Standards and Service Limits

5. Engine/Cylinder Head, Valve Train

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	200 min^{-1} (rpm) and wide-open throttle		Nominal: 1,177 kPa (12.0 kg/cm², 171 psi) Minimum: 981 kPa (10.0 kg/cm², 142 psi) Maximum variation: 196 kPa (2 kg/cm², 28 psi)	
Cylinder head	Warpage		—	0.05 (0.002)
	Height		133 (5.24)	132.8 (5.23)
Camshaft	End play		0.05–0.15 (0.002–0.006)	0.5 (0.02)
	Oil clearance		0.045–0.081 (0.0018–0.0032)	0.10 (0.004)
	Runout		0.015 (0.0006)	0.03 (0.001)
	Cam lobe height	IN	39.460 (1.5535)	—
		EX	39.409 (1.5515)	—
Valve	Valve clearance	IN	0	—
		EX	0	—
	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 (0.004)
	Stem installed height	IN	50.00 (1.969)	50.35 (1.982)
		EX	47.50 (1.870)	47.85 (1.884)
Valve seat	Width	IN and EX	1.25–1.55 (0.049–0.061)	2.0 (0.08)
Valve spring	Free length	IN	53.90 (2.12)	52.90 (2.08)
		EX Inner	44.95 (1.77)	43.95 (1.73)
		Outer	49.55 (1.95)	48.55 (1.91)
	Squareness	IN	—	1.89 (0.072)
		EX Inner	—	1.57 (0.062)
		Outer	—	1.73 (0.068)
Valve guide	I.D.	IN and EX	6.61–6.63 (0.260–0.261)	6.65 (0.262)
Rocker arm	Arm-to-shaft clearance		0.018–0.054 (0.0007–0.0021)	0.08 (0.003)
Push rod	Runout		—	0.02 (0.0008)
Hydraulic tappet	Compression stroke		0.01–0.08 (0.0003–0.0031)	—

5. Engine/Engine Block

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface		0.07 (0.003) max.	0.10 (0.004)
	Bore diameter	A	87.00–87.02 (3.4252–3.4259)	87.07 (3.4279)
	Bore taper		—	0.05 (0.002)
	Reboring limit		—	0.5 (0.02)
Piston	Skirt O.D. (At 18 mm (0.71 in) from bottom of skirt)	A	86.981–86.994 (3.4244–3.4250)	86.97 (3.4240)
		B	86.971–86.984 (3.4240–3.4246)	86.96 (3.4236)
	Clearance in cylinder		0.016–0.039 (0.0006–0.0015)	0.08 (0.003)
	Piston-to-ring clearance (top and second)		0.015–0.045 (0.0006–0.0018)	0.13 (0.005)
Piston ring	Ring end gap Top		0.20–0.35 (0.008–0.014)	0.6 (0.02)
	Second		0.35–0.50 (0.014–0.019)	0.75 (0.03)
	Oil		0.20–0.70 (0.008–0.028)	0.8 (0.03)
Connecting rod	Pin-to-rod interference		0.013–0.032 (0.0005–0.0013)	—
	Large end bore diameter		Nominal 55 (2.17)	—
	End play installed on crankshaft		0.15–0.30 (0.006–0.012)	0.40 (0.016)
Crankshaft	Main journal diameter		63.976–64.000 (2.5187–2.5197)	—
	Taper/out-of-round, main journal		0.005 (0.0002) max.	0.010 (0.0004)
	Rod journal diameter		51.976–52.000 (2.0463–2.0472)	—
	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		0.01 (0.0004) max.	0.015 (0.0006)
Bearings	Main bearing-to-journal oil clearance		0.024–0.048 (0.0009–0.0019)	0.05 (0.002)
	Rod bearing-to-journal oil clearance		0.026–0.050 (0.0010–0.002)	0.05 (0.002)

Unit: mm (in.)

