

Engine Block — Section 7

| | MEASUREMENT | STANDARD (NEW) | SERVICE LIMIT |
|----------------|--|--|--|
| Cylinder block | Warpage of deck surface | 0.07 (0.003) max. | 0.10 (0.004) |
| | Bore diameter | M/T A or I B or II A/T A or I B or II | 93.010 – 93.020 (3.6618 – 3.6622) 93.000 – 93.010 (3.6614 – 3.6618) 90.010 – 90.020 (3.5437 – 3.5441) 90.000 – 90.010 (3.5433 – 3.5437) |
| | Bore taper | — | 0.05 (0.002) |
| | Reboring limit (A/T) | — | 0.5 (0.02) |
| Piston | Skirt O.D. [at 17 mm (0.67 in) from bottom of skirt] | M/T NO LETTER (A) B A/T NO LETTER (A) B | 92.990 – 93.003 (3.6610 – 3.6615) 92.980 – 92.993 (3.6606 – 3.6611) 89.986 – 90.004 (3.5427 – 3.5435) 89.976 – 89.994 (3.5424 – 3.5431) |
| | Clearance in cylinder | M/T A/T | 0.007 – 0.030 (0.0002 – 0.0012) 0.006 – 0.034 (0.0002 – 0.0014) |
| | Groove width (for ring) | M/T Top | 1.220 – 1.235 (0.0480 – 0.0486) |
| | | Second | 1.220 – 1.235 (0.0480 – 0.0486) |
| | | Oil | 2.505 – 2.525 (0.0986 – 0.0994) |
| | | A/T Top | 1.22 – 1.23 (0.0480 – 0.0484) |
| | | Second | 1.22 – 1.23 (0.0480 – 0.0484) |
| | | Oil | 2.805 – 2.820 (0.1104 – 0.1110) |
| Connecting rod | End play installed on crankshaft | 0.15 – 0.30 (0.006 – 0.012) | 0.40 (0.016) |
| Piston ring | Ring-to-groove clearance | M/T Top | 0.035 – 0.065 (0.0014 – 0.0026) |
| | | Second | 0.030 – 0.060 (0.0012 – 0.0024) |
| | | A/T Top | 0.030 – 0.055 (0.0012 – 0.0022) |
| | | Second | 0.030 – 0.055 (0.0012 – 0.0022) |
| | Ring end gap | Top M/T | 0.20 – 0.30 (0.008 – 0.012) |
| | | A/T | 0.25 – 0.40 (0.010 – 0.016) |
| Crankshaft | Main journal diameter | 0.005 (0.0002) max. | 0.010 (0.0004) |
| | Journal taper | 0.005 (0.0002) max. | 0.006 (0.0002) |
| | Rod journal diameter | M/T AT | 51.976 – 52.000 (2.0463 – 2.0472) 49.976 – 50.000 (1.9676 – 1.9685) |
| | Journal out-of-round | 0.004 (0.0002) max. | 0.006 (0.0002) |
| | End play | 0.10 – 0.35 (0.004 – 0.014) | 0.45 (0.018) |
| | Runout | 0.015 (0.0006) max. | 0.03 (0.001) |
| Bearings | Main bearing-to-journal oil clearance | 0.024 – 0.048 (0.0009 – 0.0019) | 0.050 (0.0020) |
| | Rod bearing-to-journal oil clearance | 0.040 – 0.064 (0.0016 – 0.0025) | 0.064 (0.0025) |

Engine Lubrication — Section 8

| | MEASUREMENT | STANDARD (NEW) | SERVICE LIMIT |
|--------------|---|---|---------------|
| Engine oil | Capacity ℓ (US qt, Imp qt) | 6.3 (6.7, 5.5) for engine overhaul 5.0 (5.3, 4.4) for oil change, including filter | |
| Oil pump | Displacement ℓ (US qt, Imp qt)/min at rpm | 68 (72, 60) at 6,000 | |
| | Inner-to-outer rotor radial clearance | 0.05 – 0.21 (0.002 – 0.008) | 0.23 (0.009) |
| | Pump housing-to-outer rotor radial clearance | 0.11 – 0.20 (0.004 – 0.008) | 0.21 (0.008) |
| | Pump housing-to-outer rotor axial clearance | 0.02 – 0.07 (0.001 – 0.003) | 0.12 (0.005) |
| Relief valve | Pressure setting with oil temperature 176°F (80°C) kPa (kgf/cm², psi) at idle at 3,000 rpm | 70 (0.7, 10) min. 340 (3.5, 50) min. | |