

Standards and Service Limits

5. Engine/Cylinder Head, Valve Train (Fuel-Injected Engine)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min ⁻¹ (rpm) and wide-open throttle		Nominal Minimum Maximum variation	1,226 kPa (12.5 kg/cm ² , 178 psi) 932 kPa (9.5 kg/cm ² , 135 psi) 196 kPa (2 kg/cm ² , 28 psi)
Cylinder head	Warpage		—	0.05 (0.002)
	Height		132 (5.20)	131.8 (5.19)
Camshaft	End play		0.05—0.15 (0.002—0.006)	0.5 (0.02)
	Oil clearance	No. 1, 2, 3, 4 and 6 journals	0.050—0.089 (0.002—0.004)	0.15 (0.006)
		No. 5 journal	0.110—0.149 (0.004—0.006)	0.21 (0.008)
	Runout		0.015 (0.0006) max.	0.03 (0.001)
	Cam lobe height	IN	33.716 (1.3274)	—
		EX	33.932 (1.3359)	—
Valve	Valve clearance	IN	0.08—0.12 (0.003—0.005)	—
		EX	0.16—0.20 (0.006—0.008)	—
	Valve stem O.D.	IN	6.58—6.59 (0.2591—0.2594)	6.55 (0.258)
		EX	6.55—6.56 (0.2579—0.2583)	6.52 (0.257)
	Stem-to-guide clearance	IN	0.02—0.05 (0.001—0.002)	0.08 (0.003)
		EX	0.05—0.08 (0.002—0.003)	0.11 (0.04)
	Stem installed height	IN and EX	42.75 (1.683)	43.54 (1.714)
Valve seat	Width	IN and EX	1.25—1.55 (0.049—0.061)	2.0 (0.08)
Valve spring	Free length	Inner	43.50 (1.713)	42.5 (1.673)
	Squarness	Outer	47.45 (1.868)	46.45 (1.829)
		Inner and Outer	—	1.6 (0.063)
Valve guide	I.D.	IN and EX	6.61—6.63 (0.260—0.261)	6.65 (0.262)

5. Engine/Cylinder Head, Valve Train (Carbureted Engine)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min ⁻¹ (rpm) and wide-open throttle		Nominal Minimum Maximum variation	1,177 kPa (12.0 kg/cm ² , 171 psi) 932 kPa (9.5 kg/cm ² , 135 psi) 196 kPa (2 kg/cm ² , 28 psi)
Cylinder head	Warpage		—	0.05 (0.002)
	Height		90 (3.54)	89.8 (3.54)
Camshaft	End play		0.05—0.15 (0.002—0.006)	0.5 (0.02)
	Oil clearance	No. 1, 3 and 5 journals	0.050—0.089 (0.002—0.004)	0.15 (0.006)
		No. 2 and 4 journals	0.130—0.169 (0.005—0.007)	0.23 (0.009)
	Runout		0.015 (0.0006) max.	0.03 (0.001)
	Cam lobe height	IN A	38.604 (1.5198)	—
		IN B	38.858 (1.5298)	—
		EX	38.796 (1.5274)	—
Valve	Valve clearance	IN	0.12—0.17 (0.005—0.007)	—
		EX	0.25—0.30 (0.010—0.012)	—
	Valve stem O.D.	IN	6.58—6.59 (0.2591—0.2594)	6.55 (0.258)
		EX	6.94—6.95 (0.2732—0.2736)	6.91 (0.272)
	Stem-to-guide clearance	IN	0.02—0.05 (0.001—0.002)	0.08 (0.003)
		EX	0.06—0.09 (0.002—0.004)	0.12 (0.005)
	Stem installed height	IN	48.59 (1.913)	49.34 (1.943)
		EX	47.66 (1.876)	48.41 (1.906)
Valve seat	Width	IN and EX	1.25—1.55 (0.049—0.061)	2.0 (0.08)
Valve spring	Free length	IN	48.54 (1.91)	47.54 (1.87)
		EX Inner	42.42 (1.67)	41.42 (1.63)
		Outer	49.06 (1.93)	48.06 (1.89)
	Squarness	Inner and Outer	—	1.75 (0.068)
Valve guide	I.D.	IN	6.61—6.63 (0.260—0.261)	6.65 (0.262)
		EX	7.01—7.03 (0.276—0.277)	7.05 (0.278)
Rocker arm	Arm-to-shaft clearance		0.008—0.054 (0.0003—0.0021)	0.08 (0.003)