5. Engine/Engine Lubrication

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (U.S. qt., Imp. qt.)		5.7 (6.0, 5.0) After engine disassembly 4.5 (4.8, 4.0) After oil change, including oil filter	
Oil pump	Displacement		55.9 ℓ (14.8 U.S. gal., 12.3 Imp. gal.) 5,000 min^{-1} (rpm)	
	Inner-to-outer rotor radial clearance		0.04–0.18 (0.002–0.007)	0.2 (0.008)
	Pump body-to-rotor radial clearance		0.10–0.18 (0.004–0.007)	0.2 (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)	At Idle	137 kPa (1.4 kg/cm^2, 20 psi) min.	
		At 3,000 min^{-1} (rpm)	490–569 kPa (5.0–5.8 kg/cm^2, 71–82 psi)	

5. Engine/Cooling

	MEASUREMENT	STANDARD (NEW)	
Radiator	Capacity (Includes heater) ℓ (U.S. qt., Imp. qt.) (Includes reservoir 0.7 (0.74, 0.61))	M/T: 7.5 (7.9, 6.6) A/T: 7.4 (7.8, 6.5)	
	Pressure cap opening pressure	88–118 kPa (0.9–1.20 kg/cm^2, 14–17 psi)	
Thermostat	Starts to open Full open Valve lift at full open	78 ± 2°C (172 ± 36°F) 91°C (196°F) 8 (0.31) min.	86–90°C (187–194°F)
Water pump	Gear ratio (crankshaft) Capacity: ℓ per min/at min^{-1} (rpm)	1.044 150/6,000 (39.6 U.S. gal, 33 Imp. gal./6,000 min^{-1} (rpm))	
Cooling fan	Fan-to-core clearance Thermoswitch "ON" temperature (Low) Thermoswitch "OFF" temperature (Low) Thermoswitch "ON" temperature (High) Thermoswitch "OFF" temperature (High)	7.5 (0.29) 81–87°C (179–189°F) Subtract 6 ± 2°C (43 ± 36°F) from the actual "ON" temperature (LOW). 87–93°C (188–199°F) Subtract 6 ± 2°C (43 ± 36°F) from the actual " ON" temperature (HIGH).	

6. Fuel and Emissions

	MEASUREMENT	STANDARD (NEW)
Fuel pump	Delivery pressure Displacement	250 kPa (2.55 kg/cm^2, 36 psi) 230 cm^3 (cc)/min in 10 seconds
	Relief valve opening pressure	441–588 kPa (4.5–6.0 kg/cm^2, 64–85 psi)
Pressure regulator	Pressure	245–255 kPa (2.5–2.6 kg/cm^2, 35–37 psi)
Fuel Tank	Capacity	68 ℓ (18.0 U.S. gal., 15.0 Imp. gal.)
Engine	Fast idle	1,100–1,900 min^{-1} (rpm)
	Idle speed with headlights and cooling fan off	*Manual 680 ± 50 min^{-1} (rpm) with cata, 720 ± 50 min^{-1} (rpm) without cata* Automatic 680 ± 50 min^{-1} (rpm) ("N" and "D" position) 720 ± 50 min^{-1} (rpm) ("N" or "P" position) without cata 680 ± 50 min^{-1} (rpm) ("D" position) without cata
	Idle CO	0.1 % with cata, 2.0 % max without cata

7. Clutch

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height Stroke Pedal play Disengagement height	153 (6.0) to carpet 145–150 (5.7–5.9) 9–15 (0.4–0.6) 90 (3.5) min. to floor	— — — —
Flywheel	Clutch surface runout I.D. of pilot bush	0.05 (0.002) max. 19.000–19.071 (0.7480–0.7508)	0.15 (0.006) —
Clutch plate	Rivet head depth Surface runout Radial play in splines Thickness	1.3 (0.05) min. 0.8 (0.03) max. 0.7–2.1 (0.028–0.083) 8.5–9.2 (0.33–0.36)	0.2 (0.008) 1.0 (0.04) 4.0 (0.16) 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	Uneveness of diaphragm spring	0.6 (0.02) max.	0.8 (0.03)

(cont'd)

