

SPECIFICATIONS AXLE AND DIFFERENTIAL SERVICE DATA

Front Axle

Front axle hub bearing preload	26 to 52 N (3 to 5 kgf, 5.8 to 11.7 lbf)
Snap ring thickness (w/ Dual Mode Automatic Locking Hub)	2.75 to 2.80 mm (0.108 to 0.110 in.)
	2.55 to 2.60 mm (0.100 to 0.102 in.)
	2.35 to 2.40 mm (0.0925 to 0.0945 in.)
	2.15 to 2.20 mm (0.0846 to 0.0866 in.)
	1.95 to 2.00 mm (0.0768 to 0.0787 in.)
	1.75 to 1.80 mm (0.0689 to 0.0709 in.)
Snap ring thickness (w/ Free Wheel Hub)	2.75 to 2.80 mm (0.108 to 0.110 in.)
	2.55 to 2.60 mm (0.100 to 0.102 in.)
	2.35 to 2.40 mm (0.0925 to 0.0945 in.)
	2.15 to 2.20 mm (0.0846 to 0.0866 in.)
	1.95 to 2.00 mm (0.0768 to 0.0787 in.)
	1.75 to 1.80 mm (0.0689 to 0.0709 in.)
No. 1 steering knuckle adjust shim thickness	0.1 mm (0.004 in.)
	0.2 mm (0.008 in.)
	0.5 mm (0.020 in.)
	1.0 mm (0.039 in.)

Steering Knuckle

No. 1 steering knuckle arm bearing preload	25 to 44 N (3 to 4 kgf, 5.6 to 9.9 lbf)
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Rear Axle

Rear axle hub bearing preload	1.8 to 4.0 N (0.2 to 0.4 kgf, 0.4 to 0.9 lbf)
Rear axle hub axial play	Less than 0.1 mm (0.004 in.)
Rear axle shaft maximum runout	0.8 mm (0.031 in.)

Oil Type and Viscosity

Item	Oil type
w/o LSD	Toyota Genuine Differential gear oil LT 75W-85 GL-5 or equivalent
w/ LSD	Toyota Genuine Differential gear oil LX 75W-85 GL-5 or equivalent

Front Differential Capacity

Item	Capacity
for Standard	2.8 to 2.9 liters (2.96 to 3.06 US qts, 2.46 to 2.55 Imp. qts)
w/ Differential lock	

Rear Differential Capacity

Item	Capacity
for Standard	2.35 to 2.45 liters (2.49 to 2.58 US qts, 2.07 to 2.15 Imp. qts)
w/ LSD	
w/ Differential lock	2.25 to 2.35 liters (2.38 to 2.48 US qts, 1.98 to 2.06 Imp. qts)

Front Differential Carrier Oil Seal

Oil seal depth	0.55 to 1.45 mm (0.0217 to 0.0570 in.)
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Rear Differential Carrier Oil Seal

Oil seal depth	Type A	0.05 to 0.95 mm (0.00197 to 0.0374 in.)
	Type B	1.55 to 2.45 mm (0.0611 to 0.0965 in.)

		0.0964 in.)
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Front Differential Carrier Assembly (for Standard)

