

AUTOMATIC TRANSMISSION (A45DL)**Specifications**

| | | | | | |
|---|---------|-----------|---|---------------|-------------------|
| Line pressure | | | | | |
| (1RZ, 2RZ engine) | | | | | |
| Engine idling | D range | | 3.6 – 5.1 kg/cm ² | 51 – 58 psi | 353 – 402 kPa |
| | R range | | 5.1 – 5.8 kg/cm ² | 72 – 82 psi | 500 – 569 kPa |
| At stall | D range | | 10.5 – 12.2 kg/cm ² | 149 – 173 psi | 1,030 – 1,196 kPa |
| | R range | | 14.5 – 18.2 kg/cm ² | 206 – 258 psi | 1,422 – 1,785 kPa |
| (2L, 3L engine) | | | | | |
| Engine idling | D range | | 3.5 – 4.4 kg/cm ² | 50 – 62 psi | 343 – 431 kPa |
| | R range | | 4.6 – 6.7 kg/cm ² | 65 – 95 psi | 451 – 657 kPa |
| At stall | D range | | 11.2 – 13.2 kg/cm ² | 159 – 187 psi | 1,098 – 1,294 kPa |
| | R range | | 15.0 – 19.0 kg/cm ² | 213 – 270 psi | 1,471 – 1,863 kPa |
| (2RZ-E engine) | | | | | |
| Engine idling | D range | | 4.5 – 5.1 kg/cm ² | 64 – 72 psi | 441 – 500 kPa |
| | R range | | 6.8 – 7.6 kg/cm ² | 97 – 108 psi | 667 – 745 kPa |
| At stall | D range | | 10.1 – 11.9 kg/cm ² | 143 – 169 psi | 990 – 1,167 kPa |
| | R range | | 15.0 – 19.0 kg/cm ² | 213 – 270 psi | 1,471 – 1,863 kPa |
| Engine stall revolution | | | | | |
| 3L, 1RZ, 2RZ engine | | | 2,250 ± 150 rpm | | |
| 2L engine | | | 2,100 ± 150 rpm | | |
| 2RZ-E engine | | | 2,300 ± 150 rpm | | |
| Time lag | N range | → D range | Less than 1.2 seconds | | |
| | N range | → R range | Less than 1.5 seconds | | |
| Engine idle speed (A/C OFF) | | | 800 rpm | | |
| Governor pressure (Vehicle speed reference) | | | | | |
| (2L, 3L engine) | | | | | |
| Output shaft rpm | | | | | |
| 1,000 24 km/h (15 mph) | | | 1.0 – 1.5 kg/cm ² | 14 – 21 psi | 98 – 147 kPa |
| 1,800 44 km/h (27 mph) | | | 1.9 – 2.4 kg/cm ² | 27 – 34 psi | 186 – 235 kPa |
| 3,500 85 km/h (53 mph) | | | 4.6 – 5.1 kg/cm ² | 65 – 72 psi | 451 – 500 kPa |
| (1RZ engine) | | | | | |
| Output shaft rpm | | | | | |
| 1,000 24 km/h (15 mph) | | | 1.4 – 1.9 kg/cm ² | 20 – 27 psi | 137 – 186 kPa |
| 1,800 44 km/h (27 mph) | | | 2.2 – 2.6 kg/cm ² | 31 – 37 psi | 216 – 255 kPa |
| 3,500 85 km/h (53 mph) | | | 4.5 – 5.3 kg/cm ² | 64 – 75 psi | 441 – 520 kPa |
| (2RZ, 2RZ-E engine) | | | | | |
| Output shaft rpm | | | | | |
| 1,000 26 km/h (16 mph) | | | 1.4 – 1.8 kg/cm ² | 20 – 26 psi | 137 – 177 kPa |
| 1,800 47 km/h (29 mph) | | | 2.4 – 2.8 kg/cm ² | 34 – 40 psi | 235 – 275 kPa |
| 3,500 91 km/h (56 mph) | | | 5.1 – 5.9 kg/cm ² | 72 – 84 psi | 500 – 579 kPa |
| Throttle cable adjustment | | | | | |
| (Throttle valve fully opened) | | | Between boot end face and inner cable stopper | | |
| | | | 0 – 1 mm 0 – 0.04 in. | | |

