Standards and Service Limits

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

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide-open throttle	Normal Minimum Maximum variation	— — —	1,275 kPa (13.0 kg/cm^2, 185 psi) 932 kPa (9.5 kg/cm^2, 135 psi) 196 kPa (2 kg/cm^2, 28 psi)
Cylinder head	Warpage Height		— 94.95—95.05	0.05 (0.002) —
Camshaft	End play Oil clearance Runout Cam lobe height	 IN 1.6ℓ 1.4ℓ EX 1.6ℓ 1.4ℓ M/T 1.4ℓ A/T	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.002—0.004) 0—0.03 (0—0.001) max. 36.957 (1.4515) 36.603 (1.4411) 36.996 (1.4565) 36.747 (1.4467) 36.750 (1.4468)	0.5 (0.02) 0.15 (0.006) 0.06 (0.002) — — — — —
Valve	Valve clearance Valve stem O.D. Stem-to-guide clearance Stem installed height	IN EX IN EX IN EX IN EX	0.17—0.22 (0.007—0.009) 0.22—0.27 (0.009—0.011) 5.48—5.49 (0.2157—0.2161) 5.45—5.46 (0.2147—0.2150) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003) 46.985—47.455 (1.8498—1.8683) 48.965—49.435 (1.9278—1.9263)	— — 5.45 (0.2147) 5.42 (0.2134) 0.08 (0.003) 0.11 (0.004) 47.705 (1.8781) 49.685 (1.9561)
Valve seat	Width	IN EX	0.85—1.15 (0.033—0.045) 1.25—1.55 (0.049—0.061)	1.6 (0.06) 2.0 (0.08)
Valve spring	Free length Squareness	IN EX. IN/EX	48.58 (1.9126) 49.19 (1.9366) —	47.64 (1.8756) 48.32 (1.9024) 1.70/1.72 (0.0669/0.0677)
Valve guide	I.D.	IN and EX	5.51—5.53 (0.2169—0.2177)	5.55 (0.2185)
Rocker arm	Arm-to-shaft clearance	IN EX	0.017—0.050 (0.0007—0.0020) 0.018—0.054 (0.0007—0.0021)	0.08 (0.003) 0.08 (0.003)

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

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide-open throttle		Nominal Minimum Maximum variation	1,324 kPa (13.5 kg/cm^2, 192 psi) 932 kPa (9.5 kg/cm^2, 135 psi) 196 kPa (2 kg/cm^2, 28 psi)
Cylinder head	Warpage Height		— 131.95—132.05	0.05 (0.002) —
Camshaft	End play Oil clearance Runout Cam lobe height	 IN EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.002—0.004) 0—0.03 (0—0.001) max. 33.021 (1.3000) 32.382 (1.2749)	0.5 (0.02) 0.15 (0.006) 0.06 (0.002) — —
Valve	Valve clearance Valve stem O.D. Stem-to-guide clearance Stem installed height	IN EX IN EX IN EX IN EX	0.12—0.17 (0.005—0.007) 0.14—0.19 (0.006—0.008) 6.58—6.59 (0.2591—0.2595) 6.55—6.56 (0.2579—0.2583) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003) 45.545—46.015 (1.7931—1.8116) 44.735—45.205 (1.7612—1.7797)	— — 6.55 (0.2579) 6.52 (0.2567) 0.08 (0.003) 0.11 (0.004) 46.265 (1.8215) 45.455 (1.7896)
Valve seat	Width	IN and EX	1.25—1.55 (0.049—0.061)	2.0 (0.08)
Valve spring	Free length Squareness	IN EX IN/EX	47.49 (1.8697) 46.89 (1.8461) —	46.46 (1.8291) 45.93 (1.8083) 1.66/1.64 (0.065/0.065)
Valve guide	I.D.	IN and EX	6.61—6.63 (0.2602—0.2610)	6.55 (0.2579)

Unit: mm (in.)

