## AUTOMATIC TRANSMISSION / TRANSAXLE SERVICE DATA

0305N-01

Max.   0.15 mm (0.0098 in.)	Oil pump		
Tip clearance STD		STD	0.10 – 0.17 mm (0.0039 – 0.0067 in.)
Max.   0.15 mm (0.0056 in.)		Max.	0.17 mm (0.0067 in.)
Side clearance	Tip clearance	STD	0.07 - 0.15 mm (0.0028 - 0.0059 in.)
Max.   0.05 mm (0.0020 in.)		Max.	0.15 mm (0.0059 in.)
Drive gear thickness	Side clearance		· · · · · · · · · · · · · · · · · · ·
1		Max.	0.05 mm (0.0020 in.)
2	Drive gear thickness		
3			· · · · · · · · · · · · · · · · · · ·
Mark			,
Driven gear thickness			· · · · · · · · · · · · · · · · · · ·
1		5	
10,700 -10,709 mm (0,4213 - 0,4216 in.)   3	Driven gear thickness	Mark	
3		1	,
4			· · · · · · · · · · · · · · · · · · ·
S			,
Pump body bushing inside diameter         STD Max.         38.19 mm (1.5005 – 1.5015 in.)           Stator shaft bushing inside diameter         STD Max.         20.50 – 21.53 mm (0.8465 – 0.8475 in.)           Stator shaft bushing inside diameter         STD 20.50 – 21.53 mm (0.8465 – 0.8475 in.)           Forward Clutch         1.74 – 2.08 mm (0.0685 – 0.0819 in.)           Piston stroke         1.74 – 2.08 mm (0.0685 – 0.0819 in.)           Piston return spring free length         28.23 mm (1.1114 in.)           Flange thickness         1           1         3.00 mm (0.1181 in.)           2         3.15 mm (0.1240 in.)           3         3.30 mm (0.1229 in.)           4         3.45 mm (0.1358 in.)           5         3.60 mm (0.1417 in.)           Direct clutch         22.58 mm (0.8980 in.)           Pack clearance         0.605 – 0.825 mm (0.02382 – 0.03248 in.)           Piston return spring free length         22.58 mm (0.8980 in.)           Flange thickness         1           1         3.0 mm (0.118 in.)           2         3.1 mm (0.122 in.)           3         3.2 mm (0.124 in.)           4         3.3 mm (0.134 in.)           5         3.4 mm (0.134 in.)           6         3.5 mm (0.138 in.)			,
Max.   38.19 mm (1.5035 in.)	Duran hadahan hirakin minaida diamatan		· · · · · · · · · · · · · · · · · · ·
Stator shaft bushing inside diameter   STD   20.50 – 21.53 mm (0.8465 – 0.8475 in.)   21.57 mm (0.8492 in.)	Pump body busning inside diameter	_	,
Forward Clutch   Forward Clutch   Forward Clutch   Forward Clutch   Forward Clutch   Forward Stroke   1.74 - 2.08 mm (0.0685 - 0.0819 in.)   Forward Stroke   1.74 - 2.08 mm (0.0685 - 0.0819 in.)   Forward Stroke   28.23 mm (1.1114 in.)   Forward Stroke   3.00 mm (0.1181 in.)   3.00 mm (0.1181 in.)   3.00 mm (0.1240 in.)   3.30 mm (0.1299 in.)   4.00 mm (0.1240 in.)   3.00 mm (0.1299 in.)   4.00 mm (0.1386 in.)   5.00 mm (0.1386 in.)   Forward Stroke S	States shoft husbing inside diameter		, ,
Forward Clutch	Stator Shart bushing inside diameter	-	· · · · · · · · · · · · · · · · · · ·
Piston stroke   1.74 - 2.08 mm (0.0685 - 0.0819 in.)     Piston return spring free length   28.23 mm (1.1114 in.)     Flange thickness   No.	Famurand Chutch		, , ,
Piston return spring free length   28.23 mm (1.1114 in.)     Flange thickness   No.		T	4.74 . 0.00 (0.0005 . 0.0040 ')
Flange thickness No.  1			
1   3.00 mm (0.1181 in.)   3.15 mm (0.1240 in.)   3.15 mm (0.1299 in.)   3.30 mm (0.1299 in.)   4   3.45 mm (0.1358 in.)   5   3.60 mm (0.1417 in.)   5   3.60 mm (0.02382 - 0.03248 in.)   7   1   3.00 mm (0.02382 - 0.03248 in.)   7   1   3.00 mm (0.02382 - 0.03248 in.)   7   1   3.00 mm (0.018890 in.)   7   1   3.00 mm (0.122 in.)   3   3.20 mm (0.126 in.)   3   3.20 mm (0.126 in.)   3   3.20 mm (0.136 in.)   7   1   3.00 mm (0.136 in.)   7   1   3.00 mm (0.136 in.)   7   1   3.00 mm (0.0380 - 0.03685 in.)   7   1   3.00 mm (0.0380 - 0.03685 in.)   7   1   3.00 mm (0.0380 - 0.03685 in.)   7   1   3.00 mm (0.0244 - 0.0358 in.)   7   1   3.00 mm (0.0244 - 0.0358 in.)   7   1   3.00 mm (0.0188 in.)   7   3.			28.23 mm (1.1114 in.)
