

SERVICE SPECIFICATIONS**SERVICE DATE**

AT06P-OK

Oil Pump

Body clearance	Standard	0.07 – 0.15 mm	0.0028 – 0.0059 in.
	Maximum	0.30 mm	0.0120 in.
Tip clearance	Standard	0.11 – 0.14 mm	0.0043 – 0.0055 in.
	Maximum	0.3 mm	0.012 in.
Side clearance	Standard	0.02 – 0.05 mm	0.0008 – 0.0020 in.
	Maximum	0.1 mm	0.004 in.
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.

O/D Direct Clutch

Clutch drum bushing inside diameter	Maximum	27.11 mm	1.0673 in.
O/D direct clutch piston stroke		1.85 – 2.15 mm	0.0728 – 0.0846 in.
O/D planetary gear busing	Maximum	11.27 mm	0.4437 in.
Planetary pinion gear thrust clearance	Standard	0.20 – 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.
Torque converter housing installation surface of case and O/D direct clutch drum distance	Standard	15.5 – 16.5 mm	0.610 – 0.650 in.

O/D Brake

Piston stroke	3RZ – FE, 5VZ – FE	1.40 – 1.70 mm	0.0551 – 0.0669 in.
	1KZ – TE	1.32 – 1.62 mm	0.0520 – 0.0638 in.
Flange thickness	No.77	3.3 mm	0.130 in.
	No.78	3.5 mm	0.138 in.
	No.79	3.6 mm	0.142 in.
	No.80	3.7 mm	0.146 in.
	No.81	3.8 mm	0.150 in.
	No.82	3.9 mm	0.154 in.
	None	4.0 mm	0.157 in.

Direct Clutch

Piston stroke	5VZ-FE, 1KZ-TE	1.37 — 1.60 mm	0.0539 — 0.0630 in.
	3RZ-FE	1.03 — 1.33 mm	0.0406 — 0.0524 in.
Drum bushing inside diameter		53.99 mm	2.1256 in.
Flange thickness	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.

Forward Clutch

Pack clearance	5VZ-FE, 1KZ-TE	0.60 — 1.00 mm	0.0236 — 0.0394 in.
	3RZ-FE	0.50 — 0.90 mm	0.0197 — 0.0354 in.
Drum bushing inside diameter		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.
	No.63	4.2 mm	0.165 in.
	No.64	4.4 mm	0.173 in.

2nd Coast Brake

Piston stroke	1.5 — 3.0 mm	0.059 — 0.118 in.
Piston rod length	72.9 mm	2.870 in.
	71.4 mm	2.811 in.

Front Planetary Gear

Maximum inside diameter		24.08 mm	0.9480 in.
Planetary pinion gear thrust clearance	Standard	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.
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2nd Brake

Pack clearance	0.62 — 1.98 mm	0.0244 — 0.0780 in.
Plate thickness	2.5 mm	0.098 in.

1st and Reverse Brake

Pack clearance		0.60 – 1.12 mm	0.0236 – 0.0441 in.
Flange thickness	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.

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Rear Planetary Gear

Planetary pinion gear thrust clearance	Standard	0.20 – 0.60 mm	0.0079 – 0.0236 in.
	Maximum	1.00 mm	0.0394 in.

Valve Body Spring

Spring	Free length and Coil outer diameter mm (in.)		Color
Upper valve body			
Secondary regulator valve	30.9 (1.217)	11.2 (0.441)	Blue
Lock-up relay valve	21.4 (0.843)	5.5 (0.217)	Light Gray
3 – 4 shift valve	30.8 (1.213)	9.7 (0.382)	Purple
Down shift plug	27.3 (1.075)	8.7 (0.343)	Yellow
Throttle valve	20.6 (0.811) or 23.3 (0.917)	9.2 (0.362) 9.2(0.362)	Blue White
2nd coast modulator valve	25.3 (0.996)	8.6 (0.339)	Orange
Cut-back valve	21.8 (0.858)	6.0 (0.236)	Red
2 – 3 shift valve	30.8 (1.213)	9.7 (0.382)	Blue
Low coast modulator valve	30.4 (1.197)	8.3 (0.327)	Light Green
Lower valve body			
Check valve	20.2 (0.796)	12.1 (0.476)	None
Pressure relief valve	11.2 (0.441)	6.4 (0.252)	None
1 – 2 shift valve	30.8 (1.213)	9.7 (0.382)	Purple
Primary regulator valve	62.3 (2.453)	18.6 (0.732)	Purple
Accumulator control valve	33.9 (1.335)	8.8 (0.346)	Pink