Specifications (Cont'd)

| Torque converter sleeve runout | | Limit | 0.30 mm | | 0.0118 in. | | | | | |
|--|----------------------|--|----------------------|------------------------|----------------------|----------------------|------------------------|----------------------|----------------------|----------------------|
| Torque converter installation distance | | L engine | 27 mm | | 1.02 in. | | | | | |
| | | RZ engine | 32 mm | | 1.22 in. | | | | | |
| Drive plate runout | | Limit | 0.20 mm | | 0.0079 in. | | | | | |
| Shift point km/h (mph) | Engine | Throttle valve fully open [] Fully closed | | | | | | | | |
| | | D range | | | | | | | | L range |
| | | 1 → 2 | 2 → 3 | 3 → O/D | Lock-up ON | Lock-up OFF | O/D → 3 | 3 → 2 | 2 → 1 | 2 → 1 |
| | 1RZ | 41 – 47 (26 – 29) | 82 – 90 (51 – 56) | *1 No | 59 – 65 (37 – 41) | 54 – 60 (34 – 37) | *2 | 77 – 85 (52 – 58) | 35 – 44 (22 – 27) | 35 – 44 (22 – 27) |
| | 1RZ (Europe) | 40 – 46 (26 – 31) | 80 – 87 (50 – 54) | 114 – 125 (71 – 78) | 58 – 63 (36 – 39) | 53 – 58 (33 – 36) | 121 – 108 (75 – 67) | 75 – 82 (47 – 51) | 34 – 42 (21 – 26) | 34 – 42 (21 – 26) |
| | 2L | 30 – 35 (19 – 22) | 58 – 66 (36 – 41) | *3 No | 58 – 63 (36 – 39) | 53 – 60 (33 – 37) | 91 – 78 (57 – 48) | 54 – 63 (34 – 39) | 24 – 32 (15 – 20) | 31 – 40 (19 – 25) |
| | 3L | 31 – 37 (19 – 23) | 61 – 69 (38 – 43) | *4 No | 61 – 66 (38 – 41) | 55 – 63 (34 – 39) | 91 – 78 (57 – 48) | 54 – 63 (34 – 39) | 25 – 33 (16 – 21) | 33 – 42 (21 – 26) |
| | 2RZ | 40 – 46 (25 – 29) | 79 – 88 (49 – 55) | *5 No | 58 – 63 (36 – 39) | 58 – 63 (36 – 39) | *2 | 75 – 83 (47 – 52) | 32 – 41 (20 – 26) | 33 – 41 (21 – 26) |
| | 2RZ (New Zealand) | 42 – 49 (26 – 31) | 84 – 93 (52 – 58) | *6 No | 62 – 67 (39 – 42) | 56 – 62 (35 – 39) | *2 | 80 – 88 (50 – 55) | 34 – 44 (21 – 27) | 35 – 44 (22 – 27) |
| | 2RZ-E | 40 – 46 (25 – 29) | 79 – 88 (49 – 55) | 114 – 125 (71 – 78) | 58 – 63 (36 – 39) | 53 – 58 (33 – 36) | 121 – 108 (75 – 67) | 75 – 83 (47 – 52) | 32 – 41 (20 – 26) | 33 – 41 (21 – 26) |
| *1 3 → O/D shift up point with closed throttle valve is at 27 – 41 km/h (17 – 26 mph). | | | | | | | | | | |
| *2 O/D → 3 down-shift possible up to maximum speed. | | | | | | | | | | |
| *3 3 → O/D shift up point with closed throttle valve is at 29 – 38 km/h (18 – 24 mph). | | | | | | | | | | |
| *4 3 → O/D shift up point with closed throttle valve is at 31 – 39 km/h (19 – 24 mph). | | | | | | | | | | |
| *5 3 → O/D shift up point with closed throttle valve is at 28 – 39 km/h (17 – 24 mph). | | | | | | | | | | |
| *6 3 → O/D shift up point with closed throttle valve is at 30 – 41 km/h (19 – 26 mph). | | | | | | | | | | |

Torque Specifications

| Part tightened | kg-cm | ft-lb | N-m |
|---------------------------------------|-------|-----------|-----|
| Oil cooler pipe union nut | 350 | 25 | 34 |
| Torque converter x Drive plate | 420 | 30 | 41 |
| Drive plate x Crankshaft | 650 | 47 | 64 |
| Extension housing x Transmission case | 345 | 25 | 34 |
| Transmission mounting through bolt | 500 | 36 | 49 |
| Valve body | 100 | 7 | 10 |
| Oil strainer | 55 | 48 in.-lb | 5.4 |
| Parking lock pawl bracket | 75 | 65 in.-lb | 7.4 |
| Oil pan | 45 | 39 in.-lb | 4.4 |
| Drain plug | 205 | 15 | 20 |