5. Engine/Engine Block (Fuel-Injected Engine)

Unit: mm (in.)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.0028) max.	0.10 (0.004)
	Bore diameter A	81.01 – 81.02 (3.1894 – 3.1898)	81.05 (3.1909)
	Bore diameter B	81.00 – 81.01 (3.1890 – 3.1894)	81.04 (3.1905)
	Bore taper	—	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt) A	80.98 – 80.99 (3.1882 – 3.1886)	80.97 (3.188)
	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt) B	80.97 – 80.98 (3.1878 – 3.1882)	80.96 (3.187)
	Clearance in cylinder	0.02 – 0.04 (0.0008 – 0.0016)	0.08 (0.003)
	Piston-to-ring clearance Top	0.030 – 0.055 (0.0012 – 0.0022)	0.13 (0.005)
	Piston-to-ring clearance 2nd	0.030 – 0.055 (0.0012 – 0.0022)	0.13 (0.005)
Piston ring	Ring end gap	Top	0.20 – 0.35 (0.008 – 0.014)
		2nd	0.40 – 0.55 (0.016 – 0.022)
		Oil	0.20 – 0.70 (0.008 – 0.028)
Connecting rod	Pin-to-rod interference	0.013 – 0.032 (0.0005 – 0.0013)	—
	Large end bore diameter	Nominal 51 (2.01)	—
	End play installed on crankshaft	0.15 – 0.30 (0.006 – 0.012)	0.40 (0.016)
Crankshaft	Main journal diameter No. 1, 2, 4 and 5 journals	54.976 – 55.000 (2.1644 – 2.1654)	—
	Main journal diameter No. 3 journal	54.970 – 54.994 (2.1642 – 2.1651)	—
	Taper/out-of-round, main journal	0.005 (0.0002) max.	0.010 (0.0004)
	Rod journal diameter	47.976 – 48.000 (1.8888 – 1.8900)	—
	Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.010 (0.0004)
	End play	0.10 – 0.35 (0.004 – 0.014)	0.45 (0.018)
	Runout	0.010 (0.0004) max.	0.015 (0.0006)
Bearings	Main bearing-to-journal No. 1 and 5 journals	0.018 – 0.036 (0.0007 – 0.0014)	—
	Oil clearance No. 2 and 4 journals	0.024 – 0.042 (0.0010 – 0.0017)	0.05 (0.002)
	Oil clearance No. 3 Journal	0.030 – 0.048 (0.0012 – 0.0019)	0.05 (0.002)
	Rod bearing-to-journal oil clearance	0.026 – 0.044 (0.0010 – 0.0017)	0.05 (0.002)

5. Engine/Engine Block (Carbureted Engine)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.0028) max.	0.10 (0.004)
	Bore diameter A	81.01 – 81.02 (3.1894 – 3.1898)	81.05 (3.1909)
	Bore diameter B	81.00 – 81.01 (3.1890 – 3.1894)	81.04 (3.1905)
	Bore taper	—	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt) A	80.98 – 80.99 (3.1882 – 3.1886)	80.97 (3.1878)
	Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt) B	80.97 – 80.98 (3.1878 – 3.1882)	80.96 (3.1874)
	Clearance in cylinder	0.02 – 0.04 (0.0008 – 0.0016)	0.08 (0.003)
	Piston-to-ring clearance (top and 2nd)	0.030 – 0.055 (0.0012 – 0.0022)	0.13 (0.005)
Piston ring	Ring end gap	Top	0.20 – 0.35 (0.008 – 0.014)
		2nd	0.40 – 0.55 (0.016 – 0.022)
		Oil	0.20 – 0.70 (0.008 – 0.020)
Connecting rod	Pin-to-rod interference	0.013 – 0.032 (0.0005 – 0.0013)	—
	Large end bore diameter	Nominal 48 (1.89)	—
	End play installed on crankshaft	0.15 – 0.30 (0.006 – 0.012)	0.40 (0.016)
Crankshaft	Main journal diameter No. 1, 2, 4 and 5 journals	54.976 – 55.000 (2.1644 – 2.1654)	—
	Main journal diameter No. 3 journal	54.970 – 54.994 (2.1642 – 2.1651)	—
	Taper/out-of-round, main journal	0.005 (0.0002) max.	0.010 (0.0004)
	Rod journal diameter	44.976 – 45.000 (1.7707 – 1.7717)	—
	Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.010 (0.0004)
	End play	0.10 – 0.35 (0.004 – 0.014)	0.45 (0.018)
	Runout	0.010 (0.0004) max.	0.015 (0.0006)
Bearings	Main bearing-to-journal No. 1 and 5 journals	0.018 – 0.036 (0.0007 – 0.0014)	—
	Oil clearance No. 1 and 4 journals	0.024 – 0.042 (0.0010 – 0.0017)	0.05 (0.002)
	Oil clearance No. 3 Journal	0.030 – 0.048 (0.0012 – 0.0019)	0.05 (0.002)
	Rod bearing-to-journal oil clearance	0.026 – 0.044 (0.0010 – 0.0017)	0.05 (0.002)

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Standards and Service Limite (cont'd)

○ : Fuel-Injected Engine

● : Carbureted Engine

5. Engine/Engine Lubrication

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US. qt., Imp. qt.)	4.7 (5.0, 4.1) After engine disassembly 3.8 (4.0, 3.3) After oil change, including oil filter 3.4 (3.6, 3.0) After oil change, without oil filter	
Oil pump	Displacement	○ 54 ℓ (14.3 US. gal., 11.9 Imp. gal.) 5,000 min ⁻¹ (rpm) ● 54 ℓ (14.3 US. gal., 11.9 Imp. gal.) 5,500 min ⁻¹ (rpm)	
	Inner-to-outer rotor radial clearance	0.04–0.16 (0.002–0.006)	0.2 (0.008)
	Pump body-to-rotor radial clearance	0.10–0.19 (0.004–0.007)	0.21 (0.008)
	Pump body-to-rotor side clearance	0.02–0.07 (0.001–0.003)	0.12 (0.005)
Relief valve	Pressure setting 80°C (176°F) kPa (kg/cm ² , psi)	Idle	69 (0.7, 10) min.
		3,000 min ⁻¹ (rpm)	343 (3.5, 50)

