MANUAL TRANSMISSION (R141F, R150F and R151F)

Specifications

Output shaft			
1st gear journal diameter	Limit	38.860 mm	1.5299 in.
2nd gear journal diameter	Limit	46.860 mm	1.8449 in.
3rd gear journal diameter	Limit	37.860 mm	1.4905 in.
Flange thickness	Limit	4.70 mm	0.1850 in.
Runout	Limit	0.06 mm	0.0024 in.
Counter gear			
Roller bearing journal diameter	Limit	27.860 mm	1.0968 in.
Gear thrust clearance			
1st	STD	0.10 – 0.45 mm	0.0039 – 0.0177 in.
	Limit	0.50 mm	0.0197 in.
2nd & 3rd	STD	0.10 – 0.25 mm	0.0039 – 0.0098 in.
	Limit	0.30 mm	0.0118 in.
Counter 5th	STD	0.10 – 0.35 mm	0.0039 – 0.0138 in.
	Limit	0.40 mm	0.0157 in.
Gear oil clearance			
1st	STD	0.020 – 0.073 mm	0.0008 – 0.0029 in.
2nd, 3rd & Counter 5th	STD	0.015 – 0.068 mm	0.0006 – 0.0027 in.
1st, 2nd, 3rd & Counter 5th	Limit	0.16 mm	0.0063 in.
Reverse	STD	0.040 – 0.082 mm	0.0016 – 0.0032 in.
	Limit	0.13 mm	0.0051 in.
Shift fork to hub sleeve clearance	Limit	1.0 mm	0.039 in.
Synchronizer ring to gear clearance	STD	0.8 – 1.6 mm	0.031 – 0.063 in.
	Limit	0.6 mm	0.024 in.
Oil seal drive in depth			
Front bearing retainer		10.5 – 11.5 mm	0.413 – 0.453 in.
Speedometer driven gear		25 mm	0.98 in.
Input shaft to synchronizer ring	STD	0.8 – 1.6 mm	0.031 – 0.063 in.
	Limit	0.6 mm	0.024 in.
Reverse idler gear to shift arm shoe	STD	0.05 – 0.25 mm	0.0020 – 0.0098 in.
	Limit	0.5 mm	0.020 in.
Input shaft snap ring thickness	Mark		
	A	2.10 – 2.15 mm	0.0827 – 0.0846 in.
	B	2.15 – 2.20 mm	0.0846 – 0.0866 in.
	C	2.20 – 2.25 mm	0.0866 – 0.0886 in.
	D	2.25 – 2.30 mm	0.0886 – 0.0906 in.
	E	2.30 – 2.35 mm	0.0906 – 0.0925 in.
	F	2.35 – 2.40 mm	0.0925 – 0.0945 in.
	G	2.40 – 2.45 mm	0.0945 – 0.0965 in.
Counter gear snap ring (Front bearing)	Mark		
	A	2.00 – 2.05 mm	0.0787 – 0.0807 in.
	B	2.05 – 2.10 mm	0.0807 – 0.0827 in.
	C	2.10 – 2.15 mm	0.0827 – 0.0846 in.
	D	2.15 – 2.20 mm	0.0846 – 0.0866 in.
	E	2.20 – 2.25 mm	0.0866 – 0.0886 in.

Specifications (Cont'd)

Output shaft snap ring thickness			
Clutch hub No.2	Mark		
	A	1.80 – 1.85 mm	0.0709 – 0.0728 in.
	B	1.85 – 1.90 mm	0.0728 – 0.0748 in.
	C	1.90 – 1.95 mm	0.0748 – 0.0768 in.
	D	1.95 – 2.00 mm	0.0768 – 0.0787 in.
	E	2.00 – 2.05 mm	0.0787 – 0.0807 in.
	F	2.05 – 2.10 mm	0.0807 – 0.0827 in.
	G	2.10 – 2.15 mm	0.0827 – 0.0846 in.
Clutch hub No.1	Mark		
	A	2.30 – 2.35 mm	0.0906 – 0.0925 in.
	B	2.35 – 2.40 mm	0.0925 – 0.0945 in.
	C	2.40 – 2.45 mm	0.0945 – 0.0965 in.
	D	2.45 – 2.50 mm	0.0965 – 0.0984 in.
	E	2.50 – 2.55 mm	0.0984 – 0.1004 in.
	F	2.55 – 2.60 mm	0.1004 – 0.1024 in.
	G	2.60 – 2.65 mm	0.1024 – 0.1043 in.
Rear	Mark		
	A	2.65 – 2.70 mm	0.1043 – 0.1063 in.
	B	2.70 – 2.75 mm	0.1063 – 0.1083 in.
	C	2.75 – 2.80 mm	0.1083 – 0.1102 in.
	D	2.80 – 2.85 mm	0.1102 – 0.1122 in.
	E	2.85 – 2.90 mm	0.1122 – 0.1142 in.
	F	2.90 – 2.95 mm	0.1142 – 0.1161 in.
	G	2.95 – 3.00 mm	0.1161 – 0.1181 in.
	H	3.00 – 3.05 mm	0.1181 – 0.1201 in.
	J	3.05 – 3.10 mm	0.1201 – 0.1220 in.
	K	3.10 – 3.15 mm	0.1220 – 0.1240 in.
	L	3.15 – 3.20 mm	0.1240 – 0.1260 in.
	M	3.20 – 3.25 mm	0.1260 – 0.1280 in.
	N	3.25 – 3.30 mm	0.1280 – 0.1299 in.
	P	3.30 – 3.35 mm	0.1299 – 0.1319 in.
	Q	3.35 – 3.40 mm	0.1319 – 0.1339 in.
	R	3.40 – 3.45 mm	0.1339 – 0.1358 in.
	S	3.45 – 3.50 mm	0.1358 – 0.1378 in.

Torque Specifications

Part tightened	kg-cm	ft-lb	N·m
Reverse shift arm bracket	185	13	18
Rear bearing retainer × Intermediate plate	185	13	18
Counter gear rear lock nut	1,300	94	127
Shift fork × Shift fork shaft	200	14	20
Straight screw plug	190	14	19
Front bearing retainer × Transmission case	170	12	17
Transmission case × Transfer adaptor	380	27	37
Shift lever housing bolt	390	28	38
Clutch housing × Transmission case	370	27	36
Back-up light switch	450	33	44
Restrict pin	380	27	37
Shift lever retainer × Transfer adaptor	185	13	18