5. Engine/Engine Block

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.0028) max.	0.10 (0.004)
	Bore diameter	75.00—75.02 (2.9526—2.9535)	75.07 (2.9555)
	Bore taper	—	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O.D. At 16 mm (0.63 in) from bottom of skirt	74.98—74.99 (2.9520—2.9524)	74.97 (2.9517)
	Clearance in cylinder	0.01—0.04 (0.0004—0.0016)	0.05 (0.002)
	Piston-to-ring clearance Top	0.03—0.06 (0.0012—0.0024)	0.13 (0.005)
	2nd	0.030—0.055 (0.0012—0.0022)	0.13 (0.005)
Piston ring	Ring end gap Top	0.15—0.30 (0.006—0.012)	0.6 (0.02)
	2nd	0.30—0.45 (0.012—0.018)	0.6 (0.02)
	Oil	0.20—0.80 (0.008—0.031)	0.9 (0.04)
Connecting rod	Pin-to-rod interference	0.014—0.040 (0.0006—0.0016)	—
	Large end bore diameter 1.6 ℓ	Nominal 48.0 (1.89)	—
	1.4 ℓ	Nominal 43.0 (1.69)	—
	End play installed on crankshaft	0.15—0.30 (0.006—0.012)	0.40 (0.016)
Crankshaft	Main journal diameter 1.6 ℓ	54.976—55.000 (2.1644—2.1654)	—
	1.4 ℓ	44.976-45.000 (1.7707-1.7716)	—
	Taper/out-of-round, main journal	0.0025 (0.0001) max.	0.010 (0.004)
	Rod journal diameter 1.6 ℓ	44.976—45.000 (1.7707—1.7765)	—
	1.4 ℓ	39.976-40.000 (1.5793-1.5748)	—
	Taper/out-of-round, rod journal	0.0025 (0.0001) max.	0.010 (0.004)
	End play	0.10—0.35 (0.004—0.014)	0.45 (0.018)
	Runout	0.015 (0.0006) max.	0.03 (0.002)
Bearings	**Main bearing-to-journal oil clearance**		
	1.4 ℓ (No. 1, 5 journals)	**0.018—0.036 (0.0007—0.0014)**	**0.05 (0.002)**
	(No. 2, 3, 4 journals)	**0.024—0.042 (0.0010—0.0017)**	**0.05 (0.002)**
	1.6 ℓ (No. 1, 5 journals)	**0.018—0.036 (0.0007—0.0014)**	**0.05 (0.002)**
	(No. 2, 4 journals)	**0.024—0.042 (0.0010—0.0017)**	**0.05 (0.002)**
	(No. 3 journal)	**0.030—0.048 (0.0012—0.0019)**	**0.05 (0.002)**
	Rod bearing-to-journal oil clearance	**0.020—0.038 (0.0008—0.0015)**	**0.05 (0.002)**

5. Engine/Engine Lubrication

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (U.S.qt., Imp. qt)	SOHC	4.0 (4.2, 3.5) After engine disassembly 3.5 (3.7, 3.1) After oil change, including oil filter	
		DOHC	4.3 (4.5, 3.8) After engine disassembly 3.8 (4.0, 3.3) After oil change, including oil filter	
Oil pump	Displacement	SOHC	44 ℓ (11.6 U.S. gal., 9.7 Imp. gal.) 6,250 min^{-1} (rpm)	
		DOHC	62 ℓ (16.4 U.S. gal., 13.7 Imp. gal.) 6,750 min^{-1} (rpm)	
	Inner-to-outer rotor radial clearance		0.14 (0.006)	0.2 (0.008)
	Pump body-to-rotor radial clearance		0.10—0.175 (0.004—0.007)	0.2 (0.008)
	Pump body-to rotor side clearance		0.03—0.08 (0.001—0.003)	0.15 (0.006)
Relief valve	Pressure setting 80 C° (176 F)	Idle	69 kPa (0.7 kg/cm^2, 10 psi)min	
		3,000 min^{-1} (rpm)	343 kPa (3.5 kg/cm^2, 50 psi)min	

5. Engine/Cooling

	MEASUREMENT	STANDARD (NEW)
Radiator	Capacity (Includes heater) ℓ (U.S.qt.,Imp.qt.) (Includes reservoir tank 0.4 (0.42, 0.35))	DOHC 5.5 (5.8, 4.8) SOHC (1.6ℓ, 1.4ℓ M/T) : 5.4 (5.7, 4.8) 1.4ℓ A/T 5.3 : (5.6, 4.7)
Radiator cap	Pressure cap opening pressure	74—103 kPa (0.75—1.05 kg/cm^2,11—15 psi)
Thermostat	Starts to open Full open Valve lift at full open	76 C—80 C (169—176 F) 90 C (194 F) 8 (0.31) min.
Water pump	Pulley ratio (crankshaft) Capacity: ℓ per min/at min^{-1} (rpm)	1 : 1 SOHC 85 (22.4 U.S. gal., 18.7 Imp. gal.)/4,000 min^{-1} (rpm) DOHC 76 (20.0 U.S. gal., 16.7 Imp. gal.)/4,000 min^{-1} (rpm)
Cooling fan	Fan-to-core clearance Thermoswitch "ON" temperature Thermoswitch "OFF" temperature	28.0 (1.10) 88.5—91.5 C (191—197 F) Subtract 5±1.5 C (9±2.7 F) from actual "ON" temperature.