5. Engine/Cooling

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
○ Radiator	Capacity (includes heater) ℓ (U.S. qt., Imp. qt.) (Includes reservoir tank 0.75 (0.79, 0.66))	7.8 (8.2, 6.9)	
● Radiator	Capacity (includes heater) ℓ (U.S. qt., Imp. qt.) (Includes reservoir tank 0.75 (0.79, 0.66))	Manual 6.8 (7.2, 6.0) Automatic 7.5 (7.9, 6.6)	
Radiator cap	Pressure cap opening pressure	74–103 kPa (0.75–1.05 kg/cm ² , 11–15 psi)	
Thermostat	Starts to open	82°C ± 2 (180°F ± 3)	86–90°C (187–194°F)
	Full open	95°C (203°F)	100°C (212°F) OPTIONAL
	Valve lift at full open	8 (0.31) max.	8 (0.31) max.
○ Water pump	Gear ratio (crankshaft)	0.89	
	Capacity: ℓ per min/at min ⁻¹ (rpm)	158 (41.7 U.S. gal., 34.8 Imp. gal.)/6,000	
● Water pump	Gear ratio (crankshaft)	1.00	
	Capacity: ℓ per min/at min ⁻¹ (rpm)	145 (38.3 U.S. gal., 31.9 Imp. gal.)/6,000	
Cooling fan	Fan-to-core clearance	26.0 (1.02)	
	Thermoswitch "ON" temperature	87°–93°C (188°–199°F)	
	Thermoswitch "OFF" temperature	83° (181°F) or more (hysteresis 2°C (35°F) or more).	

6. Fuel and Emissions

	MEASUREMENT	STANDARD (NEW)
○ Fuel pump	Delivery pressure	250 kPa (2.55 kg/cm ² , 36 psi)
	Displacement	230 cm ³ /min in 10 seconds
	Relief valve opening pressure	441–588 kPa (4.5–6.0 kg/cm ² , 64–85 psi)
● Fuel pump	Delivery pressure	8.8–14.7 kPa (0.09–0.15 kg/cm ² , 1.3–2.1 psi)
	Displacement	600 cm ³ /min at 12 V (37 cu. in./12 V)
○ Pressure regulator	Pressure	230–270kPa (2.35–2.75 kg/cm ² , 33–39 psi)
Fuel Tank	Capacity	60 ℓ (15.9 U.S. gal., 13.2 Imp. gal.)

○ : Fuel-Injected Engine

● : Carbureted Engine

Unit: mm (in.)

6. Fuel and Emissions

	MEASUREMENT	STANDARD (NEW)	
Throttle valve body or carburetor	Fast idle min ⁻¹ (rpm)	Manual ○ 1,000—1,800 Automatic ○ 1,000—1,800	● 1,000—2,000 ● 1,000—2,000
	Idle speed min ⁻¹ (rpm) with headlights and cooling fan off	○ Manual Automatic (in gear)	750 ± 50 (with catalytic converter) 800 ± 50 (without catalytic converter)
		● Manual Automatic (in gear)	M/T: 800 ± 50 A/T: 750 ± 50
	Idle CO	0.1 %	
	Float level (from gasket)	15—17 (0.59—0.67)	

7. Clutch

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	207 (8.1) to floor	—
	Stroke	135—140 (5.3—5.5)	—
	Pedal play	9—15 (0.4—0.6)	—
	Disengagement height	92 (3.6) min. to floor	—
Flywheel	Clutch surface runout	0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth	1.3 (0.05) min.	0.2 (0.008)
	Surface runout	0.8 (0.03) max.	1.0 (0.04)
	Thickness	8.5—9.2 (0.33—0.36)	6.1 (0.24)
Clutch release bearing holder	I.D. Holder-to-guide sleeve clearance	35.00—35.059 (1.378—1.380) 0.05—0.15 (0.002—0.006)	35.09 (1.381) 0.22 (0.009)
Clutch cover	Unevenness of diaphragm spring	0.6 (0.02) max.	0.8 (0.03)

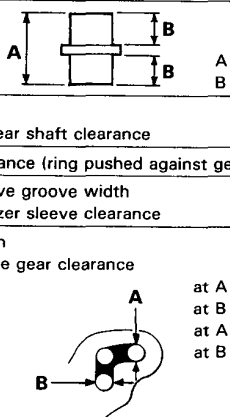
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Standards and Service Limite (cont'd)

Unit: mm (in)