Companion flange runout	Maximum vertical runout	0.10 mm (0.00394 in.)
	Maximum lateral runout	0.10 mm (0.00394 in.)
Ring gear runout		0.10 mm (0.00394 in.)
Differential case runout		0.04 mm (0.00157 in.)
Differential ring gear backlash		0.13 to 0.18 mm (0.00512 to 0.00708 in.)
Differential side gear backlash	for 2 Pinion Gear Type	0.05 to 0.20 mm (0.00197 to 0.00787 in.)
	for 4 Pinion Gear Type	0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Differential drive pinion preload (starting torque)	New bearing	1.05 to 1.64 N*m (11 to 16 kgf*cm, 10 to 14 in.*lbf)
	Reused bearing	0.56 to 0.85 N*m (6 to 8 kgf*cm, 5 to 7 in.*lbf)
Total preload (starting torque)		0.39 to 0.59 N*m (4 to 6 kgf*cm, 4 to 5 in.*lbf) + drive pinion preload
Side gear thrust washer thickness	for 2 Pinion Gear Type	1.6 mm (0.0629 in.)
		1.7 mm (0.0669 in.)
		1.8 mm (0.0708 in.)
	for 4 Pinion Gear Type	0.87 to 0.93 mm (0.0343 to 0.0366 in.)
		0.97 to 1.03 mm (0.0382 to 0.0405 in.)
		1.07 to 1.13 mm (0.0422 to 0.0444 in.)
		1.17 to 1.23 mm (0.0461 to 0.0484 in.)
		1.27 to 1.33 mm (0.0500 to 0.0523 in.)
Plate washer thickness	1.69 to 1.71 mm (0.0666 to 0.0673 in.)	
	1.72 to 1.74 mm (0.0678 to 0.0685 in.)	
	1.75 to 1.77 mm (0.0689 to 0.0696 in.)	
	1.78 to 1.80 mm (0.0701 to 0.0708 in.)	
	1.81 to 1.83 mm (0.0713 to 0.0720 in.)	
	1.84 to 1.86 mm (0.0725 to 0.0732 in.)	
	1.87 to 1.89 mm (0.0737 to 0.0744 in.)	
	1.90 to 1.92 mm (0.0749 to 0.0755 in.)	
	1.93 to 1.95 mm (0.0760 to 0.0767 in.)	
	1.96 to 1.98 mm (0.0772 to 0.0779 in.)	
	1.99 to 2.01 mm (0.0784 to 0.0791 in.)	
	2.02 to 2.04 mm (0.0796 to 0.0803 in.)	
	2.05 to 2.07 mm (0.0808 to 0.0814 in.)	
	2.08 to 2.10 mm (0.0819 to 0.0826 in.)	
	2.11 to 2.13 mm (0.0831 to 0.0838 in.)	

	2.14 to 2.16 mm (0.0843 to 0.0850 in.)
	2.17 to 2.19 mm (0.0855 to 0.0862 in.)
	2.20 to 2.22 mm (0.0867 to 0.0874 in.)
	2.23 to 2.25 mm (0.0878 to 0.0885 in.)
	2.26 to 2.28 mm (0.0890 to 0.0897 in.)
	2.29 to 2.31 mm (0.0902 to 0.0909 in.)
	2.32 to 2.34 mm (0.0914 to 0.0921 in.)

Front Differential Carrier Assembly (w/ Differential Lock)

Companion flange runout	Maximum vertical runout	0.10 mm (0.00394 in.)
	Maximum lateral runout	0.10 mm (0.00394 in.)
Ring gear runout		0.10 mm (0.00394 in.)
Differential case runout		0.04 mm (0.00157 in.)
Differential ring gear backlash		0.13 to 0.18 mm (0.00512 to 0.00708 in.)
Differential side gear backlash		0.05 to 0.20 mm (0.00197 to 0.00787 in.)
Differential drive pinion preload (starting torque)	New bearing	1.05 to 1.64 N*m (11 to 16 kgf*cm, 10 to 14 in.*lbf)
	Reused bearing	0.56 to 0.85 N*m (6 to 8 kgf*cm, 5 to 7 in.*lbf)
Total preload (starting torque)		0.46 to 0.66 N*m (4.7 to 6.7 kgf*cm, 4.1 to 5.8 in.*lbf) + drive pinion preload
Side gear thrust washer thickness		0.88 to 0.92 mm (0.0347 to 0.0362 in.)
		0.98 to 1.02 mm (0.0386 to 0.0401 in.)
		1.08 to 1.12 mm (0.0426 to 0.0440 in.)
		1.18 to 1.22 mm (0.0465 to 0.0480 in.)
		1.28 to 1.32 mm (0.0504 to 0.0519 in.)
Plate washer thickness		1.69 to 1.71 mm (0.0666 to 0.0673 in.)
		1.72 to 1.74 mm (0.0678 to 0.0685 in.)
		1.75 to 1.77 mm (0.0689 to 0.0696 in.)
		1.78 to 1.80 mm (0.0701 to 0.0708 in.)
		1.81 to 1.83 mm (0.0713 to 0.0720 in.)
		1.84 to 1.86 mm (0.0725 to 0.0732 in.)
		1.87 to 1.89 mm (0.0737 to 0.0744 in.)
		1.90 to 1.92 mm (0.0749 to 0.0755 in.)
		1.93 to 1.95 mm (0.0760 to 0.0767 in.)
		1.96 to 1.98 mm (0.0772 to 0.0779 in.)
		1.99 to 2.01 mm (0.0784 to 0.0791 in.)

