Standards and Service Limits

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 (kg/cm², psi)	Line pressure at 2,000 rpm in [D] or [1] position		850-900 (8.5-9.0, 121-128)	800 (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		500 (5.0, 71) Fully-closed throttle ↓ 900 (9.0, 128) throttle more than 3/16 opened	450 (4.5, 64) Fully-closed throttle ↓ 800 (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		850-900 (8.5-9.0, 121-128)	800 (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	0-15 (0-0.15, 0-2)	0-15 (0-0.15, 0-2)
		Throttle fully opened	610-670 (6.1-6.7, 87-95)	610-670 (6.1-6.7, 87-95)
Stall speed rpm	Check with car on level ground		2,100	1,950-2,250
Clutch	Clutch initial clearance	1st-hold	0.7-0.9 (0.028-0.035)	—
		1st	0.65-0.85 (0.026-0.033)	—
		2nd, 3rd, 4th	0.75-0.95 (0.030-0.037)	—
	Clutch return spring free length			
		1st	41.4 (1.630)	39.4 (1.551)
		2nd, 3rd, 4th	33.0 (1.299)	31.0 (1.220)
	Clutch disc thickness	1st-hold, 4th	1.88-2.00 (0.074-0.079)	Until grooves worn out.
		1st, 2nd, 3rd	2.28-2.40 (0.090-0.094)	Until grooves worn out.
	Clutch plate thickness	1st-hold, 1st	1.95-2.05 (0.077-0.081)	Discoloration
		2nd, 3rd, 4th	2.25-2.35 (0.089-0.093)	↕
	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)	Discoloration
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	0.210-0.265 (0.008-0.010)	—
		Driven	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)

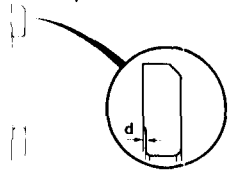
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
2nd accumulator body	Sealing ring contact I.D.	35.000-35.025 (1.378-1.379)	35.05 (1.380)
Shifting device and parking brake control	Reverse shift fork finger thickness	5.90-6.00 (0.232-0.236)	5.40 (0.213)
	Parking brake pawl	—	Wear or other defect
	Parking gear	—	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)	
	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)	Wear or damage
	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	
	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)	Wear or damage
	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)	Wear or damage
	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)	11.53 (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)

(cont'd)

Standards and Service Limits

Automatic Transmission (cont'd) — Section 14

	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		62.50-62.55 (2.461-2.463)	—
	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		0.10-0.31 (0.004-0.012)	—
	Secondary shaft 2nd gear		0.01-0.07 (0.0004-0.0028)	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)	—
			0-0.3 (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)	—



	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