

SPECIFICATIONS

GENERAL SPECIFICATIONS

Item	Specification
Lubricants and Sealers	
Super Duty SAE 15W40 Engine Oil XO-15W40-QSD	WSS-M2C171-B
Heavy Truck PAG Refrigerant Compressor Oil F4HZ-19577-A	WST-M1C231-B2
High Temperature Nickel Anti-Seize Lubricant XL-2	ESE-M12A4-A
Multi-Purpose Grease D0AZ-19584-AA	ESB-M1C93-B
Rust Penetrant and Inhibitor F2AZ-19A501-A	ESR-M99C56-A
Threadlock 262 E2FZ-19554-B	WSK-M2G351A6
Silicone Brake Caliper Grease and Dielectric Compound D7AZ-19A331-A	XG-3
Perfect Seal Sealing Compound F2AZ-19554-AA	ESR-M18P2-A and ESE-M4G115-A
Pipe Sealant with Teflon D8AZ-19554-A	WSK-M2G350-A2
RTV Silicone Sealant F5TZ-19G204-AB	NAVSTR D15-5012 Type 11
General Specifications - Engine	
Displacement	6.0 Liter (365 cubic inch)
Number of Cylinders	8
Bore	95 mm (3.74 in)
Stroke	105 mm (4.13 in)
Firing order	1-2-7-3-4-5-6-8
Oil pressure	low, min. @ 110C (230F) oil temp , 69 kPa (10 psi)
Oil pressure	high, min. @ 110C (230F) oil temp, 276 kPa (40 psi)
Oil capacity	15.1 liters (16 quarts) with filter
Compression ratio	18.0:1
Cylinder head and valve train	
Cylinder head gasket surface flatness	0.05 mm (0.002 in) per 51 mm (2 in) 0.10 mm (0.004 in) per total surface area
Cylinder head thickness	95 mm (3.74 in)
Combustion chamber volume	-
Valve arrangement (front to rear)	-
Valve guide bore diameter	7.003-7.029 mm (0.276-0.277 in)
Valve stem diameter	6.947-6.965 mm (0.2735-0.272 in)
Valve stem-to-guide clearance	0.140 mm (0.0055 in) maximum
Valve head diameter	-
Valve face runout (T.I.R. max)	0.038 mm (0.015 in)
Valve face angle	Exhaust - 37.5 degrees
Valve face angle	Intake- 30 degrees
Valve seat width	Exhaust- 1.80-2.56 mm (0.071-0.101 in)

Valve seat width	Intake- 1.48 - 2.24 mm (0.058 - 0.088 in)
Valve seat runout	0.0035 mm (0.0014 in)
Valve seat angle	Exhaust- 37.5 degrees
Valve seat angle	Intake- 30 degrees
Valve spring free length	51.96 mm (2.045 in)
Valve spring solid height	36.1 mm (1.42 in)
Valve spring compression pressure	46.30 mm @ 340 +/- 17 N (1.82 in 76.5 +/- 3.8 lb-ft)
Valve spring installed height	-
Valve spring installed pressure	-
Roller follower ratio	-
Hydraulic lash adjuster	
Diameter	-
Clearance-to-bore	-
Service limit	-
Hydraulic leakdown rate	-
Collapsed lash adjuster gap	-
Camshaft	
Gear backlash	0.179 - 0.315 mm (0.007 - 0.012 in)
Lobe lift	Intake- 5.744 mm (0.2261 in)
Lobe lift	Exhaust- 5.832 mm (0.2296 in)
Allowable lobe lift loss	0.51 mm (0.02 in)
Journal diameter	61.987 - 62.013 mm (2.440 - 2.441 in)
Camshaft journal bearing inside diameter	62.05 - 62.14 mm (2.443 - 2.446 in)
Camshaft journal-to-bearing clearance	0.037 - 0.153 mm (0.0015 - 0.0060 in)
Runout	-
End play	0.051 - 0.211 mm (0.002 - 0.008 in)
Cylinder block	
Cylinder bore diameter	94.999 - 95.001 mm (3.7401 - 3.7402 in)
Cylinder bore maximum taper	0.076 mm (0.003 in)
Cylinder bore maximum out of round	0.05 mm (0.002 in)
Main bearing bore inside diameter	85.99 - 86.01 mm (3.3854 - 3.3862 in)
Camshaft bearing bore inside diameter	65.98 - 66.02 mm (2.597 - 2.599 in)
Head gasket surface flatness	Per 50 mm (2 in): 0.025 mm (0.001 in)
Crankshaft	
Main bearing journal diameter- Standard size	80.9873 - 81.0127 mm (3.188 - 3.150 in)
Main bearing journal diameter- 0.254 mm (0.010 in) undersize	80.7333 - 80.7587 mm (3.178 - 3.140 in)
Main bearing journal diameter- 0.508 mm (0.020 in) undersize	80.4793 - 80.5047 mm (3.168 - 3.130 in)
Main bearing journal diameter- 0.762 mm (0.030 in) undersize	80.2253 - 80.2507 mm (3.158 - 3.120 in)
Main bearing journal maximum taper	-
Main bearing journal maximum out-of-round	-
Main bearing journal-to-cylinder block clearance	-

