SERVICE SPECIFICATIONS

22R–E ENGINE

STARTING SYSTEM

Starter	Rated voltage and output power		12 V, 1.0 kW	12 V, 1.4 kW
	No–load characteristic Current		90 A or less	←
	rpm		3,000 rpm or more at 11.5 V	3,500 rpm or more at 11.5 V
	Brush length	STD	13.5 mm 0.531 in.	15.5 mm 0.610 in.
		Limit	8.5 mm 0.335 in.	10.0 mm 0.394 in.
	Commutator Outer diameter	STD	30 mm 1.18 in.	←
		Limit	29 mm 1.14 in.	←
	Undercut depth	STD	0.6 mm 0.024 in.	←
		Limit	0.2 mm 0.008 in.	←
	Circle runout		0.05 mm 0.0020 in.	←
	Spring installed load		18 – 24 N (1,785–2,415 gf, 3.9–5.3 lbf)	←
		Limit	12 N (1.2 kgf, 2.6 lbf)	←

CHARGING SYSTEM

Battery specific gravity When fully charged at 20°C 168°F)			1.25 – 1.27
Alternator	Rated output ampere		60 A
	Rotor coil resistance		2.8 – 3.0 Ω
	Brush exposed length	STD	10.5 mm 0.413 in.
		Limit	1.5 mm 0.059 in.
	Slip ring diameter	STD	14.2 – 14.4 mm 0.559 – 0.567 in.
		Limit	12.8 mm 0.504 in.
Alternator regulator	Regulator voltage	at 25°C (77°F)	13.9 – 15.1 V
		at 115°C (239°F)	13.5 – 14.3 V

3VZ–E ENGINE
STARTING SYSTEM

Starter	Rated voltage and output power		12 V, 1.0 kW	12 V, 1.4 kW, 1.6 kW
	No–load characteristic Current		90 A or less	←
	rpm		3,000 rpm or more at 11.5 V	3,500 rpm or more at 11.5 V
	Brush length	STD	13.5 mm 0.531 in.	15.5 mm 0.610 in.
		Limit	8.5 mm 0.335 in.	10.0 mm 0.394 in.
	Commutator Outer diameter	STD	30 mm 1.18 in.	←
		Limit	29 mm 1.14 in.	←
	Undercut depth	STD	0.6 mm 0.024 in.	←
		Limit	0.2 mm 0.008 in.	←
	Circle runout		0.05 mm 0.0020 in.	←
	Spring installed load		18 – 24 N (1,785–2,415 gf, 3.9–5.3 lbf)	←
		Limit	12 N (1.2 kgf, 2.6 lbf)	←

CHARGING SYSTEM

Battery specific gravity When fully charged at 20°C (68°F)		5 5D 2 3R	1.25 – 1.27	
		80D26R	1.27 – 1.29	
Alternator	Rated output ampere		60 A	
	Brush exposed length	STD	10.5 mm	0.413 in.
		Limit	1.5 mm	0.059 in.
	Rotor coil resistance		2.8 – 3.0 Ω	
	Slip ring diameter	STD	14.2 – 14.4 mm	0.559 – 0.567 in.
		Limit	12.8 mm	0.504 in.
Alternator regulator	Regulator voltage	at 25°C (77°F)	13.9 – 15.1 V	
		at 115°C (239°F)	13.5 – 14.3 V	

CLUTCH

Specifications

Pedal height (from asphalt sheet)	2WD	154.5 mm	6.083 in.
	4WD	151.5 mm	5.965 in.
(from floor panel)		157.5 mm	6.201 in.
Push rod play at pedal top		1.0 – 5.0 mm	0.039 – 0.197 in.
Pedal freeplay		5 – 15 mm	0.20 – 0.59 in.
Clutch release point (from pedal full stroke end position)		25 mm (0.98 in.) or more	
Disc rivet head depth	Limit	0.3 mm	0.012 in
Disc runout	Limit	0.8 mm	0.031 in.
Diaphragm spring tip alignment	Limit	0.5 mm	0.020 in
Diaphragm spring finger wear Depth	Limit	0.6 mm	0.024 in.
Width	Limit	5.0 mm	0.197 in.
Flywheel runout	Limit	0.1 mm	0.004 in.
Master cylinder reservoir set pin protrusion		1.5 – 3.5 mm	0.059 – 0.138 in.

Torque Specifications

Part tightened		N·m	kgf·cm	ft·lbf
Master cylinder mounting nut		13	130	9
Release cylinder mounting bolt		12	120	9
Bleeder plug		11	110	8
Clutch cover x Flywheel		19	195	14
Clutch line union		15	155	11
Release fork support	22R–E	39	400	29
	3VZ–E	47	480	35

MANUAL TRANSMISSION (G57 G58)

Specifications (2WD and 4WD)

Output shaft			
2nd gear journal diameter	Limit	37.984 mm	1.4954 in.
3rd gear journal diameter	Limit	34.984 mm	1.3773 in.
Flange thickness	Limit	4.80 mm	0.1890 in.
Runout	Limit	0.05 mm	0.0020 in.
Inner race flange thickness	Limit	3.99 mm	0.1571 in.
Inner race outer diameter	Limit	38.985 mm	1.5348 in.
Gear thrust clearance			
1st, 2nd & 3rd	STD	0.10 – 0.25 mm	0.0039 – 0.0098 in.
	Limit	0.25 mm	0.0098 in.
Counter 5th	STD	0.10 – 0.30 mm	0.0039 – 0.0118 in.
	Limit	0.30 mm	0.0118 in.

Specifications (2WD and 4WD) (Cont'd)

Gear oil clearance			
1 st, 2nd & 3rd	STD	0.009 – 0.032 mm	0.0004 – 0.0013 in.
	Limit	0.032 mm	0.0013 in.
5th	STD	0.009 – 0.032 mm	0.0004 – 0.0013 in.
	Limit	0.032 mm	0.0013 in.
Reverse	STD	0.04 – 0.08 mm	0.0016 – 0.0031 in.
	Limit	0.13 mm	0.0051 in.
Shift fork to hub sleeve clearance	Limit	1.0 mm	0.039 in.
Synchronizer ring to gear clearance	STD	1.0 – 2.0 mm	0.039 – 0 .079 in.
	Limit	0.8 mm	0.031 in.
Front bearing retainer oil seal			
Drive in depth		12.2 – 13.2 mm	0.480 – 0.520 in.
Speedometer driven gear oil seal			
Oil seal depth		20 mm	0.79 in.
Input shaft synchronizer ring to gear clearance	STD	1.0 – 2.0 mm	0.039 – 0.079 in.
	Limit	0.8 mm	0.031 in.
Counter gear outer diameter of needle roller bearing race	STD	25.98 – 26.00 mm	1.0228 – 1.0236 in.
	Limit	25.86 mm	1.0181 in.
Reverse idler gear to shift arm shoe clearance	STD	0.05 – 0.27 mm	0.0020 – 0.0106 in.
	Limit	0.5 mm	0.197 in.
Input shaft snap ring thickness	Mark		
	0	2.05 – 2.10 mm	0.0807 – 0.0827 in.
	1	2.10 – 2.15 mm	0.0827 – 0.0846 in.
	2	2.15 – 2.20 mm	0.0846 – 0.0866 in.
	3	2.20 – 2.25 mm	0.0866 – 0.0886 in.
	4	2.25 – 2.30 mm	0.0886 – 0.0906 in.
	5	2.30 – 2.35 mm	0.0906 – 0.0925 in.
Output shaft snap ring thickness			
Front	Mark		
	C-1	1.75 – 1.80 mm	0.0689 – 0.0709 in.
	D	1.80 – 1.85 mm	0.0709 – 0.0728 in.
	D-1	1.85 – 1.90 mm	0.0728 – 0.0748 in.
	E	1.90 – 1.95 mm	0.0748 – 0.0768 in.
	E-1	1.95 – 2.00 mm	0.0768 – 0.0787 in.
	F	2.00 – 2.05 mm	0.0787 – 0.0807 in.
	F-1	2.05 – 2.10 mm	0.0807 – 0.0827 in.
Rear	Mark		
	A	2.67 – 2.72 mm	0.1051 – 0.1071 in.
	B	2.73 – 2.78 mm	0.1075 – 0.1094 in.
	C	2.79 – 2.84 mm	0.1098 – 0.1118 in.
	D	2.85 – 2.90 mm	0.1122 – 0.1142 in.
	E	2.91 – 2.96 mm	0.1146 – 0.1165 in.
	F	2.97 – 3.02 mm	0.1169 – 0.1189 in.

