

Automatic Transmission — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission fluid	Capacity ℓ (US qt, Imp qt)	7.0 (7.4, 6.2) for overhaul 2.9 (3.1, 2.6) for fluid change	
Hydraulic pressure kPa (kgf/cm², psi)	Line pressure at 2,000 rpm in D or 1 position	830 – 880 (8.5 – 9.0, 121 – 128)	785 (8.0, 114)
	1st clutch pressure at 2,000 rpm in D or 1 position		
	2nd clutch pressure at 2,000 rpm in D position	490 (5.0, 71) Fully closed throttle 880 (9.0, 128) throttle more than 3/16 opened	440 (4.5, 64) Fully closed throttle 785 (8.0, 114) throttle more than 3/16 opened
	3rd clutch pressure at 2,000 rpm in D position		
	4th clutch pressure at 2,000 rpm in D position		
	1st-hold clutch pressure at 2,000 rpm in 1 position	830 – 880 (8.5 – 9.0, 121 – 128)	785 (8.0, 114)
	2nd clutch pressure at 2,000 rpm in 2 position		
	4th clutch pressure at 2,000 rpm in R position		
	Throttle B pressure Throttle fully closed Throttle fully opened	0 – 15 (0 – 0.15, 0 – 2) 600 – 660 (6.1 – 6.7, 87 – 95)	0 – 15 (0 – 0.15, 0 – 2) 600 – 660 (6.1 – 6.7, 87 – 95)
Stall speed rpm	Check with vehicle on level ground	2,100	1,950 – 2,250
Clutch	Clutch initial clearance	1st-hold 1st 2nd, 3rd, 4th	0.7 – 0.9 (0.028 – 0.035) 0.65 – 0.85 (0.026 – 0.033) 0.75 – 0.95 (0.030 – 0.037)
		1st	41.4 (1.630)
		2nd, 3rd, 4th	33.0 (1.299)
	Clutch return spring free length	1st	39.4 (1.551)
		2nd, 3rd, 4th	31.0 (1.220)
	Clutch disc thickness	1st-hold, 1st, 2nd, 3rd 4th	Until grooves worn out Until grooves worn out
			Discoloration
	Clutch plate thickness	1st-hold, 1st 2nd, 3rd, 4th	
	Clutch end plate thickness*	Mark 1	
		Mark 2	
		Mark 3	
		Mark 4	
		Mark 5	
		Mark 6	
		Mark 7	
		Mark 8	
		Mark 9	
Valve body	Stator shaft needle bearing contact I.D. (torque converter side)	28.000 – 28.021 (1.102 – 1.103)	Wear or damage
	Stator shaft needle bearing contact I.D. (ATF pump side)	31.000 – 31.013 (1.220 – 1.221)	
	ATF pump driven gear I.D.	14.016 – 14.034 (0.552 – 0.553)	Wear or damage
	ATF pump driven gear shaft O.D.	13.980 – 13.990 (0.550 – 0.551)	Wear or damage
	ATF pump gear side clearance	0.03 – 0.05 (0.001 – 0.002)	0.07 (0.003)
	ATF pump gear-to-body clearance Drive Driven	0.210 – 0.265 (0.008 – 0.010) 0.070 – 0.125 (0.003 – 0.005)	
Regulator valve body	Sealing ring contact I.D.	37.000 – 37.025 (1.457 – 1.458)	37.05 (1.459)

* Clutch end plate diameter: 1st: 116 mm (4.57 in)
1st-hold, 2nd, 3rd and 4th: 120 mm (4.72 in)

(cont'd)