(cont'd)

Standards and Service Limits (cont'd)

6. Fuel and Emissions (PGM-FI Engine)

	MEASUREMENT		STANDARD (NEW)
Fuel pump	Delivery pressure Displacement Relief valve opening pressure		250 kPa (2.55 kg/cm², 36psi) 230 cm³ (7.8 oz) in 10 seconds at 12V. 441—588 kPa (4.5—6.0 kg/cm², 64—85 psi)
Pressure regulator	Pressure		245—255 kPa (2.5—2.6 kg/cm², 36—37 psi)
Fuel tank	Capacity		45 ℓ (11.9 U.S. gal., 9.9 Imp. gal.)
Fast idle			1,000—2,000 min⁻¹ (rpm)
Idle speed	with headlights and cooling fan off	SOHC KY DOHC KQ except KQ	780 ± 50 min⁻¹ (rpm) 750 ± 50 min⁻¹ (rpm) 800 ± 50 min⁻¹ (rpm)
Idle CO	With Catalytic Converter Without Catalytic Converter		0.1% max. 1.0 ±1.0%

6. Fuel and Emissions (Carbureted Engine)

	MEASUREMENT	STANDARD (NEW)
Fuel pump	Delivery pressure Displacement	6.8—22.6 kPa (0.07—0.23 kg/cm², 1.0—3.2 psi) 833.3 cc/minutes in 10 seconds min.
Fuel Tank	Capacity	45ℓ (11.9 US gal, 9.9 Imp gal)
Fast idle		1,500—2,500 min⁻¹ (rpm)
Idle speed	with headlights and cooling fan off	M/T 750±50 min⁻¹ (rpm) A/T (except "N" or "P") 700±50 min⁻¹ (rpm)
Idle CO		0.5% max./1.0% max.

7. Clutch

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	LHD RHD	213 (8.39) to floor 208 (8.19) to floor	— —
	Stroke	LHD RHD	140—150 (5.5—5.9) 135—145 (5.31—5.71)	— —
	Pedal free play		15—20 (0.59—0.79)	—
	Disengagement height	LHD RHD	70 (2.76) min.to floor 65 (2.56) min. to floor	— —
Clutch release arm	Free play at arm		3.0—4.0 (0.12—0.16)	
Flywheel	Clutch surface runout		0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth Surface runout Radial play in spline at circumference (200ϕ) Thickness		1.3 (0.05) min. 0.8 (0.03) max. 0.1—0.5 (0.004—0.020) 8.1—8.8 (0.32—0.35)	0.2 (0.008) 1.0 (0.04) 3.4 (0.134) 5.7 (0.224)
Clutch release bearing holder	I.D. Holder-to-guide sleeve clearance		31.00—31.15 (1.220—1.226) 0.050—0.239 (0.002—0.009)	31.2 (1.228) 0.28 (0.011)
Clutch cover	Uneveness of diaphragm spring		0.8 (0.03) max.	1.0 (0.04)

Unit: mm (in.)