Specifications (2WD and 4WD) (Cont'd)

Output shaft snap ring thickness (cont'd)			
Rear	Mark		
	G	3.03 – 3.08 mm	0.1193 – 0.1213 in.
	H	3.09 – 3.14 mm	0.1217 – 0.1236 in.
	J	3.15 – 3.20 mm	0.1240 – 0.1260 in.
	K	3.21 – 3.26 mm	0.1264 – 0.1283 in.
	L	3.27 – 3.32 mm	0.1287 – 0.1307 in.
Counter gear snap ring			
Front bearing	Mark		
	1	2.05 – 2.10 mm	0.0807 – 0.0827 in.
	2	2.10 – 2.15 mm	0.0827 – 0.0846 in.
	3	2.15 – 2.20 mm	0.0846 – 0.0866 in.
	4	2.20 – 2.25 mm	0.0866 – 0.0886 in.
	5	2.25 – 2.30 mm	0.0886 – 0.0906 in.
	6	2.30 – 2.35 mm	0.0906 – 0.0925 in.
Gear spline piece No. 5 (5–speed) or oil separator (4–speed)			
	Mark		
	A	2.80 – 2.85 mm	0.1102 – 0.1122 in.
	B	2.85 – 2.90 mm	0.1122 – 0.1142 in.
	C	2.90 – 2.95 mm	0.1142 – 0.1161 in.
	D	2.95 – 3.00 mm	0.1161 – 0.1181 in.
	E	3.00 – 3.05 mm	0.1181 – 0.1201 in.
	F	3.05 – 3.10 mm	0.1201 – 0.1220 in.
	G	3.10 – 3.15 mm	0.1220 – 0.1240 in.

Torque Specifications (2WD and 4WD)

Part tightened	N·m	kgf·cm	ft·lbf
Straight screw plug	19	190	14
Extension housing or transfer adaptor x Transmission case	37	380	27
Restrict pin	27	280	20
Shift lever retainer x Extension housing	18	185	13
Back–up light switch	37	380	27
Front bearing retainer x Transmission case	17	170	12
Rear bearing retainer x Intermediate plate	18	185	13
Reverse shift arm bracket	18	185	13
Reverse idler gear shaft stopper bolt	17	175	13
Clutch housing x Transmission case	37	380	27
Shift lever housing bolt	38	390	28
Shift fork x Fork shaft	20	200	14
Speedometer driven gear lock plate (2WD)	11	115	8
Oil receiver x Extension housing (2WD)	11	115	8
Oil receiver x Transfer adaptor (4WD)	13	130	9

MANUAL TRANSMISSION (R150 R150F)

Specifications (2WD and 4WD)

Output shaft			
1 st gear journal diameter	Limit	38.860 mm	1.5299 in.
2nd gear journal diameter	Limit	46.860 mm	1.8449 in.
3rd gear journal diameter	Limit	37.860 mm	1.4905 in.
Flange thickness	Limit	4.70 mm	0.1850 in.
Runout	Limit	0.06 mm	0.0024 in.
Counter gear			
Roller bearing journal diameter	Limit	27.860 mm	1.0968 in.
Gear thrust clearance			
1 st	STD	0.10 – 0.45 mm	0.0039 – 0.0177 in.
	Limit	0.50 mm	0.0197 in.
2nd & 3rd	STD	0.10 – 0.25 mm	0.0039 – 0.0098 in.
	Limit	0.30 mm	0.0118 in.
Counter 5th	STD	0.10 – 0.35 mm	0.0039 – 0.0138 in.
	Limit	0.40 mm	0.0157 in.
Gear oil clearance			
1 st	STD	0.020 – 0.073 mm	0.0008 – 0.0029 in.
	Limit	0.16 mm	0.0063 in.
2nd, 3rd & Counter 5th	STD	0.015 – 0.068 mm	0.0006 – 0.0027 in.
	Limit	0.16 mm	0.0063 in.
Reverse	STD	0.040 – 0.082 mm	0.0016 – 0.0032 in.
	Limit	0.13 mm	0.0051 in.
Shift fork to hub sleeve clearance	Limit	1.0 mm	0.039 in.
Synchronizer ring to gear clearance	STD	0.8 – 1.6 mm	0.031 – 0.063 in.
	Limit	0.6 mm	0.024 in.
Oil seal drive in depth			
Front bearing retainer		10.5 – 11.5 mm	0.413 – 0.453 in.
Speedometer driven gear		25 mm	0.98 in.
Input shaft to synchronizer ring	STD	0.8 – 1.6 mm	0.031 – 0.063 in.
	Limit	0.6 mm	0.024 in.
Reverse idler gear to shift arm shoe	STD	0.05 – 0.25 mm	0.0020 – 0.098 in.
	Limit	0.5 mm	0.020 in.
Input shaft snap ring thickness	Mark		
	A	2.10 – 2.15 mm	0.0827 – 0.0846 in.
	B	2.15 – 2.20 mm	0.0846 – 0.0866 in.
	C	2.20 – 2.25 mm	0.0866 – 0.0886 in.
	D	2.25 – 2.30 mm	0.0886 – 0.0906 in.
	E	2.30 – 2.35 mm	0.0906 – 0.0925 in.
	F	2.35 – 2.40 mm	0.0925 – 0.0945 in.
	G	2.40 – 2.45 mm	0.0945 – 0.0965 in.

Specifications (2WD and 4WD) (Cont'd)

Counter gear snap ring (Front bearing)	Mark		
	A	2.00 – 2.05 mm	0.0787 – 0.0807 in.
	B	2.05 – 2.10 mm	0.0807 – 0.0827 in.
	C	2.10 – 2.15 mm	0.0827 – 0.0846 in.
	D	2.15 – 2.20 mm	0.0846 – 0.0866 in.
	E	2.20 – 2.25 mm	0.0866 – 0.0886 in.
Output shaft snap ring thickness			
Clutch hub No.2	Mark		
	A	1.80 – 1.85 mm	0.0709 – 0.0728 in.
	B	1.85 – 1.90 mm	0.0728 – 0.0748 in.
	C	1.90 – 1.95 mm	0.0748 – 0.0768 in.
	D	1.95 – 2.00 mm	0.0768 – 0.0787 in.
	E	2.00 – 2.05 mm	0.0787 – 0.0807 in.
	F	2.05 – 2.10 mm	0.0807 – 0.0827 in.
	G	2.10 – 2.15 mm	0.0827 – 0.0846 in.
Clutch hub No. 1	Mark		
	A	2.30 – 2.35 mm	0.0906 – 0.0925 in.
	B	2.35 – 2.40 mm	0.0925 – 0.0945 in.
	C	2.40 – 2.45 mm	0.0945 – 0.0965 in.
	D	2.45 – 2.50 mm	0.0965 – 0.0984 in.
	E	2.50 – 2.55 mm	0.0984 – 0.1004 in.
	F	2.55 – 2.60 mm	0.1004 – 0.1024 in.
	G	2.60 – 2.65 mm	0.1024 – 0.1043 in.
Rear	Mark		
	A	2.65 – 2.70 mm	0.1043 – 0.1063 in.
	B	2.70 – 2.75 mm	0.1063 – 0.1083 in.
	C	2.75 – 2.80 mm	0.1083 – 0.1102 in.
	D	2.80 – 2.85 mm	0.1102 – 0.1122 in.
	E	2.85 – 2.90 mm	0.1122 – 0.1142 in.
	F	2.90 – 2.95 mm	0.1142 – 0.1161 in.
	G	2.95 – 3.00 mm	0.1161 – 0.1181 in.
	H	3.00 – 3.05 mm	0.1181 – 0.1201 in.
	J	3.05 – 3.10 mm	0.1201 – 0.1220 in.
	K	3.10 – 3.15 mm	0.1220 – 0.1240 in.
	L	3.15 – 3.20 mm	0.1240 – 0.1260 in.
	M	3.20 – 3.25 mm	0.1260 – 0.1280 in.
	N	3.25 – 3.30 mm	0.1280 – 0.1299 in.
	P	3.30 – 3.35 mm	0.1299 – 0.1319 in.
	Q	3.35 – 3.40 mm	0.1319 – 0.1339 in.
	R	3.40 – 3.45 mm	0.1339 – 0.1358 in.
	S	3.45 – 3.50 mm	0.1358 – 0.1378 in.

