SUSPENSION AND AXLE SERVICE DATA

SS00J-04

	Tire size (LT235/85R16 108/104N)		
	Front Rear		260 kPa (2.6 kgf/cm ² , 38 psi) 375 kPa (3.75 kgf/cm ² , 54 psi)
Cold tire	Tire size (275/70R16 114H,	114S)	
inflation pressure	Front Rear		220 kPa (2.2 kgf/cm ² , 32 psi) 220 kPa (2.2 kgf/cm ² , 32 psi)
	Tire size (7.50R16 – 6PRLT)	
	Front Rear		260 kPa (2.6 kgf/cm ² , 38 psi) 375 kPa (3.75 kgf/cm ² , 54 psi)
	Vehicle height		Clearance*1
	G.C.C.	Front Rear	36.8 mm (1.45 in.) 86.7 mm (3.41 in.)
	AUSTRALIA	Front Rear	47.1 mm (1.85 in.) 110.0 mm (4.33 in.)
	OTHERS	Front Rear	34.8 mm (1.37 in.) 113.0 mm (4.45 in.)
	Camber	Left-right error	1° ± 45' (1° ± 0.75°) 45' (0.75°) or less
Front wheel alignment (RFS)	Caster (G.C.C.)	Left-right error	2°30′ ± 45′ (2.5° ± 0.75°) 45′ (0.75°) or less
	Caster (AUSTRALIA)	Left-right error	1°40′ ± 45′ (1.67° ± 0.75°) 45′ (0.75°) or less
	Caster (OTHERS)	Left-right error	2°10′ ± 45′ (2.17° ± 0.75°) 45′ (0.75°) or less
	Steering axis inclination	Left-right error	13° ± 45' (13° ± 0.75°) 45' (0.75°) or less
	Toe-in (total)		0°12' ± 12' (0.2° ± 0.2°, 2 ± 2 mm, 0.08 ± 0.08 in.)
	Wheel angle	Inside wheel Outside wheel: Reference	

*Clearance:

Front: Distance from the front axle housing to the following spring Rear: Distance from the rear axle housing to the bumper stopper

	Vehicle height (EUROPE)		
	Engine: 2UZ-FE		
	Front	A – B	75.0 mm (2.953 in.)
	Rear	C – D	40.0 mm (1.575 in.)
	Engine: 1HD-FT		
	Front	A – B	76.0 mm (2.992 in.)
	Rear	C – D	41.0 mm (1.614 in.)
	Vehicle height (GENERAL)		
	Engine: 2UZ-FE		
	Front	A – B	76.0 mm (2.992 in.)
	Rear	C – D	31.0 mm (1.220 in.)
	Engine: 1HD-T		
Front wheel	Front	A – B	76.0 mm (2.992 in.)
alignment	Rear	C – D	34.0 mm (1.339 in.)
(IFS)	Vehicle height (G.C.C.)		
	Engine: 2UZ-FE		
	Front	A – B	72.0 mm (2.835 in.)
	Rear	C – D	53.0 mm (2.087 in.)
	Engine: 1FZ-FE		
	Front	A – B	71.0 mm (2.795 in.)
	Rear	C – D	64.0 mm (2.520 in.)
	Vehicle height (AUSTRALIA)		
	Front	A – B	75.0 mm (2.953 in.)
	Rear	C – D	39.0 mm (1.535 in.)
	Vehicle height (w/ AHC System)		
	Front	A – B	83.0 mm (3.268 in.)
	Rear	C – D	71.0 mm (2.795 in.)

