

**Engine Block — Section 7**

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface Bore diameter Bore taper Reboring limit	0.07 (0.003) max. 90.00–90.02 (3.543–3.544) — —	0.10 (0.004) 90.07 (3.546) 0.05 (0.002) 0.5 (0.02)
Piston	Skirt O.D. at 17.0 mm (0.67 in) from bottom of skirt No Letter (A) B Clearance in cylinder Groove width (for ring) Top Second Oil	89.980–89.990 (3.5425–3.5429) 89.970–89.980 (3.5421–3.5425) 0.02–0.04 (0.001–0.002) 1.22–1.23 (0.0480–0.0484) 1.22–1.23 (0.0480–0.0484) 2.805–2.820 (0.1104–0.1110)	89.97 (3.5421) 89.96 (3.5417) 0.08 (0.003) 1.25 (0.0492) 1.25 (0.0492) 2.84 (0.1118)
Piston ring	Ring-to-groove clearance Top Second Ring end gap Top Second Oil	0.035–0.060 (0.0014–0.0024) 0.030–0.055 (0.0012–0.0022) 0.25–0.40 (0.010–0.016) 0.40–0.55 (0.016–0.022) 0.20–0.70 (0.008–0.028)* <sup>1</sup> 0.20–0.50 (0.008–0.020)* <sup>2</sup>	0.13 (0.005) 0.13 (0.005) 0.70 (0.028) 0.85 (0.033) 0.80 (0.031) 0.80 (0.031)
Piston Pin	O.D. Pin-to-piston clearance	21.994–22.000 (0.8659–0.8661) 0.012–0.024 (0.0005–0.0009)	— —
Connecting rod	Pin-to-rod interference Small end bore diameter Large end bore diameter End play installed on crankshaft Nominal	0.013–0.032 (0.0005–0.0013) 21.968–21.981 (0.8649–0.8654) 57.0 (2.24) 0.15–0.30 (0.006–0.012)	— — — —
Crankshaft	Main journal diameter Rod journal diameter Taper Out-of-round End play Total runout	67.976–68.000 (2.6762–2.6772) 53.970–53.994 (2.1248–2.1257) 0.005 (0.0002) max. 0.004 (0.0002) max. 0.10–0.29 (0.004–0.011) 0.020 (0.0008) max.	— — 0.010 (0.0004) 0.010 (0.0004) 0.45 (0.018) 0.030 (0.0012)
Bearings	Main bearing-to-journal oil clearance Rod bearing-to-journal oil clearance	0.020–0.044 (0.0008–0.0017) 0.022–0.046 (0.0009–0.0018)	0.05 (0.002) 0.05 (0.002)

\*1: RIKEN manufactured piston ring.

\*2: TAIKOKU PISTON RING manufactured piston ring.

**Engine Lubrication — Section 8**

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US qt, Imp qt)	5.3 (5.6, 4.7) for engine overhaul 4.5 (4.8, 4.0) for oil change, including filter 4.0 (4.2, 3.5) for oil change, without filter	
Oil pump	Inner-to-outer rotor radial clearance Housing-to-outer rotor radial clearance Housing-to rotor axial clearance	0.04–0.16 (0.002–0.006) 0.10–0.18 (0.004–0.007) 0.02–0.07 (0.001–0.003)	0.20 (0.008) 0.20 (0.008) 0.12 (0.005)
Relief valve	Pressure setting at oil temperature 176°F (80°C) kPa (kg/cm <sup>2</sup> , psi) at idle at 3,000 rpm	70 (0.7, 10) min. 350 (3.5, 50) min.	