Torque Specifications (2WD and 4WD)

Part tightened	N·m	kgf·cm	ft·lbf
Reverse shift arm bracket	18	185	13
Rear bearing retainer x Intermediate plate	18	185	13
Counter gear rear lock nut	127	1,300	94
Shift fork x Shift fork shaft	20	200	14
Straight screw plug	19	190	14
Front bearing retainer x Transmission case	17	170	12
Transmission case x Extension housing	37	380	27
Shift lever housing bolt	38	390	28
Clutch housing x Transmission case	36	370	27
Oil receiver x Extension housing	11	115	8
Back–up light switch	44	450	33
Restrict pin	37	380	27
Shift lever retainer x Extension housing or transfer adaptor	18	185	13

MANUAL TRANSMISSION (installation of Transmission)
Torque Specifications (2WD)

Part tightened	N·m	kgf·cm	ft·lbf
Transmission x Engine	72	730	53
Stiffener plate x Transmission	37	380	27
Starter	39	400	29
Engine rear mounting x Transmission	25	260	19
Clutch tube bracket x Transmission (22R–E)	72	730	53
Clutch release cylinder	12	120	9
Stabilizer bracket	29	300	22
Frame auxiliary crossmember	95	970	70
Engine rear mounting bracket x Support member	58	590	43
Engine rear mounting bracket x Engine rear mounting	29	300	22
Exhaust pipe x Exhaust manifold	62	630	46
Exhaust pipe bracket x Clutch housing			
(22R–E)			
Upper	19	195	14
Lower	69	700	51
(3VZ–E)	39	400	29
Exhaust pipe x Catalytic converter front side (3VZ–E)	39	400	29
Exhaust pipe clamp	19	195	14

Torque Specifications (4WD)

Part tightened		N·m	kgf·cm	ft·lbf
Transfer x Transfer adaptor	W56	39	400	29
	G58, R 150F	37	380	27
Engine rear mounting		25	260	19
Transfer x Dynamic damper (Regular cab w/ Planetary gear type transfer)		37	380	27
Transmission x Engine		72	730	53
Transmission x Stiffener plate		37	380	27
Starter		39	400	29
No. 2 crossmember x Frame		95	970	70
No. 2 crossmember x Engine rear mounting		13	130	9
Stabilizer bracket		29	300	22
Front differential carrier cover x Frame (3VZ–E)		147	1,500	168
Front differential carrier x Frame (3VZ–E)		167	1,700	123
Exhaust pipe x Exhaust manifold		62	630	46
Exhaust pipe bracket x Clutch housing				
Exhaust pipe bracket x Clutch housing	(22R–E)			
	Upper	19	195	14
	Lower	69	700	51
	(3VZ–E)	39	400	29
Exhaust pipe x Catalytic converter front side (3VZ–E)		39	400	29
Exhaust pipe clamp		19	195	14
Clutch release cylinder x Transmission		12	120	9
Propeller shaft dust cover subassembly (G 58, R 150F)				
	A–bolt	37	370	27
	B–bolt	23	230	17
Front propeller shaft x Front differential		74	750	54
Front propeller shaft x Transfer		74	750	54
Rear propeller shaft x Rear differential	3VZ–E	76	780	56
	22R–E	74	750	54
Rear propeller shaft x Transfer	3VZ–E	76	780	56
	22R–E	74	750	54
Rear propeller shaft center bearing x Frame		37	370	27

AUTOMATIC TRANSMISSION (A43D)

Specifications

Line pressure					
Engine idling		D range	427 – 481 kPa	4.3 – 4.9 kgf/cm^2	61 – 70 psi
		R range	510 – 608 kPa	5.2 – 6.2 kgf/cm^2	74 – 88 psi
At stall		D range	1,118 – 1,363 kPa	11.4 – 13.9 kgf/cm^2	162 – 198 psi
(Throttle valve fully opened)		R range	1,373 – 1,716 kPa	14.0 – 17.5 kgf/cm^2	199 – 249 psi
Engine stall revolution			1,900 ± 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)		N range	750 rpm		
Governor pressure (Vehicle speed reference)					
Output shaft rpm	Tire size				
	(P195/75R14)	(P205/75R14)			
1,000	32 km/h (20 mph)	32 km/h (20 mph)	88 – 147 kPa	0.9 – 1.5 kgf/cm^2	13 – 21 psi
1,800	57 km/h (35 mph)	58 km/h (36 mph)	157 – 216 kPa	1.6 – 2.2 kgf/cm^2	23 – 31 psi
3,500	111 km/h (69 mph)	113 km/h (70 mph)	402 – 520 kPa	4.1 – 5.3 kgf/cm^2	58 – 75 psi
Throttle cable adjustment					
Throttle valve fully opened			Between boot end face and inner cable stopper		
			0 – 1 mm	0 – 0.04 in.	
Torque converter sleeve runout		Limit	0.30 mm	0.0118 in.	
Torque converter installation distance			20.0 mm	0.787 in.	
Drive plate runout		Limit	0.20 mm	0.0079 in.	

Shift point km/h (mph)	Throttle valve fully open [ ] Fully closed						
	D range (2 range)						L range
	1 → 2	2 → 3	[3 → O/D]	O/D → 3	3 → 2	2 → 1	2 → 1
	57 – 73 (35 – 45)	106 – 124 (66 – 77)	38 – 52 (24 – 32)	*	95 – 112 (59 – 70)	36 – 49 (22 – 30)	46 – 62 (29 – 39)
	* O/D → 3 down-shift is possible up to maximum speed.						

Torque Specifications

Part tightened		N·m	kgf·cm	ft·lbf
Oil cooler pipe union nut		34	350	25
Torque converter x Drive plate		27	280	20
Drive plate x Crankshaft		83	850	61
Extension housing x Transmission case		34	345	25
Center support x Transmission case		25	260	19
Parking lock pawl bracket		7.4	75	65 in.·lbf
Valve body x Transmission case		10	100	7
Throttle cam		7.4	75	65 in.·lbf
Oil strainer		5.4	55	48 in.·lbf
Oil pan		4.4	45	39 in.·lbf
Governor body		3.9	40	35 in.·lbf
Overdrive solenoid		13	130	9
Control shaft lever		6.9	70	61 in.·lbf
Cooler union		34	350	25
Neutral start switch	Bolt	5.4	55	48 in.·lbf
	Nut	3.9	40	35 in.·lbf

AUTOMATIC TRANSMISSION (A340E)

Specifications

Line pressure					
Engine idling		D range	363 – 422 kPa	3.7 – 4.3 kgf/cm^2	53 – 61 psi
		R range	490 – 588 kPa	5.0 – 6.0 kgf/cm^2	71 – 85 psi
At stall		D range	932 – 1,178 kPa	9.5 – 12.0 kgf/cm^2	135 – 171 psi
(Throttle valve fully opened)		R range	1,294 – 1,638 kPa	13.2 – 16.7 kgf/cm^2	188 – 238 psi
Engine stall revolution		C&C	2,200 ± 150 rpm		
		Except C&C	2,450 ± 150 rpm		
Time lag	N range →	D range	Less than 1.2 seconds		
	N range →	R range	Less than 1.5 seconds		
Engine idling speed (A/C OFF)		N range	800 rpm		
Throttle cable adjustment					
Throttle valve fully opened			Between boot end face and inner cable stopper		
			0 – 1 mm	0 – 0.04 in.	
Torque converter sleeve runout		Limit	0.30 mm	0.0118 in.	
Torque converter installation distance			18.0 mm	0.709 in.	
Drive plate runout		Limit	0.20 mm	0.0079 in.	

Shift point

CBU
Tire size: P205/75R14 P215/65R15

km/h (mph)

		Throttle valve fully open [ ] Fully closed							
		1 → 2	2 → 3	3 → O/D	[3 → O/D]	[O/D → 3]	O/D → 3	3 → 2	2 → 1
D range	NORM	61–66 (38–41)	108–117 (67–73)	143–152 (89–94)	43–48 (27–30)	26–30 (16–19)	136–145 (85–90)	100–105 (62–65)	44–49 (27–30)
	PWR	61–66 (38–41)	119–127 (74–79)	147–156 (91–97)	47–52 (29–32)	26–30 (16–19)	140–149 (87–93)	110–119 (68–74)	44–49 (27–30)
2 range	NORM PWR	53–57 (33–35)	126–135 (78–84)	–	–	–	–	119–128 (74–80)	47–52 (29–32)
L range	NORM PWR	–	–	–	–	–	–	101–110 (63–68)	57–62 (35–39)

Lock-up point

CBU
Tire size: P205/75R14 P215/65R15

km/h (mph)

		Throttle valve opening 5%					
		Lock-up ON			Lock-up OFF		
		2nd	*3rd	O/D	2nd	*3rd	O/D
D range	NORM	–	79–83 (49–52)	79–83 (49–52)	–	71–76 (44–47)	68–73 (42–45)
	PWR	–	61–66 (38–41)	79–83 (49–52)	–	68–73 (42–45)	68–76 (42–47)

* O/D switch OFF

Shift point

CBU
Tire size: 185R14-8

km/h (mph)

