# MANUAL TRANSMISSION / TRANSAXLE

03010–05

## SERVICE DATA

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| Manual transaxle assy | | |
| 5th gear thrust clearance | Standard clearance | 0.10 – 0.65 mm (0.0039 – 0.0256 in.) |
| 5th gear radial clearance | Standard clearance | 0.009 – 0.050 mm (0.0004 – 0.0020 in.) |
| Reverse idler gear sub–assy inside diameter | Standard inside diameter<br>Maximum inside diameter | 20.056 – 20.074 mm (0.7896 – 0.7903 in.)<br>20.074 mm (0.7903 in.) |
| Reverse idler gear shaft outer diameter | Standard outer diameter<br>Minimum outer diameter | 19.984 – 20.000 mm (0.7868 – 0.7874 in.)<br>19.984 mm (0.7868 in.) |
| Transmission hub sleeve No.3 groove – thickness of the claw part on gear shift fork No.3 | Standard clearance | 0.15–0.35 mm (0.0059 – 0.0138 in.) |
| 5th gear inside diameter | Standard inside diameter<br>Maximum inside diameter | 34.981 – 34.997 mm (1.3772 – 1.3778 in.)<br>34.997 mm (1.3778 in.) |
| Control shaft cover bimetal formed bush clearance | | 0.081 – 0.149 mm (0.0032 – 0.0059 in.) |
| Front transaxle case cover oil seal driven in depth | | 0 ± 0.5 mm (0 ± 0.020 in.) |
| Transmission case oil seal driven in depth | | 3.5 ± 0.5 mm (0.138 ± 0.020 in.) |
| Output shaft rear bearing clearance | | 3.8 – 4.4 mm (0.150 – 0.173 in.) |
| Output shaft bearing preload | New bearing<br>Used bearing | 0.8 – 1.6 N·m (8.16 – 16.32 kgf·cm, 7.1 – 14.2 in.·lbf)<br>0.5 – 1.0 N·m (5.10 – 10.20 kgf·cm, 4.4 – 8.9 in.·lbf) |
| Output shaft rear bearing shim thickness | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>A<br>B<br>C<br>D<br>E<br>F<br>G<br>H<br>J<br>K<br>L<br>M<br>N<br>P<br>Q | 1.30 mm (0.0512 in.)<br>1.35 mm (0.0531 in.)<br>1.40 mm (0.0551 in.)<br>1.45 mm (0.0571 in.)<br>1.50 mm (0.0591 in.)<br>1.55 mm (0.0610 in.)<br>1.60 mm (0.0630 in.)<br>1.65 mm (0.0650 in.)<br>1.70 mm (0.0669 in.)<br>1.75 mm (0.0689 in.)<br>1.80 mm (0.0709 in.)<br>1.85 mm (0.0728 in.)<br>1.90 mm (0.0748 in.)<br>1.95 mm (0.0768 in.)<br>2.00 mm (0.0787 in.)<br>2.05 mm (0.0807 in.)<br>2.10 mm (0.0827 in.)<br>2.15 mm (0.0846 in.)<br>2.20 mm (0.0866 in.)<br>2.25 mm (0.0886 in.)<br>2.30 mm (0.0906 in.)<br>2.35 mm (0.0925 in.)<br>2.40 mm (0.0945 in.)<br>2.45 mm (0.0965 in.)<br>2.50 mm (0.0984 in.) |
| Front differential case tapered roller bearing preload | New bearing<br>Used bearing | 0.8 – 1.6 N·m (8.16 – 16.32 kgf·cm, 7.1 – 14.2 in.·lbf)<br>0.5 – 1.0 N·m (5.10 – 10.20 kgf·cm, 4.4 – 8.9 in.·lbf) |

