SERVICE SPECIFICATIONS

SERVICE DATA

AT0FG—04

Oil Pump

Body clearance	STD	0.07 — 0.15 mm	0.0028 — 0.0059 in.
	Maximum	0.3 mm	0.012 in.
Tip clearance	STD	0.11 — 0.14 mm	0.0043 — 0.0055 in.
	Maximum	0.3 mm	0.012 in.
Side clearance	STD	0.02 — 0.05 mm	0.0008 — 0.0020 in.
	Maximum	0.1 mm	0.004 in.
Oil pump body bushing inside diameter	Maximum	38.19 mm	1.5035 in.
Stator shaft bushing inside diameter	(Front side) Maximum	21.58 mm	0.8496 in.
	(Rear side) Maximum	27.08 mm	1.0661 in.

Second Coast Brake

Piston rod stroke	1.0 — 2.0 mm	0.039 — 0.079 in.
Piston rod length	70.7 mm	2.783 in.
	71.4 mm	2.811 in.
	72.2 mm	2.843 in.
	72.9 mm	2.870 in.
	73.1 mm	2.09 in.

Overdrive Direct Clutch

Overdrive direct clutch piston stroke		1.45 — 1.70 mm	0.0571 — 0.0669 in.
Clutch return spring free length	STD	15.8 mm	0.6220 in.
Clutch drum bushing inside diameter	Maximum	27.11 mm	1.0673 in.
Overdrive planetary gear bushing	Maximum	11.27 mm	0.4437 in.
Planetary pinion gear thrust clearance	STD	0.02 — 0.60 mm	0.0079 — 0.0236 in.
	Maximum	1.00 mm	0.0394 in.
Flange thickness	No. 16	3.6 mm	0.142 in.
	No. 17	3.5 mm	0.138 in.
	No. 18	3.4 mm	0.134 in.
	No. 19	3.3 mm	0.130 in.
	No. 20	3.2 mm	0.126 in.
	No. 21	3.1 mm	0.122 in.

Overdrive Brake

Piston return spring free length	STD	17.23 mm	0.6783 in.
Piston stroke		1.75 — 2.05 mm	0.0689 — 0.0807 in.
Flange thickness	No. 26	3.3 mm	0.130 in.
	No. 25	3.5 mm	0.138 in.
	No. 12	3.6 mm	0.142 in.
	No. 24	3.7 mm	0.146 in.
	No. 11	3.8 mm	0.150 in.
	No. 23	3.9 mm	0.154 in.
	None	4.0 mm	0.157 in.

Direct Clutch

Pack clearance		0.50 − 0.80 mm	0.0197 − 0.0315 in.
Clutch piston return spring free length	STD	23.25 mm	0.9154 in.
Clutch drum bushing inside diameter	Maximum	53.97 mm	2.1248 in.
Flange thickness	No. 86	2.7 mm	0.106 in.
	No. 85	2.8 mm	0.110 in.
	No. 84	2.9 mm	0.114 in.
	No. 33	3.0 mm	0.118 in.
	No. 32	3.1 mm	0.122 in.
	No. 31	3.2 mm	0.126 in.
	No. 30	3.3 mm	0.130 in.
	No. 29	3.4 mm	0.134 in.
	No. 28	3.5 mm	0.138 in.
	No. 27	3.6 mm	0.142 in.
	No. 34	3.7 mm	0.146 in.

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Forward Clutch

Pack clearance		0.70 − 1.00 mm	0.0276 − 0.0394 in.
Clutch drum bushing inside diameter	Maximum	24.08 mm	0.9480 in.
Flange thickness	No. 61	3.0 mm	0.118 in.
	No. 60	3.2 mm	0.126 in.
	No. 45	3.4 mm	0.134 in.
	No. 62	3.6 mm	0.142 in.
	No. 44	3.8 mm	0.150 in.
	No. 42	4.0 mm	0.157 in.