2   3.15 mm (0.1240 in.)   3   3.30 mm (0.1299 in.)   4   3.45 mm (0.1358 in.)   5   3.60 mm (0.1417 in.)   7   7   7   7   7   7   7   7   7	Flange thickness		0.00 (0.4404 ')
3   3.30 mm (0.1299 in.)   3.45 mm (0.1358 in.)   5   3.60 mm (0.1417 in.)			
A			
Direct clutch			· · · · · · · · · · · · · · · · · · ·
Pack clearance         0.605 – 0.825 mm (0.02382 – 0.03248 in.)           Piston return spring free length         22.58 mm (0.8890 in.)           Flange thickness         No.           1         3.0 mm (0.118 in.)           2         3.1 mm (0.122 in.)           3         3.2 mm (0.126 in.)           4         3.3 mm (0.130 in.)           5         3.4 mm (0.134 in.)           6         3.5 mm (0.138 in.)           End play         0.198 – 0.936 mm (0.00800 – 0.03685 in.)           2ND brake         0.62 – 0.91 mm (0.0244 – 0.0358 in.)           Pack clearance         0.62 – 0.91 mm (0.0539 in.)           Piston return spring free length         16.61 mm (0.6539 in.)           Flange thickness         Mark           1         3.0 mm (0.118 in.)           3         3.2 mm (0.126 in.)           3         3.2 mm (0.126 in.)           3         3.2 mm (0.130 in.)           4         3.3 mm (0.130 in.)           5         3.4 mm (0.134 in.)           6         3.5 mm (0.138 in.)		5	· , , , , , , , , , , , , , , , , , , ,
Pack clearance         0.605 – 0.825 mm (0.02382 – 0.03248 in.)           Piston return spring free length         22.58 mm (0.8890 in.)           Flange thickness         No.           1         3.0 mm (0.118 in.)           2         3.1 mm (0.122 in.)           3         3.2 mm (0.126 in.)           4         3.3 mm (0.130 in.)           5         3.4 mm (0.134 in.)           6         3.5 mm (0.138 in.)           End play         0.198 – 0.936 mm (0.00800 – 0.03685 in.)           2ND brake         0.62 – 0.91 mm (0.0244 – 0.0358 in.)           Pack clearance         0.62 – 0.91 mm (0.0539 in.)           Piston return spring free length         16.61 mm (0.6539 in.)           Flange thickness         Mark           1         3.0 mm (0.118 in.)           3         3.2 mm (0.126 in.)           3         3.2 mm (0.126 in.)           3         3.2 mm (0.130 in.)           4         3.3 mm (0.130 in.)           5         3.4 mm (0.134 in.)           6         3.5 mm (0.138 in.)	Direct clutch		
Piston return spring free length     22.58 mm (0.8890 in.)       Flange thickness     No.       1     3.0 mm (0.118 in.)       2     3.1 mm (0.122 in.)       3     3.2 mm (0.126 in.)       4     3.3 mm (0.130 in.)       5     3.4 mm (0.134 in.)       6     3.5 mm (0.138 in.)       End play       2ND brake       Pack clearance     0.62 – 0.91 mm (0.0244 – 0.0358 in.)       Piston return spring free length     16.61 mm (0.6539 in.)       Flange thickness     Mark       1     3.0 mm (0.118 in.)       2     3.1 mm (0.122 in.)       3     3.2 mm (0.126 in.)       4     3.3 mm (0.130 in.)       5     3.4 mm (0.134 in.)       6     3.5 mm (0.138 in.)			0.605 – 0.825 mm (0.02382 – 0.03248 in.)