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| Front differential case shim RR thickness | 0 | 2.00 mm (0.0787 in.) |
| | 1 | 2.05 mm (0.0807 in.) |
| | 2 | 2.10 mm (0.0827 in.) |
| | 3 | 2.15 mm (0.0846 in.) |
| | 4 | 2.20 mm (0.0866 in.) |
| | 5 | 2.25 mm (0.0886 in.) |
| | 6 | 2.30 mm (0.0906 in.) |
| | 7 | 2.35 mm (0.0925 in.) |
| | 8 | 2.40 mm (0.0945 in.) |
| | 9 | 2.45 mm (0.0965 in.) |
| | A | 2.50 mm (0.0984 in.) |
| | B | 2.55 mm (0.1004 in.) |
| | C | 2.60 mm (0.1024 in.) |
| | D | 2.65 mm (0.1043 in.) |
| | E | 2.70 mm (0.1063 in.) |
| | F | 2.75 mm (0.1083 in. ) |
| | G | 2.80 mm (0.1102 in.) |
| | H | 2.85 mm (0.1122 in.) |
| Front differential case oil seal clearance | | 1 – 2 mm (0.0394 –0.0787 in.) |
| Input shaft front bearing clearance | | 4.28 – 4.60 mm (0.1685 – 0.1811 in.) |
| Reverse restrict pin clearance | | 12.5 – 13.5 mm (0.492 – 0.531 in.) |
| Transmission clutch hub No.3 snap ring clearance | | 0.1 mm or less (0.0039 in. or less) |
| Transmission clutch hub No.3 snap ring thickness | a | 1.75 – 1.80 mm (0.0689 – 0.0709 in.) |
| | b | 1.80 – 1.85 mm (0.0709 – 0.0728 in.) |
| | c | 1.85 – 1.90 mm (0.0728 – 0.0748 in.) |
| | d | 1.90 – 1.95 mm (0.0748 – 0.0768 in.) |
| | e | 1.95 – 2.00 mm (0.0768 – 0.0787 in.) |
| | f | 2.00 – 2.05 mm (0.0787 – 0.0807 in.) |
| | g | 2.05 – 2.10 mm (0.0807 – 0.0827 in.) |
| | h | 2.10 – 2.15 mm (0.0827 – 0.0846 in.) |
| | j | 2.15 – 2.20 mm (0.0846 – 0.0866 in.) |
| 5th gear radial clearance | Standard clearance | 0.009 – 0.050 mm (0.0004 – 0.0020 in.) |
| 5th gear thrust clearance | Standard clearance | 0.10 – 0.65 mm (0.0039 – 0.0260 in.) |
| Input shaft assy | | |
| 4th gear thrust clearance | Standard clearance | 0.10 – 0.57 mm (0.0039– 0.0224 in.) |
| 3rd gear thrust clearance | Standard clearance | 0.10 – 0.35 mm (0.0039 – 0.0138 in.) |
| 4th gear radial clearance | KOYO made | 0.009 – 0.053 mm (0.0004 – 0.0021 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| 3rd gear radial clearance | KOYO made | 0.009 – 0.053 mm (0.0004 – 0.0021 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| Input shaft run out | Maximum run out: | 0.03 mm (0.0012 in.) |
| Input shaft standard outer diameter | A | 35.984 – 36.000 mm (1.4167 – 1.4173 in.) |
| | B | 35.984 – 36.000 mm (1.4167 – 1.4173 in.) |
| | C | 27.957 – 27.972 mm (1.1007 – 1.1013 in.) |
| Input shaft minimum outer diameter | A | 35.984 mm (1.4167 in.) |
| | B | 35.984 mm (1.4167 in.) |
| | C | 27.957 mm (1.1007 in.) |
| 4th gear inside diameter | Standard inside diameter | 42.09 – 42.025 mm (1.6539 – 1.6545 in.) |
| | Maximum inside diameter | 42.025 mm (1.6545 in.) |
| 3rd gear inside diameter | Standard inside diameter | 43.009 – 43.025 mm (1.6933 – 1.6939 in.) |
| | Maximum inside diameter | 43.025 mm (1.6939 in.) |
| Between the 4th gear spline end and synchronizer outer ring back clearance | | 0.75 – 1.65 mm (0.0295 – 0.0650 in.) |
| Between the 3rd gear spline end and synchronizer outer ring back clearance | | 0.65 – 1.75 mm (0.0256 – 0.0689 in.) |
| Transmission hub sleeve No.3 groove – thickness of the claw part on gear shift fork No.1 | Standard clearance | 0.11 – 0.69 mm (0.0043 – 0.0272 in.) |
| Transmission clutch hub No.2 snap ring clearance | Standard clearance | 0.1 mm or less (0.0039 in. or less) |