- A: Ground clearance of spindle center
- B: Ground clearance of lower suspension arm front bolt center
- C: Ground clearance of rear axle shaft center
- D: Ground clearance of lower control arm front bolt center

	EUROPE AND GENRAL (2UZ-FE)		
	Camber		0°05' ± 45' (0.08° ± 0.75°) 30' (0.5°) or less
	Caster		2°10' ± 45' (2.17° ± 0.75°) 30' (0.5°) or less
	Steering axis inclination	Left-right error	12°10′ ± 45′ (12.17° ± 0.75°) 30′ (0.5°) or less
	GENRAL (1HD-T)		
	Camber	Left-right error	0°05' ± 45' (0.08° ± 0.75°) 30' (0.5°) or less
	Caster	Left-right error	2°25' ± 45' (2.42° ± 0.75°) 30' (0.5°) or less
	Steering axis inclination	Left-right error	12°10′ ± 45′ (12.17° ± 0.75°) 30′ (0.5°) or less
	G.C.C. (2UZ-FE)		
	Camber		$0^{\circ}05' \pm 45' (0.08^{\circ} \pm 0.75^{\circ})$
		Left-right error	
	Caster	Loft right orror	2°15' ± 45' (2.25° ± 0.75°) 30' (0.5°) or less
	Stooring axis inclination	Len-right error	12°10′ ± 45′ (12.17° ± 0.75°)
	Steering axis inclination	Left-right error	
	G.C.C. (1FZ-FE)	<u> </u>	
	Camber		0°05' ± 45' (0.08° ± 0.75°)
Front wheel		Left-right error	30' (0.5°) or less
alignment (IFS)	Caster	Left-right error	2°50' ± 45' (2.83° ± 0.75°) 30' (0.5°) or less
	Steering axis inclination	Left-right error	12°10' ± 45' (12.17° ± 0.75°) 30' (0.5°) or less
	AUSTRALIA		
	Camber	Left-right error	0°05' ± 45' (0.08° ± 0.75°) 30' (0.5°) or less
	Caster	Left-right error	2°10′ ± 45′ (2.17° ± 0.75°) 30′ (0.5°) or less
	Steering axis inclination	Left-right error	12°10′ ± 45′ (12.17° ± 0.75°) 30′ (0.5°) or less
	w/ AHC System		
	Camber	Left-right error	0°00' ± 45' (0° ± 0.75°) 30' (0.5°) or less
	Caster	Left-right error	3°05' ± 45' (3.08° ± 0.75°) 30' (0.5°) or less
	Steering axis inclination	Left-right error	12°15' ± 45' (12.25° ± 0.75°) 30' (0.5°) or less
	w/ AHC System		
	Toe-in (total)	Rack end length difference	$0^{\circ}00' \pm 12' (0^{\circ} \pm 0.2^{\circ}, 0 \pm 2 \text{ mm}, 0 \pm 0.08 \text{ in.})$ 3.0 mm (0.118 in.) or less
	OTHERS		
	Toe-in (total)	Rack end length difference	$0^{\circ}06' \pm 12' (0.1^{\circ} \pm 0.2^{\circ}, 1 \pm 2 \text{ mm}, 0.04 \pm 0.08 \text{ in.})$ 3.0 mm (0.118 in.) or less

Front wheel	Wheel angle Inside wheel	,
alignment	Outside wheel: Reference	36.7° (33.7° – 36.7°) 32°36'
(IFS)	Outside wheelt neteralite	32.6°
	Wheel bearing preload (at starting)	26 – 52 N (2.7 – 5.3 kgfm, 6.0 – 11.7 lbf)
	Steering knuckle bearing preload (at starting)	25 – 44 N (2.5 – 4.5 kgfm, 5.6 – 9.9 lbf)
Front axle (RFS)	Steering knuckle bearing adjusting shim	0.1 mm (0.004 in.) 0.2 mm (0.008 in.) 0.5 mm (0.020 in.) 1.0 mm (0.039 in.)
	Front axle hub preload (at starting)	42 – 67 N (4.3 – 6.8 kgf, 9.5 – 15.0 lbf)
Front axle (IFS)	Snap ring thickness	1.8 mm (0.0709 in.) 2.0 mm (0.0787 in.) 2.2 mm (0.0866 in.) 2.4 mm (0.0945 in.) 2.6 mm (0.1024 in.) 2.8 mm (0.1102 in.)
Front drive shaft (IFS)	Front drive shaft length	573.9 ± 5 mm (22.594 ± 0.197 in.)
Front suspension	Upper suspension arm ball joint turning torque	1.0 – 4.4 N⋅m (10 – 45 kgf⋅cm, 8.7 – 39 in.⋅lbf)
(IFS)	Lower suspension arm ball joint turning torque	0.29 – 2.94 N·m (3 – 30 kgf·cm, 2.6 – 26 in.·lbf)
Rear axle shaft (RFS)	Axle shaft runout Max.	0.8 mm (0.031 in.)
	Bearing backlash Max.	0.6 mm (0.024 in.)
Rear axle shaft (IFS)	Axle shaft deviation Max.	0.05 mm (0.0020 in.)
(11 3)	Axle shaft runout Max.	2.0 mm (0.079 in.)
Rear axle shaft (IFS)	Axle shaft flange runout Max.	0.05 mm (0.0020 in.)
Rear axle	Wheel bearing preload (at starting)	24 – 52 N (2.4 – 5.3 kgfm 6.4 – 11.7 lbf)
(RFS)	Axle housing and lock nut distance	-0.2 - 0.9 mm (-0.0079 - 0.0354 in.)

