
Clearance in Piston-Service Limit	0.025 mm (Maximum)	0.0010 in (Maximum)
Fit in Connecting Rod	0.021-0.040 mm (Interference)	0.0008-0.0016 in (Interference)
Crankshaft		
Crankshaft Journal-Diameter #1	62.189-62.212 mm	2.4484-2.4493 in
Crankshaft Journal-Diameter #2, #3, #4	62.182-62.207 mm	2.4481-2.4491 in
Crankshaft Journal-Diameter #5	62.177-62.207 mm	2.4479-2.4491 in
Crankshaft Journal Taper-Production	0.005 mm (Maximum)	0.0002 in (Maximum)
Crankshaft Journal Taper-Service Limit	0.0025 mm (Maximum)	0.0001 in (Maximum)
Crankshaft Journal Out-of-Round-Production	0.005 mm (Maximum)	0.0002 in (Maximum)

Crankshaft Journal Out-of-Round-Service Limit	0.025 mm (Maximum)	0.0010 in (Maximum)
Crankshaft Bearing Clearance-Production #1	0.017-0.053 mm	0.0007-0.0021 in
Crankshaft Bearing Clearance-Production #2, #3, #4	0.022-0.061 mm	0.0009-0.0024 in
Crankshaft Bearing Clearance-Production #5	0.025-0.069 mm	0.0010-0.0027 in
Crankshaft Bearing Clearance-Service Limit #1	0.025-0.051 mm	0.0010-0.0020 in
Crankshaft Bearing Clearance-Service Limit #2, #3, #4	0.025-0.064 mm	0.0010-0.025 in
Crankshaft Bearing Clearance-Service Limit #5	0.038-0.076 mm	0.0015-0.0030 in
Crankshaft End Play	0.050-0.20 mm	0.002-0.008 in
Crankshaft Runout (At Rear Flange)	0.038 mm	0.0015 in
Connecting Rod		
Connecting Rod Journal Diameter	53.284-53.334 mm	2.0978-2.0998 in
Connecting Rod Journal Taper-Production	0.007 mm (Maximum)	0.0003 in (Maximum)
Connecting Rod Journal Taper-Service Limit	0.025 mm (Maximum)	0.0010 in (Maximum)
Connecting Rod Journal Out-of-Round-Production	0.007 mm (Maximum)	0.0003 in (Maximum)
Connecting Rod Journal Out-of-Round-Service Limit	0.025 mm (Maximum)	0.0010 in (Maximum)
Rod Bearing Clearance-Production	0.033-0.088 mm	0.0013-0.0035 in
Rod Bearing Clearance-Service Limit	0.025-0.076 mm	0.0010-0.0030 in
Rod Side Clearance	0.16-0.35 mm	0.006-0.024 in
Camshaft		
Journal Diameter	47.440-47.490 mm	1.8677-1.8697 in
End Play	0.11-0.30 mm	0.004-0.012 in
Lobe Lift	±0.050 mm	±0.002 in
Lobe Lift Intake	7.57 mm	0.298 in
Lobe Lift Exhaust	7.77 mm	0.306 in
Valve System		
Valve Lifter	Hydraulic	
Valve Rocker Arm Ratio	1.50:1	

Valve Lash	**1 ±¼ turn from zero lash**	
Face Angle	**45 degrees**	
Seat Angle (Cylinder Head)	**46 degrees**	
Seat Runout (Cylinder Head)	**0.05 mm (Maximum)**	**0.002 in (Maximum)**
Seat Width Intake (Cylinder Head)	**0.76-1.27 mm**	**0.030-0.050 in**
Seat Width Exhaust (Cylinder Head)	**1.52-2.03 mm**	**0.060-0.080 in**
Stem Clearance Production Intake	**0.025-0.069 mm**	**0.0010-0.0027 in**
Stem Clearance Production Exhaust	**0.025-0.069 mm**	**0.0010-0.0027 in**
Stem Clearance Service Limit Intake	**0.093 mm (Maximum)**	**0.0037 in (Maximum)**
Stem Clearance Service Limit Exhaust	**0.119 mm (Maximum)**	**0.0047 in (Maximum)**
Valve Spring Free Length	**51.3 mm**	**2.02 in**
Valve Spring Pressure Closed	**360-396 N at 45.2 mm**	**81-89 lb at 1.78 in**
Valve Spring Pressure Open	**1090-1179 N at 33.8 mm**	**245-265 lb at 1.33 in**
Valve Spring Installed Height Intake	**45.2 mm**	**1.78 in**
Valve Spring Installed Height Exhaust	**45.2 mm**	**1.78 in**
Valve Lift Intake	**11.36 mm**	**0.447 in**
Valve Lift Exhaust	**11.66 mm**	**0.459 in**
Cylinder Head Intake Manifold Surface Flatness (measured within a 152.4 mm (6.00 in) area)	**0.10 mm**	**0.004 in**
Cylinder Head Deck Surface Flatness	**0.102 mm**	**0.004 in**
Cylinder Head Exhaust Manifold Surface Flatness (measured within a 152.4 mm (6.00 in) area)	**0.10 mm**	**0.004 in**