		Throttle valve fully open [ ] Fully closed							
		1 → 2	2 → 3	3 → O/D	[3 → O/D]	[O/D → 3]	O/D → 3	3 → 2	2 → 1
D range	NORM	52–56 (32–35)	73–100 (45–62)	135–142 (84–88)	37–41 (23–25)	22–26 (14–16)	130–136 (81–85)	86–90 (53–56)	43–47 (27–29)
	PWR	52–56 (32–35)	102–109 (63–68)	148–154 (92–96)	40–44 (25–27)	22–26 (14–16)	141–148 (88–92)	95–102 (59–63)	43–47 (27–29)
2 range	NORM PWR	45–49 (28–30)	108–115 (67–71)	–	–	–	–	102–109 (63–68)	40–44 (25–27)
L range	NORM PWR	–	–	–	–	–	–	87–94 (54–58)	49–53 (30–33)

Lock-up point

CBU
Tire size: 185R14-8

km/h (mph)

		Throttle valve opening 5%					
		Lock-up ON			Lock-up OFF		
		2nd	*3rd	O/D	2nd	*3rd	O/D
D range	NORM	–	67–71 (42–44)	68–71 (42–44)	–	61–65 (38–40)	58–62 (36–39)
	PWR	–	58–62 (36–39)	68–71 (42–44)	–	52–56 (32–35)	61–65 (38–40)

* O/D switch OFF

Specifications (Cont'd)

Shift point — C & C — Tire size: 185R14-8, 185R14-6 (Double tire) — km/h (mph)

		Throttle valve fully open [ ] Fully closed							
		1 → 2	2 → 3	3 → O/D	[3 → O/D]	[O/D → 3]	O/D → 3	3 → 2	2 → 1
D range	NORM	43–47 (27–29)	84–91 (52–57)	129–135 (80–84)	73–77 (45–48)	21–25 (13–16)	123–130 (76–81)	77–81 (48–50)	38–42 (24–26)
	PWR	51–55 (32–34)	97–103 (60–64)	132–138 (82–86)	73–77 (45–48)	21–25 (13–16)	126–132 (78–82)	90–97 (56–60)	45–48 (28–30)
2 range	NORM PWR	43–47 (27–29)	103–110 (64–68)	–	–	–	–	97–104 (60–65)	38–42 (24–26)
L range	NORM PWR	–	–	–	–	–	–	83–89 (52–55)	47–51 (29–32)

Lock-up point — C & C — Tire size: 185R14-8, 185R14-6 (Double tire) — km/h (mph)

		Throttle valve opening 5%					
		Lock-up ON			Lock-up OFF		
		2nd	*3rd	O/D	2nd	*3rd	O/D
D range	NORM	–	73–77 (45–48)	73–77 (45–48)	–	61–65 (38–40)	67–71 (42–44)
	PWR	–	73–77 (45–48)	73–77 (45–48)	–	67–71 (42–44)	67–71 (42–44)

* O/D switch OFF

Shift point — C & C — Tire size: 185R14-6 (Double tire) — km/h (mph) (Differential gear ratio 4.300)

		Throttle valve fully open [ ] Fully closed							
		1 → 2	2 → 3	3 → O/D	[3 → O/D]	[O/D → 3]	O/D → 3	3 → 2	2 → 1
D range	NORM	41–45 (25–28)	80–87 (50–54)	123–129 (76–80)	69–73 (43–45)	20–24 (12–15)	117–124 (73–77)	73–77 (45–48)	37–40 (23–25)
	PWR	49–53 (30–33)	92–99 (57–62)	126–132 (78–82)	69–73 (43–45)	20–24 (12–15)	120–126 (75–78)	86–92 (53–57)	42–46 (26–29)
2 range	NORM PWR	41–45 (25–28)	98–105 (61–65)	–	–	–	–	93–99 (58–62)	37–40 (23–25)
L range	NORM PWR	–	–	–	–	–	–	79–85 (49–53)	45–48 (28–30)

Lock-up point — C & C — Tire size: 185R14-6 (Double tire) — km/h (mph) (Differential gear ratio 4.300)

		Throttle valve opening 5%					
		Lock-up ON			Lock-up OFF		
		2nd	*3rd	O/D	2nd	*3rd	O/D
D range	NORM	–	69–73 (43–45)	69–73 (43–45)	–	58–62 (36–39)	64–68 (40–42)
	PWR	–	69–73 (43–45)	69–73 (43–45)	–	64–68 (40–42)	64–68 (40–42)

* O/D switch OFF

Torque Specifications

Part tightened	N·m	kgf·cm	ft·lbf
Oil cooler pipe union nut	34	350	25
Torque converter x Drive plate	41	420	30
Drive plate x Crankshaft	83	850	61
Extension housing x Transmission case	36	370	27
Parking lock pawl bracket	7.4	75	65 in.·lbf
Valve body x Transmission case	10	100	7
Detent spring x Valve body	10	100	7
Solenoid x Valve body	10	100	7
Oil strainer	10	100	7
Oil pan	7.4	75	65 in.·lbf
Speed sensor	16	160	12
Speedometer driven gear lock plate	16	160	12

Torque Specifications (Cont'd)

Part tightened		N·m	kgf·cm	ft·lbf
Cooler union		29	300	22
Neutral start switch	Bolt	13	130	9
	Nut	6.9	70	61 in.·lbf
Control shaft lever		16	160	12

AUTOMATIC TRANSMISSION (A340H)

Specifications

Line pressure				
Engine idling	D range	422 – 481 kPa	4.3 – 4.9 kgf/cm^2	61 – 70 psi
	R range	520 – 618 kPa	5.3 – 6.3 kgf/cm^2	75 – 90 psi
At stall	D range	1,118 – 1,363 kPa	11.4 – 13.9 kgf/cm^2	162 – 198 psi
(Throttle valve fully opened)	R range	1,373 – 1,716 kPa	14.0 – 17.5 kgf/cm^2	199 – 249 psi
Engine stall revolution		2,850 ± 150 rpm		
Time lag	N range → D range	Less than 1.2 seconds		
	N range → R range	Less than 1.5 seconds		
Engine idling speed (A/C OFF)	N range	850 rpm		
Throttle cable adjustment				
Throttle valve fully opened		Between boot end face and inner cable stopper		
		0 – 1 mm	0 – 0.04 in.	
Torque converter sleeve runout	Limit	0.30 mm	0.0118 in.	
Torque converter installation distance		18.0 mm	0.709 in.	
Drive plate runout	Limit	0.20 mm	0.0079 in.	

Shift point km/h (mph)

Transfer shift position "H2" or "H4"		Throttle valve fully open [ ] Fully closed							
		1 → 2	2 → 3	3 → O/D	[3 → O/D]	[O/D → 3]	O/D → 3	3 → 2	2 → 1
D range	NORM	50–53 (31–33)	90–96 (56–60)	131–138 (81–86)	35–39 (22–24)	21–25 (13–16)	125–132 (78–82)	84–91 (52–57)	40–44 (25–27)
	PWR	50–53 (31–33)	90–96 (56–60)	131–138 (81–86)	38–42 (24–26)	21–25 (13–16)	125–132 (78–82)	84–91 (52–57)	40–44 (25–27)
2 range	NORM PWR	43–46 (27–29)	103–109 (64–68)	–	–	–	–	97–103 (60–64)	38–42 (24–42)
L range	NORM PWR	–	–	–	–	–	–	82–89 (51–55)	47–51 (29–32)

Lock-up point km/h (mph)

Transfer shift position "H2" or "H4"		Throttle valve opening 5 %					
		Lock-up ON			Lock-up OFF		
		2nd	*3rd	O/D	2nd	*3rd	O/D
D range	NORM	–	52–56 (32–35)	64–68 (40–42)	–	50–53 (31–33)	55–59 (34–37)
	PWR	–	52–56 (32–35)	64–68 (40–42)	–	50–53 (31–33)	55–59 (34–37)

* O/D switch OFF

Torque Specifications (Refer to the A340E automatic transmission)

AUTOMATIC TRANSMISSION (A340F)

Specifications

Line pressure					
Engine idling		D range	363 – 422 kPa	3.7 – 4.3 kgf/cm^2	53 – 61 psi
		R range	490 – 588 kPa	5.0 – 6.0 kgf/cm^2	71 – 85 psi
At stall		D range	932 – 1,177 kPa	9.5 – 12.0 kgf/cm^2	135 – 171 psi
		R range	1,294 – 1,638 kPa	13.2 – 16.7 kgf/cm^2	188 – 238 psi
Engine stall revolution			2,200 ± 150 rpm		
Time lag	N range	→ D range	Less than 1.2 seconds		
	N range	→ R range	Less than 1.5 seconds		
Engine idling speed (A/C OFF)		N range	800 rpm		
Throttle cable adjustment					
Throttle valve fully opened			Between boot end face and inner cable stopper		
			0 – 1 mm	0 – 0.04 in.	
Torque converter sleeve runout		Limit	0.30 mm	0.0118 in.	
Torque converter installation distance			20.0 mm	0.787 in.	
Drive plate runout			0.20 mm	0.0079 in.	