Standards and Service Limits

8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)	2.3 (2.4, 2.0) at assembly 2.2 (2.3, 1.9) at oil change	
Mainshaft	End play	0.14–0.21 (0.006–0.083)	Adjust with a shim.
	Diameter of ball bearing contact area	27.977–27.990 (11.015–11.020)	29.930 (1.1783)
	Diameter of third gear contact area	37.984–38.000 (1.4954–1.4961)	37.930 (1.4933)
	Diameter of ball bearing contact area	27.987–28.000 (1.1018–1.1024)	27.940 (1.1000)
	Diameter of pilot bush contact area	18.80–18.85 (0.7402–0.7421)	—
	Runout	0.02 (0.0008) max.	0.05 (0.002)
Mainshaft third and fourth gears	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness 3rd gear	35.42–35.47 (1.3945–1.3965)	35.30 (1.3898)
	4th gear	33.45–33.47 (1.3169–1.3177)	33.33 (1.3122)
Mainshaft fifth gear	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness	31.92–31.97 (1.2567–1.2587)	31.80 (1.2520)
Countershaft	End play	0.10–0.35 (0.004–0.014)	0.50 (0.02)
	Diameter of needle bearing contact area	33.000–33.015 (1.2992–1.2998)	32.95 (1.297)
	Diameter of ball bearing needle bearing contact area	24.987–25.000 (0.9837–0.9845)	24.94 (0.982)
	Diameter of low gear contact area	39.984–40.000 (1.5742–1.5748)	39.93 (1.572)
	Runout	0.02 (0.0008) max.	0.05 (0.002)
Countershaft low gear	I.D.	46.009–46.025 (1.8114–1.8120)	46.08 (1.923)
	End play	0.03–0.08 (0.0012–0.0031)	Adjust with a shim.
Countershaft second gear	I.D.	50.009–50.025 (1.9689–1.9695)	50.08 (1.972)
	End play	0.03–0.10 (0.0012–0.0039)	Adjust with a collar.
	Thickness	32.92–32.97 (1.2961–1.2980)	32.8 (1.2913)
Spacer collar (Countershaft second gear)	I.D.	36.48–36.49 (1.4362–1.4366)	36.50 (1.437)
	O.D.	43.984–44.000 (1.7317–1.7323)	43.94 (1.730)
	Length A	28.98–29.00 (1.1409–1.1417)	—
	B	29.03–29.05 (1.1429–1.1437)	—
Spacer collar (Mainshaft fourth and fifth gears)	I.D.	31.002–31.012 (1.2205–1.2209)	31.06 (1.223)
	O.D.	37.989–38.000 (1.4956–1.4961)	37.94 (1.494)
	Length A	55.95–56.05 (2.2028–2.2067)	—
	B	26.03–26.08 (1.0248–1.0268)	—
Reverse idler gear	I.D.	20.020–20.041 (0.7882–0.7890)	20.09 (0.7909)
	Gear-to-reverse gear shaft clearance	0.020–0.054 (0.0008–0.0021)	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 gear Low and 2nd gears	8.90–9.00 (0.3504–0.3543)	—
	3rd and 4th gears	8.40–8.50 (0.3307–0.3346)	—
	5th gear	5.40–5.50 (0.2126–0.2165)	—
	Fork-to-synchronizer sleeve clearance	0.45–0.65 (0.018–0.026)	1.0 (0.039)
Reverse shift fork	End gap	13.0–13.3 (0.5118–0.5236)	—
	Fork-to-reverse idler gear clearance	0.5–1.1 (0.018–0.043)	1.8 (0.071)
	Groove width	7.05–7.25 (0.2776–0.2854)	—
	Fork-to-fifth/reverse shift shaft clearance	0.05–0.35 (0.002–0.014)	0.5 (0.02)
Shift arm	Width of groove in shift rod guide	8.1–8.2 (0.319–0.323)	—
	Shift arm-to-shift rod guide clearance	0.2–0.3 (0.008–0.012)	0.55 (0.022)
	Width in shift guide	13.05–13.25 (0.514–0.522)	—
	Shift arm-to-shift guide clearance	0.05–0.35 (0.002–0.014)	0.6 (0.02)
Interlock	O.D.	12.05–12.15 (0.4744–0.4783)	—
	Interlock-to-change piece clearance	0.05–0.25 (0.002–0.010)	0.5 (0.02)
Ring gear	Backlash	0.085–0.142 (0.0033–0.0056)	0.2 (0.0079)
Differential carrier	Pinion shaft bore diameter	18.000–18.018 (0.7087–0.7094)	—
	Carrier-to-pinion shaft clearance	0.016–0.052 (0.0006–0.0020)	0.1 (0.004)
	Driveshaft bore diameter	30.000–30.021 (1.1811–1.1819)	—
	Carrier-to-driveshaft clearance	0.025–0.066 (0.0010–0.0026)	0.12 (0.005)
Differential pinion gear	Backlash	0.08–0.15 (0.003–0.006)	Adjust with a washer.
	Pinion gear bore diameter	18.043–18.061 (0.7104–0.7111)	—
	Pinion gear-to-pinion shaft clearance	0.057–0.095 (0.0022–0.0037)	0.15 (0.006)
Differential taper roller bearing	Preload N·m (kg-m, lb-ft)	1.4–2.0 (0.14–0.20, 1.0–1.4)	Adjust with a washer.

