

AUTOMATIC TRANSMISSION

Specifications

Oil pump	Body clearance	STD	0.07 – 0.15 mm	0.0028 – 0.0059 in.
		Limit	0.3 mm	0.012 in.
	Tip clearance	STD	0.11 – 0.14 mm	0.0043 – 0.0055 in.
		Limit	0.3 mm	0.012 in.
	Side clearance	STD	0.02 – 0.05 mm	0.0008 – 0.0020 in.
		Limit	0.1 mm	0.004 in.
	Oil pump body bushing	Limit	38.19 mm	1.5035 in.
O/D planetary gear and O/D direct clutch	Piston stroke	(A45DL)	1.56 – 2.53 mm	0.0614 – 0.0996 in.
		(A46DE, A46DF)	1.77 – 2.58 mm	0.0697 – 0.1016 in.
	O/D direct clutch drum bushing	Limit	23.14 mm	0.9110 in.
	O/D planetary gear bushing	Limit	11.27 mm	0.4437 in.
	O/D planetary pinion gear thrust clearance	STD	0.20 – 0.50 mm	0.0079 – 0.0197 in.
O/D brake	Pack clearance	(A45DL)	0.56 – 2.09 mm	0.0220 – 0.0823 in.
		(A46DE, A46DF)	0.35 – 1.91 mm	0.0138 – 0.0752 in.
Front clutch	Piston stroke	(A45DL)	1.32 – 2.66 mm	0.0520 – 0.1047 in.
		(A46DE, A46DF)	1.40 – 2.48 mm	0.0551 – 0.0976 in.
	Plate thickness	(A45DL)	1.8 mm	0.071 in.
			2.0 mm	0.079 in.
		(A46DE, A46DF)	1.4 mm	0.055 in.
			1.8 mm	0.071 in.
			2.0 mm	0.079 in.
Rear clutch	Piston stroke	(A45DL)	1.06 – 2.14 mm	0.0417 – 0.0843 in.
		(A46DE, A46DF)	0.90 – 1.75 mm	0.0354 – 0.0689 in.
No.1 brake	Piston stroke		0.80 – 1.73 mm	0.0315 – 0.0681 in.
	Center support bushing	Limit	36.46 mm	1.4354 in.
No.2 brake	Piston stroke		1.01 – 2.25 mm	0.0398 – 0.0886 in.
No.3 brake	Pack clearance		0.61 – 2.64 mm	0.0240 – 0.1039 in.
Planetary sun gear and No.1 one-way clutch	Planetary sun gear bushing	Limit	21.58 mm	0.8496 in.
Front planetary gear and No.2 one-way clutch	Front planetary pinion gear thrust clearance	STD	0.20 – 0.50 mm	0.0079 – 0.0197 in.
Rear planetary gear and output shaft	Output shaft bushing	Limit	18.08 mm	0.7118 in.
	Rear planetary pinion gear	STD	0.20 – 0.50 mm	0.0079 – 0.0197 in.
Transmission case	Transmission case bushing	Limit	38.19 mm	1.5035 in.
Extension housing	Extension housing bushing	Limit	38.09 mm	1.4996 in.

Specifications(Cont'd)