Shift point km/h (mph)

		Throttle valve fully open [ ] Fully closed							
		1 → 2	2 → 3	3 → O/D	[3→ O/D]	[O/D→ 3]	O/D → 3	3 → 2	2 → 1
D range	NORM	44–48 (27–30)	93–99 (58–61)	134–141 (83–87)	35–39 (22–24)	21–25 (13–16)	128–135 (79–84)	87–94 (54–58)	40–43 (25–27)
	PWR	47–51 (29–32)	93–99 (58–61)	148–155 (92–96)	50–53 (31–33)	21–25 (13–16)	143–149 (89–92)	87–94 (54–58)	41–45 (25–28)
2 range	NORM PWR	43–46 (27–29)	103–109 (64–68)	–	–	–	–	97–103 (60–64)	38–42 (24–26)
L range	NORM PWR	–	–	–	–	–	–	82–89 (51–55)	47–51 (29–32)

Lock-up point km/h (mph)

		Throttle valve opening 5%					
		Lock-up ON			Lock-up OFF		
		2nd	*3rd	O/D	2nd	*3rd	O/D
D range	NORM	–	41–45 (25–28)	59–63 (37–39)	–	38–42 (24–26)	55–59 (34–37)
	PWR	–	55–59 (34–37)	75–79 (47–49)	–	50–53 (31–33)	70–73 (43–45)

* O/D switch OFF

Torque Specifications
(Refer to the A340E automatic transmission)

TRANSFER (RF1A Type Transfer W56)

Specifications

Output shaft bearing thrust clearance			Less than 0.10 mm (0.0039 in.)	
Output shaft snap ring thickness		Mark		
		0	2.40 – 2.45 mm	0.0945 – 0.0965 in.
		1	2.45 – 2.50 mm	0.0965 – 0.0984 in.
		2	2.50 – 2.55 mm	0.0984 – 0.1004 in.
		3	2.55 – 2.60 mm	0.1004 – 0.1024 in.
		4	2.60 – 2.65 mm	0.1024 – 0.1043 in.
		5	2.65 – 2.70 mm	0.1043 – 0.1063 in.
Output shaft runout		Limit	0.03 mm	0.0012 in.
Output shaft outer diameter	Limit	Part A	44.984 mm	1.7710 in.
		Part B	34.984 mm	1.3773 in.
Low gear to output shaft oil clearance		STD	0.010 – 0.055 mm	0.0004 – 0.0022 in.
		Limit	0.075 mm	0.0030 in.
Low gear thrust clearance		STD	0.10 – 0.25 mm	0.0039 – 0.0098 in.
		Limit	0.30 mm	0.0118 in.
Transfer drive gear to output shaft oil clearance		STD	0.009 – 0.051 mm	0.0004 – 0.0020 in.
		Limit	0.071 mm	0.0028 in.
Transfer drive gear thrust clearance		STD	0.09 – 0.27 mm	0.0035 – 0.0106 in.
		Limit	0.32 mm	0.0126 in.
Input shaft bearing thrust clearance			Less than 0.15 mm (0.0059 in.)	
Input shaft snap ring thickness		Mark		
		1	2.05 – 2.10 mm	0.0807 – 0.0827 in.
		3	2.15 – 2.20 mm	0.0846 – 0.0866 in.
		5	2.25 – 2.30 mm	0.0886 – 0.0906 in.
Counter shaft bearing thrust clearance			Less than 0.15 mm (0.0059 in.)	
Counter shaft snap ring thickness		Mark		
		1	2.10 – 2.15 mm	0.0827 – 0.0846 in.
		3	2.20 – 2.25 mm	0.0866 – 0.0886 in.
Idler gear shaft bearing thrust clearance			Less than 0.15 mm (0.0059 in.)	
Idler gear shaft snap ring thickness		Mark		
		A	1.50 – 1.55 mm	0.0591 – 0.0610 in.
		B	1.60 – 1.65 mm	0.0630 – 0.0650 in.
Shift fork to hub sleeve clearance		Limit	1.0 mm	0.039 in.
Speedometer driven gear oil seal depth			20 mm	0.79 in.
Front drive gear oil seal depth			7 mm	0 28 in

Torque Specifications

Part tightened	N·m	kgf·cm	ft·lbf
Adaptor x Reduction gear case	39	400	29
Reduction gear case x Front case x Rear case	39	400	29
Rear case x Extension housing	39	400	29
Front case x Rear case	39	400	29
Reduction case x Front case	39	400	29
Reduction case x Transfer case cover	8.8	90	78 in.·lbf
Output shaft x Companion flange	123	1,250	90
Front drive gear bearing retainer x Front case	18	185	13
Front case x Bearing retainer	18	185	13
Straight screw plug	12	120	9
Transfer indicator switch	34	350	25
Speedometer driven gear lock plate	11	115	8

TRANSFER (VF1A Type Tansfer G58 R150F A340F) Specifications

Oil pump body	Body clearance	STD	0.10 – 0.16 mm	0.0039 – 0.0063 in.
		Limit	0.16 mm	0.0063 in.
	Tip clearance	STD	0.08 – 0.16 mm	0.0031 – 0.0063 in.
		Limit	0.16 mm	0.0063 in.
	Side clearance	STD	0.03 – 0.08 mm	0.0012 – 0.0031 in.
		Limit	0.08 mm	0.0031 in.
Rear output shaft assem–bly	Drive sprocket thrust clearance	STD	0.10 – 0.25 mm	0.0039 – 0.0098 in.
		Limit	0.25 mm	0.0098 in.
	Driven sprocket oil clearance	STD	0.010 – 0.055 mm	0.0004 – 0.0022 in.
		Limit	0.055 mm	0.0022 in.
	Rear output shaft journal diameter			
	Part A	Limit	27.98 mm	1.1016 in.
	Part B	Limit	36.98 mm	1.4559 in.
	Front drive shift fork to hub sleeve clearance	Limit	1.0 mm	0.039 in.
	High and low shift fork to hub sleeve clearance	Limit	1.0 mm	0.039 in.
	Rear output shaft snap ring thickness	Mark		
		A	2.10 – 2.15 mm	0.0827 – 0.0846 in.
		B	2.15 – 2.20 mm	0.0846 – 0.0866 in.
		C	2.20 – 2.25 mm	0.0866 – 0.0886 in.
		D	2.25 – 2.30 mm	0.0886 – 0.0906 in.
		E	2.30 – 2.35 mm	0.0906 – 0.0925 in.
		F	2.35 – 2.40 mm	0.0925 – 0.0945 in.
		G	2.40 – 2.45 mm	0.0945 – 0.0965 in.
		H	2.45 – 2.50 mm	0.0965 – 0.0984 in.
		J	2.50 – 2.55 mm	0.0984 – 0.1004 in.
		K	2.00 – 2.05 mm	0.0787 – 0.0807 in.
		L	2.05 – 2.10 mm	0.0807 – 0.0827 in.

Specifications (Cont'd)