8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US.qt.,Imp.qt.)	1.8 (1.9, 1.6) at oil change 1.9 (2.0, 1.7) at assembly	
Mainshaft	End play	0.11—0.18 (0.004—0.007)	Adjust with a shim
	Diameter of ball bearing contact area	25.977—25.990 (1.0227—1.0232)	25.92 (1.020)
	Diameter of third gear contact area	33.984—34.000 (1.3380—1.2713)	33.93 (1.336)
	Diameter of 4th, 5th gear contact area	26.980—26.993 (1.0622—1.0627)	26.93 (1.060)
	Diameter of ball bearing contact area	21.987—22.000 (0.8656—0.8661)	21.93 (0.863)
	Runout	0.02 (0.0008) max.	0.05 (0.002)
Mainshaft third and fourth gears	I.D.	39.009—39.025 (1.5358—1.5364)	39.07 (1.538)
	End play 3rd	0.06—0.21 (0.0024—0.008)	0.33 (0.013)
	4th	0.06—0.19 (0.0024—0.0075)	0.31 (0.012)
	Thickness 3rd	30.22—30.27 (1.1898—1.1917)	30.15 (1.187)
	4th	30.12—30.17 (1.1858—1.1878)	30.05 (1.183)
Mainshaft fifth gears	I.D.	37.009—37.025 (1.4570—1.4577)	37.07 (1.459)
	End play	0.06—0.19 (0.0024—0.0075)	0.31 (0.012)
	Thickness	28.42—28.47 (1.1189—1.1209)	28.35 (1.116)
Countershaft	End play	0.17—0.38 (0.0067—0.0150)	0.53 (0.021)
	Diameter of needle bearing contact area	30.000—30.015 (1.1811—1.817)	29.95 (1.179)
	Diameter of ball bearing contact area	24.980—24.993 (0.9835—0.9840)	24.93 (0.981)
	Diameter of low gear contact area	35.984—36.000 (1.4167—1.4173)	35.93 (1.415)
	Runout	0.02 (0.0008) max.	0.05 (0.002)
Countershaft low gear	I.D.	41.009—41.025 (1.6145—1.6152)	41.07 (1.617)
	End play (when torqued properly)	0.03—0.10 (0.0012—0.0039)	0.22 (0.009)
	Thickness	29.41—29.44 (1.1579—1.1591)	29.36 (1.156)
Countershaft Second gear	I.D.	44.009—44.025 (1.7326—1.7333)	44.07 (1.735)
	End play (when torqued properly)	0.03—0.11 (0.0012—0.0043)	0.23 (0.009)
	Thickness	29.92—29.97, (1.1780—1.1799)	29.85 (1.175)
Spacer collar (Countershaft second gear)	I.D.	32.975—32.985 (1.2982—1.2986)	33.03 (1.300)
	O.D.	38.989—39.000 (1.5350—1.5354)	38.93 (1.533)
	Length	30.03—30.06 (1.1823—1.1835)	30.01 (1.181)
Spacer collar (Mainshaft fourth and fifth gears)	I.D.	27.002—27.012 (1.0631—1.0635)	27.06 (1.065)
	O.D. 4th	33.989—34.000 (1.3381—1.3386)	33.93 (1.336)
	5th	31.989—32.000 (1.2594—1.2598)	31.93 (1.257)
	Length 4th	27.43—27.46 (1.0799—1.0811)	27.41 (1.079)
	5th	23.53—23.56 (0.9264—0.9276)	23.51 (0.926)
Reverse Idler gear	I.D.	15.016—15.043 (0.5911—0.5922)	15.08 (0.594)
	Gear-to-reverse gear shaft clearance	0.032—0.077 (0.0013—0.0030)	0.14 (0.006)
Synchro ring	Ring-to-gear clearance (ring pushed against gear)	0.73—1.18 (0.029—0.046)	0.4 (0.016)
Shift fork	Shift fork finger thickness	6.4—6.5 (0.252—0.255)	—
	Fork-to-synchro sleeve clearance	0.25—0.45 (0.0098—0.0177)	0.8 (0.03)
Reverse shift fork	Shift fork paul groove width	12.7—13.0 (0.500—0.512)	—
	Fork-to-reverse idler gear clearance	0.5—1.1 (0.020—0.043)	1.8 (0.071)
	Groove width	7.05—7.25 (0.278—0.285)	—
	Fork-to-fifth/reverse shift piece pin clearance	0.05—0.35 (0.002—0.014)	0.5 (0.02)
Shift arm A	Diameter of shift rod contact area	13.005—13.130 (0.5120—0.5169)	—
	Shift arm A-to-shift rod clearance	0.005—0.230 (0.0002—0.0091)	0.35 (0.0138)
Shift arm B	Diameter of shift arm shaft contact area	13.973—14.000 (0.5501—0.5512)	—
	Shift arm B-to-shift arm shaft clearance	0.013—0.070 (0.0005—0.0028)	0.16 (0.0063)
	Shift arm B-to-shift piece clearance	0.2—0.5 (0.0079—0.0197)	0.62 (0.0244)
	Shift piece diameter of shift fork shaft contact area	12.9—13.0 (0.5079—0.5118)	12.78 (0.5031)
Ring gear	Backlash	0.072—0.130 (0.0028—0.0051)	0.18 (0.007)
Differential carrier	Pinion shaft bore diamater	18.000—18.018 (0.7087—0.7094)	—
	Carrier-to-pinion shaft clearance	0.017—0.047 (0.0007—0.0019)	0.095 (0.004)
	Driveshaft bore diameter	26.025—26.045 (1.0246—1.0254)	—
	Carrier-to-driveshaft clearance	0.045—0.086 (0.0017—0.0034)	0.14 (0.006)
	Carrier-to-intermediate shaft clearance	0.075—0.111 (0.0030—0.0044)	0.16 (0.006)
	Side clearance	0.15 max.	
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)

Standard and Service Limits

9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)		2.4 (2.5, 2.1) at oil change 5.4 (5.7, 4.8) at assembly	
Hydraulic pressure	Line pressure at 2,000 min^{-1} (rpm)		785—834 kPa (8.0—8.5 kg/cm^2, 114—121 psi)	736 kPa (7.5kg/cm^2, 107 psi)
	2nd, 3rd, 4th clutch pressure at 2,000 rpm in [D] and [D]		412 kPa (4.2 kg/cm^2, 60 psi) Throttle control lever full closed | 785—834 kPa (8.0—8.5kg/cm^2, 114—121 psi) Throttle control lever opened 2/8 or more	363 kPa (3.7 kg/cm^2, 53 psi) (closed) | 736 kPa (7.5 kg/cm^2 107 psi) (2/8 opened)
	2nd clutch pressure at 2,000 min^{-1} (rpm) in [2]		785—834 kPa (8.0—8.5 kg/cm^2, 114—121 psi)	736 kPa (7.5 kg/cm^2 107 psi)
	1st clutch pressure at 2,000 min^{-1} (rpm)			
	Governor pressure at 60 km/h (37.5 mph)		151—162 kPa (1.54—1.64 kg/cm^2, 22—23 psi)	146 kPa (1.49 kg/cm^2, 21 psi)
	Throttle pressure B	Full closed	0	—
		Full open	785—834 kPa (8.0—8.5 kg/cm^2, 114—121 psi)	736 kPa (7.5 kg/cm^2, 107 psi)
	Throttle pressure A	Full closed	0—4.9 kPa (0—0.05 kg/cm^2, 0—0.7 psi)	—
		Full open	505—520 kPa (5.15—5.30 kg/cm^2, 73—75 psi)	500 kPa (5.1 kg/cm^2, 73 psi)

(cont'd)

Unit: mm (in.)