	2.02 to 2.04 mm (0.0796 to 0.0803 in.)
	2.05 to 2.07 mm (0.0808 to 0.0814 in.)
	2.08 to 2.10 mm (0.0819 to 0.0826 in.)
	2.11 to 2.13 mm (0.0831 to 0.0838 in.)
	2.14 to 2.16 mm (0.0843 to 0.0850 in.)
	2.17 to 2.19 mm (0.0855 to 0.0862 in.)
	2.20 to 2.22 mm (0.0867 to 0.0874 in.)
	2.23 to 2.25 mm (0.0878 to 0.0885 in.)
	2.26 to 2.28 mm (0.0890 to 0.0897 in.)
	2.29 to 2.31 mm (0.0902 to 0.0909 in.)
	2.32 to 2.34 mm (0.0914 to 0.0921 in.)

Rear Differential Carrier Assembly (for Standard)

Companion flange runout	Maximum vertical runout	0.10 mm (0.00394 in.)
	Maximum lateral runout	0.10 mm (0.00394 in.)
Ring gear runout		0.05 mm (0.00197 in.)
Differential case runout		0.04 mm (0.00157 in.)
Differential ring gear backlash		0.10 to 0.20 mm (0.00394 to 0.00787 in.)
Differential side gear backlash		0.02 to 0.15 mm (0.00079 to 0.00590 in.)
Differential drive pinion preload (starting torque)	New bearing	1.04 to 1.69 N*m (11 to 17 kgf*cm, 10 to 14 in.*lbf)
	Reused bearing	0.85 to 1.37 N*m (9 to 13 kgf*cm, 8 to 12 in.*lbf)
Total preload (starting torque)	NSK bearing	0.43 to 0.65 N*m (5 to 6 kgf*cm, 4 to 5 in.*lbf) + drive pinion preload
	NACHI bearing	0.38 to 0.63 N*m (4 to 6 kgf*cm, 4 to 5 in.*lbf) + drive pinion preload
Side gear thrust washer thickness		1.53 to 1.57 mm (0.0603 to 0.0618 in.)
		1.58 to 1.62 mm (0.0623 to 0.0637 in.)
		1.63 to 1.67 mm (0.0642 to 0.0657 in.)
		1.68 to 1.72 mm (0.0662 to 0.0677 in.)
		1.73 to 1.77 mm (0.0682 to 0.0696 in.)
		1.78 to 1.82 mm (0.0701 to 0.0716 in.)
		1.83 to 1.87 mm (0.0721 to 0.0736 in.)
		1.88 to 1.92 mm (0.0741 to 0.0755 in.)
		1.93 to 1.97 mm (0.0760 to 0.0775 in.)
		1.98 to 2.02 mm (0.0780 to 0.0795 in.)
		2.03 to 2.07 mm (0.0800 to 0.0814 in.)

	2.08 to 2.12 mm (0.0819 to 0.0834 in.)
Plate washer thickness	1.04 to 1.06 mm (0.0410 to 0.0417 in.)
	1.065 to 1.085 mm (0.0420 to 0.0427 in.)
	1.09 to 1.11 mm (0.0430 to 0.0437 in.)
	1.115 to 1.135 mm (0.0439 to 0.0446 in.)
	1.14 to 1.16 mm (0.0449 to 0.0456 in.)
	1.165 to 1.185 mm (0.0459 to 0.0466 in.)
	1.19 to 1.21 mm (0.0469 to 0.0476 in.)
	1.215 to 1.235 mm (0.0479 to 0.0486 in.)
	1.24 to 1.26 mm (0.0489 to 0.0496 in.)
	1.265 to 1.285 mm (0.0499 to 0.0505 in.)
	1.29 to 1.31 mm (0.0508 to 0.0515 in.)
	1.315 to 1.335 mm (0.0518 to 0.0525 in.)
	1.34 to 1.36 mm (0.0528 to 0.0535 in.)
	1.365 to 1.385 mm (0.0538 to 0.0545 in.)
	1.39 to 1.41 mm (0.0548 to 0.0555 in.)
	1.415 to 1.435 mm (0.0558 to 0.0564 in.)
	1.44 to 1.46 mm (0.0567 to 0.0574 in.)
	1.465 to 1.485 mm (0.0577 to 0.0584 in.)
	1.49 to 1.51 mm (0.0587 to 0.0594 in.)
	1.515 to 1.535 mm (0.0597 to 0.0604 in.)
	1.54 to 1.56 mm (0.0607 to 0.0614 in.)