Input shaft	Input shaft journal outer diameter	Limit	47.59 mm	1.8736 in.
	Input shaft bushing diameter	Limit	39.14 mm	1.5409 in.
	Synchronizer ring to sprocket clearance	STD	1.15 – 1.8 5 mm	0.0453 – 0.0728 in.
		Limit	0.8 mm	0.0031 in.
	Input shaft snap ring thickness	Mark		
		A	2.10 – 2.15 mm	0.0827 – 0.0846 in.
		B	2.15 – 2.20 mm	0.0846 – 0.0866 in.
		C	2.20 – 2.25 mm	0.0866 – 0.0886 in.
		D	2.25 – 2.30 mm	0.0886 – 0.0906 in.
		E	2.30 – 2.35 mm	0.0906 – 0.0925 in.
		F	2.35 – 2.40 mm	0.0925 – 0.0945 in.
		G	2.40 – 2.45 mm	0.0945 – 0.0965 in.
		H	2.45 – 2.50 mm	0.0965 – 0.0984 in.
		J	2.50 – 2.55 mm	0.0984 – 0.1004 in.
		K	2.55 – 2.60 mm	0.1004 – 0.1024 in.
		L	2.60 – 2.65 mm	0.1024 – 0.1043 in.
		M	2.65 – 2.70 mm	0.1043 – 0.1063 in.
		N	2.70 – 2.75 mm	0.1063 – 0.1083 in.
		P	2.75 – 2.80 mm	0.1083 – 0.1102 in.
		Q	2.80 – 2.85 mm	0.1102 – 0.1122 in.
		R	2.85 – 2.90 mm	0.1122 – 0.1142 in.
		S	2.90 – 2.95 mm	0.1142 – 0.1161 in.
		T	2.95 – 3.00 mm	0.1161 – 0.1181 in.
		U	3.00 – 3.05 mm	0.1181 – 0.1201 in.
Planetary gear	Pinion gear thrust clearance	STD	0.11 – 0.86 mm	0.0043 – 0.0339 in.
		Limit	0.86 mm	0.0339 in.
	Pinion gear oil clearance	STD	0.009 – 0.038 mm	0.0004 – 0.0015 in.
		Limit	0.038 mm	0.0015 in.
	Outer bearing snap ring thickness	Mark		
		1	1.45 – 1.50 mm	0.0571 – 0.0591 in.
		2	1.50 – 1.55 mm	0.0591 – 0.0610 in.
		3	1.55 – 1.60 mm	0.0610 – 0.0630 in.
		4	1.60 – 1.65 mm	0.0630 – 0.0650 in.
		5	1.65 – 1.70 mm	0.0650 – 0.0669 in.
	Inner bearing depth		5.0 – 5.6 mm	0.197 – 0.220 in.
Oil seal	Speedometer driven gear oil seal depth		25 mm	0.98 in.
	Shift fork shaft oil seal depth		−0.5 – 0.5 mm	−0.020 – 0.020 in.

Torque Specifications

Part tightened	N·m	kgf·cm	ft·lbf
Oil pump plate	7.4	75	65 in.·lbf
Straight screw plug for oil pump body	29	300	22
Straight screw plug for ring gear	19	190	14
Oil pump body x Front case	11	115	8
Separator with oil strainer	18	185	13
Straight screw plug for shift fork shaft	19	190	14
Front case x Rear case	37	380	27
Extension housing	11	115	8
Companion flange lock nut	118	1,200	87
Control retainer or upper cover	18	185	13
Front retainer	11	115	8
Transfer indicator switch	37	380	27
Transfer assembly x Transmission	37	380	27
Transfer L4 position switch	37	380	27

TRANSFER (Installation of Transfer)
Torque Specifications

Part tightened		N·m	kgf·cm	ft·lbf
Transfer x Transfer adaptor	W56	39	400	29
	G 58, R 150F, A340F	37	380	27
Engine rear mounting		25	260	19
Transfer x Dynamic damper (Regular cab wI Planetary gear type transfer)		37	380	27

PROPELLER SHAFT

Specifications

Spider axial play			Less than 0.05 mm (0.0020 in.)	
Spider bearing selection		Mark		
Bearing cup outer diameter		None	29.008 – 29.021 mm	1.1420 – 1.1426 in.
		Red	29.028 – 29.041 mm	1.1428 – 1.1433 in.
Bearing hole inner diameter		None	29.000 – 29.020 mm	1.1417 – 1.1425 in.
		Drill	29.021 – 29.042 mm	1.1426 – 1.1434 in.
Snap ring thickness	Color	Mark		
	None	1	2.100 – 2.150 mm	0.0827 – 0.0846 in.
	None	2	2.150 – 2.200 mm	0.0846 – 0.0866 in.
	None	3	2.200 – 2.250 mm	0.0866 – 0.0886 in.
	Brown	None	2.250 – 2.300 mm	0.0886 – 0.0906 in.
	Blue	None	2.300 – 2.350 mm	0.0906 – 0.0925 in.
	None	6	2.350 – 2.400 mm	0.0925 – 0.0945 in.
	None	7	2.400 – 2.450 mm	0.0945 – 0.0965 in.
	None	8	2.450 – 2.500 mm	0.0965 – 0.0984 in.
Runout		Limit	0.8 mm	0.031 in.

Torque Specifications

Part tightened	N·m	kgf·cm	ft·lbf
Front differential x Front propeller shaft (4WD)	74	750	54
Front propeller shaft x Transfer (4WD)	74	750	54
Propeller shaft x Rear differential 3VZ–E (M/T)	76	780	56
Ex. 3VZ–E (M/T)	74	750	54
Propeller shaft x Transfer 3VZ–E (M/T)	76	780	56
Ex. 3VZ–E (M/T)	74	750	54
Intermediate shaft x Propeller shaft (4WD)			
3VZ–E (M/T)	76	780	56
Ex. 3VZ–E (M/T)	74	750	54
Propeller shaft x Differential (2WD)	74	750	54
Intermediate shaft x Propeller shaft (2WD)	74	750	54
Center support bearing x Frame	36	370	27
Intermediate shaft x Center bearing x Joint flange			
1 st	181	1,850	134
2nd	Loosen nut		
3rd	69	700	51
Front propeller shaft No. 2 dust cover set bolts	17	175	13
Front propeller shaft No. 2 dust cover set nut	13	135	10
(wl VF 1 A type transfer and A340H)			
Front propeller shaft dust cover subassembly x Bracket	23	230	17
Front propeller shaft dust cover subassembly x Transfer	37	370	27
Propeller shaft protector x Frame	29	300	22

SUSPENSION AND AXLE

Specifications (Front/2WD)

Cold tire inflation pressure	Tire size	Pressure kPa (kgf/cm2, psi)	
		Front	Rear
	P195/75R14 P205/75R14 P215/65R15	200 (2.0, 29)	240 (2.4, 35)
	185R14LT-6PR	220 (2.2, 32)	220 (2.2, 32)
	185R14LT-8PR	200 (2.0, 29)	450 (4.5, 65)

Chassis ground clearance	Model	Tire size	Clearance mm (in.)	
			Front	Rear
	RN80L – TRMDEA RN80L – TRMDEK	P195/75R14	257 (10.12)	263 (10.35)
	RN80L – TRSDEA RN80L – TRSDEK	P195/75R14	257 (10.12)	263 (10.35)
	RN80L – TRMREA RN80L – TRMREK	P195/75R14	260 (10.23)	268 (10.55)
	RN85L – TRMDEA RN85L – TRMDEK	P195/75R14	263 (10.35)	261 (10.28)
	RN85L – TRSDEA RN85L – TRSDEK	P195/75R14	262 (10.31)	261 (10.28)
	RN90L – CRMDEA RN90L – CRMDEK	P205/75R14	278 (10.94)	264 (10.39)
	RN90L – CRSDEA RN90L – CRSDEK	P205/75R14	278 (10.94)	264 (10.39)
	VZN85L – THMDEA	185R14LT – 8PR	260 (10.24)	284 (11.18)
	VZN85L – THSDEA	185R14LT – 8PR	258 (10.16)	283 (11.14)
	VZN85L – TWMREA6	185R14LT – 6PR	259 (10.20)	234 (9.21)
	VZN85L – TINSREA6	185R14LT – 6PR	259 (10.24)	235 (9.25)
	VZN90L – CRMDEA VZN90L – CRMDEK	P205/75R14	277 (10.91)	266 (10.47)
	VZN90L – CRSDEA VZN90L – CRSDEK	P205/75R14	277 (10.91)	265 (10.43)
	VZN90L – CRMGEA	P205/75R14	273 (10.75)	262 (10.31)
	VZN90L – CRPGEA	P205/75R14	273 (10.75)	262 (10.31)
		P215/75R15	274 (10.79)	263 (10.35)
	VZN95L – TWMREA6	185R14LT – 6PR	259 (10.20)	232 (9.13)
	VZN95L – TWSREA6 VZN95L – TWSREK6	185R14LT – 6PR	259 (10.20)	232 (9.13)

Front wheel alignment	Model	Camber	Caster	Steering axis inclination	Toe–in mm (in.)
	RN80L – TRSDEA RN80L – TRSDEK	0°30′ ± 45′	0°43′ ± 45′	10°00′ ± 45′	1.32±2 (0.0520±0.08)
	RN80L – TRMDEA RN80L – TRMDEK	0°30′ ± 45′	0°44′ ± 45′	10°00′ ± 45′	1.32±2 (0.0520±0.08)
	RN80L – TRMREA RN80L – TRMREK	0°28′ ± 45′	0°40′ ± 45′	10°01′ ± 45′	1.74±2 (0.0685±0.08)

Specifications (Front/2WD) (Cont'd)