9. Automatic Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Stall speed		2,300—2,900 min^{-1} (rpm)	—
Clutch	Clutch inital clearance 1st	0.65—0.85 (0.026—0.033)	—
	2nd	0.65—0.85 (0.026—0.033)	—
	3rd, 4th	0.40—0.60 (0.016—0.024)	—
	Clutch return spring free length 1st	31.0 (1.22)	29.0 (1.14)
	Except 1st	30.5 (1.20)	28.5 (1.12)
	Clutch disc thickness	1.88—2.00 (0.074—0.079)	Until grooves worn out
	Clutch plate thickness 1st	1.55—1.65 (0.061—0.065)	Discoloration
	Clutch plate thickness Except 1st	1.95—2.05 (0.077—0.079)	↑
	Clutch end plate thickness Mark 1	2.2—2.3 (0.087—0.091)	↑
	Mark 2	2.5—2.6 (0.098—0.102)	↑
	Mark 3	2.8—2.9 (0.110—0.114)	↑
	Mark 4	3.1—3.2 (0.122—0.126)	↑
	Mark 5	3.4—3.5 (0.134—0.138)	↑
	Mark 11	2.05—2.15 (0.081—0.085)	↑
	Mark 12	2.35—2.45 (0.093—0.096)	↑
	Mark 13	2.65—2.75 (0.104—0.108)	↑
	Mark 14	2.95—3.05 (0.116—0.120)	↑
	Mark 15	3.25—3.35 (0.128—0.132)	Discoloration
Transmission	Diameter of needle bearing contact area on main and stator shaft	19.980—19.993 (0.7866—0.7871)	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 coller	27.975—27.995 (1.1014—1.1022)	↑
	Diameter of needle bearing contact area on countershaft (L side)	36.004—36.017 (1.4175—1.4180)	↑
	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	29.980—29.993 (1.1803—1.1808)	↑
	Diameter of needle bearing contact area on countershaft 1st gear collar	29.980—29.993 (1.1803—1.1808)	↑
	Diameter of needle bearing contact area on reverse idle gear	13.990—14.000 (0.5508—0.5512)	↑
	Mainshaft 2nd gear I.D.	41.000—41.016 (1.6142—1.6148)	↑
	Mainshaft 1st gear I.D.	33.000—33.016 (1.2992—1.2998)	↑
	Mainshaft 4th gear I.D.	38.000—38.016 (1.4961—1.4967)	↑
	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 1st gear I.D.	35.000—35.016 (1.3780—1.3786)	↑
	Countershaft reverse gear I.D.	36.000—36.016 (1.4173—1.4179)	↑
	Reverse idle gear I.D.	18.007—18.020 (0.7089—0.7094)	↑
	Reverse idler shaft holder I.D.	14.416—14.434 (0.5676—0.5683)	Wear or damage
	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 4th gear end play	0.07—0.15 (0.0028—0.0059)	—
	Countershaft 3rd gear end play	0.07—0.15 (0.0028—0.0059)	—
	Countershaft 1st gear end play	0.10—0.45 (0.0039—0.0177)	—
	Reverse idler gear end play	0.05—0.18 (0.0020—0.0071)	—
	Countershaft reverse gear play	0.10—0.45 (0.0039—0.0177)	—
	Selector hub O.D.	51.87—51.90 (2.0421—2.0433)	Wear or damage

(cont'd)