Rear Differential Carrier Assembly (for LSD)

Companion flange runout	Maximum vertical runout	0.10 mm (0.00394 in.)
	Maximum lateral runout	0.10 mm (0.00394 in.)
Ring gear runout		0.05 mm (0.00197 in.)
Differential case runout		0.04 mm (0.00157 in.)
Differential ring gear backlash		0.10 to 0.20 mm (0.00394 to 0.00787 in.)
Differential side gear backlash		0.02 to 0.15 mm (0.00079 to 0.00590 in.)
Differential drive pinion preload (starting torque)	New bearing	1.04 to 1.69 N*m (11 to 17 kgf*cm, 10 to 14 in.*lbf)
	Reused bearing	0.85 to 1.37 N*m (9 to 13 kgf*cm, 8 to 12 in.*lbf)
Total preload (starting torque)	NSK bearing	0.43 to 0.65 N*m (5 to 6 kgf*cm, 4 to 5 in.*lbf) + drive pinion preload
	NACHI bearing	0.38 to 0.63 N*m (4 to 6 kgf*cm, 4 to 5 in.*lbf) + drive pinion preload

Adjusting shim thickness	A	0.20 mm (0.00787 in.)
	B	0.25 mm (0.00984 in.)
	C	0.30 mm (0.0118 in.)
	D	0.35 mm (0.0138 in.)
Plate washer thickness		1.04 to 1.06 mm (0.0410 to 0.0417 in.)
		1.065 to 1.085 mm (0.0420 to 0.0427 in.)
		1.09 to 1.11 mm (0.0430 to 0.0437 in.)
		1.115 to 1.135 mm (0.0439 to 0.0446 in.)
		1.14 to 1.16 mm (0.0449 to 0.0456 in.)
		1.165 to 1.185 mm (0.0459 to 0.0466 in.)
		1.19 to 1.21 mm (0.0469 to 0.0476 in.)
		1.215 to 1.235 mm (0.0479 to 0.0486 in.)
		1.24 to 1.26 mm (0.0489 to 0.0496 in.)
		1.265 to 1.285 mm (0.0499 to 0.0505 in.)
		1.29 to 1.31 mm (0.0508 to 0.0515 in.)
		1.315 to 1.335 mm (0.0518 to 0.0525 in.)
		1.34 to 1.36 mm (0.0528 to 0.0535 in.)
		1.365 to 1.385 mm (0.0538 to 0.0545 in.)
		1.39 to 1.41 mm (0.0548 to 0.0555 in.)
		1.415 to 1.435 mm (0.0558 to 0.0564 in.)
		1.44 to 1.46 mm (0.0567 to 0.0574 in.)
		1.465 to 1.485 mm (0.0577 to 0.0584 in.)
		1.49 to 1.51 mm (0.0587 to 0.0594 in.)
		1.515 to 1.535 mm (0.0597 to 0.0604 in.)
		1.54 to 1.56 mm (0.0607 to 0.0614 in.)

Rear Differential Carrier Assembly (w/ Differential Lock)

Companion flange runout	Maximum vertical runout	0.10 mm (0.00394 in.)
	Maximum lateral runout	0.10 mm (0.00394 in.)
Ring gear runout		0.05 mm (0.00197 in.)
Differential case runout		0.04 mm (0.00157 in.)
Differential ring gear backlash		0.10 to 0.20 mm (0.00394 to 0.00787 in.)
Differential side gear backlash		0.02 to 0.15 mm (0.00079 to 0.00590 in.)
Differential drive pinion preload (starting torque)	New bearing	1.04 to 1.69 N*m (11 to 17 kgf*cm, 10 to 14 in.*lbf)
	Reused bearing	0.85 to 1.37 N*m (9 to 13 kgf*cm, 8 to 12 in.*lbf)
Total preload (starting torque)		0.29 to 0.49 N*m (3 to 4 kgf*cm, 3 to 4 in.*lbf) + drive pinion preload