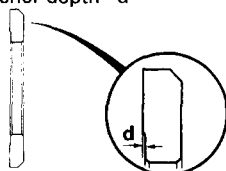
Standards and Service Limits

Automatic Transmission (cont'd) — Section 14

Automatic Transmission (cont'd) — Section 14			
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
2nd accumulator body	Searing ring contact I.D.	35.000 – 35.025 (1.378 – 1.379)	35.05 (1.380)
Shifting device and parking brake control	Reverse shift fork finger thickness Parking brake pawl Parking gear	5.90 – 6.00 (0.232 – 0.236) _____ _____	5.40 (0.213) Wear or other defect Wear or other defect
Servo body	Shift fork shaft bore I.D.	14.000 – 14.005 (0.5512 – 0.5514) 14.006 – 14.010 (0.5514 – 0.5516) 14.011 – 14.015 (0.5516 – 0.5518)	_____ _____ _____
	Shift fork shaft valve bore I.D.	37.000 – 37.039 (1.457 – 1.458)	37.045 (1.4459)
Transmission	Diameter of needle bearing contact area		
	On mainshaft and stator shaft	23.980 – 23.993 (0.944 – 0.945)	Wear or damage
	On mainshaft 4th gear collar	33.975 – 33.991 (1.3376 – 1.3382)	↑
	On mainshaft 1st gear collar	32.975 – 32.991 (1.298 – 1.299)	
	On countershaft (right side)	41.005 – 41.015 (1.614 – 1.615)	↓
	On countershaft 3rd gear collar	43.975 – 43.991 (1.731 – 1.732)	
	On countershaft 4th gear	34.975 – 34.991 (1.377 – 1.378)	Wear or damage
	On countershaft reverse gear collar	36.975 – 36.991 (1.4557 – 1.4563)	
	On countershaft 1st gear collar	33.975 – 33.991 (1.3376 – 1.3382)	↑
	On secondary shaft 2nd gear	36.975 – 36.991 (1.4557 – 1.4563)	
	On reverse idler gear shaft	13.990 – 14.000 (0.5508 – 0.5512)	↓
	Inside diameter		
	Mainshaft 1st gear	38.000 – 38.016 (1.496 – 1.497)	Wear or damage
	Mainshaft 4th gear	40.000 – 40.016 (1.5748 – 1.5754)	↑
	Countershaft 1st gear	40.000 – 40.016 (1.5748 – 1.5754)	
	Countershaft reverse gear	43.000 – 43.016 (1.693 – 1.694)	↓
	Countershaft 4th gear	41.000 – 41.016 (1.614 – 1.615)	
	Countershaft 2nd gear	Involuted spline	Wear or damage
	Countershaft 3rd gear	52.000 – 52.019 (2.0472 – 2.0480)	
	Secondary shaft 2nd gear	43.000 – 43.016 (1.693 – 1.694)	↑
	Reverse idler gear	18.007 – 18.020 (0.7089 – 0.7094)	
	Reverse idler shaft holder	14.416 – 14.434 (0.5676 – 0.5683)	↓
	Mainshaft 1st gear collar length	35.00 – 35.05 (1.378 – 1.380)	
	Mainshaft 1st gear collar flange thickness	2.95 – 3.10 (0.116 – 0.122)	Wear or damage
	Countershaft reverse gear collar length	16.00 – 16.05 (0.630 – 0.632)	↑
	Countershaft reverse gear collar flange thickness	2.95 – 3.05 (0.116 – 0.120)	
	Diameter of countershaft one-way clutch contact area	88.869 – 88.895 (3.499 – 3.500)	Wear or damage
	Diameter of parking gear one-way clutch contact area	72.212 – 72.225 (2.8430 – 2.8435)	Wear or damage
	Mainshaft ATF feed pipe O.D.	11.47 – 11.48 (0.4516 – 0.4520)	11.45 (0.451)
	Mainshaft ATF feed pipe O.D.	5.97 – 5.98 (0.2350 – 0.2354)	5.95 (0.2343)
	Mainshaft sealing ring 37 mm thickness	1.980 – 1.995 (0.078 – 0.079)	1.80 (0.071)
	Mainshaft bushing I.D.	6.018 – 6.030 (0.2369 – 0.2374)	6.045 (0.238)
		11.500 – 11.518 (0.4528 – 0.4535)	11.35 (0.454)
Countershaft ATF feed pipe O.D.	11.47 – 11.48 (0.4516 – 0.4520)	11.45 (0.451)	
Countershaft ATF feed pipe O.D.	7.97 – 7.98 (0.3138 – 0.3142)	7.95 (0.313)	
Countershaft bushing I.D.	8.000 – 8.015 (0.315 – 0.316)	8.03 (0.316)	
	11.500 – 11.518 (0.4528 – 0.4535)	11.53 (0.454)	
Secondary shaft sealing ring 35 mm thickness	1.980 – 1.995 (0.078 – 0.079)	1.80 (0.071)	
Mainshaft sealing ring groove width	2.025 – 2.060 (0.080 – 0.081)	2.08 (0.082)	
Secondary shaft sealing ring groove width	2.025 – 2.060 (0.080 – 0.081)	2.08 (0.082)	

