




Kohler Magnum - Single Cylinder Engine Specifications & Tolerances

All dimensions in inches.

Model (Horsepower)		M8 (8)	M10 (10)	M12 (12)	M14 (14)	M16 (16)	
General	Bore x Stroke	2.94 x 2.75	3.25 x 2.88	3.38 x 3.25	3.500 x 3.25	3.750 x 3.25	
	Displacement Cu. In.	18.64	23.85	29.07	31.27	35.90	
	Max. Operating RPM	3600	3600	3600	3600	3600	
Balance Gear	Shaft O.D.	New	-	.4998/.5001	.4998/.5001	.4998/.5001	
		Max Wear Limit	-	.4996	.4996	.4996	.4996
	End Play	-	.002/.010	.002/.010	.002/.010	.002/.010	
Camshaft	End Play	.005/.010	.005/.010	.005/.010	.005/.010	.005/.010	
Connecting Rod	Running Clearance	Rod to Crankpin (New)	.001/.002	.001/.002	.001/.002	.001/.002	.001/.002
		Rod to Crankpin - Max. Wear Limit	.0025	.0025	.0025	.0025	.0025
		Rod to Piston Pin (New)	.0006/.0011	.0003/.0008	.0003/.0008	.0003/.0008	.0003/.0008
	Small End I.D. (New)	.6255/.6258	.8596/.8599	.8757/.8760	.8757/.8760	.8757/.8760	
Crankshaft	Main PTO & Flywheel End O.D.	New	1.1811/1.1814	1.5745/1.5749	1.5745/1.5749	1.5745/1.5749	1.5745/1.5749
		Max. Wear Limit	1.1811	1.5745	1.5745	1.5745	1.5745
	Crankpin	New - O.D.	1.1860/1.1855	1.5000/1.4995	1.5000/1.4995	1.5000/1.4995	1.5000/1.4995
		Max. Wear Limit	1.1850	1.4990	1.4990	1.4990	1.4990
		Max. Out of Round	.0005	.0005	.0005	.0005	.0005
		Max. Taper	.001	.001	.001	.001	.001
	End Play	.002/.023	.003/.020	.003/.020	.003/.020	.003/.020	
Cylinder Bore	Inside Diameter	New	2.9380/2.9370	3.2515/3.2505	3.3755/3.3745	3.5005/3.4995	3.7505/3.7495
		Max. Wear Limit	2.941	3.254	3.378	3.503	3.753
	Max. Out of Round (I.D.)	.005	.005	.005	.005	.005	
	Max. Taper (I.D.)	.003	.002	.002	.002	.002	
Cylinder Head	Max. Out of Flatness	.003	.003	.003	.003	.003	
Spark Plug	Type <sup>2</sup>	RCJ-8	RH-10	RH-10	RH-10	RH-10	

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Ignition		Gap	.025	.025	.025	.025	.025
Module Air Gap			.012/.016	.012/.016	.012/.016	.012/.016	.012/.016
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All Pistons	Service Replacement Sizes		.003 - .010 - .020 - .030				
 Piston	Thrust Face O.D. <sup>3</sup>	New	2.9297/2.9281	3.2432/3.2413	3.368/3.365	3.4941/3.4925	-
		Max. Wear Limits	2.925	3.238	3.363	3.491	-
	Thrust Face to Bore Clearance (New) <sup>1</sup>		.007/.010	.007/.010	.007/.010	.007/.010	-
	Ring End Gap	New Bore	.007/.017	.010/020	.010/.020	.010/.020	-
		Used Bore (Max.)	.027	.030	.030	.030	-
Max. Ring Side Clearance		.006	.006	.006	.006	-	
 Piston	Thrust Face O.D. <sup>4</sup>	New	-	-	-	-	3.7465/3.7455
		Max. Wear Limits	-	-	-	-	3.7435
	Thrust Face to Bore Clearance (New) <sup>1</sup>		-	-	-	-	.0030/.0050
	Ring End Gap	New Bore <sup>5</sup>	-	-	-	-	.010/020
		Used Bore (Max.) <sup>5</sup>	-	-	-	-	.030
Max. Ring side Clearance		-	-	-	-	.004	
 Piston	Thrust Face O.D. <sup>4</sup>	New	2.9329/2.9336	-	3.3700/3.3693	3.4945/3.4938	3.7433/3.7426
		Max. Wear Limits	2.9312	-	3.3673	3.4918	3.7406
	Thrust Face to Bore Clearance (New) <sup>1</sup>		.0034/.0051	-	.0045/.0062	.0050/0067	.0062/.0079
	Ring End Gap	New Bore <sup>5</sup>	.010/.023	-	.010/.020	.010/.020	.013/.025
		Used Bore (Max.) <sup>5</sup>	.032	-	.030	.030	.033
Max. Ring Side Clearance		.006	-	.006	.006	.004	
Piston Pin	Outside Diameter		.6247/.6249	.8591/.8593	.8752/.8754	.8752/.8754	.8752/.8754
	Guide Reamer Size		.3125	.3125	.3125	.3125	.3125
	Tappet Clearance (Cold)	Intake	.006/.008	.008/.010	.008/010	.008/.010	.008/.010
		Exhaust	.017/.019	.017/.019	.017/.019	.017/.019	.017/.019
		Intake	.010	.010	.010	.010	.010

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Valves	Minimum Lift (Zero Lash)	Intake	.2718	.318	.318	.318	.318
		Exhaust	.2482	.318	.318	.318	.318
	Minimum Valve Stem O.D.	Intake	.3103	.3103	.3103	.3103	.3103
		Exhaust	.3074	.3074	.3074	.3074	.3074
	Nominal Angle Valve seat		45°	45°	45°	45°	45°
	Guide I.D.Max. Wear Limit <sup>1</sup>	Intake	.006	.006	.006	.006	.006
		Exhaust	.008	.008	.008	.008	.008

<sup>1</sup>Subtract O.D. of inner part from I.D. of outer part.

<sup>2</sup>Champion spark plugs or equivalent.

<sup>3</sup>Measure just below oil ring and at right angles to piston pin.

<sup>4</sup>Measure 1/2" above the bottom of the piston skirt

<sup>5</sup>Top and center compression rings