Front Planetary Gear

Ring gear bushing inside diameter	Maximum	24.08 mm	0.9480 in.
Planetary pinion gear thrust clearance	STD	0.20 − 0.60 mm	0.0079 − 0.0236 in.
	Maximum	1.00 mm	0.0394 in.

Planetary Sun Gear

Sun gear bushing inside diameter	Maximum	27.08 mm	1.0661 in.

Second Brake

Pack clearance		0.49 − 1.11 mm	0.0139 − 0.0437 in.
Piston return spring free length	STD	19.64 mm	0.7732 in.

Rear Planetary Gear

Planetary pinion gear thrust clearance	STD	0.20 mm − 0.60 mm	0.0079 − 0.0236 in.
	Maximum	1.00 mm	0.0394 in.

First and Reverse Brake

Pack clearance		0.70 — 1.00 mm	0.0276 — 0.0394 in.
Piston return spring free length		12.9 mm	0.508 in.
Flange thickness	No. 68	5.4 mm	0.213 in.
	No. 67	5.2 mm	0.205 in.
	No. 50	5.0 mm	0.197 in.
	No. 51	4.8 mm	0.189 in.
	No. 52	4.6 mm	0.181 in.
	No. 53	4.4 mm	0.173 in.
	No. 54	4.2 mm	0.165 in.
	No. 55	4.0 mm	0.157 in.

Transmission Case

Transmission case bushing inside diameter	Maximum	38.18 mm	1.5031 in.

Output Shaft

Output shaft thrust play	1.63 — 2.89 mm	0.0642 — 0.1138 in.

Valve Body Spring

Spring	Free length / Outer diameter mm (in.)	Total No. of coils & (Color)	
Upper valve body			
Lock — up relay valve	23.42 (0.9220) / 5.86 (0.2307)	12.25	(Red)
Secondary regulator valve	32.79 (1.2909) / 9.40 (0.3700)	12.75	(Blue)
C_1Orifice control valve	37.13 (1.4618) / 11.14 (0.4316)	11.25	(White)
C_1Orifice control valve	21.50 (0.8465) / 7.76 (0.3055)	11.50	(None)
C_1Accumulator	75.26 (2.9623) / 15.02 (0.5193)	17.06	(Pink)
2—3 Shift valve	30.77 (1.2114) / 9.70 (0.3819)	10.50	(Purple)
3—4 Shift valve	30.77 (1.2114) / 9.70 (0.3819)	10.50	(Purple)
Reverse control valve	25.58 (1.0070) / 8.64 (0.3402)	8.75	(None)
Lower valve body			
Primary regulator valve	45.62 (1.7961) / 16.88 (0.6446)	9.5	(Blue)
Lock—up control valve	18.52 (0.7291) / 5.30 (0.209)	12.75	(White)
Cut back valve	18.80 (0.740) / 7.48 (0.2995)	7.50	(None)
Solenoid relay valve	18.80 (0.740) / 7.48 (0.2995)	7.50	(None)
Solenoid modulator valve	32.13 (1.2650) / 8.00 (0.3150)	15.75	(Yellow)
Cut off valve	20.30 (0.799) / 6.10 (0.240)	12.75	(None)
Accumulator control valve	31.17 (1.2272) / 8.85 (0.3484)	12.50	(White)
1—2 Shift valve	30.77 (1.2114) / 9.70 (0.382)	10.50	(Purple)
Coast modulator valve	21.83 (0.8594) / 8.19 (0.3150)	10.5	(Green)
Coast modulator valve	26.11 (1.027) / 8.19 (0.3224)	12.0	(Blue)
	26.60 (1.043) / 8.19 (0.3224)	12.0	(Light Blue)
	27.11 (1.067) / 8.19 (0.3224)	12.0	(White)