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	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Selector hub O.D.	55.67 – 55.70 (2.192 – 2.193)	Wear or damage
	Thrust washer thickness		
	Mainshaft 4th gear right side	4.45 – 4.55 (0.175 – 0.179)	Wear or damage
	Mainshaft 4th gear left side	3.45 – 3.55 (0.136 – 0.140)	Wear or damage
	Mainshaft 1st gear right side	1.45 – 1.50 (0.057 – 0.059)	1.40 (0.055)
	Mainshaft 1st gear left side	2.43 – 2.50 (0.096 – 0.098)	Wear or damage
	Countershaft 3rd gear collar length	1 35.425 – 35.440 (1.3947 – 1.3953)	_____
		2 35.440 – 35.455 (1.3953 – 1.3959)	_____
		3 35.455 – 35.470 (1.3959 – 1.3965)	_____
		4 35.470 – 35.485 (1.3965 – 1.3970)	_____
		5 35.485 – 35.500 (1.3970 – 1.3976)	_____
		6 35.500 – 35.515 (1.3976 – 1.3982)	_____
	Countershaft 2nd gear spacer length	17.90 – 17.95 (0.705 – 0.707)	_____
	Cotter thickness	1 1.975 – 2.000 (0.078 – 0.079)	_____
		2 2.000 – 2.025 (0.079 – 0.080)	_____
		3 2.025 – 2.050 (0.080 – 0.081)	_____
		4 2.050 – 2.075 (0.081 – 0.082)	_____
		5 2.075 – 2.100 (0.082 – 0.083)	_____
		6 2.100 – 2.125 (0.083 – 0.084)	_____
		7 2.125 – 2.150 (0.084 – 0.085)	_____
		8 2.150 – 2.175 (0.085 – 0.086)	_____
		9 2.175 – 2.200 (0.086 – 0.087)	_____
		10 2.200 – 2.225 (0.087 – 0.088)	_____
		11 2.225 – 2.250 (0.088 – 0.089)	_____
		12 2.250 – 2.275 (0.089 – 0.090)	_____
		13 2.275 – 2.300 (0.090 – 0.091)	_____
		14 2.300 – 2.325 (0.091 – 0.092)	_____
		15 2.325 – 2.350 (0.092 – 0.093)	_____
		16 2.350 – 2.375 (0.093 – 0.094)	_____
	Cotter retainer thickness	1 2.97 – 3.00 (0.117 – 0.118)	_____
		2 3.00 – 3.03 (0.118 – 0.119)	_____
		3 3.03 – 3.06 (0.119 – 0.120)	_____
		4 3.06 – 3.09 (0.120 – 0.122)	_____
		5 3.09 – 3.12 (0.122 – 0.123)	_____
	Countershaft reverse gear thrust washer thickness	1.45 – 1.50 (0.057 – 0.059)	1.40 (0.055)
	Countershaft 1st gear collar length	1 62.50 – 62.55 (2.461 – 2.463)	_____
		2 62.60 – 62.65 (2.465 – 2.467)	_____
	Thrust washer thickness		
	Countershaft 1st gear left side	3.43 – 3.50 (0.135 – 0.138)	Wear or damage
	Secondary shaft 2nd gear	4.45 – 4.55 (0.175 – 0.179)	Wear or damage
	Secondary shaft spacer 31 mm length	33.00 – 33.05 (1.299 – 1.301)	_____
	End play		
	Mainshaft 4th gear	0.10 – 0.22 (0.004 – 0.009)	_____
	Mainshaft 1st gear	0.08 – 0.33 (0.003 – 0.013)	_____
	Countershaft 3rd gear	0 – 0.03 (0 – 0.001)	Adjust with a 3rd gear collar or cotters
	Countershaft 2nd gear	0 – 0.05 (0 – 0.002)	
	Countershaft 4th gear	0.05 – 0.11 (0.002 – 0.004)	Adjust with a cotter retainer
	Countershaft reverse gear	0.10 – 0.25 (0.004 – 0.010)	_____
	Countershaft 1st gear	0.20 – 0.31 (0.008 – 0.012)	Adjust with a 1st gear collar
	Secondary shaft 2nd gear	0.01 – 0.11 (0.0004 – 0.0043)	Adjust with a thrust washer
	Reverse idler gear	0.05 – 0.18 (0.002 – 0.007)	_____
	Secondary shaft 2nd gear thrust washer depth "d"	0 (0)	_____
		0 – 0.03 (0 – 0.001)	_____
		0.03 – 0.06 (0.001 – 0.002)	_____
		0.06 – 0.09 (0.002 – 0.004)	_____
		0.09 – 0.12 (0.004 – 0.005)	_____



