

SERVICE SPECIFICATIONS

SERVICE DATA

Front / 2WD:

Cold tire inflation pressure	Tire Size		Pressure		kPa (kgf/cm ² , psi)
			Front	Rear	
	P195/75R14 P205/75R14 P215/65R15		200 (2.0, 29)	240 (2.4, 35)	
Chassis ground clearance (Specifications at vehicle height of non-loaded vehicle)	Model	Tire size		Clearance mm (in.)	
				Front	Rear
	RN80L-TRMDEA	P195/75R14		257 (10.12)	262 (10.31)
	RN80L-TRSDEA	P195/75R14		257 (10.12)	262 (10.31)
	RN80L-TRMREA RN80L-TRMREK	P195/75R14		261 (10.26)	267 (10.51)
	RN90L-CRMDEA RN90L-CRMDEK	P205/75R14		278 (10.94)	260 (10.24)
	RN90L-CRSDEA RN90L-CRSDEK	P205/75R14		278 (10.94)	259 (10.20)
	VZN90L-CRMDEA	P205/75R14		278 (10.94)	260 (10.24)
	VZN90L-CRMDEK	P205/75R14		278 (10.94)	268 (10.55)
	VZN90L-CRSDEA	P205/75R14		278 (10.94)	259 (10.20)
	VZN90L-CRSDEK	P205/75R14		278 (10.94)	267 (10.51)
	VZN90L-CRMGEA	P205/75R14		281 (11.06)	271 (10.67)
		P215/65R15		282 (11.10)	271 (10.67)
	VZN90L-CRPGEA	P205/75R14		281 (11.06)	272 (10.71)
		P215/65R15		282 (10.10)	273 (10.75)
Front wheel alignment (Specifications at vehicle height of non-loaded vehicle)	Model	Camber	Caster	Steering axis inclination	Toe-in mm (in.)
	RN80L-TRSDEA	0°30' ± 45'	0°45' ± 45'	10°00' ± 45'	1.32±2 (0.0520±0.08)
	RN80L-TRMDEA	0°30' ± 45'	0°45' ± 45'	10°00' ± 45'	1.32±2 (0.0520±0.08)
	RN80L-TRMREA RN80L-TRMREK	0°30' ± 45'	0°45' ± 45'	10°00' ± 45'	1.74±2 (0.0685±0.08)
	RN90L-CRSDEA	0°20' ± 45'	1°15' ± 45'	10°05' ± 45'	3.27±2 (0.1287±0.08)
	RN90L-CRMDEA	0°20' ± 45'	1°15' ± 45'	10°05' ± 45'	3.27±2 (0.1287±0.08)
	RN90L-CRSDEK	0°20' ± 45'	1°15' ± 45'	10°05' ± 45'	3.27±2 (0.1287±0.08)
	RN90L-CRMDEK	0°20' ± 45'	1°15' ± 45'	10°05' ± 45'	3.27±2 (0.1287±0.08)
	VZN90L-CRMDEA VZN90L-CRMDEK	0°20' ± 45'	1°15' ± 45'	10°05' ± 45'	3.27±2 (0.1287±0.08)

SUSPENSION AND AXLE – SERVICE SPECIFICATIONS

Front wheel alignment (cont'd)	Model	Camber	Caster	Steering axis inclination	Toe-in mm (in.)
	VZN90L-CRSDEA VZN90L-CRSDEK	0°20' ± 45'	1°15' ± 45'	10°05' ± 45'	3.27±2 (0.1287±0.08)
	VZN90L-CRMGEA	0°20' ± 45'	1°15' ± 45'	10°10' ± 45'	4.10±2 (0.1614±0.08)
	VZN90L-CRPGEA	0°20' ± 45'	1°15' ± 45'	10°10' ± 45'	4.10±2 (0.1614±0.08)
	Wheel angle	Max	Inside wheel	35° +1°	
			Outside wheel	35° -2°	
		At 20° (outside wheel)		22°15' (Inside wheel)	
Tire Runout			Less than 3.0 mm (0.118 in.)		
Wheel balance (Unbalance after adjustment)			15.0g (0.033 lb) or less		
Wheel bearing preload (starting) (rotating load at hub bolt)			5.9 – 17.7 N	0.6 – 1.8 kgf	1.3 – 4.0 lbf
Hub axial play	Limit		0.05 mm		0.0020 in.
Lower ball joint vertical play			0 mm		0 in.
Lower ball joint vertical play	Limit		2.3 mm		0.091 in.
Ball joint rotation condition	Lower ball joint		0.1 – 4.9 N•m	1 – 50 kgf•cm	1 – 43 in•lbf
	Upper ball joint		2.0 – 3.9 N•m	20 – 40 kgf•cm	17 – 35 in•lbf