Flange thickness  No.  1	Piston return spring free length		
1   3.0 mm (0.118 in.)   2   3.1 mm (0.122 in.)   3   3.2 mm (0.126 in.)   4   3.3 mm (0.130 in.)   5   3.4 mm (0.134 in.)   6   3.5 mm (0.138 in.)	- 0	No	
2 3.1 mm (0.122 in.) 3 3.2 mm (0.126 in.) 4 3.3 mm (0.130 in.) 5 3.4 mm (0.134 in.) 6 3.5 mm (0.138 in.)  End play  2ND brake  Pack clearance  Pack clearance  Piston return spring free length  Flange thickness  Mark  1 3.0 mm (0.118 in.)  2 3.1 mm (0.122 in.) 3 3.2 mm (0.126 in.) 3 3.2 mm (0.126 in.) 4 3.3 mm (0.130 in.) 5 3.4 mm (0.134 in.) 5 3.5 mm (0.138 in.)			3.0 mm (0.118 in.)
3   3.2 mm (0.126 in.)   4   3.3 mm (0.130 in.)   5   3.4 mm (0.134 in.)   6   3.5 mm (0.138 in.)     End play   0.198 - 0.936 mm (0.00800 - 0.03685 in.)     End play   0.62 - 0.91 mm (0.0244 - 0.0358 in.)     End play   0.62 - 0.91 mm (0.024 - 0.0358 in.)     End play   0.62 - 0.91 mm (0.024 - 0.0358 in.)     End play   0.62			
## ## ## ## ## ## ## ## ## ## ## ## ##			
End play       0.198 – 0.936 mm (0.00800 – 0.03685 in.)         2ND brake         Pack clearance       0.62 – 0.91 mm (0.0244 – 0.0358 in.)         Piston return spring free length       16.61 mm (0.6539 in.)         Flange thickness       Mark         1       3.0 mm (0.118 in.)         2       3.1 mm (0.122 in.)         3       3.2 mm (0.126 in.)         4       3.3 mm (0.130 in.)         5       3.4 mm (0.134 in.)         6       3.5 mm (0.138 in.)		4	3.3 mm (0.130 in.)
End play       0.198 – 0.936 mm (0.00800 – 0.03685 in.)         2ND brake       0.62 – 0.91 mm (0.0244 – 0.0358 in.)         Pack clearance       0.62 – 0.91 mm (0.0244 – 0.0358 in.)         Piston return spring free length       16.61 mm (0.6539 in.)         Flange thickness       Mark         1       3.0 mm (0.118 in.)         2       3.1 mm (0.122 in.)         3       3.2 mm (0.126 in.)         4       3.3 mm (0.130 in.)         5       3.4 mm (0.134 in.)         6       3.5 mm (0.138 in.)		5	3.4 mm (0.134 in.)
2ND brake  Pack clearance  0.62 – 0.91 mm (0.0244 – 0.0358 in.)  Piston return spring free length  flange thickness  Mark  1		6	3.5 mm (0.138 in.)
Pack clearance     0.62 - 0.91 mm (0.0244 - 0.0358 in.)       Piston return spring free length     16.61 mm (0.6539 in.)       Flange thickness     Mark       1     3.0 mm (0.118 in.)       2     3.1 mm (0.122 in.)       3     3.2 mm (0.126 in.)       4     3.3 mm (0.130 in.)       5     3.4 mm (0.134 in.)       6     3.5 mm (0.138 in.)	End play		0.198 - 0.936 mm (0.00800 - 0.03685 in.)
Pack clearance     0.62 - 0.91 mm (0.0244 - 0.0358 in.)       Piston return spring free length     16.61 mm (0.6539 in.)       Flange thickness     Mark       1     3.0 mm (0.118 in.)       2     3.1 mm (0.122 in.)       3     3.2 mm (0.126 in.)       4     3.3 mm (0.130 in.)       5     3.4 mm (0.134 in.)       6     3.5 mm (0.138 in.)	2ND brake		
Piston return spring free length  Flange thickness  Mark  1			0.62 – 0.91 mm (0.0244 – 0.0358 in.)
1 3.0 mm (0.118 in.) 2 3.1 mm (0.122 in.) 3 3.2 mm (0.126 in.) 4 3.3 mm (0.130 in.) 5 3.4 mm (0.134 in.) 6 3.5 mm (0.138 in.)	Piston return spring free length		16.61 mm (0.6539 in.)
1 3.0 mm (0.118 in.) 2 3.1 mm (0.122 in.) 3 3.2 mm (0.126 in.) 4 3.3 mm (0.130 in.) 5 3.4 mm (0.134 in.) 6 3.5 mm (0.138 in.)		Mark	•
3 3.2 mm (0.126 in.) 4 3.3 mm (0.130 in.) 5 3.4 mm (0.134 in.) 6 3.5 mm (0.138 in.)	-		3.0 mm (0.118 in.)
