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Clearances *and* Limits Used in Assembly *of* Model A Engines

Size of Parts

Diameter of pistons..... 3.8745
Diameter of cylinder bore 3.876
Diameter of crankshaft main bearings..... . 1.624
Diameter of crankshaft pin bearings..... 1.499
Diameter of camshaft bearings 1.560

Shims .002 thick are placed between all main and connecting rod bearings after burnishing. This is for oil clearance.

Clearances

Piston clearance in cylinders—.002 maximum.
Piston ring gap—Lower ring—.008 to .010.
Piston ring gap—Center ring—.010 to .012.
Piston ring gap—Upper ring—.012 to .015.
Ring groove clearance—.001.
Piston pins are fitted in connecting rod bushings .0003 maximum.
Pin assembled in piston .0002 to .0005 shrink fit.
Pistons are assembled with split side of skirt toward left side of engine. Connecting rod side play at lower end of rod—.008 to .012.
Clearance between piston bosses at upper end—.040 to .053.
Connecting rod fitted to crankshafts .001 clearance.
Connecting rods are installed with oil dips toward camshaft.
Crankshaft end play—.002 to .004.
Main bearing clearance—.001.
Camshaft bearing clearance—.003 maximum.
Camshaft end play taken up by tension of spring in front cover—tension of spring, approximately 35 pounds.
Clearance between valves and push rods—.010 to .013.
Exhaust valves fitted in valve guides—.002 clearance.
Intake valves fitted in valve guides—.001 to .0015.
Valve lift—.287.
Push rod clearance—.0015.
Time gear backlash—.004.
End play of water pump shaft—.006 to .010.
Flywheel eccentricity and wobble (indicator reading) after mounting flywheel on C/S—not more than .005.
Breaker point gap—.018 to .022.
Spark plug gap—.035.
Free movement or end play in clutch pedal—1 inch minimum.

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