Front / 4WD:

Cold tire inflation pressure	Tire Size		Pressure		kPa (kgf/cm ² , psi)
			Front	Rear	
	P225/75R15		180 (1.8, 26)		200 (2.0, 29)
	31x10.5 R15LT		180 (1.8, 26)		200 (2.0, 29)
Front wheel alignment (Specifications with vehicle height set to standard height)	Standard vehicle height for alignment inspection	Front (Difference between the height at center of tip of drive shaft and the height at center of tip of front side adjusting cam bolt.)			58.5 mm (2.303 in.)
		Rear (Difference between the height at center of rear leaf spring front bushing and the height of center of rear axle shaft.)			61.0 mm (2.402 in.)
	Camber		0° 45' ± 45'		
	Left-right error		30' or less		
	Caster		2° 30' ± 45'		
	Left-right error		30' or less		
	Steering axis inclination		11° 50' ± 45'		
	Left-right error		30' or less		
Front wheel alignment (Specifications at vehicle height of non-loaded vehicle)	Vehicle height of non-loaded vehicle	Model	Tire size	Height mm (in.)	
				Front (Height at center of tip of front side adjusting cam bolt)	Rear (Height at center of tip of rear leaf spring front bushing)
		RN101L-TRLDEK	P225/75R15	283.2 (11.150)	432.8 (17.139)
		RN101L-TRMDEA	P225/75R15	283.2 (11.150)	432.8 (17.139)
		RN101L-TRPDEA	P225/75R15	283.4 (11.157)	430.8 (16.960)
		RN110L-CRMDEA	P225/75R15	279.4 (11.000)	423.0 (16.654)
		RN110L-CRLDEK	P225/75R15	280.7 (11.051)	423.2 (16.661)
		VZN100L-TRMDEA	P225/75R15	281.2 (11.071)	430.4 (16.945)
		VZN100L-TRMDEK	31X10.5R15LT	308.3 (12.138)	459.2 (18.079)
		VZN110L-CRMDEA	P225/75R15	277.6 (10.929)	419.4 (16.512)
		VZN110L-CRMDEK	31X10.5R15LT	304.5 (11.988)	447.6 (17.220)
		VZN110L-CRPDEA	P225/75R15	276.6 (10.890)	417.0 (16.417)
		VZN110L-CRPDEK	31X10.5R15LT	303.6 (11.953)	445.5 (17.539)
		VZN110L-CRMGEA	P225/75R15	276.5 (10.886)	418.0 (16.457)
		VZN110L-CRMGEK	10.5R15LT	303.4 (11.945)	446.2 (17.557)
		VZN110L-CRPGEA	P225/75R15	275.6 (10.850)	416.4 (16.394)
			31X10.5R15LT	303.5 (11.950)	444.8 (17.512)

SUSPENSION AND AXLE – SERVICE SPECIFICATIONS

Front wheel alignment (Specifications at vehicle height of non-loaded vehicle)	Alignment	Model	Camber	Caster	Steering axis inclination	Toe-in mm (in.)
		VZN100L series	0° 43' ± 45'	1° 36' ± 45'	11° 52' ± 45'	1.91±2 (0.0751±0.08)
		RN101L-TRMDEA	0° 43' ± 45'	1° 35' ± 45'	11° 52' ± 45'	1.92±2 (0.0756±0.08)
		RN101L-TRLDEK	0° 43' ± 45'	1° 35' ± 45'	11° 52' ± 45'	1.92±2 (0.0756±0.08)
		RN101L-TRPDEA	0° 43' ± 45'	1° 38' ± 45'	11° 52' ± 45'	1.92±2 (0.0756±0.08)
		RN101L-CRMDEA	0° 40' ± 45'	1° 49' ± 45'	11° 55' ± 45'	2.69±2 (0.159±0.08)
		RN101L-CRLDEK	0° 44' ± 45'	1° 48' ± 45'	11° 51' ± 45'	1.76±2 (0.0693±0.08)
		VZN110L-CRMDEA VZN110L-CRMDEK	0° 44' ± 45'	1° 50' ± 45'	11° 51' ± 45'	1.67±2 (0.0657±0.08)
		VZN110L-CRPDEA VZN110L-CRPDEK	0° 44' ± 45'	1° 52' ± 45'	11° 51' ± 45'	1.65±2 (0.0650±0.08)
		VZN110L-CRMGEA VZN110L-CRMGEK	0° 44' ± 45'	1° 51' ± 45'	11° 51' ± 45'	1.65±2 (0.0650±0.08)
		VZN110L-CRPGEA	0° 44' ± 45'	1° 52' ± 45'	11° 51' ± 45'	1.65±2 (0.0650±0.08)
		Camber left-right error		30' or less		
		Caster left-right error		30' or less		
		Steering axis inclination left-right error		30' or less		
		Wheel angle	Max. Inside wheel	30° 00' +1°, -2°		
			Outside wheel	31°		
			At 20° (outside wheel)	21° 10' (inside wheel)		
Tire Runout				Less than 3.0 mm (0.118 in.)		
Wheel balance (Unbalance after adjustment)				15.0g (0.033 lb) or less		
Wheel bearing preload (starting) (rotating load at hub bolt)				28 – 56 N	2.9 – 5.7 kgf	6.4 – 12.6 lbf
Free wheeling hub ring oil clearance				0.3 mm		0.012 in.
Automatic locking hub brake shoe thickness						
			Minimum	1.5 mm		0.059 in.
Front drive shaft thrust clearance				0.075 – 0.690 mm		0.0030 – 0.0272 in.
			Maximum	1.0 mm		0.039 in.