Companion flange vertical runout Maximum 0.10 mm (0.0039 in.) Companion flange lateral runout Maximum 0.10 mm (0.0039 in.) Drive pinion preload (at starting) New bearing Reused bearing 0.9 – 1.6 N·m (10 – 16 kgf·cm, 8.7 – 13 new bearing 0.5 – 0.8 N·m (5 – 8 kgf·cm, 4.3 – 6.9 in the starting)	
Drive pinion preload (at starting) New bearing 0.9 – 1.6 N·m (10 – 16 kgf·cm, 8.7 – 13	
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Total preload (at starting) Drive pinion preload plus	·
0.4 – 0.6 N·m (4 – 6 kgf·cm, 3.5 – 5.2 ir	n.·lbf)
Ring gear backlash 0.13 – 0.18 mm (0.0051 – 0.0071 in.)	
Side gear backlash 0 05 – 0.20 mm (0.0020 – 0.0079 in.)	
Ring gear runout Maximum 0.10 mm (0.0039 in.)	
Differential case runout Maximum 0.07 mm (0.0028 in.)	
Drive pinion oil seal drive in depth 1.0 mm (0.039 in.)	
Diff. lock shift fork to sleeve clearance (w/ Diff. lock) 0.15 - 0.35 mm (0.006 - 0.014 in.)	
1.60 mm (0.0630 in.)	
Side gear thrust washer thickness (w/o Diff. lock) 1.70 mm (0.0669 in.)	
1.80 mm (0.0709 in.)	
0.9 mm (0.035 in.)	
1.0 mm (0.039 in.)	
Side gear thrust washer thickness (w/ Diff. lock) 1.1 mm (0.043 in.)	
1.2 mm (0.047 in.)	
1.3 mm (0.051 in.)	
Front differential 1.70 mm (0.0669 in.)	
(RFS) 1.73 mm (0.0681 in.)	
1.76 mm (0.0693 in.)	
1.79 mm (0.0705 in.)	
1.82 mm (0.0717 in.)	
1.85 mm (0.0728 in.)	
1.88 mm (0.0740 in.)	
1.91 mm (0.0752 in.)	
1.94 mm (0.0764 in.)	
1.97 mm (0.0776 in.)	
2.00 mm (0.0787 in.)	
Drive pinion bearing washer thickness 2.03 mm (0.0799 in.)	
2.06 mm (0.0811 in.)	
2.09 mm (0.0823 in.)	
2.12 mm (0.0835 in.)	
2.15 mm (0.0846 in.)	
2.18 mm (0.0858 in.)	
2.21 mm (0.0870 in.)	
2.24 mm (0.0882 in.)	
2.27 mm (0.0894 in.)	
2.30 mm (0.0906 in.)	
2.33 mm (0.0917 in.)	