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| Transmission clutch hub No.2 snap ring thickness | H | 2.30 – 2.35 mm (0.0906 – 0.0925 in.) |
| | J | 2.35 – 2.40 mm (0.0925 – 0.0945 in.) |
| | K | 2.40 – 2.45 mm (0.0945 – 0.0965 in.) |
| | L | 2.45 – 2.50 mm (0.0965 – 0.0984 in.) |
| | M | 2.50 – 2.55 mm (0.0984 – 0.1004 in.) |
| | N | 2.55 – 2.60 mm (0.1004 – 0.1024 in.) |
| | P | 2.60 – 2.65 mm (0.1024 – 0.1043 in.) |
| Input shaft rear radial ball bearing snap ring clearance | Standard clearance | 0.1 mm or less (0.0039 in. or less) |
| Input shaft rear radial ball bearing snap ring thickness | 1 | 2.35 – 2.40 mm (0.0925 – 0.0945 in.) |
| | 2 | 2.40 – 2.45 mm (0.0945 – 0.0965 in.) |
| | 3 | 2.45 – 2.50 mm (0.0965 – 0.0984 in.) |
| | 4 | 2.50 – 2.55 mm (0.0984 – 0.1004 in.) |
| | 5 | 2.55 – 2.60 mm (0.1004 – 0.1024 in.) |
| | 6 | 2.60 – 2.65 mm (0.1024 – 0.1043 in.) |
| | 7 | 2.65 – 2.70 mm (0.1043 – 0.1063 in.) |
| | 8 | 2.70 – 2.75 mm (0.1063 – 0.1083 in.) |
| 3rd gear radial clearance | KOYO made | 0.009 – 0.053 mm (0.0004 – 0.0021 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| 4th gear radial clearance | KOYO made | 0.009 – 0.053 mm (0.0004 – 0.0021 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| 3rd gear thrust clearance | Standard clearance | 0.10 – 0.35 mm (0.0039 – 0.0138 in.) |
| 4th gear thrust clearance | Standard clearance | 0.10 – 0.57 mm (0.0039– 0.0224 in.) |
| Output shaft assy | | |
| 1st gear thrust clearance | Standard clearance | 0.25 – 0.40 mm (0.0098 – 0.0157 in.) |
| 2nd gear thrust clearance | Standard clearance | 0.10 – 0.35 mm (0.0039 – 0.0138 in.) |
| 1st gear radial clearance | KOYO made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| 2nd gear radial clearance | KOYO made | 0.009 – 0.053 mm (0.0004 – 0.0021 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| Output shaft run out | Maximum run out | 0.03 mm (0.0012 in.) |
| Output shaft standard outer diameter | A | 37.610 – 37.626 mm (1.4807 – 1.4813 in.) |
| | B | 34.802 – 34.512 mm (1.3702 – 1.3587 in.) |
| Output shaft minimum outer diameter | A | 37.610 mm (1.4807 in.) |
| | B | 34.802 mm (1.3702 in.) |
| 2nd gear inside diameter | Standard inside diameter | 50.009 – 50.025 mm (1.9689 – 1.9695 in.) |
| | Maximum inside diameter | 50.025 mm (1.9695 in.) |
| 1st gear inside diameter | Standard inside diameter | 51.009 – 51.025 (2.0082 – 2.0089 in.) |
| | Maximum inside diameter | 51.025 mm (2.0089 in.) |
| Between the 2nd gear while and synchronizer ring No.2 back clearance | | 0.70 – 1.45 mm (0.0276 – 0.0571 in.) |
| Between the 1st gear while and synchronizer ring set No.1 back clearance | | 0.70 – 1.45 mm (0.0276 – 0.0571 in.) |
| Reverse gear groove – thickness of the claw part on gear shift fork No.1 clearance | Standard clearance | 0.15 – 0.35 mm (0.0059 – 0.0138 in.) |
| 2nd gear radial clearance | KOYO made | 0.009 – 0.053 mm (0.0004 – 0.0021 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| 1st gear radial clearance | KOYO made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| | NSK made | 0.009 – 0.051 mm (0.0004 – 0.0020 in.) |
| 2nd gear thrust clearance | Standard clearance | 0.10 – 0.35 mm (0.0039 – 0.0138 in.) |
| 1st gear thrust clearance | Standard clearance | 0.25 – 0.40 mm (0.0098 – 0.0157 in.) |
| Differential case assy | | |
| Front differential side gear backlash | Standard backlash | 0.05 – 0.20 mm (0.0020 – 0.0079 in.) |
| Front differential pinion thrust washer thickness | Minimum thickness | 0.9 mm (0.035 in.) |
| Front differential pinion shaft No.1 thickness | Minimum thickness | 17.975 mm (0.70768 in.) |
| Front differential side gear backlash | Standard backlash | 0.05 – 0.20 mm (0.0020 – 0.0079 in.) |
| Front differential side gear thrust washer thickness | 1 | 1.00 mm (0.0394 in.) |
| | 2 | 1.10 mm (0.0433 in.) |
| | 3 | 1.20 mm (0.0472 in.) |
| | 4 | 1.30 mm (0.0512 in.) |

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| Shift & select lever shaft assy | |
| Control shaft cover bimetal formed bush drive in depth | 0 ± 0.25 mm (0 ± 0. 010 in.) |
| Control shaft cover oil seal drive in depth | 28.5 ± 0.50 mm (1.122 ± 0. 020 in.) |
| Shift lever slotted pin clearance to the shift lever inner assy | –0.5 – 0.5 mm (– 0.0197 – 0.0197 in.) |
| Shift lever slotted pin clearance to the shift lever inner No.2 | 5.8 – 6.8 mm (0.228 – 0.268 in.) |