8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)	2.1 (2.2, 1.9) at assembly 2.2 (2.3, 1.9) at oil change	
Mainshaft	End play Diameter of ball bearing contact area Diameter of third gear contact area Diameter of ball bearing contact area Runout	0.10–0.16 (0.0039–0.0063) 27.977–27.990 (1.1015–1.1020) 37.984–38.000 (1.4954–1.4961) 27.987–28.000 (1.1018–1.1024) 0.02 (0.0008) max.	Adjust with a shim. 29.93 (1.1783) 37.930 (1.4933) 27.940 (1.1000) 0.05 (0.002)
Mainshaft third and fourth gears	I.D. End play Thickness 3rd gear 4th gear	43.009–43.025 (1.6933–1.6939) 0.06–0.21 (0.0024–0.0083) 32.42–32.47 (1.276–1.278) 30.92–30.97 (1.217–1.219)	43.080 (1.6961) 0.30 (0.012) 32.3 (1.27) 30.8 (1.21)
Mainshaft fifth gear	I.D. End play Thickness	43.009–43.025 (1.6933–1.6939) 0.06–0.21 (0.0024–0.0083) 30.42–30.47 (1.198–1.200)	43.080 (1.6961) 0.30 (0.012) 30.3 (1.193)
Countershaft	End play Diameter of needle bearing contact area Diameter of ball bearing needle bearing contact area Diameter of low gear contact area Runout	0.05–0.21 (0.0019–0.0083) 33.000–33.015 (1.2992–1.2998) 24.987–25.000 (0.9837–0.9845) 39.984–40.000 (1.5742–1.5748) 0.02 (0.0008) max.	0.50 (0.02) 32.95 (1.297) 24.94 (0.982) 39.93 (1.572) 0.05 (0.002)
Countershaft low gear	I.D. End play	46.009–46.025 (1.8114–1.8120) 0.04–0.10 (0.002–0.004)	46.08 (1.814) Adjust with a washer.
Countershaft second gear	I.D. End play Thickness	50.009–50.025 (1.9689–1.9695) 0.04–0.10 (0.002–0.004) 33.92–33.97 (1.335–1.337)	50.08 (1.972) Adjust with a collar. 32.8 (1.2913)
Spacer collar (Countershaft second gear)	I.D. O.D. Length	36.48–36.49 (1.4362–1.4366) 43.989–44.000 (1.7318–1.7323) 29.03–29.05 (1.1429–1.1437) 28.98–29.00 (1.1409–1.1417)	36.50 (1.437) 43.94 (1.730) — —
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. Length	31.002–31.012 (1.2205–1.2209) 37.989–38.000 (1.4956–1.4961) 56.45–56.55 (2.222–2.226) 26.03–26.08 (1.0248–1.0268)	31.06 (1.223) 37.94 (1.494) — 26.01 (1.024)
Reverse idler gear	I.D. Gear-to-reverse gear shaft clearance	20.016–20.043 (0.7880–0.7891) 0.036–0.084 (0.0014–0.0033)	20.09 (0.7909) 0.160 (0.0006)
Synchronizer ring	Ring-to-gear clearance (ring pushed against gear)	0.85–1.10 (0.0335–0.0433)	0.40 (0.016)
Shift fork	Synchronizer sleeve groove width Fork-to-synchronizer sleeve clearance	6.75–6.85 (0.266–0.270) 0.35–0.65 (0.014–0.026)	— 1.0 (0.039)
Reverse shift fork	Pawl groove width Fork-to-reverse idle gear clearance Groove width Fork-to-fifth/reverse shift Shaft clearance	13.0–13.3 (0.51–0.52) 0.5–1.1 (0.02–0.43) 7.05–7.25 (0.278–0.2854) 7.4–7.7 (0.29–0.30) 0.05–0.35 (0.002–0.014) 0.4–0.8 (0.02–0.03)	— 1.8 (0.07) — — 0.5 (0.02) 1.0 (0.04)
Shift arm	I.D. Shift arm-to-shaft clearance Shift fork diameter at contact area Shift-arm-to-shift fork shaft clearance	15.973–16.000 (0.6289–0.6299) 0.005–0.059 (0.0002–0.0023) 12.9–13.0 (0.508–0.512) 0.2–0.5 (0.01–0.02)	— — — 0.6 (0.02)
Select lever	Pin size of contact area Shaft outer diameter Shift arm cover clearance	7.9–8.0 (0.311–0.315) 15.41–15.68 (0.607–0.617) 0.032–0.102 (0.0013–0.0040)	— — —
Shift arm lever	O.D. Transmission housing clearance	15.941–15.968 (0.6276–0.6287) 0.027–0.139 (0.0011–0.0055)	— —
Inter lock	Bore diameter Shift arm lever clearance	16.00–16.05 (0.630–0.632) 0.032–0.109 (0.0013–0.0043)	— —



9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)		2.8 (3.0, 2.5) at oil change 6.2 (6.6, 5.5) at assembly	
Hydraulic pressure	<div>N or P</div> Line pressure at 2,000 rpm		○ 834–883 kPa (8.5–9.0 kg/cm ² , 121–128 psi) ● 711–809 kPa (7.25–8.25 kg/cm ² , 103–117 psi)	○ 785 kPa (8.0 kg/cm ² , 114 psi) ● 711 kPa (7.25 kg/cm ² , 103 psi)
	<div>S or D</div> 4th, 3rd, 2nd clutch pressure at 2,000 rpm		○ 471–883 kPa (4.8–9.0 kg/cm ² , 68–128 psi) ● 471–834 kPa (4.8–8.5 kg/cm ² , 68–121 psi)	○ 785 kPa (8.0 kg/cm ² , 114 psi) ● 711 kPa (7.25 kg/cm ² , 103 psi)
	<div>S or D</div> 1st clutch pressure at 2,000 rpm <div>2</div> 2nd clutch pressure at 2,000 rpm		○ 834–883 kPa (8.5–9.0 kg/cm ² , 121–128 psi) ● 711–809 kPa (7.25–8.25 kg/cm ² , 103–117 psi)	○ 785 kPa (8.0 kg/cm ² , 114 psi) ● 711 kPa (7.25 kg/cm ² , 103 psi)
	<div>S or D</div> Throttle pressure B	Fully closed	0	—
		Fully open	○ 834–883 kPa (8.5–9.0 kg/cm ² , 121–128 psi) ● 711–809 kPa (7.25–8.25 kg/cm ² , 103–117 psi)	○ 785 kPa (8.0 kg/cm ² , 114 psi) ● 711 kPa (7.25 kg/cm ² , 103 psi)
Stall speed	Check with car on level ground		○ 2,500–2,800 rpm ● 2,450–2,750 rpm	—
Clutch	Clutch initial clearance	1st	0.65–0.85 (0.026–0.033)	—
		2nd, 3rd, 4th	0.40–0.60 (0.016–0.024)	—
	Clutch return spring free length		31.0 (1.22)	29.0 (1.14)
	Clutch disc thickness		1.88–2.00 (0.074–0.079)	Until grooves worn out
	Clutch plate thickness		1.95–2.05 (0.077–0.079)	Discoloration
	Clutch end plate thickness	Mark 1	2.05–2.10 (0.081–0.083)	
		Mark 2	2.15–2.20 (0.085–0.087)	
		Mark 3	2.25–2.30 (0.089–0.091)	
		Mark 4	2.35–2.40 (0.093–0.094)	
		Mark 5	2.45–2.50 (0.096–0.098)	
		Mark 6	2.55–2.60 (0.100–0.102)	
		Mark 7	2.65–2.70 (0.104–0.106)	
		Mark 8	2.75–2.80 (0.108–0.110)	
		Mark 9	2.85–2.90 (0.112–0.114)	
		Mark 10	2.95–3.00 (0.116–0.118)	
		Mark 11	3.05–3.10 (0.120–0.122)	
		Mark 12	3.15–3.20 (0.124–0.126)	
		Mark 13	3.25–3.30 (0.128–0.130)	
		Mark 14	3.35–3.40 (0.132–0.134)	Discoloration

