

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

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Application	Specification
Displacement	330 Cu. In. (5.4L)
Bore	3.55" (90.2 mm)
Stroke	4.17" (105.8 mm)
Fuel System	SFI
Compression Ratio	9.0:1

CRANKSHAFT, MAIN BEARINGS & CONNECTING ROD BEARINGS SPECIFICATIONS

CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS

Application	In. (mm)
Crankshaft End Play	.003-.015"(.08-.38)
Main Bearings	
Journal Diameter	2.6568-2.6576 (67.483-67.503)
Journal Out-Of-Round	.0003 (.008)
Journal Taper	.0002 (.004)
Oil Clearance	.0009-.0019 (.024-.048)
Connecting Rod Bearings	
Journal Diameter	2.0876-2.1060 (53.027-53.049)
Journal Out-Of-Round	.0003 (.008)
Journal Taper	.0002 (.005)
Oil Clearance	.0010-.0025 (.025-.064)

PISTONS, PISTON PINS & PISTON RINGS SPECIFICATIONS

PISTONS, PINS & RINGS

Application	In. (mm)
Pistons	
Clearance	
Van	.0008-.0012 (.020-.030)
Pickup	.0008-.0018 (.020-.045)
Lightning	-.0002-.0100 (-.005-.025)
Diameter	
Code 1	(1)
Code 2	3.5502-3.5506 (90.175-90.185)
Code 3	(1)
Pins	
Diameter	
Van	.8662-.8663 (22.003-22.005)

Pickup	.8658-.8659 (21.9915-21.9935)
Lightning	.8661-.8662 (22.0005-22.0030)
Pin-To-Piston Clearance	
Lightning	.0002-.0005 (.005-.014)
Except Lightning	.0002-.0004 (.005-.010)
Rod Fit	
Van	.0002-.0006 (.005-.014)
Pickup	.0007-.0127 (.019-.325)
Lightning	.0004-.0009 (.009-.024)
Rings	
No. 1	
End Gap	.005-.011 (.13-.28)
Side Clearance	(1)
No. 2	
End Gap	.010-.016 (.25-.40)
Side Clearance	(1)
No. 3 (Oil)	
End Gap (Steel Rail)	(1)
Side Clearance	.006-.026 (.15-.66)
(1) Information is unavailable from manufacturer.	

CONNECTING RODS SPECIFICATIONS

CONNECTING RODS

Application	In. (mm)
Bore Diameter	
Piston Pin Bore	
Van	.8664-.8666 (22.008-22.014)
Pickup	.8660-.8662 (21.999-22.004)
Lightning	.8666-.8670 (22.012-22.024)
Crankpin Bore	2.0877-2.0885 (53.027-53.049)
Center-To-Center Length	6.657 (169.10)
Maximum Bend ⁽¹⁾	.0015 (.038)
Maximum Twist ⁽¹⁾	.0020 (.050)
Side Play	
Standard	.0049-.0187 (.125-.475)
Service Limit	.019 (.48)
(1) Measured from bore-to-bore.	

CYLINDER HEAD SPECIFICATIONS

CYLINDER HEAD

Application	Specification
Maximum Warpage	(1) .004" (.10 mm)
Intake & Exhaust Valve Seats	
Seat Angle	44.5-45.0°
Seat Width	
Intake	
Van	.075-.082" (1.9-2.1 mm)
Pickup	.05-.06" (1.3-1.5 mm)
Exhaust	.075-.082" (1.9-2.1mm)
Maximum Seat Runout	.001" (.025 mm)
Valve Guides	
Valve Stem-To-Guide Oil Clearance	
Intake Valve	.0008-.0027" (.020-.069 mm)
Exhaust Valve	.0018-.0037" (.046-.094 mm)
(1) If maximum warpage is exceeded, replace cylinder head.	

BALANCE SHAFT SPECIFICATIONS

BALANCE SHAFT

Application	In. (mm)
Bearing Bore Diameter	1.0625-1.0635 (26.987-27.012)
End Play	.001-.007 (.03-.19)
Journal Diameter	1.0605-1.0615 (26.936-26.962)
Oil Clearance	.0010-.0030 (.025-.080)
Gear Backlash	.0003-.0051 (.008-.130)

CAMSHAFT SPECIFICATIONS

CAMSHAFT

Application	In. (mm)
Bearing Bore Diameter	1.0625-1.0635 (26.987-27.012)
End Play	.001-.007 (.03-.19)
Journal Diameter	1.0605-1.0615 (26.936-26.962)
Lobe Lift	
Intake	
Van	.259 (6.58)
Pickup	.280 (7.11)
Exhaust	
Van	.259 (6.58)
Pickup	.295 (7.50)
Oil Clearance	.001-.003 (.03-.08)

CYLINDER BLOCK SPECIFICATIONS

CYLINDER BLOCK

Application	In. (mm)
Cylinder Bore	
Standard Diameter	
Grade 1	3.5512-3.5516 (90.200-90.210)
Grade 2	3.5516-3.5520 (90.210-90.220)
Grade 3	3.5520-3.5524 (90.220-90.230)
Maximum Taper	(1)
Maximum Out-Of-Round	(1)
Maximum Deck Warpage	(1)
(1) Information is unavailable from manufacturer.	

ENGINE VALVES & VALVE SPRINGS SPECIFICATIONS

VALVES & VALVE SPRINGS

Application	Specification
Valves	
Intake	
Face Angle	45.25-45.75°
Head Diameter	1.747-1.757" (44.37-44.63 mm)
Minimum Margin	.031" (.80 mm)
Stem Diameter	.2746-.2754" (6.975-6.995 mm)
Valve Face Runout	.002" (.05 mm)
Exhaust	
Face Angle	45.25-45.75°
Head Diameter	1.334-1.343" (33.88-34.12 mm)
Minimum Margin	.031" (.80 mm)
Stem Diameter	.2736-.2744" (6.949-6.970 mm)
Valve Face Runout	.002" (.05 mm)
Valve Springs	
Free Length	
Van	1.976" (50.20 mm)
Pickup	2.101" (53.37 mm)
Out-Of-Square	
Van & Lightning	2.0°
Pickup	2.5°
Lbs. @ In. (kg @ mm)	
Pressure	

Valve Closed	65 @ 1.57 (29.5 @ 40.0)
Valve Open	150 @ 1.10 (68.0 @ 28.0)