Front wheel alignment (cont'd)	Model	Camber	Caster	Steering axis inclination	Toe–in mm (in.)
	RN85L – TRMDEA RN85L – TRMDEK	0°27′ ± 45′	0°59′ ± 45′	10°02′ ± 45′	2.09±2 (0.0822±0.08)
	RN85L – TRSDEA RN85L – TRSDEK	0°27′ ± 45′	0°58′ ± 45′	10°02′ ± 45′	2.09±2 (0.0822±0.08)
	RN90L – CRSDEA RN90L – CRSDEK	0°23′ ± 45′	1°15′ ± 45′	10°06′ ± 45′	3.27±2 (0.1287±0.08)
	RN90L – CRMDEA RN90L – CRMDEK	0°23′ ± 45′	1°15′ ± 45′	10°06′ ± 45′	3.27±2 (0.1287±0.08)
	VZN85L – THMDEA	0°29′ ± 45′	0°34′ ± 45′	10°00′ ± 45′	5.61±2 (0.2209±0.08)
	VZN85L – THSDEA	0°30′ ± 45′	0°33′ ± 45′	10°00′ ± 45′	4.85±2 (0.1909±0.08)
	VZN85L – TWMREA6	0°29′ ± 45′	1°46′ ± 45′	10°00′ ± 45′	5.73±2 (0.2256±0.08)
	VZN85L – TWSREA6	0°29′ ± 45′	1°45′ ± 45′	10°00′ ± 45′	5.73±2 (0.2256±0.08)
	VZN90L – CRMDEA VZN90L – CRMDEK	0°23′ ± 45′	1°11′ ± 45′	10°06′ ± 45′	3.27±2 (0.1287±0.08)
	VZN90L – CRSDEA VZN90L – CRSDEK	0°23′ ± 45′	1°12′ ± 45′	10°06′ ± 45′	3.27±2 (0.1287±0.08)
	VZN90L – CRMGEA	0°25′ ± 45′	1°13′ ± 45′	10°04′ ± 45′	2.82±2 (0.1110±0.08)
	VZN90L – CRPGEA	0°25′ ± 45′	1°12′ ± 45′	10°04′ ± 45′	2.82±2 (0.1110±0.08)
	VZN95L – T1lVMREA6	0°29′ ± 45′	1°47′ ± 45′	10°00′ ± 45′	5.73±2 (0.2256±0.08)
	VZN95L – TWSREA6 VZN95L – TWSREK6	0°29′ ± 45′	1°46′ ± 45′	10°00′ ± 45′	5.73±2 (0.2256±0.08)
	Wheel angle Max.	Inside wheel	$34°^{+1°}_{-2°}$		
		Outside wheel	30°		
	At 20° (outside wheel)		22°15′ (Inside wheel)		

Disc wheel lateral runout	Limit	1.2 mm	0.047 in.	
Wheel bearing preload (starting) (rotating load at hub bolt)		5.9 – 17.7 N	0.6 – 1.8 kgf	1.3 – 4.0 lbf
		Add oil seal frictional force		
Hub axial play	Limit	0.05 mm	0.0020 in.	
		0 mm	0 in.	
Lower ball joint vertical play	Limit	2.3 mm	0.091 in.	
Upper ball joint vertical play	Lower ball joint	0.1–4.9 N·m	1–50 kgf·cm	1–43 in.·lbf
Ball joint rotation condition	Upper ball joint	2.0–3.9 N·m	20–40 kgf·cm	17–35 in.·lbf

Specifications (Front/4WD)

Cold tire inflation pressure	Tire size		Pressure Front	kPa (kgf/cm², psi) 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 of 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
	Toe–in			1 ± 2 mm (0.04 ± 0.08 in.)
	Wheel angle		Max. Inside wheel	32°00′ $^{+1°}_{-2°}$
			Outside wheel	31°
			At 20° (outside wheel)	21°10′ (inside wheel)

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 of center of rear leaf spring front bushing
RN101 L – TRLDEA RN101 L – TRLDEK	P225/75R15	281.6 (11.087)	426.9 (16.807)
RN101 L – TRMDEA	P225/75R15	281.8 (11.095)	426.9 (16.807)
RN101 L – TRPDEA	P225/75R15	281.4 (11.079)	424.9 (16.728)
RN106L – TRMDEA	P225/75R15	285.9 (11.256)	427.5 (16.831)
RN106L – TRMDEA RN106L – TRLDEK	P225/75R15	285.6 (11.244)	427.5 (16.831)
RN110L – CRMDEA	P225/75R15	292.0 (11.496)	423.2 (16.661)
RN110L – CRPDEA	P225/75R15	291.4 (11.472)	420.2 (16.543)
RN110L – CRLDEA	P225/75R15	291.3 (11.468)	423.1 (16.657)
RN110L – CRLDEK	P225/75R15	291.1 (11.461)	426.4 (16.787)
VZN100L – TRMDEA VZN100L – TRMDEK	P225/75R15	279.5 (11.003)	422.5 (16.634)
	31X10.5R15LT	311.0 (12.244)	454.1 (17.878)
VZN105L – TRMDEA VZN105L – TRMDEK	P225/75R15	283.6 (11.165)	422.6 (16.638)
	31X10.5R15LT	315.1 (12.405)	454.3 (17.886)
VZN110L – CRMDEA	P225/75R15	289.8 (11.409)	418.8 (16.448)
	31X10.5R15LT	321.3 (12.650)	450.4 (17.732)
VZN110L – CRMDEK	P225/75R15	289.8 (11.409)	422.1 (16.618)
	31X10.5R15LT	321.3 (12.650)	453.4 (17.850)
VZN110L – CRPDEA	P225/75R15	289.4 (11.394)	417.4 (16.433)
	31X10.5R15LT	321.0 (12.638)	449.0 (17.677)

Specifications (Front/4WD) (Cont'd)

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 of center of rear leaf spring front bushing)
VZN110L – CRPDEK	P225/75R15	289.2 (11.386)	420.6 (16.559)
	31X10.5R15LT	320.7 (12.626)	452.3 (17.807)
VZN110L – CRMGEA	P225/75R15	283.1 (11.146)	415.6 (16.362)
	10.5R15LT	314.7 (12.390)	447.3 (17.610)
VZN110L – CRMGEK	P225/75R15	282.9 (11.138)	418.8 (16.488)
	31X10.5R15LT	314.4 (12.378)	450.5 (17.736)
VZN110L – CRPGEA VZN110L – CRPGEK	P225/75R15	282.7 (11.130)	413.9 (16.296)
	31X10.5R15LT	314.3 (12.374)	445.6 (17.543)

Alignment

Model	Camber	Caster	Steering axis inclination	Toe–in mm (in.)
RN106L series	0°42′ ± 45′	1°41′ ± 45′	11°53′ ± 45′	2.22±2 (0.0874±0.08)
VZN100L series	0°43′ ± 45′	1°41′ ± 45′	11°52′ ± 45′	1.91±2 (0.0751±0.08)
VZN105L series	0°42′ ± 45′	1°45′ ± 45′	11°53′ ± 45′	2.22±2 (0.0874±0.08)
RN101L – TRMDEA	0°43′ ± 45′	1°38′ ± 45′	11°52′ ± 45′	1.92±2 (0.0756±0.08)
RN101L – TRLDEA	0°43′ ± 45′	1°38′ ± 45′	11°52′ ± 45′	1.92±2 (0.0756±0.08)
RN101L – TRLDEK	0°43′ ± 45′	1°37′ ± 45′	11°52′ ± 45′	1.92±2 (0.0756±0.08)
RN101L – TRPDEA	0°43′ ± 45′	1°41′ ± 45′	11°52′ ± 45′	1.91±2 (0.0752±0.08)
RN110L – CRMDEA	0°40′ ± 45′	1°49′ ± 45′	11°55′ ± 45′	2.69±2 (0.1059±0.08)
RN110L – CRPDEA	0°40′ ± 45′	1°52′ ± 45′	11°55′ ± 45′	2.69±2 (0.1059±0.08)
RN110L – CRLDEA	0°40′ ± 45′	1°49′ ± 45′	11°55′ ± 45′	2.68±2 (0.1055±0.08)
RN110L – CRLDEK	0°40′ ± 45′	1°44′ ± 45′	11°55′ ± 45′	2.68±2 (0.1055±0.08)
VZN110L – CRMDEA	0°40′ ± 45′	1°52′ ± 45′	11°55′ ± 45′	2.69±2 (0.1059±0.08)
VZN110L – CRMDEK	0°40′ ± 45′	1°48′ ± 45′	11°55′ ± 45′	2.69±2 (0.1059±0.08)
VZN110L – CRPDEA	0°40′ ± 45′	1°53′ ± 45′	11°55′ ± 45′	2.69±2 (0.1059±0.08)
VZN110L – CRPDEK	0°40′ ± 45′	1°49′ ± 45′	11°55′ ± 45′	2.69±2 (0.1059±0.08)
VZN110L – CRMGEA	0°42′ ± 45′	1°55′ ± 45′	11°53′ ± 45′	2.25±2 (0.0886±0.08)
VZN110L – CRMGEK	0°42′ ± 45′	1°50′ ± 45′	11°53′ ± 45′	2.25±2 (0.0886±0.08)
VZN110L – CRPGEA	0°42′ ± 45′	1°56′ ± 45′	11°53′ ± 45′	2.25±2 (0.0886±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	32°00′ $^{+1°}_{-2°}$
	Outside wheel	31°
	At 200 (outside wheel)	21°10′ (inside wheel)

Disc wheel lateral runout Limit		1.2 mm	0.047 in.
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		1.5 mm	0.059 in.
Front drive shaft thrust clearance	Minimum	0.075 – 0.690 mm	0.0030 – 0.0272 in.
	Maximum	1.0 mm	0.039 in.