Valve body spring (A45DL)		Free length mm(in.)	Coil outer diameter mm (in.)	Total No. of Coils	Color
	(Front upper valve body) Secondary regulator valve	71.3 (2.807)	17.4 (0.685)	17.0	Green
	Down-shift plug	39.8 (1.567)	10.8 (0.425)	13.5	Purple
	Throttle valve	21.9 (0.862)	8.6 (0.339)	10.0	None
	(Rear upper valve body) 2-3 shift valve	35.1 (1.382)	9.0 (0.354)	13.75	White
	Detent regulator valve	32.1 (1.264)	8.9 (0.350)	16.4	None
	Intermediate coast modulator valve	35.4 (1.394)	8.8 (0.346)	16.4	Red
	Reverse sequence valve	37.6 (1.480)	9.2 (0.362)	16.5	None
	Low coast modulator valve	42.4 (1.669)	9.2 (0.362)	17.0	None
	(Lower valve body) 1-2 shift valve	34.6 (1.362)	7.6 (0.299)	15.0	None
	3-4 shift valve	35.2 (1.386)	10.6 (0.417)	16.5	Green
	Lock-up signal valve	37.4 (1.472)	9.7 (0.382)	15.5	Purple
	Primary regulator valve	67.3 (2.650)	16.6 (0.654)	13.8	Red
	Lock-up relay valve	18.5 (0.728)	5.2 (0.205)	15.0	White
	Reverse brake sequence valve	37.6 (1.480)	9.2 (0.362)	16.5	None
	Pressure relief valve	32.1 (1.264)	13.1 (0.516)	11.0	None
	Cooler return check ball	13.7 (0.539)	10.5 (0.413)	10.0	None
	Damping check ball	20.0 (0.787)	5.0 (0.197)	18.0	None
	Oil cooler by-pass valve	33.3 (1.311)	13.8 (0.543)	9.0	Yellow
(A46DE, A46DF)	(Front upper valve body) Secondary regulator valve	71.27 (2.8059)	17.43 (0.6862)	17.0	Green
	Down-shift plug	39.55 (1.5571)	10.9 (0.429)	11.4	Green
	Throttle valve	21.94 (0.8638)	8.58 (0.3378)	10.0	None
	Cut-back valve	23.00 (0.9055)	6.85 (0.2697)	12.5	Green
	(Rear upper valve body) 3-4 shift valve	29.15 (1.1476)	8.9 (0.350)	12.0	Blue
	2-3 shift valve	29.15 (1.1476)	8.9 (0.350)	12.0	Blue
	1-2 shift valve	29.15 (1.1476)	8.9 (0.350)	12.0	Blue
	Rear clutch sequence valve	37.55 (1.4783)	9.2 (0.362)	16.5	None
	(Lower valve body) Primary regulator valve	50.28 (1.9795)	17.02 (0.6701)	12.5	Blue
	Low coast modulator valve	42.35 (1.6673)	9.2 (0.362)	17.0	None
	Intermediate modulator valve	35.43 (1.3949)	8.8 (0.346)	16.4	Red
	Lock-up relay valve	32.60 (1.2835)	11.4 (0.449)	10.25	Green
	Oil cooler by-pass valve	28.00 (1.1024)	13.6 (0.535)	8.0	Blue
	Pressure relief valve	32.14 (1.2654)	13.14 (0.5173)	11.0	None
	Damping check valve	20.00 (0.7874)	4.97 (0.196)	18.0	None
	Cooler return check ball	13.7 (0.539)	10.5 (0.413)	10.0	None
Output shaft thrust play		0.3 – 0.9 mm	0.012 – 0.035 in.		

Specifications (Cont'd)

Accumulator piston spring		Free length mm (in.)	Coil outer diameter mm (in.)	Color
	(A45DL: 2L)			
	B ₂	64.7 (2.547)	17.5 (0.689)	None
	C ₁	59.8 (2.354)	16.6 (0.654)	Green
	C ₂	66.5 (2.618)	17.9 (0.705)	None
	(A45DL: 3L)			
	B ₂	64.7 (2.547)	17.5 (0.689)	None
	C ₁	59.0 (2.323)	16.5 (0.650)	Light Blue
	C ₂	66.5 (2.618)	17.9 (0.705)	None
	(A45DL: 2RZ-E)			
	B ₂	57.2 (2.252)	17.5 (0.689)	Pink
	C ₁	57.4 (2.260)	25.9 (0.626)	None
	C ₂	66.7 (2.626)	17.3 (0.681)	Red
	(A45DL: 1RZ, 2RZ)			
	B ₂ Upper	55.2 (2.173)	18.3 (0.720)	Light Green
	Lower	35.1 (1.382)	16.2 (0.638)	Red
	C ₁	64.7 (2.257)	17.5 (0.689)	None
	C ₂	61.2 (2.409)	16.5 (0.650)	Yellow
	(A46DE, A46DF)			
	B ₂ Upper	51.6 (2.031)	18.4 (0.724)	Red
	Lower	32.0 (1.260)	15.4 (0.606)	Yellow
	C ₁	64.4 (2.535)	17.5 (0.690)	None
	C ₂	57.4 (2.260)	15.9 (0.626)	None

Torque Specifications

Part tightened		kg-cm	ft-lb	N·m
Oil pump body x Stator shaft		75	65 in.-lb	7.4
Upper valve body x Lower valve body		55	48 in.-lb	5.4
Detent spring x Valve body		55	48 in.-lb	5.4
Center support x Transmission case		260	19	25
Transmission housing x Transmission case	10 mm	345	25	34
	12 mm	580	42	57
Oil pump x Transmission case		215	16	21
Parking lock pawl bracket		75	65 in.-lb	7.4
Valve body x Transmission case		100	7	10
Oil strainer		55	48 in.-lb	5.4
Oil pan		45	39 in.-lb	4.4
Governor body		40	35 in.-lb	3.9
(A45DL, A46DE)				
Extension housing x Transmission case		345	25	34
(A46DF)				
Transfer adaptor x Transmission case		345	25	34
(A46DF)				
Transfer x Transmission case		455	33	45
Cooler union and elbow		300	22	29
(A46DF)				
A/T fluid temperature sensor x elbow		350	25	34
Neutral start switch	Nut	40	35 in.-lb	3.9
	Bolt	55	48 in.-lb	7.4