○ : Fuel-Injected Engine

● : Carbureted Engine

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Standard and Service Limits (cont'd)

9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission	Diameter of needle bearing contact area on main and stator shaft	22.980—22.993 (0.9047—0.9052)	Wear or damage ↑
	Diameter of needle bearing contact area on mainshaft 2nd gear	35.975—35.991 (1.4163—1.4169)	
	Diameter of needle bearing contact area on mainshaft 4th gear collar	31.975—31.991 (1.2588—1.2594)	
	Diameter of needle bearing contact area on mainshaft 1st gear collar	30.975—30.991 (1.2195—1.2201)	
	Diameter of needle bearing contact area on countershaft (R side)	38.505—38.515 (1.5159—1.5163)	
	Diameter of needle bearing contact area on countershaft 3rd gear	31.975—31.991 (1.2589—1.2595)	
	Diameter of needle bearing contact area on countershaft 4th gear	27.980—27.993 (1.1016—1.1021)	
	Diameter of needle bearing contact area on countershaft reverse gear collar	31.975—31.991 (1.2589—1.2595)	
	Diameter of needle bearing contact area on countershaft 1st gear collar	31.975—31.991 (1.2589—1.2595)	
	Diameter of needle bearing contact area on reverse idle gear	13.990—14.000 (0.5508—0.5512)	
	Reverse idler shaft holder I.D.	14.416—14.434 (0.5676—0.5683)	Wear or damage ↓
	Mainshaft 2nd gear I.D.	41.000—41.016 (1.6142—1.6148)	
	Mainshaft 1st gear I.D.	36.000—36.016 (1.4173—1.4180)	
	Countershaft 4th gear I.D.	33.000—33.016 (1.2992—1.2998)	
	Countershaft 3rd gear I.D.	38.000—38.016 (1.4961—1.4967)	
	Countershaft 2nd gear I.D.	31.000—31.016 (1.2205—1.2211)	
	Countershaft 1st gear I.D.	38.000—38.016 (1.4961—1.4967)	
	Countershaft reverse gear I.D.	38.000—38.016 (1.4961—1.4967)	
	Reverse idle gear I.D.	18.007—18.020 (0.7089—0.7094)	
	Mainshaft 4th gear end play	0.10—0.22 (0.0039—0.0087)	
	Mainshaft 2nd gear end play	0.07—0.15 (0.0028—0.0059)	
	Mainshaft 1st gear end play	0.08—0.24 (0.0031—0.0094)	
	Countershaft 3rd gear end play	0.07—0.15 (0.0028—0.0059)	
	Countershaft 2nd gear end play	0.07—0.15 (0.0028—0.0059)	
	Reverse idler gear end play	0.05—0.18 (0.0020—0.0071)	
	Countershaft reverse gear end play	0.10—0.25 (0.0039—0.0098)	
	Reverse gear selector hub O.D.	51.87—51.90 (2.0421—2.0433)	Wear or damage —
	Thrust washer thickness Mainshaft 2nd gear A	3.97—4.00 (0.1563—0.1575)	
	B	4.02—4.05 (0.1583—0.1594)	
	C	4.07—4.10 (0.1602—0.1614)	
	D	4.12—4.15 (0.1622—0.1634)	
	E	4.17—4.20 (0.1642—0.1654)	
	F	4.22—4.25 (0.1661—0.1673)	
	G	4.27—4.30 (0.1681—0.1693)	
	H	4.32—4.35 (0.1701—0.1713)	
	I	4.37—4.40 (0.1720—0.1732)	
	Mainshaft right side bearing	2.95—3.05 (0.1161—0.1201)	Wear or damage
	Mainshaft 1st gear	2.43—2.50 (0.0957—0.0984)	Wear or damage
	Countershaft 3rd gear A	2.97—3.00 (0.1169—0.1181)	—
	B	3.02—3.05 (0.1189—0.1201)	—
	C	3.07—3.10 (0.1209—0.1220)	—
	D	3.12—3.15 (0.1228—0.1240)	—
	E	3.17—3.20 (0.1248—0.1260)	—
	F	3.22—3.25 (0.1268—0.1280)	—
	G	3.27—3.30 (0.1287—0.1299)	—
	H	3.32—3.35 (0.1307—0.1319)	—
	I	3.37—3.40 (0.1327—0.1339)	—
	Countershaft 4th gear collar thickness 1	38.97—39.00 (1.5343—1.5354)	—
	2	39.07—39.10 (1.5382—1.5394)	—
	3	39.17—39.20 (1.5421—1.5433)	—
	4	39.27—39.30 (1.5461—1.5472)	—
	5	39.02—39.05 (1.5362—1.5374)	—
	6	39.12—39.15 (1.5402—1.5413)	—
	7	39.22—39.25 (1.5441—1.5453)	—
	8	39.87—39.90 (1.5697—1.5709)	—
	9	39.92—39.95 (1.5717—1.5728)	—