Valve Body Key

Retainer	Height mm (in.)	Width mm (in.)	Thickness mm (in.)
Upper valve body			
Low coast modulator valve	14.5 (0.571)	5.0 (0.197)	3.2 (0.126)
2 — 3 shift valve	14.0 (0.551)	5.0 (0.197)	3.2 (0.126)
Cut—back valve	15.0 (0.591)	5.0 (0.197)	3.2 (0.126)
Secondary regulator valve	14.0 (0.551)	5.0 (0.197)	3.2 (0.126)
Lock—up relay valve	21.2 (0.835)	5.0 (0.197)	3.2 (0.126)
3 — 4 shift valve	16.5 (0.650)	5.0 (0.197)	3.2 (0.126)
2nd coast modulator valve	16.5 (0.650)	5.0 (0.197)	3.2 (0.126)
Lower valve body			
Accumulator control valve	21.2 (0.835)	5.0 (0.197)	3.2 (0.126)
1 — 2 shift valve	16.5 (0.650)	6.0 (0.236)	3.2 (0.126)
Primary regulator valve	16.2 (0.638)	5.0 (0.197)	3.2 (0.126)

Check Ball

Upper valve body		
Rubber ball @ diameter	6.35 mm	0.2500 in.
Rubber ball @ diameter	5.45 mm	0.2181 in.
Lower valve body		
Steel ball diameter	6.35 mm	0.2500 in.

Strainer

	Height mm (in.)	Diameter mm (in.)
Solenoid oil strainer	12.4 (0.448)	10.3 (0.406)
Throttle oil strainer	19.5 (0.768)	10.3 (0.406)

Transmission Case

Transmission case bushing	Maximum	38.19 mm	1.5035 in.
Breather hose depth		13 mm	0.51 in.

Output Shaft

End play	0.27 — 0.86 mm	0.0106 — 0.0339 in.
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Accumulator Spring

Spring		Free length mm (in.)	Color
(1) B ₂	3RZ—FE	70.50 (2.7756)	White
	5VZ—FE	70.50 (2.7756)	Yellow
	1KZ—TE	72.55 (2.8563)	Grey
(2) C ₂	Inner	42.06 (1.6559)	Pink
(3) C ₂	3RZ—FE, 5VZ—FE	64.00 (2.5197)	Green
	1KZ—TE	68.53 (2.6980)	Blue
(4) B ₀	3RZ—FE, 1KZ—TE	62.00 (2.4409)	Green
	5VZ—FE	63.60 (2.5039)	Red
(5) C ₀	Inner	46.00 (1.8110)	Yellow
(6) C ₀	Outer	74.60 (2.9370)	Orange

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TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Stator shaft x Oil pump body	10	100	7
Upper valve body x Lower valve body	6.4	65	56 in·lbf
Detent spring x Valve body	10	100	7
Parking lock pawl bracket	7.4	75	65 in·lbf
O/D support x Transmission	25	260	19
Oil pump x Transmission case	22	220	16
Valve body x Transmission case	10	100	7
Oil strainer x Valve body	10	100	7
Solenoid valve x Valve body	10	100	7
Oil pan x Transmission case	7.4	75	65 in·lbf
Transmission housing	14 mm bolt	34	25
	17 mm bolt	57	42
Union	29	300	22
Speed sensor	16	160	12
Neutral start switch	6.9	70	61 in·lbf
Neutral start switch adjusting bolt	13	130	9
Control shaft lever	16	160	12
Transmission case x Transfer adaptor	34	345	25
Transfer adaptor x Transfer	24	240	17
Drain plug	20	205	15
Engine rear mounting x Transfer case	25	260	19

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