

SUSPENSION AND AXLE

SS00J-10

SERVICE DATA

Cold tire inflation pressure	Tire size P275/70R16	Front	200 kPa (2.0 kgf/cm ² , 29 psi)
		Rear	*220 kPa (2.2 kgf/cm ² , 32 psi) 220 kPa (2.2 kgf/cm ² , 32 psi) *240 kPa (2.4 kgf/cm ² , 35 psi)
Front wheel alignment	Vehicle height		
	Front	A – B	71 mm (2.795 in.)
	Rear	C – D	51 mm (2.008 in.)
	Camber		0°05' ± 45' (0.08° ± 0.75°)
		Right-left error	30' (0.5°) or less
	Caster		2°30' ± 45' (2.5° ± 0.75°)
		Right-left error	30' (0.5°) or less
	Steering axis inclination		12°10' ± 45' (12.17° ± 0.75°)
		Right-left error	30' (0.5°) or less
	Toe-in (total)		0°06' ± 12' (0.1° ± 0.2°, 1 ± 2 mm, 0.04 ± 0.08 in.)
		Rack end length difference	3.0 mm (0.118 in.) or less
	Wheel angle	Inside wheel	36°42' (33°42' – 36°42')
			36.7° (33.7° – 36.7°)
		Outside wheel: Reference	32°36' 32.6°
Front axle	Front axle hub preload (at starting)		42 – 67 N (4.3 – 6.8 kgf, 9.5 – 15.0 lbf)
	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	Front drive shaft length		573.9 ± 5.0 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, 8.9 – 39 in.·lbf)
	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	Bearing backlash	Max.	0.6 mm (0.024 in.)
	Axle shaft deviation	Max.	0.05 mm (0.0020 in.)
	Axle shaft runout	Max.	2.0 mm (0.079 in.)
	Axle shaft flange runout	Max.	0.05 mm (0.0020 in.)

*: Trailer towing

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 bushing center

SERVICE SPECIFICATIONS – SUSPENSION AND AXLE

Front differential	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 bearing Reused bearing	1.0 – 1.6 N·m (10 – 16 kgf·cm, 8.9 – 14.2 in.·lbf) 0.5 – 0.8 N·m (5 – 8 kgf·cm, 4.4 – 7.1 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.4 – 0.6 N·m (4 – 6 kgf·cm, 3.5 – 5.3 in.·lbf)
	Ring gear runout	Max.	0.07 mm (0.0028 in.)
	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.)
	Differential case runout	Max.	0.07 mm (0.0028 in.)
	Front differential oil seal drive in depth		1.5 mm (0.059 in.)
	Side gear thrust washer thickness		0.9 mm (0.035 in.) 1.0 mm (0.039 in.) 1.1 mm (0.043 in.) 1.2 mm (0.047 in.) 1.3 mm (0.051 in.)

Front differential	Side bearing adjusting washer thickness	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.) 3.02 mm (0.1189 in.) 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.)
--------------------	---	--

SERVICE SPECIFICATIONS – SUSPENSION AND AXLE

Front differential	Drive pinion bearing adjusting washer thickness	1.70 mm (0.067 in.) 1.73 mm (0.068 in.) 1.76 mm (0.069 in.) 1.79 mm (0.070 in.) 1.82 mm (0.072 in.) 1.85 mm (0.073 in.) 1.88 mm (0.074 in.) 1.91 mm (0.075 in.) 1.94 mm (0.076 in.) 1.97 mm (0.078 in.) 2.00 mm (0.079 in.) 2.03 mm (0.080 in.) 2.06 mm (0.081 in.) 2.09 mm (0.082 in.) 2.12 mm (0.083 in.) 2.15 mm (0.085 in.) 2.18 mm (0.086 in.) 2.21 mm (0.087 in.) 2.24 mm (0.088 in.) 2.27 mm (0.089 in.) 2.30 mm (0.091 in.) 2.33 mm (0.092 in.)
--------------------	---	--

Rear differential	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing Reused bearing	1.3 – 1.8 N·m (13 – 19 kgf·cm, 11.5 – 15.9 in.·lbf) 0.64 – 0.92 N·m (6.5 – 9.4 kgf·cm, 5.7 – 8.1 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.38 – 0.63 N·m (3.9 – 6.5 kgf·cm, 3.3 – 5.6 in.·lbf)
	Ring gear runout	Max.	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	Max.	0.04 mm (0.0016 in.)
	Rear differential front oil seal drive in depth		0.5 mm (0.020 in.)
	Side gear thrust washer thickness		1.55 mm (0.061 in.) 1.60 mm (0.063 in.) 1.65 mm (0.065 in.) 1.70 mm (0.067 in.) 1.75 mm (0.069 in.) 1.80 mm (0.071 in.) 1.85 mm (0.073 in.) 1.90 mm (0.075 in.) 1.95 mm (0.077 in.) 2.00 mm (0.079 in.) 2.05 mm (0.081 in.) 2.10 mm (0.083 in.)
	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.) 1.525 mm (0.06004 in.) 1.550 mm (0.06102 in.)

SERVICE SPECIFICATIONS – SUSPENSION AND AXLE

Rear differential (w/ Diff. Lock)	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing Reused bearing	1.3 – 1.8 N·m (13 – 19 kgf·cm, 11.5 – 15.9 in.·lbf) 0.64 – 0.92 N·m (6.5 – 9.4 kgf·cm, 5.7 – 8.1 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.3 – 0.5 N·m (3 – 5 kgf·cm, 2.7 – 4.4 in.·lbf)
	Ring gear runout	Max.	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	Max.	0.04 mm (0.0016 in.)
	Rear differential front oil seal drive in depth		0.5 mm (0.020 in.)
	Side gear thrust washer thickness		1.55 mm (0.061 in.) 1.60 mm (0.063 in.) 1.65 mm (0.065 in.) 1.70 mm (0.067 in.) 1.75 mm (0.069 in.) 1.80 mm (0.071 in.) 1.85 mm (0.073 in.) 1.90 mm (0.075 in.) 1.95 mm (0.077 in.) 2.00 mm (0.079 in.) 2.05 mm (0.081 in.) 2.10 mm (0.083 in.)
	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.) 1.525 mm (0.06004 in.) 1.550 mm (0.06102 in.)
--------------------------------------	--	--

SERVICE SPECIFICATIONS – SUSPENSION AND AXLE

Rear differential (w/ LSD)	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing Reused bearing	1.3 – 1.8 N·m (13 – 19 kgf·cm, 11.5 – 15.9 in.·lbf) 0.64 – 0.92 N·m (6.5 – 9.4 kgf·cm, 5.7 – 8.1 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.38 – 0.63 N·m (3.9 – 6.5 kgf·cm, 3.3 – 5.6 in.·lbf)
	Ring gear runout	Max.	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	Max.	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.)
	Rear differential front oil seal drive in depth		0.5 mm (0.020 in.)
	Adjusting shim thickness	Mark	
		A	0.20 mm (0.0079 in.)
		B	0.25 mm (0.0098 in.)
		C	0.30 mm (0.0118 in.)
		D	0.35 mm (0.0138 in.)
	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.) 1.525 mm (0.06004 in.) 1.550 mm (0.06102 in.)