Unit: mm (in.)

9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	*Capacity ℓ (U.S. qt., Imp. qt.)*		3.2 (3.4, 2.8) at oil change 6.5 (6.9, 5.7) at assembly	
Hydraulic pressure	Line pressure at 2,000 min^{-1} (rpm)		814–863 kPa (8.3–8.8 kg/cm², 118–125 psi)	765 kPa (7.8 kg/cm², 111 psi)
	4th, 3rd, 2nd clutch pressure at 2,000 min^{-1} (rpm)		490–863 kPa (5.0–8.8 kg/cm², 71–125 psi)	441 kPa (4.5 kg/cm², 64 psi) with lever released 765 kPa (7.8 kg/cm², 111 psi) with throttle more than 3/8 OPEN
	1st clutch pressure at 2,000 min^{-1} (rpm)		814–863 kPa (8.3–8.8 kg/cm², 118–125 psi)	765 kPa (7.8 kg/cm², 111 psi)
	Throttle pressure B	Full closed	0	—
		Full open	814–863 kPa (8.3–8.8 kg/cm², 118–125 psi)	765 kPa (7.8 kg/cm², 111 psi)
	Modulator pressure		520–559 kPa (5.3–5.7 kg/cm², 75–81 psi)	490 kPa (5.0 kg/cm², 71 psi)
Stall speed	Check with car on level ground		2,150–2,450 min^{-1} (rpm)	—
Clutch	Clutch initial clearance	1st	0.65–0.85 (0.026–0.034)	—
		2nd, 3rd	0.5–0.7 (0.020–0.028)	—
		4th	0.4–0.6 (0.016–0.024)	—
	Clutch return spring free length		31.0 (1.22)	29.0 (1.14)
	Clutch disc thickness		1.88–2.0 (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
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		43.975–43.991 (1.7313–1.7319)	
	Diameter of needle bearing contact area on countershaft 4th gear		31.975–31.991 (1.2589–1.2595)	
	Diameter of needle bearing contact area on countershaft reverse gear collar		32.975–32.991 (1.2982–1.2989)	
	Diameter of needle bearing contact area on countershaft 1st gear collar		32.975–32.991 (1.2982–1.2989)	
	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)	
	Mainshaft 2nd gear I.D.		42.000–42.016 (1.6141–1.6148)	
	Mainshaft 1st gear I.D.		36.000–36.016 (1.4173–1.4179)	
	Countershaft 4th gear I.D.		38.000–38.016 (1.4961–1.4966)	
	Countershaft 3rd gear I.D.		49.000–49.016 (1.9291–1.9298)	
	Countershaft 1st gear I.D.		39.000–39.016 (1.5354–1.5361)	
	Countershaft reverse gear I.D.		39.000–39.016 (1.5354–1.5361)	
	Reverse idle gear I.D.		18.007–18.020 (0.7086–0.7094)	Wear or damage
	Mainshaft 4th gear end play		0.10–0.22 (0.004–0.009)	—
	Mainshaft 2nd gear end play		0.07–0.15 (0.003–0.006)	Adjustable
	Mainshaft 1st gear end play		0.08–0.24 (0.003–0.009)	—
	Countershaft 3rd gear end play		0.07–0.15 (0.003–0.006)	—
	Countershaft 2nd gear end play		0.07–0.15 (0.003–0.006)	Adjustable
	Reverse idler gear end play		0.05–0.18 (0.002–0.007)	—
	Countershaft reverse gear end play		0.10–0.25 (0.004–0.010)	—