Standards and Service Limits

9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Thrust washer thickness		
	Mainshaft 2nd gear A	3.47—3.50 (0.1366—0.1378)	Wear or damage
	B	3.52—3.55 (0.1386—0.1398)	↑
	C	3.57—3.60 (0.1406—0.1417)	
	D	3.62—3.65 (0.1425—0.1437)	
	E	3.67—3.70 (0.1445—0.1457)	
	F	3.72—3.75 (0.1465—0.1476)	
	G	3.77—3.80 (0.1484—0.1496)	
	H	3.82—3.85 (0.1504—0.1516)	
	I	3.87—3.90 (0.1524—0.1535)	
	Mainshaft L side bearing	2.95—3.05 (0.1161—0.1201)	↓
	Mainshaft 4th gear	4.45—4.55 (0.1752—0.1791)	
	Mainshaft R side 1st gear	2.43—2.50 (0.0957—0.0984)	
	Mainshaft L side 1 st gear	1.45—1.50 (0.0571—0.0591)	
	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)	Wear or damage
	Countershaft distance collar length	38.97—39.00 (1.5342—1.5354)	—
		39.02—39.05 (1.5362—1.5374)	—
		39.07—39.10 (1.5382—1.5394)	—
		39.12—39.15 (1.5402—1.5413)	—
		39.17—39.20 (1.5421—1.5433)	—
		39.22—39.25 (1.5441—1.5453)	—
		39.27—39.30 (1.5461—1.5472)	—
	Mainshaft 4th gear collar length	40.00—40.05 (1.5748—1.5768)	—
	Mainshaft 1st gear collar length	25.00—25.15 (0.9843—0.9902)	—
	Mainshaft 1st gear collar flange thickness	2.5—2.6 (0.098—0.102)	Wear or damage
	Countershaft reverse gear collar length	14.50—14.55 (0.5709—0.5728)	—
	Countershaft reverse gear collar flange thickness	2.45—2.55 (0.0965—0.1004)	Wear or damage
	Countershaft 1st gear collar length	14.50—14.55 (0.5709—0.5728)	—
	Countershaft 1st gear collar flange thickness	2.45—2.55 (0.0965—0.1004)	Wear or damage
	Diameter of countershaft one-way clutch contact area	74.414—74.440 (2.9297—2.9307)	Wear or damage
	Diameter of parking gear one-way clutch contact area	57.755—57.768 (2.2738—2.2743)	Wear or damage
	Mainshaft feed pipe A O.D. (at 15 mm from end)	8.97—8.98 (0.353—0.354)	8.95 (0.3524)
	Mainshaft feed pipe B O.D. (at 12 mm from end)	5.97—5.98 (0.2351—0.2354)	5.95 (0.2343)
	Countershaft feed pipe O.D. (at 20 mm from end)	7.97—7.98 (0.3138—0.3142)	7.95 (0.3130)
	Mainshaft sealing ring 32 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	2.025—2.060 (0.0797—0.0811)	2.080 (0.0819)
	Statorshaft distance collar 20 mm I.D.	26.000—26.013 (1.0236—1.0241)	26.030 (1.0248)
Regulator valve body	Sealing ring contact area diameter	32.000—32.025 (1.2598—1.2608)	32.050 (1.2618)
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	18.5—18.6 (0.728—0.732)	—
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: 0.240—0.266 (0.0094—0.0105)	—
		Driven: 0.063—0.088 (0.0025—0.0035)	—
	Stator camshaft needle bearing bore I.D. (R side)	26.000—26.013 (1.0236—1.0241)	Wear or damage
	Stator camshaft needle bearing contact and I.D. (Stator side)	24.000—24.021 (0.9449—0.9457)	Wear or damage
	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

Unit: mm (in.)

9. Automatic Transmission

	MEASUREMENT	STANDARD (NEW)			
Springs		Wire Diameter	O.D.	Free Length	No. of Coils
	Regulator valve spring A	1.58 x 2.00 (0.06 x 0.08)	14.7 (0.58)	86.5 (3.41)	20.9
	Regulator valve spring B	1.8 (0.07)	9.6 (0.38)	44 (1.73)	7.5
	Stator reaction spring	6 (0.24)	38.4 (1.51)	30.3 (1.20)	2
	Throttle modulator spring	1.2 (0.05)	9.4 (0.37)	27.2 (1.07)	8
		1.2 (0.05)	9.4 (0.37)	26.3 (1.04)	8
	Torque converter check valve spring	1.1 (0.04)	8.4 (0.33)	36.4 (1.43)	12
	Releaf valve spring	1.0 (0.04)	8.4 (0.33)	52 (2.05)	23
	Governor spring A	1.0 (0.04)	18.8 (0.74)	20.4 (0.80)	4
	Governor spring B	0.8 (0.03)	11.8 (0.46)	26.7 (1.05)	6
	2nd orifice control spring	0.8 (0.03)	6.6 (0.26)	46.3 (1.82)	27.6
	Servo orifice control spring	0.9 (0.04)	6.1 (0.24)	35.9 (1.41)	20
	Throttle A spring	1.0 (0.04)	8.5 (0.33)	22.2 (0.87) 22.1 (0.87)	6 5.5
	Throttle B adjust spring	0.8 (0.03)	6.2 (0.24)	30 (1.18)	8
	Throttle A adjust spring	0.8 (0.03)	6.2 (0.24)	27 (1.06)	8.5
	Throttle B spring	1.4 (0.06)	8.5 (0.33)	41.4 (1.63)	8.4
	1—2 shift spring	0.5 (0.02)	4.5 (0.18)	44.5 (1.75)	35.1
	1—2 shift ball spring	0.4 (0.02)	4.5 (0.18)	11.3 (0.44)	8
	2—3 shift spring	0.7 (0.03)	7.6 (0.23)	43 (1.69)	12.7
	2—3 shift ball spring	0.4 (0.02)	4.5 (0.18)	14.7 (0.58)	7.3
	3—4 shift spring	0.7 (0.03)	9.6 (0.38)	32.9 (1.30)	6.4
	3—4 shift ball spring	0.45 (0.02)	4.5 (0.18)	12.0 (0.47)	6.7
	Low accumulator spring A	2.34 x 2.9 (0.09 x 0.1)	21.5 (0.85)	66.7 (2.63)	10.2
	Low accumulator spring B	2.8 (0.11)	13.1 (0.52)	40 (1.57)	8.8
	Top accumulator spring	3.2 (0.13)	18.6 (0.73)	78.3 (3.08)	10
	2nd accumulator spring	3.5 (0.14)	20.2 (0.80)	76.7 (3.02)	9.6
	3rd accumulator spring	2.7 (0.10)	15.5 (0.61)	80.0 (3.15)	14.8
	L/C shift spring	0.7 (0.03)	8.1 (0.32)	39.0 (1.54)	15.4
	L/C timing spring B	1.0 (0.04)	6.6 (0.26)	52.3 (2.06)	30.1
	L/C control valve spring	0.7 (0.03)	6.6 (0.26)	32.5 (1.28)	14
	CPC valve spring	1.4 (0.06)	9.4 (0.37)	31.6 (1.24)	10.9
	L/C cut spring	0.7(0.028)	7.6(0.299)	29.0(1.142)	18
	Reverse control spring	0.7(0.028)	7.6(0.299)	37.2(1.465)	15.3
	Kick down valve spring	0.9(0.035)	10.1(0.398)	40.8(1.606)	14.5
	Shift timming spring	0.9(0.035)	8.6(0.339)	42.9(1.689)	21.4
	4 th exhaust spring	0.9(0.035)	6.1(0.240)	43.7(1.720)	20.3
	3-2 timming spring	1.2(0.047)	7.7(0.303)	45.1(1.776)	19.8
	Reverse timming spring	0.7(0.028)	5.6(0.220)	43.8(1.724)	21.7
	Servo control spring	1.0(0.039)	7.6(0.299)	44.0(1.732)	18.2
	1 st accumulator one way ball spring	0.29(0.011)	4.0(0.157)	14.0(0.551)	13