Connecting rod journal diameter	-
Connecting rod journal maximum taper	-
Connecting rod journal maximum out-of-round	-
Crankshaft maximum end play	0.222 mm (0.0087 in)
Piston and connecting rod	
Piston diameter- Standard size	94.9460 - 94.9186 mm (3.737 - 3.738 in)
Piston diameter- 0.254 mm (0.010 in) oversize	95.1738 - 95.1992 mm (3.747 - 3.748 in)
Piston diameter- 0.508 mm (0.020 in) oversize	95.4278 - 95.4532 mm (3.757 - 3.758 in)
Piston diameter - 0.762 mm (0.030 in) oversize	95.6818 - 95.7072 mm (3.767 - 3.768 in)
Piston-to-cylinder bore clearance	0.0441 - 0.0909 mm (0.0017 - 0.036 in)
Piston ring end gap- top compression	0.29 - 0.55 mm (0.011 - 0.021 in)
Piston ring end gap- intermediate compression	1.40 - 1.66 mm (0.55 - 0.65 in)
Piston ring end gap- oil control	0.24 - 0.50 mm (0.009 - 0.019 in)
Piston ring groove width (measured over 2.03 mm (0.08 in) gauge pins)	Upper limit- 94.030 mm (3.702 in)
Piston ring groove width (measured over 2.03 mm (0.08 in) gauge pins)	Replacement limit -93.854 mm (3.695 in)
Piston ring width	-
Piston ring-to-groove clearance	-
Piston pin bore diameter	-
Piston pin diameter	33.9975 - 34.0025 mm (1.3385 - 1.3387 in)
Piston pin length	65.073 - 65.327 mm (2.5619 - 2.5719 in)
Piston pin-to-piston fit	0.013 - 0.022 mm (0.0005 - 0.0009 in)
Connecting rod-to-pin clearance	-
Connecting rod pin bore diameter	-
Connecting rod length (center to center)	176 mm (6.929 in)
Connecting rod maximum allowed bend	-
Connecting rod maximum allowed twist	-
Connecting rod bearing bore diameter	72.987 - 73.013 mm (2.8735 - 2.8745 in)
Connecting rod bearing-to-crankshaft clearance	-
Connecting rod side clearance	-
Exhaust manifold warpage - maximum allowable clearance (cold)	0.0762 mm (0.003 in)
Intake manifold warpage - between ports	0.13 mm (0.005 in)
Intake manifold warpage - total	0.25 mm (0.10 in)
Oil pump end clearance (inner and outer rotor to housing)	0.02 - 0.08 mm (0.001 - 0.003 in)
Oil pump radial clearance (between outer rotor and housing)	0.71 - 0.81 mm (0.028 - 0.032 in)
Vibration damper mounting area runout (max)	0.05 mm (0.002 in)
Push rod runout (max)	0.25 mm (0.01 in)
High pressure oil pump gear backlash	0.179 - 0.315 mm (0.007 - 0.0214 in)