Valve Body key

Key	Hight mm (in.)	Width mm (in.)	Thickness mm (in.)
Upper valve body			
Check valve	10.0 (0.394)	5.0 (0.197)	3.2 (0.126)
Check valve	19.0 (0.748)	5.0 (0.197)	3.2 (0.126)
Reverse control valve	16.0 (0.630)	5.0 (0.197)	3.2 (0.126)
2−3 Shift valve	12.5 (0.492)	5.0 (0.197)	3.2 (0.126)
C_1 Accumularor	37.5 (1.476)	5.0 (0.197)	3.2 (0.126)
C_1 Orifice control valve	12.5 (0.492)	5.0 (0.197)	3.2 (0.126)
Secondary regulator valve	10.0 (0.394)	5.0 (0.197)	3.2 (0.126)
3−4 Shift valve	11.5 (0.453)	5.0 (0.197)	3.2 (0.126)
Lock−up relay valve	21.2 (0.835)	5.0 (0.197)	3.2 (0.126)
Lower valve body			
1−2 Shift valve	14.0 (0.551)	5.0 (0.197)	3.2 (0.126)
Coast modulator valve	14.0 (0.551)	5.0 (0.197)	3.2 (0.126)
Coast modulator valve	14.0 (0.551)	5.0 (0.197)	3.2 (0.126)
Primary regulator valve	13.0 (0.521)	5.0 (0.197)	3.2 (0.126)
Lock−up control valve	14.5 (0.570)	5.0 (0.197)	3.2 (0.126)
Cut back valve	8.5 (0.335)	5.0 (0.197)	3.2 (0.126)
Solenoid relay valve	12.5 (0.492)	5.0 (0.197)	3.2 (0.126)
Solenoid modulator valve	14.5 (0.570)	5.0 (0.197)	3.2 (0.126)
Cut off valve	19.0 (0.748)	5.0 (0.197)	3.2 (0.126)
Accumulator control valve	29.0 (1.142)	5.0 (0.197)	3.2 (0.126)

Accumulator Spring

Spring		Free length / Outer diameter mm (in.)	Color
B_2		75.25 (2.9626) / 19.97 (0.7862)	White & Red
C_2	(Inner)	40.0 (1.575) / 14.11 (0.5556)	White & Dark blue
C_2	(Outer)	77.51 (3.0516) / 20.1 (0.791)	Light Blue
B_0		66.97 (2.6366) / 16.24 (0.6394)	White & Blue
C_0	(Outer)	63.35 (2.5728) / 20.59 (0.8106)	White & Orange
C_0	(Inner)	38.42 (1.5126) / 14.03 (0.5524)	White

TORQUE SPECIFICATIONS

ATOF1−05

Part tightened		N·m	kgf·cm	ft·lbf
Engine x Transmissin		64	650	47
Rear support member x Body		25	260	19
Transmission housing x Transmisson case	14 mm	34	345	25
	17 mm	57	580	42
Extension housing x Transmission case		34	345	25
Packing lock pawl bracket		7	75	65 in.·lbf
O/D support x Transmission case		25	260	19
Oil pump x Transmission case		21	215	16
Oil pump body x Stator shaft		10	100	7
Valve body x Transmission case		10	100	7
Upper valve body x Lower valve body		6.5	65	56 in.·lbf
Detent spring		10	100	7
Oil strainer		10	100	7
Oil pan		7	75	65 in.·lbf
No. 1 Vehicle speed sensor		16	160	12
No. 2 Vehicle speed sensor		5.4	55	48 in.·lbf
Solenoid wiring stopper plate		5.4	55	48 in.·lbf
O/D direct clutch vehicle speed sensor		5.4	55	48 in.·lbf
Transmission output flange		123	1250	90
Throttle cable x Transmission case		5.4	55	48 in.·lbf
Union		29	300	22
Cooler pipe union nut		34	350	25
Park/Neutral position switch	Bolt	13	130	9
	Nut	6.9	70	61 in.·lbf
Control shaft lever		16	160	12