Standard and Service Limits (cont'd)

10. Driveshaft

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Driveshaft	Right boot as installed with intermediate shaft without intermediate shaft Left boot as installed with intermediate shaft without intermediate shaft	 485—490 (19.01—19.29) 481.5—486.5 (18.96—19.15) 485—490 (19.09—19.29) 774.5—779.5 (30.49—30.69)	 — — — —

11. Steering

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Steering wheel	Play	10 (0.39) max.	—
Gear box	Pinion starting torque N·m (kg-m, lb-ft) with P/S Angle of rack-guide-screw loosened from locked position with P/S	0.39—1.37 (0.04—0.14, 0.29—1.01) 0.98 (0.1, 0.72) max. 10° – 15° 20°—25	
Pump	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)	7,845—8,826 (80—90, 1,138—1,280)	
Power steering fluid	Fluid capacity Reservoir At change	0.4 ℓ (0.42 U.S.qt., 0.35 Imp. qt.) approx 1.2 ℓ (1.3 U.S. qt., 1.1 Imp.qt.)	
Power steering belt	Defiection when 98 N (10 kg, 22 lb) between the pulleys Belt feusion between the puiieys N (kg, lb) (Measured with the belt tension gauge)	9—12 (0.35—0.47) for used belt 7—10 (0.28—0.39) for new belt 343-490 (35-50, 77-110) for used belt 441-686 (45-70, 99-154) for new belt	
Rack end	Pivoting resistance N·m (kg-m, lb-ft)	0.49—1.96 (0.05—0.20, 0.36—1.45)	

Unit: mm (in.)

12. Suspension

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Toe-in		Front: 0 ±2 (0±0.08) / Rear: 2 $^{+2}_{-1}$ ($0.08\ ^{\pm 0.08}_{-0.04}$)	
	Camber		0°00′ ± 1°	−0°30′ ±1°
	Caster		3°00′ ± 1°	
	Side slip		0 ±3 (0 ± 0.12)	
	Turning angle (MAX.)	Inward wheel	41°30′ ± 2°	
		Outward wheel	33°30′ ± 2°	
Wheel	Rim runout	Steel	0—1.0 (0—0.039)	2.0 (0.08)
		Aluminum	0—0.7 (0—0.028)	1.5 (0.06)
Wheel bearing	End play	Front	0	0.05
		Rear	0	0.05

13. Brake

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200N (20 kg, 44 lbs)		To be locked when pulled 6—10 notches	
Foot brake pedal	Pedal height	RHD	161 (6.3) from floor	—
		LHD	153 (6.0) 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)	—
Brake disc	Disc thickness Front	1.6ℓ	19.0 (0.75)	17.0 (0.67)
		1.4ℓ	17.0 (0.67)	15.0 (0.59)
	Rear		10.0 (0.39)	8.0 (0.32)
	Disc runout Front		—	0.1 (0.004)
	Rear		—	0.15 (0.006)
	Disc parallelism		—	0.015 (0.0006)
	Pad thickness Front		9.0 (0.35)	3.0 (0.12)
	Rear		8.0 (0.32)	1.6 (0.06)
Brake Drum	I.D.		180(7.09)	181(7.13)
	Lining thickness		4.5(0.18)	2.0(0.08)