Side gear thrust washer thickness		1.53 to 1.57 mm (0.0603 to 0.0618 in.)
		1.58 to 1.62 mm (0.0623 to 0.0637 in.)
		1.63 to 1.67 mm (0.0642 to 0.0657 in.)
		1.68 to 1.72 mm (0.0662 to 0.0677 in.)
		1.73 to 1.77 mm (0.0682 to 0.0696 in.)
		1.78 to 1.82 mm (0.0701 to 0.0716 in.)
		1.83 to 1.87 mm (0.0721 to 0.0736 in.)
		1.88 to 1.92 mm (0.0741 to 0.0755 in.)
		1.93 to 1.97 mm (0.0760 to 0.0775 in.)
		1.98 to 2.02 mm (0.0780 to 0.0795 in.)
		2.03 to 2.07 mm (0.0800 to 0.0814 in.)
		2.08 to 2.12 mm (0.0819 to 0.0834 in.)
Side plate washer thickness	01	2.66 to 2.68 mm (0.1048 to 0.1055 in.)
	02	2.69 to 2.71 mm (0.1060 to 0.1066 in.)
	03	2.72 to 2.74 mm (0.1071 to 0.1078 in.)
	04	2.75 to 2.77 mm (0.1083 to 0.1090 in.)
	05	2.78 to 2.80 mm (0.1095 to 0.1102 in.)
	06	2.81 to 2.83 mm (0.1107 to 0.1114 in.)
	07	2.84 to 2.86 mm (0.1119 to 0.1125 in.)
	08	2.87 to 2.89 mm (0.1130 to 0.1137 in.)
	09	2.90 to 2.92 mm (0.1142 to 0.1149 in.)
	10	2.93 to 2.95 mm (0.1154 to 0.1161 in.)
	11	2.96 to 2.98 mm (0.1166 to 0.1173 in.)
	12	2.99 to 3.01 mm (0.1178 to 0.1185 in.)
	13	3.02 to 3.04 mm (0.1189 to 0.1196 in.)
	14	3.05 to 3.07 mm (0.1201 to 0.1208 in.)
	15	3.08 to 3.10 mm (0.1213 to 0.1220 in.)
	16	3.11 to 3.13 mm (0.1225 to 0.1232 in.)
	17	3.14 to 3.16 mm (0.1237 to 0.1244 in.)
	18	3.17 to 3.19 mm (0.1249 to 0.1255 in.)
	19	3.20 to 3.22 mm (0.1260 to 0.1267 in.)
	20	3.23 to 3.25 mm (0.1272 to 0.1279 in.)
	21	3.26 to 3.28 mm (0.1284 to 0.1291 in.)

		to 0.1291 in.)
	22	3.29 to 3.31 mm (0.1296 to 0.1303 in.)
	23	3.32 to 3.34 mm (0.1308 to 0.1314 in.)
Plate washer thickness		1.04 to 1.06 mm (0.0410 to 0.0417 in.)
		1.065 to 1.085 mm (0.0420 to 0.0427 in.)
		1.09 to 1.11 mm (0.0430 to 0.0437 in.)
		1.115 to 1.135 mm (0.0439 to 0.0446 in.)
		1.14 to 1.16 mm (0.0449 to 0.0456 in.)
		1.165 to 1.185 mm (0.0459 to 0.0466 in.)
		1.19 to 1.21 mm (0.0469 to 0.0476 in.)
		1.215 to 1.235 mm (0.0479 to 0.0486 in.)
		1.24 to 1.26 mm (0.0489 to 0.0496 in.)
		1.265 to 1.285 mm (0.0499 to 0.0505 in.)
		1.29 to 1.31 mm (0.0508 to 0.0515 in.)
		1.315 to 1.335 mm (0.0518 to 0.0525 in.)
		1.34 to 1.36 mm (0.0528 to 0.0535 in.)
		1.365 to 1.385 mm (0.0538 to 0.0545 in.)
		1.39 to 1.41 mm (0.0548 to 0.0555 in.)
		1.415 to 1.435 mm (0.0558 to 0.0564 in.)
		1.44 to 1.46 mm (0.0567 to 0.0574 in.)
		1.465 to 1.485 mm (0.0577 to 0.0584 in.)
		1.49 to 1.51 mm (0.0587 to 0.0594 in.)
		1.515 to 1.535 mm (0.0597 to 0.0604 in.)
		1.54 to 1.56 mm (0.0607 to 0.0614 in.)