Front drive shaft thrust clearance adjusting shim thickness		1.80 mm 2.25 mm	0.0709 in. 0.0886 in.	
Front drive shaft grease capacity				
	Outboard joint (black)	195–205 g	0.43–0.45 lb	
	Inboard joint (brown)	270–280 g	0.60–0.62 lb	
Front differential drive pinion bearing preload (starting)				
	New bearing	1.2–1.9 N·m	12–19 kgf·cm	10.4–16.5 in.·lbf
	Reused bearing	0.6–1.0 N·m	6–10 kgf·cm	5.2–8.7 in.·lbf
Front differential companion flange deviation				
	Maximum vertical runout	0.10 mm	0.0039 in.	
	Maximum lateral runout	0.10 mm	0.0039 in.	
Front differential ring gear runout		0.07 mm	0.0028 in.	
Front differential ring gear backlash		0.13–0.18 mm	0.0051–0.0071 in.	
Front differential preload (starting)	Total preload	Add drive pinion preload		
		0.4–0.6 N·m	4–6 kgf·cm	3.5–5.2 in.·lbf
Front differential side gear backlash		0.05–0.20 mm	0.0020–0.0079 in.	
Front differential rear oil seal drive in depth		1.5 mm	0.059 in.	
Clutch sleeve clearance (A.D.D.)	Limit	0.35 mm	0.0138 in.	
Nut tightening limit		70 mm	3.43 in.	
Lower ball joint vertical play		2.3 mm	0.091 in.	
Upper ball joint vertical play	Limit	0 mm	0 in.	
Lower ball joint turning torque		0.1–4.9 N·m	1–50 kgf·cm	1–43 in.·lbf
Upper ball joint turning torque		2.0–3.9 N·m	20–40 kgf·cm	17–35 in.·lbf

(Rear)

Rear axle shaft	Maximum shaft runout	2.0 mm	0.079 in.
	Maximum flange runout	0.2 mm	0.008 in.
7.5 in. differential	Drive pinion bearing preload (starting)		
	New bearing	1.2–1.9 N·m	12–19 kgf·cm 10.4–16.5 in.·lbf
	Reused bearing	0.6–1.0 N·m	6–10 kgf·cm 5.2–8.7 in.·lbf
	Total preload (starting)		
	New and reused bearing	0.4–0.6 N·m	4–6 kgf·cm 3.5–5.2 in.·lbf
	Drive pinion to ring gear backlash	0.13–0.18 mm	0.0051–0.0071 in.
	Pinion gear to side gear backlash	0.05–0.20 mm	0.0020–0.0079 in.
	Ring gear runout Limit	0.07 mm	0.0028 in.
	Companion flange deviation		
	Maximum vertical runout	0.10 mm	0.0039 in.
	Maximum lateral runout	0.10 mm	0.0039 in.
8.0 in. differential	Drive pinion bearing preload (starting)		
	2 pinion type New bearing	1.9–2.5 N·m	19–26 kgf·cm 16.5–22.6 in.·lbf
	Reused bearing	0.9–1.3 N·m	9–13 kgf·cm 7.8–11.3 in.·lbf
	4 pinion type New bearing	1.0–1.6 N·m	10–16 kgf·cm 8.7–13.9 in.·lbf
	Reused bearing	0.5–0.8 N·m	5–8 kgf·cm 4.3–6.9 in.·lbf
	Total preload (starting)		
	Add drive pinion bearing preload		
	0.4–0.6 N·m	4–6 kgf·cm	3.5–5.2 in.·lbf
	Drive pinion to ring gear backlash	0.13–0.18 mm	0.0051–0.0071 in.
	Pinion gear to side gear backlash	0.05–0.20 mm	0.0020–0.0079 in.
	Ring gear runout Limit	0.10 mm	0.0039 in.
	Companion flange deviation		
	Maximum vertical runout	0.10 mm	0.0039 in.
	Maximum lateral runout	0.10 mm	0.0039 in.