	Companion flange vertical runout Max	. 0.09 mm (0.0035 in.)
	Companion flange lateral runout Max	. 0.09 mm (0.0035 in.)
	Drive pinion preload (at starting) New bearin Reused bearin	1.0 – 1.6 N·m (10 – 16 kgf·cm, 8.7 – 13.9 in.·lbf) 0.5 – 0.8 N·m (5 – 8 kgf·cm, 4.3 – 6.9 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus 0.4 – 0.6 N·m (4 – 6 kgf·cm, 3.5 – 5.2 in.·lbf)
	Ring gear runout	0.07 mm (0.0028 in.)
Front differential	Ring gear backlash	0.13 – 0.18 mm (0.0051 – 0.0071 in.)
(IFS)	Side gear backlash	0.15 mm (0.0059 in.)
(IFS)	Side gear thrust washer thickness	1.50 mm (0.0591 in.) 1.55 mm (0.0610 in.) 1.60 mm (0.0630 in.) 1.65 mm (0.0650 in.) 1.70 mm (0.0669 in.) 1.75 mm (0.0689 in.) 1.80 mm (0.0709 in.) 1.85 mm (0.0729 in.) 1.90 mm (0.0748 in.)

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		2.58 mm (0.1016 in.)
		2.60 mm (0.1024 in.)
		2.62 mm (0.1031 in.)
		2.64 mm (0.1039 in.)
		2.66 mm (0.1047 in.)
		2.68 mm (0.1055 in.)
		2.70 mm (0.1063 in.)
		2.72 mm (0.1071 in.)
		2.74 mm (0.1079 in.)
		2.76 mm (0.1087 in.)
		2.78 mm (0.1094 in.)
		2.80 mm (0.1102 in.)
		2.82 mm (0.1110 in.)
		2.84 mm (0.1118 in.)
		2.86 mm (0.1126 in.)
		2.88 mm (0.1134 in.)
		2.90 mm (0.1142 in.)
		2.92 mm (0.1150 in.)
		2.94 mm (0.1157 in.)
		2.96 mm (0.1165 in.)
		2.98 mm (0.1173 in.)
		3.00 mm (0.1181 in.)
Front differential	Side bearing adjusting washer thickness	3.02 mm (0.1189 in.)
(IFS)	Side bearing adjusting washer unckness	3.04 mm (0.1197 in.)
		3.06 mm (0.1205 in.)
		3.08 mm (0.1213 in.)
		3.10 mm (0.1220 in.)
		3.12 mm (0.1228 in.)
		3.14 mm (0.1236 in.)
		3.16 mm (0.1244 in.)
		3.18 mm (0.1252 in.)
		3.20 mm (0.1260 in.)
		3.22 mm (0.1268 in.)
		3.24 mm (0.1276 in.)
		3.26 mm (0.1283 in.)
		3.28 mm (0.1291 in.)
		3.30 mm (0.1299 in.)
		3.32 mm (0.1307 in.)
		3.34 mm (0.1315 in.)
		3.36 mm (0.1323 in.)
		3.38 mm (0.1331 in.)
		3.40 mm (0.1339 in.)
		3.42 mm (0.1346 in.)
		3.44 mm (0.1354 in.)
		3.46 mm (0.1362 in.)
		3.48 mm (0.1370 in.)

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		1.70 mm (0.0669 in.)
		1.73 mm (0.0681 in.)
		1.76 mm (0.0693 in.)
		1.79 mm (0.0704 in.)
		1.82 mm (0.0717 in.)
		1.85 mm (0.0729 in.)
		1.88 mm (0.0740 in.)
		1.91 mm (0.0752 in.)
		1.94 mm (0.0764 in.)
	Drive pinion bearing adjusting washer thickness	1.97 mm (0.0776 in.)
Front differential		2.00 mm (0.0787 in.)
(IFS)		2.03 mm (0.0799 in.)
		2.06 mm (0.0811 in.)
		2.09 mm (0.0822 in.)
		2.12 mm (0.0835 in.)
		2.15 mm (0.0847 in.)
		2.18 mm (0.0858 in.)
		2.21 mm (0.0870 in.)
		2.24 mm (0.0882 in.)
		2.27 mm (0.0894 in.)
		2.30 mm (0.0906 in.)
		2.33 mm (0.0918 in.)