9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT		
Transmission (cont'd)	Thrust washer thickness (mainshaft 1st gear L side)		1.45—1.50 (0.0571—0.0591)	1.40 (0.0551)		
	Mainshaft 1st gear collar length		24.50—24.55 (0.9646—0.9665)	—		
	Mainshaft 1st gear collar flange thickness		2.5—2.6 (0.098—0.102)	Wear or damage		
	Countershaft reverse gear collar length		12.00—12.10 (0.4724—0.4764)	—		
	Countershaft reverse gear collar flange thickness		2.40—2.60 (0.0945—0.1024)	Wear or damage		
	Countershaft 1st gear collar length		12.00—12.10 (0.4724—0.4764)	—		
	Countershaft 1st gear collar flange thickness		2.4—2.6 (0.095—0.102)	Wear or damage		
	Diameter of countershaft one-way clutch contact area		83.339—83.365 (3.2811—3.2821)	Wear or damage		
	Diameter of parking gear one-way clutch contact area		66.685—66.698 (2.6254—2.6259)	Wear or damage		
	Mainshaft feed pipe A O.D.		8.97—8.98 (0.353—0.354)	8.95 (0.3524)		
	Mainshaft feed pipe B O.D.		5.97—5.98 (0.2351—0.2354)	5.95 (0.2343)		
	Countershaft feed pipe C O.D.		7.97—7.98 (0.3138—0.3142)	7.95 (0.3130)		
	Mainshaft sealing ring 35 mm thickness		1.980—1.995 (0.0780—0.0785)	1.800 (0.0709)		
	Mainshaft sealing ring 29 mm thickness		1.980—1.995 (0.0780—0.0785)	1.800 (0.0709)		
	Mainshaft bushing I.D.		6.018—6.030 (0.2369—0.2374)	6.045 (0.2380)		
	Mainshaft bushing I.D.		9.000—9.015 (0.3543—0.3549)	9.030 (0.3555)		
	Countershaft bushing I.D.		8.000—8.015 (0.3150—0.3156)	8.030 (0.3161)		
	Mainshaft sealing ring groove width (35 mm and 29 mm)		2.025—2.060 (0.0797—0.0811)	2.080 (0.0819)		
Regulator valve body	Sealing ring contact area diameter		35.000—35.025 (1.3780—1.3789)	35.050 (1.3799)		
Stator shaft	Sealing ring contact area		29.000—29.013 (1.1417—1.1422)	29.05 (1.1437)		
Shifting device and parking brake control	Reverse shift fork thickness		5.90—6.00 (0.2323—0.2362)	5.40 (0.2126)		
	Parking brake ratchet pawl		—	Wear or other defect		
	Parking gear		—	Wear or other defect		
	Throttle cam stopper		19.5—19.6 (0.768—0.772)	—		
Servo body	Shift fork shaft bore I.D.	A	14.000—14.005 (0.5512—0.5514)	—		
		B	14.006—14.010 (0.5514—0.5516)	—		
C		14.011—14.015 (0.5516—0.5518)	—			
	Shift fork shaft valve bore I.D.		37.000—37.039 (1.4567—1.4582)	37.045 (1.4585)		
Valve body	Oil pump gear side clearance		0.03—0.05 (0.0012—0.0020)	0.07 (0.0028)		
	Oil pump gear-to-body clearance		Drive: 0.21—0.265 (0.0083—0.0104)	—		
			Driven: 0.07—0.125 (0.0028—0.0049)	—		
	Stator camshaft needle bearing contact area I.D. (torque converter side)		27.000—27.021 (1.0630—1.0638)	Wear or damage		
	Stator camshaft needle bearing contact area I.D. (oil pump side)		29.000—29.013 (1.1417—1.1422)	—		
	Oil pump driven gear I.D.		14.016—14.034 (0.5518—0.5525)	Wear or damage		
	Oil pump shaft O.D.		13.980—13.990 (0.5504—0.5508)	Wear or damage		
Spring			STANDARD (NEW)			
			Wire Dia.	O.D.	Free Length	No. of Coils
	1st one-way ball spring		0.29 (0.01)	4.0 (0.16)	14.0 (0.55)	13.0
	Idle shaft spring A		0.7 (0.03)	5.7 (0.22)	14.6 (0.57)	7.0
	Idle shaft spring B		0.8 (0.03)	5.6 (0.22)	20.7 (0.81)	11.5
	Regulator valve spring A	Carbureted	1.8 (0.07)	14.7 (0.58)	85.1 (3.35)	16.5
		Fuel-Injected	1.8 (0.07)	14.7 (0.58)	88.6 (3.49)	16.5
	Regulator valve spring B		1.8 (0.07)	9.6 (0.38)	44.0 (1.73)	7.5
	Stator reaction spring		6.0 (0.24)	38.4 (1.51)	30.3 (1.19)	2.0
	Torque converter check valve spring		1.1 (0.04)	8.4 (0.33)	36.3 (1.43)	12.5
	Relief valve spring		0.9 (0.04)	8.4 (0.33)	57.8 (2.28)	20.2
	Cooler check valve spring		1.1 (0.04)	8.4 (0.33)	46.8 (1.84)	17.0
	2nd orifice control spring		0.8 (0.03)	6.6 (0.26)	46.9 (1.85)	35.1
	Servo orifice control spring		0.8 (0.03)	6.1 (0.24)	40.0 (1.57)	20.1
	4th exhaust spring		0.9 (0.04)	5.6 (0.22)	34.1 (1.34)	19.3
	Throttle valve adjusting spring		0.8 (0.03)	6.5 (0.26)	30.0 (1.18)	8.0
	Throttle B spring		1.4 (0.06)	8.5 (0.33)	41.4 (1.63)	8.4
			1.4 (0.06)	8.5 (0.33)	41.4 (1.63)	7.8
			1.6 (0.06)	8.5 (0.33)	41.3 (1.63)	13.9
	1—2 shift spring		1.0 (0.04)	9.6 (0.38)	41.5 (1.63)	14.0
	3—4 shift spring		0.8 (0.03)	7.6 (0.30)	50.8 (2.00)	16.0
	2—3 shift spring		0.8 (0.03)	7.6 (0.30)	50.8 (2.00)	16.0