(cont'd)

Standards and Service Limits

Automatic Transmission (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)			
		Wire Dia.	O.D.	Free Length	No. of Coils
Spring	Idle shaft spring A	0.7 (0.028)	5.7 (0.224)	14.6 (0.575)	7.0
	Servo detent spring	1.0 (0.039)	7.6 (0.299)	14.8 (0.538)	5.5
	Regulator valve spring A	1.58 x 2.0 (0.062 x 0.079)	14.7 (0.579)	88.6 (3.488)	20.9
	Regulator valve spring B	1.8 (0.071)	9.6 (0.378)	44.0 (1.732)	14.7
	Stator reaction spring	6.0 (0.236)	38.4 (1.512)	30.3 (1.193)	2.0
	Torque converter check valve spring	1.1 (0.043)	8.4 (0.331)	41.8 (1.646)	15.7
	Relief valve spring	1.1 (0.043)	8.4 (0.331)	44.4 (1.748)	19.5
	Cooler relief valve spring	1.2 (0.047)	8.4 (0.331)	35.7 (1.406)	16.5
	One-way relief valve spring	0.9 (0.035)	6.4 (0.252)	25.1 (0.988)	11.9
	LSD relief valve spring	0.8 (0.031)	8.4 (0.331)	37.3 (1.469)	12.1
	2nd orifice control valve spring	0.8 (0.031)	8.1 (0.319)	47.9 (1.886)	16.0
	3rd orifice control valve spring	0.9 (0.035)	8.6 (0.339)	48.3 (1.902)	16.6
	4th exhaust valve spring	0.6 (0.024)	7.6 (0.299)	24.4 (0.961)	7.9
	Throttle valve B spring A/B/C/D	0.9 (0.035)	7.1 (0.280)	29.0 (1.142)	12.6
	1-2 shift valve spring	0.9 (0.035)	8.6 (0.339)	40.4 (1.591)	14.5
	2-3 shift valve spring	0.8 (0.031)	7.0 (0.276)	43.7 (1.720)	21.2
	3-4 shift valve spring	0.8 (0.031)	7.0 (0.276)	43.7 (1.720)	21.2
	1st-hold accumulator spring	3.4 (0.134)	24.3 (0.957)	64.7 (2.547)	6.7
	1st accumulator spring	2.3 (0.091)	20.0 (0.787)	104.6 (4.118)	14.8
	4th accumulator spring	3.0 (0.118)	18.0 (0.709)	84.5 (3.327)	12.8
	2nd accumulator spring	3.3 (0.130)	20.2 (0.795)	78.0 (3.071)	11.8
	3rd accumulator spring	3.2 (0.126)	19.0 (0.748)	88.6 (3.488)	14.3
	Lock-up shift valve spring	1.0 (0.039)	8.6 (0.339)	51.3 (2.020)	19.8
	Lock-up timing valve B spring	0.8 (0.031)	5.6 (0.220)	27.8 (1.094)	16.4
	Lock-up control valve spring A/B/C	0.8 (0.031)	6.6 (0.260)	38.3 (1.508)	25.0
	Servo control valve spring	1.0 (0.039)	8.1 (0.319)	53.5 (2.106)	20.8
	Modulator valve spring A/B	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5
	CPC valve spring A/B/C	1.0 (0.039)	6.8 (0.268)	32.1 (1.264)	15.6
	4-3 kick down valve spring	0.9 (0.035)	6.6 (0.260)	30.7 (1.209)	12.9
	3-2 kick down valve spring	1.0 (0.039)	6.1 (0.240)	27.1 (1.067)	13.4
	2nd exhaust valve spring	1.0 (0.039)	6.1 (0.240)	27.1 (1.067)	13.4