	Companion flange vertical runout	0.10 mm (0.0039 in.)
	Companion flange lateral runout	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting) New bearing	1.3 – 1.8 N·m (13 – 19 kgf·cm, 11.3 – 16.4 in.·lbf)
	Reused bearing	0.64 – 0.92 N·m (6.5 – 9.4 kgf·cm, 5.6 – 8.2 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus
		0.38 – 0.63 N·m (3.8 – 6.4 kgf·cm, 3.3 – 5.6 in.·lbf)
	Ring gear runout	0.05 mm (0.0020 in.)
	Ring gear backlash	0.13 – 0.18 mm (0.0051 – 0.0071 in.)
	Side gear backlash	0.02 – 0.15 mm (0.0008 – 0.0059 in.)
	Differential case runout	0.04 mm (0.0016 in.)
		1.55 mm (0.0610 in.)
		1.60 mm (0.0630 in.)
		1.65 mm (0.0650 in.)
		1.70 mm (0.0669 in.)
		1.75 mm (0.0689 in.)
		1.80 mm (0.0709 in.)
	Side gear thrust washer thickness	1.85 mm (0.0728 in.)
		1.90 mm (0.0748 in.)
		1.95 mm (0.0768 in.)
		2.00 mm (0.0787 in.)
Rear differential		2.05 mm (0.0807 in.)
ricar amerenia		2.10 mm (0.0827 in.)
		1.050 mm (0.04134 in.)
		1.075 mm (0.04232 in.)
		1.100 mm (0.04331 in.)
		1.125 mm (0.04429 in.)
		1.150 mm (0.04528 in.)
		1.175 mm (0.04626 in.)
		1.200 mm (0.04724 in.)
		1.225 mm (0.04823 in.)
		1.250 mm (0.04921 in.)
		1.275 mm (0.05020 in.)
	Tooth contact pattern adjusting washer thickness	1.300 mm (0.05118 in.)
	The second supposed the second supposed the second supposed to the second supposed supposed to the second supposed to the second supposed to the second supposed supposed to the second supposed su	1.325 mm (0.05217 in.)
		1.350 mm (0.05315 in.)
		1.375 mm (0.05413 in.)
		1.400 mm (0.05512 in.)
		1.425 mm (0.05610 in.)
		1.450 mm (0.05709 in.)
		1.475 mm (0.05709 in.)
		1.500 mm (0.05906 in.)
		1.525 mm (0.06004 in.)
		1.550 mm (0.06102 in.)

	Companion flange vertical runout	0.10 mm (0.0039 in.)
	Companion flange lateral runout	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting) New bearing	1.3 – 1.8 N·m (13 – 19 kgf·cm, 11.3 – 16.4 in.·lbf)
	Reused bearing	0.64 - 0.92 N·m (6.5 - 9.4 kgf·cm, 5.6 - 8.2 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus
		0.3 – 0.5 N·m (3 – 5 kgf·cm, 2.6 – 4.3 in.·lbf)
	Ring gear runout	0.05 mm (0.0020 in.)
	Ring gear backlash	0.13 – 0.18 mm (0.0051 – 0.0071 in.)
	Side gear backlash	0.02 – 0.15 mm (0.0008 – 0.0059 in.)
	Differential case runout	0.04 mm (0.0016 in.)
		1.55 mm (0.0610 in.)
		1.60 mm (0.0630 in.)
		1.65 mm (0.0650 in.)
		1.70 mm (0.0669 in.)
		1.75 mm (0.0689 in.)
	Cide good throat week or thickness	1.80 mm (0.0709 in.)
	Side gear thrust washer thickness	1.85 mm (0.0728 in.)
		1.90 mm (0.0748 in.)
		1.95 mm (0.0768 in.)
		2.00 mm (0.0787 in.)
		2.05 mm (0.0807 in.)
Rear differential		2.10 mm (0.0827 in.)
(w/ Diff. Lock)	Ring gear backlash adjusting washer thickness Mark	
	1	2.67 mm (0.1051 in.)
	2	2.70 mm (0.1063 in.)
	3	2.73 mm (0.1075 in.)
	4	2.76 mm (0.1087 in.)
	5	2.79 mm (0.1098 in.)
	6	2.82 mm (0.1110 in.)
	7	2.85 mm (0.1122 in.)
	8	2.88 mm (0.1134 in.)
	9	2.91 mm (0.1146 in.)
	10	2.94 mm (0.1157 in.)
	11	2.97 mm (0.1169 in.)
	12	3.00 mm (0.1181 in.)
	13	3.03 mm (0.1193 in.)
	14	3.06 mm (0.1205 in.)
	15	3.09 mm (0.1217 in.)
	16	3.12 mm (0.1228 in.)
	17	3.15 mm (0.1240 in.)
	18	3.18 mm (0.1252 in.)
	19	3.21 mm (0.1264 in.)
	20	3.24 mm (0.1276 in.)
	21	3.27 mm (0.1287 in.)
	22	3.30 mm (0.1299 in.)
	23	3.33 mm (0.1311 in.)