(cont'd)

Standards and Service Limits (cont'd)

Unit: mm (in)

9. Automatic Transmission (cont'd)

Spring (cont'd)	MEASUREMENT	STANDARD (NEW)			
		Wire Dia.	O.D.	Free Length	No. of Coils
	1st accumulator spring A	2.8 (0.11)	21.5 (0.85)	56.2 (2.21)	8.9
	1st accumulator spring B	2.8 (0.11)	9.8 (0.39)	42.0 (1.65)	9.2
	4th accumulator spring	3.2 (0.13)	18.6 (0.73)	79.0 (3.11)	13.2
	2nd accumulator spring	2.8 (0.11)	16.5 (0.65)	85.0 (3.35)	15.3
	3rd accumulator spring	2.7 (0.11)	16.0 (0.63)	75.9 (2.99)	13.2
	Lock-up shift spring	0.9 (0.04)	7.6 (0.30)	73.7 (2.90)	32.0
	Lock-up timing spring	0.8 (0.03)	6.6 (0.26)	60.8 (2.39)	40.0
	Lock-up control spring C,D,E Carbureted	0.7 (0.03)	6.6 (0.26)	38.0 (1.50)	14.1
	A,B,C Fuel-Injected	0.7 (0.03)	6.6 (0.26)	38.0 (1.50)	14.1
	CPC valve spring	1.4 (0.06)	9.4 (0.37)	36.6 (1.44)	12.6
	Modulator valve spring	1.4 (0.06)	9.4 (0.37)	32.4 (1.28)	10.5
	3rd kick-down spring	0.9 (0.04)	6.6 (0.26)	63.5 (2.50)	31.1
	Servo control spring	1.0 (0.04)	8.1 (0.32)	42.0 (1.65)	16.5
	3-2 kick down valve spring	1.0 (0.04)	6.4 (0.25)	37.1 (1.46)	19.2

9. Differential

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ring gear	Backlash	0.087—0.146 (0.0034—0.0057)	0.2 (0.0079)
Differential carrier	Pinion shaft bore diameter	18.000—18.018 (0.7087—0.7094)	18.1 (0.71)
	Carrier-to-pinion shaft clearance	0.017—0.047 (0.0007—0.0019)	0.1 (0.004)
	Driveshaft bore diameter	28.005—28.025 (1.1025—1.1033)	—
	Carrier-to-driveshaft clearance	0.025—0.066 (0.0010—0.0026)	0.12 (0.005)
Differential pinion gear	Backlash	0.05—0.15 (0.002—0.006)	Adjust with a washer.
	Pinion gear bore diameter	18.042—18.066 (0.7103—0.7113)	—
	Pinion gear-to-pinion shaft clearance	0.059—0.095 (0.0023—0.0037)	0.15 (0.006)
Differential taper roller bearing	Preload	2.8—4.0 N·m (28—40 kg-cm, 24—35 lb-in) at new bearing 2.5—3.7 N·m (25—37 kg-cm, 22—32 lb-in) at old bearing	Adjust with a shim.

10. Driveshafts

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Driveshaft	Right boot As installed	493 (19.4)	—
	Left boot As installed	493 (19.4)	—

11. Power Steering

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Steering wheel	Play	10 (0.39) Max.	—
	Pinion starting torque N·m (kg-m, ft-lb)	1.2 (0.12, 0.86)	—
Power steering	Angle of rack-guide-screw loosened from locked position	25° ± 5° (2WS), 35° ± 5° (4WS)	—
	Pump pressure with valve closed (Oil temp./ speed: 40°C (104°F) min/idle. Do not run for more than 5 seconds) kPa (kg/cm², psi)	7845—8826 (80—90, 1138—1280)	—
	Fluid capacity Reservoir At change	0.5 l (0.53 U.S. qt., 0.44 Imp. qt.) approx 1.7 l (1.8 U.S. qt., 1.5 Imp. qt.)	—
Power steering belt	Deflection midway between pulleys/load	11—13 (0.43—0.51)/98N (10 kg/22 lb) for used belt 9—11 (0.35—0.43)/98N (10 kg/22 lb) after replacement of belt	—
Tie-rod end	Moving effort (maximum load measured at the pin hole at the tip of tie-rod end)	Front 14.6 lbs. (6.6 kg)	—
		Rear 14.6 lbs. (6.6 kg)	—

12. Suspension

□ : Rear wheel with 4WS Unit: mm (in).

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Camber		Front 0°00' ± 1° Rear -0°20' ± 1° (□-0°20' ± 30')	
	Caster		2°20' ± 30'	
	Toe-in		0 ± 2 (0 ± 0.08)	2 ± 2 (0.08 ± 0.08)
	Side slip		0 ± 2 (0 ± 0.08)	IN 2 ± 2 (IN 0.08 ± 0.08)
	Turning angle (MAX.)	Inward wheel Outward wheel	37°20' ± 2° (□5°00' ± 1°) 30°15' ± 2° (□5°20' ± 1°)	
	△ Rear wheel turning angle (when steering wheel angle is at 127°)		□1°30' ± 30'	
Ball joint	Moving effort (Maximum load measured at the pin rock at the tip of tie-rod end)	Front/Upper	10.4 lbs. (4.7 kg)	
		Front/Lower	7.9 lbs. (3.6 kg)	
		Rear/Upper	7.7 lbs. (3.5 kg)	
		Rear/Lower	13.9 lbs. (6.3 kg)	
Wheel	Rim runout	Steel	0—1.0 (0—0.039)	—
		Aluminum	0—0.3 (0—0.012)	—
	Pitch-circle diameter		100 (3.94)	
	Offset		45 (1.77)	
Wheel bearing	End play	Front	0	0.05
		Rear	0	0.05

△: Maximum steering angle at which front and rear wheel in place.

