

MANUAL TRANSMISSION (R150 R150F)**Specifications (2WD and 4WD)**

| | | | |
|--------------------------------------|-------|------------------|---------------------|
| Output shaft | | | |
| 1 st 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 | | | |
| 1 st | 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 | | | |
| 1 st | STD | 0.020 – 0.073 mm | 0.0008 – 0.0029 in. |
| | Limit | 0.16 mm | 0.0063 in. |
| 2nd, 3rd & Counter 5th | STD | 0.015 – 0.068 mm | 0.0006 – 0.0027 in. |
| | 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 – 0.098 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. |

Specifications (2WD and 4WD) (Cont'd)

| | | | |
|----------------------------------------|----------------|---------------------|---------------------|
| 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. |
| 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 (2WD and 4WD)

| Part tightened | N·m | kgf·cm | ft·lbf |
|--------------------------------------------------------------|-----|--------|--------|
| Reverse shift arm bracket | 18 | 185 | 13 |
| Rear bearing retainer x Intermediate plate | 18 | 185 | 13 |
| Counter gear rear lock nut | 127 | 1,300 | 94 |
| Shift fork x Shift fork shaft | 20 | 200 | 14 |
| Straight screw plug | 19 | 190 | 14 |
| Front bearing retainer x Transmission case | 17 | 170 | 12 |
| Transmission case x Extension housing | 37 | 380 | 27 |
| Shift lever housing bolt | 38 | 390 | 28 |
| Clutch housing x Transmission case | 36 | 370 | 27 |
| Oil receiver x Extension housing | 11 | 115 | 8 |
| Back-up light switch | 44 | 450 | 33 |
| Restrict pin | 37 | 380 | 27 |
| Shift lever retainer x Extension housing or transfer adaptor | 18 | 185 | 13 |

MANUAL TRANSMISSION (installation of Transmission)

Torque Specifications (2WD)

| Part tightened | N·m | kgf·cm | ft·lbf |
|-------------------------------------------------------|-----|--------|--------|
| Transmission x Engine | 72 | 730 | 53 |
| Stiffener plate x Transmission | 37 | 380 | 27 |
| Starter | 39 | 400 | 29 |
| Engine rear mounting x Transmission | 25 | 260 | 19 |
| Clutch tube bracket x Transmission (22R-E) | 72 | 730 | 53 |
| Clutch release cylinder | 12 | 120 | 9 |
| Stabilizer bracket | 29 | 300 | 22 |
| Frame auxiliary crossmember | 95 | 970 | 70 |
| Engine rear mounting bracket x Support member | 58 | 590 | 43 |
| Engine rear mounting bracket x Engine rear mounting | 29 | 300 | 22 |
| Exhaust pipe x Exhaust manifold | 62 | 630 | 46 |
| Exhaust pipe bracket x Clutch housing | | | |
| (22R-E) | | | |
| Upper | 19 | 195 | 14 |
| Lower | 69 | 700 | 51 |
| (3VZ-E) | 39 | 400 | 29 |
| Exhaust pipe x Catalytic converter front side (3VZ-E) | 39 | 400 | 29 |
| Exhaust pipe clamp | 19 | 195 | 14 |