

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

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Application	Specification
Displacement	256 Cu. In. (4.2L)
Bore	3.81" (96.8 mm)
Stroke	3.74" (95.0 mm)
Compression Ratio	
Except 2001 Van	9.17:1
2001 Van	9.26:1
Fuel System	SFI

CRANKSHAFT, MAIN BEARINGS & CONNECTING ROD BEARINGS

CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS

Application	In. (mm)
Crankshaft	
End Play	.00003-.0787 (.007-.200)
Main Bearings	
Journal Diameter	2.5190-2.5198 (63.983-64.003)
Journal Out-Of-Round	.0012 (.030)
Journal Taper	.0006 (.016)
Journal Runout	.002 (.05)
Oil Clearance	.0011-.0026 (.028-.066)
Connecting Rod Bearings	
Journal Diameter	2.3103-2.3111 (58.682-58.702)
Journal Out-Of-Round	.0012 (.030)
Journal Taper	.0006 (.016)
Oil Clearance	.0011-.0027 (.028-.069)

CONNECTING RODS

CONNECTING RODS

Application	Specification
Bore Diameter	
Pin Bore	N/A
Crankpin Bore	2.4266-2.4273" (61.636-61.653 mm)
Center-To-Center Length	N/A
Maximum Bend	.0015" Per 1.97" (.038 mm Per 25 mm)
Maximum Twist	.0015" Per 1.97" (.040 mm Per

	25 mm)
Side Play	
Standard	.004-.014" (.10-.36 mm)
Service Limit	.005-.019" (.11-.49 mm)

PISTONS, PINS & PISTON RINGS

PISTONS, PINS & RINGS

Application	In. (mm)
Pistons	
Clearance	.0007-.0017 (.018-.044)
Diameter	3.8108 (96.794)
Pins	
Diameter	.9055-.9056 (23.000-23.002)
Length	N/A
Piston Fit	N/A
Rod Fit	N/A
Rings	
End Gap	
No. 1	.007-.013 (.17-.33)
No. 2	.01-.02 (.3-.55)
No. 3	.006-.026 (.15-.65)
Side Clearance	.0012-.0031 (.030-.080)

CYLINDER BLOCK

CYLINDER BLOCK

Application	In. (mm)
Cylinder Bore	
Standard Diameter	3.81 (96.800)
Maximum Taper	.002 (.05)
Maximum Out-Of-Round	.002 (.05)
Maximum Deck Warpage ⁽¹⁾	.003 (.08)
(1) Specification is within a 6" (152 mm) area. Overall warpage is .006" (.15 mm). DO NOT machine more than .010" (.25 mm) from original gasket surface.	

ENGINE VALVES & VALVE SPRINGS

VALVES & VALVE SPRINGS

Application	Specification
Face Angle	45°
Face Runout	N/A
Head Diameter	N/A
Stem Diameter	
Intake	.3415-.3423" (8.674-8.694 mm)

Exhaust	.3410-.3418" (8.661-8.682 mm)
Valve Margin	.031" (.79 mm)
Valve Springs	
Free Length	
Intake	1.99" (50.5 mm)
Exhaust	1.99" (50.5 mm)
Installed Height	1.567-1.638" (39.8-41.6 mm)
Out-Of-Square	2 Degrees
	Ft. Lbs. @ In. (N.m @ mm)
Pressure	277 @ 1.65 (375 @ 41.9)

CYLINDER HEAD

CYLINDER HEAD

Application	Specification
Maximum Warpage ⁽¹⁾	.003" (.08 mm)
Valve Seats	
Seat Angle	44.75°
Seat Width	.06-.08" (1.5-2.0 mm)
Maximum Seat Runout	.001" (.025 mm)
Valve Guides	
Intake Valve	
Valve Guide Bore I.D.	.3433-.3443" (8.720-8.745 mm)
Valve Stem-To-Guide Oil Clearance	.0007-.0027" (.020-.069 mm)
Exhaust Valve	
Valve Guide Bore I.D.	.3433-.3443" (8.720-8.745 mm)
Valve Stem-To-Guide Oil Clearance	.002-.004" (.045-.095 mm)
(1) Specification listed is within 6" (152 mm). Overall warpage is .006" (.15 mm). DO NOT machine more than .010" (.25 mm) from original gasket surface.	

CAMSHAFT

CAMSHAFT

Application	In. (mm)
Bearing I.D. Diameter	N/A
End Play	.001-.006 (.03-.15)
Journal Diameter	2.0515-2.0505 (52.108-52.083)
Journal Runout	.002 (.05)
Lobe Lift	
Intake	.245 (6.22)
Exhaust	.259 (6.58)
Lobe Wear Limit	.005 (.13)

Oil Clearance

.0006-.0010 (.015-.025)