*1st clutch only

(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	3.97–4.00 (0.156–0.157)	—
	B	4.02–4.05 (0.158–0.159)	—
	C	4.07–4.10 (0.160–0.161)	—
	D	4.12–4.15 (0.162–0.163)	—
	E	4.17–4.20 (0.164–0.165)	—
	F	4.22–4.25 (0.166–0.167)	—
	G	4.27–4.30 (0.168–0.169)	—
	H	4.32–4.35 (0.170–0.171)	—
	I	4.37–4.40 (0.172–0.173)	—
	Mainshaft bearing contact area (L side)	3.75–3.85 (0.148–0.152)	Wear or damage
	Mainshaft 1st gear	2.43–2.50 (0.096–0.098)	Wear or damage
	"L" collar flange thickness	4.35–4.50 (1.1713–1.1772)	
	Countershaft 4th gear collar thickness A	47.42–47.45 (1.8669–1.8681)	—
	B	47.47–47.50 (1.8689–1.8701)	—
	C	47.52–47.55 (1.8709–1.8720)	—
	D	47.57–47.60 (1.8728–1.8740)	—
	E	47.62–47.65 (1.8748–1.8760)	—
	F	47.67–47.70 (1.8768–1.8779)	—
	G	47.72–47.75 (1.8787–1.8799)	—
	H	47.77–47.80 (1.8807–1.8819)	—
	I	47.82–47.85 (1.8827–1.8839)	—
	J	47.87–47.90 (1.8846–1.8858)	—
	Thrust washer thickness (mainshaft 1st gear R side)	1.45–1.50 (0.057–0.059)	1.4 (0.055)
	Mainshaft 1st gear collar length	24.50–24.55 (0.4646–0.9665)	—
	Mainshaft 1st gear collar flange thickness	2.5–2.6 (0.098–0.102)	Wear or damage
	Countershaft reverse gear collar length	12.0–12.1 (0.472–0.476)	—
	Countershaft reverse gear collar flange thickness	2.4–2.6 (0.094–0.102)	Wear or damage
	Countershaft 1st gear collar length	12.0–12.1 (0.472–0.476)	—
	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 O.D.	8.97–8.98 (0.3531–0.3535)	8.95 (0.3524)
	Countershaft feed pipe O.D.	7.97–7.98 (0.3138–0.3142)	7.95 (0.31)
	Mainshaft sealing ring 35 mm Thickness	1.980–1.995 (0.0780–0.0785)	1.8 (0.071)
	Mainshaft bushing I.D.	6.018–6.030 (0.2369–0.2374)	6.045 (0.238)
	Mainshaft bushing I.D.	9.000–9.015 (0.3543–0.3549)	9.03 (0.356)
	Countershaft bushing I.D.	8.000–8.015 (0.3150–0.3156)	8.03 (0.316)
	Mainshaft sealing ring groove width	2.025–2.060 (0.0797–0.0811)	2.08 (0.082)
	Selector hub O.D.	51.87–51.90 (2.0421–2.0433)	Wear or damage
Regulator valve body	Sealing ring contact area diameter	35.000–35.025 (1.3780–1.3789)	35.05 (1.38)
Shifting device and parking brake control	Reverse shift fork thickness	5.9–6.0 (0.232–0.236)	5.4 (0.21)
	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 (0.003)
	Oil pump gear-to-body clearance	Drive: 0.210–0.265 (0.0083–0.0104)	—
		Driven: 0.070–0.125 (0.003–0.005)	—
	Stator camshaft needle bearing contact I.D. (Torque converter side)	27.000–27.021 (1.0630–1.0638)	Wear or damage
	Stator camshaft needle bearing contact 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

9. Automatic Transmission (cont'd)

Unit: mm (in.)