13. Brake

○: Fuel-Injected Engine ●: Carbureted Engine

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200N (20 kg, 44 lbs)		To be locked when pulled 7—11 notches	
Foot brake pedal	Pedal height	M/T H/M	178 (7.0) 183 (7.2) from floor	— —
	Free play		1—5 (0.04—0.20)	5 (0.20)
Master cylinder	Piston-to-push rod clearance		0—0.4 (0—0.016)	—
Disc brake	Disc thickness	Front	○ 21.0 (0.83) ● 19.0 (0.75)	19.0 (0.75) 17.0 (0.67)
		Rear	10.0 (0.39)	8.0 (0.31)
	Disc runout	Front/Rear	—	0.10 (0.004)/0.15 (0.006)
	Disc parallelism		—	0.015 (0.0006)
	Pad thickness	Front	○ 11.5 (0.45) ● 9.0 (0.35)	3.0 (0.12) 3.0 (0.12)
		Rear	8.0 (0.31)	2.0 (0.08)
Brake booster	Characteristics	Vacuum (mm Hg)	Pedal Pressure kg (lbs)	Line Pressure kg/cm ² (psi)
		0	20 (44)	○ 11.4 (162) ● 13.1 (186)
		300	20 (44)	○ 47.8 (680) ● 54.9 (781)
		500	20 (44)	○ 72.3 (1,028) ● 83.0 (1,180)

(cont'd)

Standards and Service Limite (cont'd)

16. Electrical

O: Fuel-Injected Engine

●: Carbureted Engine

Unit: mm (in.)

		MEASUREMENT	STANDARD (NEW)
Ignition	Rated voltage		12 Volts
	Primary winding resistance		1.2—1.5 ohms
	Secondary winding resistance		9,040—13,560 ohms
Ignition wire	Resistance		25,000 ohms max.
Spark plug	Type		Fuel-injected engine:
			KX, KQ, KS, KG
			BCPR6EY-N11 (NGK) BCPR6E-11 (NGK) Q20PR-U11 (ND) *1
			BCPR5EY-N11 (NGK) BCPR5E-11 (NGK) *2
			BCPR7EY-N11 (NGK) BCPR7E-11 (NGK) Q22PR-U11 (ND) *3
			KE, KB, KF, KT, KW, KY
			BCPR6E-11 (NGK) Q20PR-UL11 (ND) Q20PR-U11 (ND) *1
			BCPR5E-11 (NGK) Q16PR-UL11 (ND) Q16PR-U11 (ND) *2
			BCPR7E-11 (NGK) Q22PR-UL11 (ND) Q22PR-U11 (ND) *3
			Carbureted engine:
			KE, KB, KF, KT, KW, KY
			BCPR6E-11 (NGK) Q20PR-U11 (ND) Q20PR-UL11 (ND) *1
			BCPR5E-11 (NGK) Q16PR-U11 (ND) Q16PR-UL11 (ND) *2
			BCPR7E-11 (NGK) Q22PR-U11 (ND) Q22PR-UL11 (ND) *3
			KX, KS, KG
			BCPR6EY-N11 (NGK) BCPR6E-11 (NGK) Q20PR-U11 (ND) *1
			BCPR5EY-N11 (NGK) BCPR5E-11 (NGK) *2
			BCPR7EY-N11 (NGK) BCPR7E-11 (NGK) Q22PR-U11 (ND) *3
	Gap		1.0—1.1 (0.039—0.043)
Ignition timing	At idling	O Manual O Automatic (in neutral)	15 ± 2° BTDC 15 ± 2° BTDC
		● Manual	15 ± 2° BTDC (KT, KY) 16 ± 2° BTDC (KB, KE, KF, KG, KW) 20 ± 2° BTDC (KS, KX)
		● Automatic (in neutral)	10 ± 2° BTDC (KT, KY) 15 ± 2° BTDC (KS, KX) 16 ± 2° BTDC (KB, KE, KF, KG, KW)
Battery	Lighting capacity (20-hour ratio)		65 Ampere hours (European Models) 65, 47 Ampere hours (General Models)
	Starting capacity (5-second ratio)		9.2 V minimum at 300 Ampere draw (European Models) 8.5 V minimum at 300 Ampere draw (General Models)
Alternator	Output		13.5 V/70 A
	Coil resistance (rotor)		2.8—3.0 ohms
	Slip ring O.D.		14.4 (0.57)
	Brush length		10.5 (0.41)
Starting motor	Brush spring tension		300—360 g (10.6—12.7 oz)
	MEASUREMENT		1.0 kW (KE, KQ, KT, KY) 1.4 kW (Except KE, KQ, KT, KY)
			STANDARD (NEW) SERVICE LIMIT
	Mica depth		0.4—0.5 (0.016—0.020) 0.15 (0.006)
	Commutator runout		0—0.02 (0.0008) 0.05 (0.002)
	Commutator O.D.		28.0—28.1 (1.102—1.106) 27.5 (1.08)
	Brush length		15.8—16.2 (0.62—0.64) 10.0 (0.39)
	Spring pressure (new)		15.7—17.7 N (1.6—1.8 kg, 3.5—4.0 lb)