TORQUE SPECIFICATION

Front / 2WD

Part tightened	N·m	kgf·cm	ft·lbf
Knuckle stopper bolt lock nut	34	350	25
Tie rod clump bolt	22	225	16
Steering knuckle x Upper ball joint	108	1,100	80
Steering knuckle x Lower ball joint	142	1,450	105
Steering knuckle x Tie rod	90	920	67
Upper suspension arm x Upper ball joint	31	320	23
Lower suspension arm x Lower ball joint	127	1,300	94
Torsion bar spring lock nut	83	850	61
Lower suspension arm x Strut bar	95	970	70
Lower suspension arm x Stabilizer bar	13	130	9
Lower suspension arm x Shock absorber	18	185	13
Shock absorber x Frame	25	250	18
Lower arm shaft nut	226	2,300	166
Upper arm shaft x Frame	96	980	71
Upper suspension arm set bolt	126	1,280	93
Strut bar x Frame	123	1,250	90
Stabilizer bar bracket x Frame	25	260	19
Hub nut	103	1,050	76

Front / 4WD

Part tightened	N·m	kgf·cm	ft·lbf
Knuckle stopper bolt lock nut	47	480	35
Free wheeling hub body Axle hub	31	315	23
Free wheeling hub body x Front drive shaft	18	185	13
Free wheeling hub body x Cover	10	100	7
Axle hub bearing lock nut	47	480	35
Upper suspension arm x Upper ball joint	33	340	25
Upper ball joint x Steering knuckle	142	1,450	105
Steering knuckle arm x Steering knuckle	183	1,870	135
Lower suspension arm x Shock absorber	137	1,400	101
Lower suspension arm x Stabilizer bar	25	260	19
Lower suspension arm x Lower ball joint	142	1,450	105
Front drive shaft x Side gear shaft	83	845	61
Front differential front mounting bolt	147	1,500	108
Front differential rear left mounting bolt	167	1,700	123
Front differential rear right mounting bolt	167	1,700	123
Differential tube x Bracket	127	1,300	94
Front differential x Bracket	78	800	58
Ring gear x Differential case	97	985	71
Differential carrier x Differential tube (w/o A.D.D.)	85	900	65
Differential carrier x Side bearing cap	78	800	58
Differential carrier x Carrier cover	47	475	34
Lower suspension arm x Frame	196	2,000	145

Upper suspension arm shaft x Frame	178	1,810	131
A.D.D. clutch case x Differential carrier	78	800	58
A.D.D. clutch case x Differential tube	78	800	58
A.D.D. clutch case cover x A.D.D. clutch case	21	210	15
Upper suspension arm shaft lock nut	226	2,300	166
Upper suspension arm x Torque arm	87	890	64
Shock absorber x Frame	25	250	18
Stabilizer bar bracket x Frame	29	300	22
Hub nut	103	1,050	76

Rear

Part tightened	N-m	kgf-cm	ft-lbf
Ring gear x Differential case	97	985	71
Bearing cap x Differential carrier	78	800	58
Differential carrier x Axle housing	25	250	18
Rear axle housing x Bearing retainer	69	700	51
Spring center bolt	44	450	33
Front spring bracket x Hanger pin			
Rubber bushing type	91	930	67
Press-installed bushing type	157	1,600	116
Rear spring shackle x Leaf spring	91	930	67
Rear shock absorber x U-bolt seat	2WD	25	260
4WD	72	730	53
Rear shock absorber x Body	2WD	25	260
4WD	72	730	53
U-bolt x U-bolt seat			
2WD	147	1,500	108
4WD	Xtra cab	123	1,250
Regular cab	147	1,500	108
Stabilizer bar x Stabilizer bar link	36	365	26
Stabilizer bar bracket x Axle housing	13	130	9
Hub nut	103	1,050	76