	MEASUREMENT	STANDARD (NEW)			
Springs		Wire Dia.	O.D.	Free Length	No. of coils
	Low accumulator ball spring	0.29 (0.01)	4.0 (0.16)	14.0 (0.55)	13
	Idle shaft spring A	0.7 (0.03)	5.7 (0.22)	14.6 (0.57)	7
	Idle shaft spring B	0.8 (0.03)	5.6 (0.22)	20.7 (0.81)	11.5
	Servo detent spring	1.0 (0.04)	7.6 (0.30)	14.8 (0.58)	5.5
	Regulator valve spring A	1.8 (0.07)	14.7 (0.58)	87.4 (3.44)	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
	Torque converter check valve spring	1.1 (0.04)	8.4 (0.33)	36.4 (1.43)	12
	Relief valve spring	1.0 (0.04)	8.4 (0.33)	52.0 (2.05)	23
	Cooler check valve spring	1.2 (0.05)	8.4 (0.33)	35.7 (1.41)	16.5
	2nd orifice control valve spring	0.8 (0.03)	6.6 (0.26)	38.5 (1.52)	28
	4th orifice control spring	0.9 (0.04)	6.6 (0.26)	27.6 (1.09)	10
	Servo orifice control valve spring	0.9 (0.04)	6.1 (0.24)	35.9 (1.41)	20
	Throttle control valve adjuster spring A	0.8 (0.03)	6.2 (0.24)	30.0 (1.18)	8
	Throttle control valve spring B	1.6 (0.06)	8.5 (0.33)	41.3 (1.63)	13.9
	1—2 shift spring	0.9 (0.04)	8.6 (0.34)	40.4 (1.59)	14.5
	2—3 shift spring	0.9 (0.04)	9.6 (0.38)	39.6 (1.56)	12
	3—4 shift spring	0.7 (0.03)	5.6 (0.22)	48.3 (1.90)	27.8
	Low accumulator spring A	2.8 (0.11)	21.5 (0.85)	58.5 (2.30)	8.3
	Low accumulator spring B	2.3 (0.09)	12.1 (0.48)	40.0 (1.57)	7.4
	Top accumulator spring	3.0 (0.12)	16.4 (0.65)	81.7 (3.22)	16.4
	2nd accumulator spring	2.71 x 4.4 (0.11 x 0.17)	20.0 (0.79)	79.7 (3.14)	16.2
	3rd accumulator spring	2.9 (0.11)	17.9 (0.70)	82.2 (3.24)	12.1
	L/C shift spring	1.1 (0.04)	8.6 (0.34)	51.0 (2.01)	18.6
	L/C timing spring B	0.9 (0.04)	5.6 (0.22)	40.7 (1.60)	30
	L/C control spring	0.8 (0.03)	6.6 (0.26)	39.5 (1.56) 40.2 (1.58) 41.0 (1.61)	25
	Modulator valve spring	1.5 (0.06)	9.4 (0.37)	30.6 (1.20)	9.9
	CPC valve spring A, B (Modulator valve)	1.4 (0.06)	9.4 (0.37)	33.0 (1.30)	10.5
	CPC valve spring A, B (CPC valve)	1.4 (0.06)	9.4 (0.37)	32.4 (1.28)	10.5
	4—3 kick down valve spring	0.9 (0.04)	6.6 (0.26)	32.2 (1.27)	16
	3—2 kick down valve spring	1.0 (0.04)	6.6 (0.26)	40.5 (1.59)	20
	2—1 orifice control spring	0.8 (0.03)	6.4 (0.25)	41.5 (1.63)	22.8
	2nd clutch return spring	6.0 x 6.4 (0.24 x 0.25)	66.4 (2.61) at free	31.0 (1.22)	1.25
	Low clutch return spring	6.3 x 5.82 (0.25 x 0.23)	63.2 (2.49) at free	31.0 (1.22)	1.25
	Servo control valve spring	1.1 (0.04)	8.1 (0.32)	43.3 (2.00)	18

(cont'd)

Standards and Service Limits

9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ring gear	Backlash	0.085–0.142 (0.0033–0.0056)	0.2 (0.0079)
Differential carrier	Pinion shaft bore diameter	18.000–18.018 (0.7087–0.7094)	—
	Carrier-to-pinion shaft clearance	0.016–0.052 (0.0006–0.0020)	0.1 (0.004)
	Driveshaft bore diameter	30.000–30.021 (1.1811–1.1819)	—
	Carrier-to-driveshaft clearance	0.025–0.066 (0.0010–0.0026)	0.12 (0.005)
Differential pinion gear	Backlash	0.08–0.15 (0.003–0.006)	Adjust with a washer.
	Pinion gear bore diameter	18.043–18.061 (0.7104–0.7111)	—
	Pinion gear-to-pinion shaft clearance	0.057–0.095 (0.0022–0.0037)	0.15 (0.006)
Differential taper roller bearing	Preload N·m (kg-m, lb-ft) New	2.7–3.9 (0.28–0.4, 2.0–2.9)	Adjust with a washer.
	Reused	2.5–3.6 (0.25–0.37, 1.8–2.7)	Adjust with a washer.

10. Driveshaft

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Driveshaft	Right boot As installed	533–537.5 (21.0–21.2)	—
	Left boot As installed	533–537.5 (21.0–21.2)	—

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	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	0.5 ℓ (0.53 U.S. qt., 0.44 Imp. qt.)	
	At change	approx 1.7 ℓ (1.8 U.S. qt., 1.5 Imp. qt.)	
Power steering belt	Deflection between pulleys with 98 N (10 kg, 22 lb) force	19–24 (0.75–0.94) for used belt 13–16 (0.51–0.63) for new belt	
	Belt tension between pulleys N (kg, lb) (measured with belt tension gauge)	137–333 (14–34, 31–75) for used belt 490–686 (50–70, 110–154) for new belt	

12. Suspension

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Wheel alignment		Front / Rear	
	Camber	0°00′ ± 1° / 0°00′ ± 1°	
	Caster	1°40′ ± 1°	
	Toe-in	0 ± 3 / 0^{+4}_{0}	
		(0 ± 0.12) / ($0^{+0.16}_{0}$)	
Wheel	Rim runout Aluminum Axial	0–0.3 (0–0.012)	—
	Radial	0–0.3 (0–0.012)	—
Wheel bearing	End play Front	0	0.05
	Rear	0	0.05

Unit: mm (in.)