4 3.3 mm (0.130 in.) 5 3.4 mm (0.134 in.) 6 3.5 mm (0.138 in.)			
5 3.4 mm (0.134 in.) 6 3.5 mm (0.138 in.)			
6 3.5 mm (0.138 in.)			· · · · · · · · · · · · · · · · · · ·
		7	3.5 mm (0.138 in.) 3.6 mm (0.142 in.)

Inputshaft					
End play		(	0.26 – 1.25 mm (0.0103 – 0.0492 in.)		
U/D clutch					
Pack clearance		1	1.51 – 1.90 mm (0.0594 – 0.0748 in.)		
U/D clutch drum busing inside diameter	STD	,			
9	Max		32.63 mm (1.2846 in.)		
Piston return spring free length			17.14 mm (0.6748 in.)		
Flange thickness Mark					
	A		3.0 mm (0.118 in)		
	В		3.2 mm (0.126 in.)		
	С		3.4 mm (0.134 in.)		
U/D brake					
Piston stroke		1.81 – 2.20 mm (0.0713 – 0.0866 in.)			
Piston return spring free length			14.04 mm (0.5213 in.)		
Flange thickness	Mark				
1 2		3.0 mm (0.118 in.)			
			3.2 mm (0.126 in.)		
	3		3.4 mm (0.134 in.)		
1ST & reverse brake					
Pack clearance		1.02 – 1.21 mm (0.0402 – 0.0476 in.)			
Piston return spring free length			15.51 mm (0.6106 in.)		
Front planetary gear					
Bearing turning torque at 60 rpm	New bearing:	0.5 – 1.0 N·m (5.1 – 10.0 kgf·cm, 4.4 – 8.7 in.·lbf)			
	Used bearing:	0.3 – 0.5 N·m (3.1 – 5.1 kgf·cm, 2.7 – 4.4 in.·lbf)			
U/D planetary gear					
U/D output shaft turning torque	at 60 rpm	0.23 –	5.01 N·m (2 – 51 kgf·cm, 2.0 – 44.3 in.·lbf)		
End play		(	0.20 – 0.69 mm (0.0079 – 0.0272 in.)		
Transmission valve body					
Boltlength	A		25 mm (0.984 in.)		
	В		41 mm (1.614 in.)		
	С		45 mm (1.771 in.)		
Accumulator					
Spring	Free length/Outer diam		Color		
B <sub>3</sub> Inner	60.24 (2.3716) / 15.9 (0	,	Yellowish Green		
Outer	74.61 (2.9374) / 21.7 (0	-	Blue		
C <sub>1</sub>	81.53 (3.2098) / 18.5 (0		Pink		
C <sub>3</sub>	90.49 (3.5626) / 19.2 (0	.756)	White		
Differential					
Side gear backlash		0.05 – 0.20 mm (0.0020 – 0.0079 in.)			
Thrust washer thickness		1.0 mm (0.039 in)			
			1.1 mm (0.043 in.)		
			1.2 mm (0.047 in.)		
			1.3 mm (0.051 in.)		

Preload (at starting)			
Newbearing		0.20 - 0.69 N·m (2 - 7 kgf·cm, 1.8 - 6.1 in.·lbf)	
Used bearing		0.10 - 0.35 N·m (1 - 4 kgf·cm, 0.9 - 3.1 in.·lbf)	
Shim thickness	Mark		
	0	1.90 mm (0.0748 in.)	
	1	1.95 mm (0.0768 in.)	
	2	2.00 mm (0.0787 in.)	
	3	2.05 mm (0.0807 in.)	
	4	2.10 mm (0.0827 in.)	
	5	2.15 mm (0.0846 in.)	
	6	2.20 mm (0.0866 in.)	
	7	2.25 mm (0.0886 in.)	
	8	2.30 mm (0.0906 in.)	
	9	2.35 mm (0.0925 in.)	
	Α	2.40 mm (0.0945 in.)	
	В	2.45 mm (0.0965 in.)	
	С	2.50 mm (0.0984 in.)	
	D	2.55 mm (0.1004 in.)	
	E	2.60 mm (0.1024 in.)	
	F	2.65 mm (0.1043 in.)	
	G	2.70 mm (0.1063 in.)	
	Н	2.75 mm (0.1083 in.)	
	J	2.80 mm (0.1102 in.)	