Rear differential (w/ Diff. Lock)	Tooth contact pattern adjusting washer thickness	1.050 mm (0.04134 in.) 1.075 mm (0.04232 in.) 1.100 mm (0.04331 in.) 1.125 mm (0.04429 in.) 1.150 mm (0.04528 in.) 1.175 mm (0.04626 in.) 1.200 mm (0.04724 in.) 1.225 mm (0.04823 in.) 1.250 mm (0.04921 in.) 1.275 mm (0.05020 in.) 1.300 mm (0.05118 in.) 1.325 mm (0.05217 in.) 1.350 mm (0.05315 in.) 1.375 mm (0.05413 in.) 1.400 mm (0.05512 in.) 1.425 mm (0.05610 in.) 1.450 mm (0.05709 in.) 1.475 mm (0.05807 in.) 1.500 mm (0.05906 in.)
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		1.550 mm (0.06102 in.)

	Companion flange vertical runout	0.10 mm (0.0039 in.)
	Companion flange lateral runout	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting) New bearing	1.3 – 1.8 N·m (13 – 19 kgf·cm, 11.3 – 16.4 in.·lbf)
	Reused bearing	0.64 – 0.92 N·m (6.5 – 9.4 kgf·cm, 5.6 – 8.2 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus
		0.38 – 0.63 N·m (3.8 – 6.4 kgf·cm, 3.3 – 5.6 in.·lbf)
	Ring gear runout	0.05 mm (0.0020 in.)
	Ring gear backlash	0.13 – 0.18 mm (0.0051 – 0.0070 in.)
	Side gear backlash	0.02 – 0.15 mm (0.0008 – 0.0059 in.)
	Differential case runout	0.04 mm (0.0016 in.)
	Side gear thrust washer thickness (Reference)	1.97 – 2.06 mm (0.0776 – 0.0811 in.)
	Clutch plate thickness (Reference)	1.97 – 2.03 mm (0.0776 – 0.0799 in.)
	Compression spring free length (Reference)	32.8 mm (1.291 in.)
	Adjusting shim thickness Mark	
	A	0.20 mm (0.0079 in.)
	В	0.25 mm (0.0098 in.)
	C	0.30 mm (0.0118 in.)
Rear differential	D	0.35 mm (0.0138 in.)
(w/ LSD)		1.050 mm (0.04134 in.)
		1.075 mm (0.04232 in.)
		1.100 mm (0.04331 in.)
		1.125 mm (0.04429 in.)
		1.150 mm (0.04528 in.)
		1.175 mm (0.04626 in.)
		1.200 mm (0.04724 in.)
		1.225 mm (0.04823 in.)
		1.250 mm (0.04921 in.)
		1.275 mm (0.05020 in.)
	Tooth contact pattern adjusting washer thickness	1.300 mm (0.05118 in.)
		1.325 mm (0.05217 in.)
		1.350 mm (0.05315 in.)
		1.375 mm (0.05413 in.)
		1.400 mm (0.05512 in.)
		1.425 mm (0.05610 in.)
		1.450 mm (0.05709 in.)
		1.475 mm (0.05807 in.)
		1.500 mm (0.05906 in.)
		1.525 mm (0.06004 in.)
		1.550 mm (0.06102 in.)