13. Brake

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200 N (20 kg, 44 lb)		To be locked when pulled 7–11 notches	
Foot brake pedal	Pedal height Free play		170.6 (6.7) from floor 1–5 (0.04–0.20)	— 5 (0.20)
Master cylinder	Piston-to-pushrod clearance		0–0.4 (0–0.016)	—
Disc brake	Disc thickness	Front	21.0 (0.83)	19.0 (0.75)
		Rear	10.0 (0.39)	8.0 (0.31)
	Disc runout	Front/Rear	—	0.1 (0.004)/0.15 (0.006)
	Disc parallelism		—	0.015 (0.0006)
	Pad thickness	Front	11.5 (0.45)	3.0 (0.12)
		Rear	10.0 (0.39)	3.0 (0.12)
Brake booster	Characteristics	Vacuum (mmHg)	Pedal Pressure kg (lb)	Line Pressure kPa (kg/cm^2, psi)
		0	20 (44)	774 (7.9, 112)
		300	20 (44)	6135 (62.6, 890)
		500	20 (44)	8252 (84.2, 1198)

15. Air Conditioner

	MEASUREMENT	STANDARD (NEW)
Compressor belt	Deflection between pulleys with 98 N (10 kg, 22 lb) force	9–11 (0.35–0.43) for used belt 7–9 (0.28–0.35) for new belt
	Belt tension between pulleys N (kg, lb) (measured with belt tension gauge)	441–637 (45–65, 99–143) for used belt 637–824 (65–84, 143–185) for new belt

16. Electrical

	MEASUREMENT	STANDARD (NEW)	
Ignition coil	Rated voltage	12 Volts	
	Primary winding resistance	0.35–0.42 ohms	
	Secondary winding resistance	16,000–24,000 ohms	
Ignition wire	Resistance	25,000 ohms max.	
Spark plug	Type	BCPR6E-11 (NGK), Q20PR-U11 (ND) BCPR6EY-N11 (NGK)*2 BCPR7E-11 (NGK), Q22PR-U11 (ND) BCPR7EY-N11 (NGK)*2 BCPR5EY-11 (NGK)*1, Q16PR-U11 (ND)*1 BCPR5EY-N11 (NGK)*1 (or equivalent) *1: KQ only *2: With catalytic converter	
	Gap	1.0–1.1 (0.039–0.043)	
Ignition timing	At idling	15° ± 2°BTDC	
Battery	Lighting capacity (20-hour rate)	65 Ampere Hours (KE, KQ only), 65 Ampere Hours (Others)	
	Starting capacity (voltage after 5 seconds)	8.4 V minimum at 300 Ampere draw /–15°C	
Alternator	Output	13.5 V/70 A	
	Coil resistance (rotor)	2.8–3.0 ohms	—
	Slip ring O.D.	14.4 (0.57)	14.0 (0.55)
	Brush length	10.5 (0.41)	5.5 (0.22)
	Brush spring tension	300–360 g (10.6–12.7 oz)	—
Alternator belt	Deflection between pulleys with 98 N (10 kg, 22 lb) force	18–22 (0.71–0.87) for used belt 13–16 (0.51–0.63) for new belt	
	Belt tension between pulleys N (kg, lb) (measured with belt tension gauge)	206–363 (21–37, 46–82) for used belt 431–647 (44–66, 97–146) for new belt	

Starting motor		1.6 KW (ND)	
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
	Mica depth	0.5–0.8 (0.015–0.031)	0.2 (0.008)
	Commutator runout	0–0.05 (0–0.002)	0.4 (0.016)
	Commutator O.D.	29.9–30.0 (1.177–1.181)	29.0 (1.14)
	Brush length	15.0–15.5 (0.59–0.61)	10.0 (0.39)
	Spring pressure (new)	17–24 N (1.7–2.4 kg, 3.7–5.3 lb.)	—