


Magnum - Twin Cylinder Engine Specifications & Tolerances

All dimensions in inches.

Model (Horsepower)				MV16 (16)	M18 & MV18 (18)	M20 & MV20 (20)	
General	Bore x Stroke			3.125 x 2.750	3.125 x 2.750	3.125 x 3.062	
	Displacement Cu. In.			42.18	42.18	46.98	
	Max. Operating RPM			3600	3600	3600	
Camshaft	End Play			.003/.013	.003/.013	.003/.013	
Connecting Rod	Clearance	Rod to Crankpin (New)		.0012/.0024	.0012/.0024	.0012/.0024	
		Rod to Crankpin Wear Limit		.0029	.0029	.0029	
		Rod to Piston Pin (New)		.0006/.0011	.0006/.0011	.0006/.0011	
	Small End I.D. (New)			.6255/.6258	.6255/.6258	.7507/.7510	
Crankshaft	Main	PTO & Flywheel End O.D.	New	1.7412/1.7422	1.7412/1.7422	1.7412/1.7422	
			Max Wear Limit	1.7407	1.7407	1.7407	
		Max. Out of Round (Sleeve)		.0005	.0005	.0005	
		Max. Taper (Sleeve)		.001	.001	.001	
		Running Clearance (Sleeve)	Max New	.0049	.0049	.0049	
			Wear Limit ¹	.0059	.0059	.0059	
	New Sleeve Bearing I.D. Installed			1.7439/1.7461	1.7439/1.7461	1.7439/1.7461	
	Crankpin	New			1.3738/1.3733	1.3738/1.3733	1.4998/1.4993
		Max. Wear Limit			1.3728	1.3728	1.4988
		Max. Out of Round			.0005	.0005	.0005
Max. Taper			.001	.001	.001		
End Play			.002/.014	.002/.014	.002/.014		
Cylinder Bore	Inside Diameter	New		3.1255/3.1245	3.1255/3.1245	3.1255/3.1245	
		Max. Wear Limit		3.128	3.128	3.128	
	Max. Out of Round			.002	.002	.002	

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	Max. Taper		.0015	.0015	.0015	
Cylinder Head	Max. Out of Flatness		.003	.003	.003	
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Ignition	Spark Plug	Type ²	RV17C	RV17C	RV17C	
		Gap	.035	.035	.035	
	Modual Air Gap		.008/.012	.008/.012	.008/.012	
 Piston	Service Replacement Sizes		.003 - .010 - .020 - .030			
	Thrust Face O.D. ³	New	3.1210/3.1203	3.1210/3.1203	3.1215/3.1208	
		Max. Wear Limits	3.1181	3.1181	3.1186	
	Thrust Face to Bore Clearance (New) ¹		.0035/.0052	.0035/.0052	.0030/.0047	
	Ring End Gap	New Bore ⁴	.010/.023	.010/.023	.010/.023	
		Used Bore (Max.) ⁴	.032	.032	.032	
Max. Ring Side Clearance		.006	.006	.006		
Piston Pin	Outside Diameter		.6247/.6249	.6247/.6249	.7499/.7501	
Valves	Guide Reamer Size		.3125	.3125	.3125	
	Tappet Clearance (Cold)	Intake	.003/.006	.003/.006	.003/.006	
		Exhaust	Before Serial No. 181600646	.016/.019	.016/.019	.016/.019
			Serial No.18100656 to 1917809296	.011/.014	.011/.014	.011/.014
			After Serial No. 1917809296	.013/.016	.013/.016	.013/.016
	Minimum Lift (Zero Lash)	Intake	.274	.274	.274	
		Exhaust	.274	.274	.274	
	Minimum Valve Stem O.D.	Intake	.3103	.3103	.3103	
		Exhaust	.3088	.3088	.3088	
	Nominal Angle - Valve Seat	Serial No. 1816500646 & earlier	45°	45°	45°	
Serial No. 181650056 & later		30°	30°	30°		

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Guide I.D. Max. Wear Limit ¹	Intake	.005	.005	.005
	Exhaust	.007	.007	.007

¹Subtract O.D. of inner part from I.D. of outer part.

²Champion spark plugs or equivalent.

³Measure 1/2" above the bottom of the piston skirt.

⁴Top and center compression rings.