Brake booster	Characteristics	Vacuum (mm Hg)	Pedal Pressure kg (lbs)	Line Pressure kPa (kg/cm², psi)	
				1.6ℓ	1.4ℓ
		0	20 (44)	1.362 (13.9, 198)	1.577 (16.1, 229)
		300	20 (44)	4.508 (46.0, 654)	4.297 (43.8, 623)
		500	20 (44)	6.605 (67.4, 960)	6.096 (62.2, 885)

15. Air Conditioner

	MEASUREMENT		STANDARD (NEW)
Air conditioner system	Lubricant capacity cc (US oz, Imp oz)	Condenser	10 (0.34, 0.28)
		Evaporator	30 (1.00, 0.84)
		Line or hose	10 (0.34, 0.28)
		Reservoir	10 (0.34, 0.28)
Compressor	Lubricant capacity cc (US oz, Imp oz)		130—140 (4.40—4.73, 3.66—3.94)
	Stator coil resistance at 20°C (68°F) Ω		3.1—3.5
	Pulley-to-pressure plate clearance		0.4—0.6 (0.016—0.024)
Compressor belt	Deflection when 98 N (10 kg, 22 lb) between the pulleys		9.0—11.0 (0.35—0.43) with used belt 7.0—9.0 (0.28—0.35) with new belt
	Belt tension between the pulleys N (kg, lb) (Measured with belt tension gauge)		343—441 (35—45, 77—99) with used belt 441—686 (45—70, 99—154) with new belt

Standards and Service Limit

16. Electrical

	MEASUREMENT	STANDARD (NEW)			
Ignition coil	Rated voltage	12 Volts			
	Primary winding resistance	0.3—0.5 ohms			
	Secondary winding resistance	9,440—14,160 ohms			
Ignition wire	Resistance	25,000 ohms max.			
Spark plug	Type		Makes	Standard	Option
		With Catalytic converter	NGK	BCPR6E-11	BCPR7E-11
			ND	Q20PR-UL11	Q20PR-U11 Q22PR-U11 Q22PR-UL11
		Without catalytic converter * : DOHC only	NGK	BCPR6E-11	BCPR7E-11* BCPR6EY-N11* BCPR7EY-N11*
			ND	Q20PR-U11	Q22PR-U11
	Gap	1.0—1.1 (0.039—0.043)			
Ignition timing	At idling 1.6ℓ SOHC 1.6ℓ DOHC 1.4ℓ SOHC (2-Carb.)	18° ± 2° (Red) BTDC 16° ± 2° (Red) BTDC 18° ± 2° (Red) BTDC			
Battery	Lighting capacity (20-hour ratio) Starting capacity (5-second ratio)	47(European), 45(General) Ampere Hours 8.6 V min. at 300 Ampere draw			
Alternator belt	Deflection when 98 N (10 kg, 22 lb) between the pulleys Belt tension between the pulleys N (kg, lb) (Measure with belt tension gauge)	9-11 (0.35-0.43) with used belt 7-9 (0.28-0.35) with new belt 294-392 (30-40, 66-88) with used belt 392-588 (40-60, 88-132) with new belt			
Alternator	Output	13.5V / 60A			
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT		
	Coil resistance (rotor)	2.8—3.0 ohm	±0.1 ohm		
	Slip ring O.D.	32.5 (1.28)	32.1 (1.26)		
	Brush length	13.5 (0.53)	4.5 (0.18)		
	Brush Spring tension	300—500g (10.6—17.6 oz)	—		
Starting motor		ND 1.0 kW, 1.2 kW		MITSUBA 1.0 kW, 1.4 kW	
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	STANDARD (NEW)	SERVICE LIMIT
	Mica depth	0.5—0.8 (0.020—0.031)	0.2 (0.008)	0.4—0.5 (0.016—0.020)	0.15 (0.006)
	Commutator	0—0.02 (0.0008)	0.05 (0.002)	0—0.02 (0.0008)	0.05 (0.002)
	Commutator O.D.	29.9—30.0 (1.18)	29.0 (1.14)	28.0—28.1 (1.10—1.11)	27.5 (1.08)
	Brush length	12.5—13.5 (0.49—0.53)	8.5 (0.33)	14.3—14.7 (0.56—0.58)	9.3 (0.37)
	Spring Pressure (new)	18.1—23.5 N (1.85—2.4 kg, 4.1—5.3 lb)	—	20.1—26.5 N (2.05—2.7 kg, 4.5—6.0 lb)	—