Specifications (Front/4WD) (Cont'd)

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

Specifications (Rear)

Rear axle shaft (Single tire)	Maximum shaft runout Maximum flange runout	2.0 mm 0.2 mm	0.079 in. 0.008 in.
Rear axle shaft and hub (Double tire)	Maximum shaft runout Preload (starting)	2.0 mm Add oil seal frictional force 1.0 – 14.7 N	0.079 in. 0.1 – 1.5 kgf 0.2 – 3.3 lbf
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)	Add drive pinion bearing preload	
	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

Specifications (Rear) (Cont'd)

8.0 in. differential (cont'd)	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 Specifications (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	29	300	22
Hub nut	103	1,050	76

Torque Specifications (Front/4WD)

Part tightened	N·m	kgf·cm	ft·lbf
Knuckle stopper bolt lock nut	47	480	35
Free wheeling hub body x 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

Torque Specifications (Front/4WD) (Cont'd)

Part tightened	N·m	kgf·cm	ft·lbf
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 (wlo A.D.D.¿Differential	85	900	65
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 to be	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

Torque Specifications (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	Single tire	25	250	18
	Double tire	31	315	23
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	19
	4WD	72	730	53
Rear shock absorber x Body	2W D	25	260	19
	4WD	72	730	53
U–bolt x U–bolt seat				
2WD	0.5 ton	147	1,500	108
	1 ton, C &C	123	1,250	90
4WD	Xtra cab	123	1,250	90
	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

BRAKE SYSTEM

Specifications

Brake pedal	Pedal height (from asphalt sheet)			
		2WD	148 – 153 mm	5.83 – 6.02 in.
		4WD	145 – 150 mm	5.71 – 5.91 in.
	Stop light switch to pedal clearance		0.5 – 2.4 mm	0.02 – 0.09 in.
	Pedal freeplay		3 – 6 mm	0.12 – 0.24 in.
	Pedal reserve distance at 490 N (50 kgf, 110.2 lbf)			
	2WD	22R-E engine	More than 70 mm (2.76 in.)	
		3VZ-E engine		
		1 ton	More than 75 mm (2.95 in.)	
		1/2 ton	More than 65 mm (2.56 in.)	
		C & C		
		SRW	More than 75 mm (2.95 in.)	
		DRW	More than 55 mm (2.17 in.)	
	4WD		More than 65 mm (2.56 in.)	
Brake booster	Booster push rod piston clearance			
		w/ SST	0 mm	0 in.
Front disc brake	**PD 60, 66 type**			
	Disc thickness			
		PD 60 type STD	25.0 mm	0.984 in.
		Limit	23.0 mm	0.906 in.
		PD 66 type STD	30.0 mm	1.181 in.
		Limit	28.0 mm	1.102 in.
	Disc runout			
		PD 60 type Limit	0.09 mm	0.0035 in.
		PD 66 type Limit	0.12 mm	0.0047 in.
	Pad thickness			
		PD 60 type STD	9.5 mm	0.374 in.
		Limit	1.0 mm	0.039 in.
		PD 66 type STD	9.7 mm	0.382 in.
		Limit	1.0 mm	0.039 in.
	FS 17, 18 type			
	Disc thickness	STD	22.0 mm	0.866 in.
		Limit	20.0 mm	0.787 in.
	Disc runout	Limit	0.09 mm	0.0035 in.
	Pad thickness			
		FS 17 type STD	9.5 mm	0.374 in.
		Limit	1.0 mm	0.039 in.
		FS 18 type STD	10.0 mm	0.394 in.
		Limit	1.0 mm	0.039 in.
	S12 + 12 type			
	Disc thickness	STD	20.0 mm	0.787 in.
		Limit	18.0 mm	0.709 in.
	Disc runout	Limit	0.09 mm	0.0035 in.
	Pad thickness	STD	9.5 mm	0.374 in.
		Limit	1.5 mm	0.059 in.

Specifications (Cont'd)

Rear brake	2WD			
	Drum inner diameter	STD	254.0 mm	10.000 in.
		Limit	256.0 mm	10.079 in.
	Lining thickness	STD	5.0 mm	0.197 in.
		Limit	1.0 mm	0.039 in.
	4WD			
	Drum inner diameter	STD	295.0 mm	11.614 in.
		Limit	297.0 mm	11.693 in.
	Lining thickness	STD	6.0 mm	0.236 in.
		Limit	1.0 mm	0.039 in.
Parking brake	2W D	1/2 ton	12 – 18 clicks	
		1 ton	11 – 17 clicks	
	4WD		11 – 17 clicks	

Torque Specifications

Part tightened	N·m	kgf·cm	ft·lbf
Master cylinder x Piston stopper bolt	10	100	7
Master cylinder x Reservoir	1.7	17.5	15.2 in.·lbf
Master cylinder x Brake booster	13	130	9
Brake tube union nut	15	155	11
Brake booster clevis lock nut	25	260	19
Brake booster x Pedal bracket	13	130	9
Front brake wheel cylinder x Backing plate	18	185	13
Front brake cylinder installation bolt (PD 60, 66 type disc)	39	400	29
Front brake cylinder sliding pin (FS 17, 18 type disc)	88	900	65
Torque plate x Steering knuckle 2WD	108	1,100	80
4WD	123	1,250	90
Rear brake wheel cylinder x Backing plate			
Leading–trailing type	10	100	7
Duo–servo type	14	145	10
Bleeder plug	11	110	8
LSP & BV (LSPV) bracket x Frame	19	195	14
LSP & BV (LSPV) x LSP & BV (LSPV) bracket	13	130	9
LSP & BV (LSPV) spring x LSP & BV (LSPV) bracket	18	185	13
LSP & BV (LSPV) spring x Shackle	18	185	13
LSP & BV (LSPV) shackle lock nut	25	250	18
LSP & BV (LSPV) shackle x Shackle bracket	13	130	9
LSP & BV (LSPV) shackle bracket x Rear axle housing	19	195	14
Brake actuator x PS pressure line	47	475	34
Brake actuator x Actuator bracket	13	130	9
Actuator bracket x Frame	28	290	21
Speed sensor x Rear differential	19	195	14
Speed sensor wire harness x Clamp bracket	19	195	14
Clamp bracket x Rear differential	19	195	14
Deceleration sensor x Body	5.4	55	48 in.·lbf

STEERING

Specifications

Steering column	Steering wheel freeplay		Maximum	30 mm	1.18 in.
	Pawl stopper		Mark		
			1 or A	12.65 – 12.75 mm	0.4980 – 0.5020 in.
			2 or B	12.55 – 12.65 mm	0.4941 – 0.4980 in.
			3 or C	12.45 – 12.55 mm	0.4902 – 0.4941 in.
			4 or D	12.35 – 12.45 mm	0.4862 – 0.4902 in.
			5 or E	12.25 – 12.35 mm	0.4823 – 0.4862 in.
Manual gear housing	Sector shaft thrust clearance			0.05 mm	0.0020 in.
	Thrust washer thickness (2WD)			1.95 mm	0.0768 in.
				2.00 mm	0.0787 in.
				2.05 mm	0.0807 in.
				2.10 mm	0.0827 in.
				2.15 mm	0.0847 in.
	Thrust washer thickness (4WD)			1.95 mm	0.0768 in.
				2.00 mm	0.0787 in.
				2.05 mm	0.0807 in.
	Worm bearing preload	(2WD) at Starting		0.3 – 0.5 N·m 3 – 5 kgf·cm	2.6 – 4.3 in.·lbf
		(4WD) at Starting		0.3 – 0.5 N·m 3.5 – 5 kgf·cm	3.0 – 4.3 in.·lbf
	Total preload	(2WD) at Starting		0.8 – 1.0 N·m 8 – 10.5 kgf·cm	6.9 – 9.1 in.·lbf
		(4WD) at Starting		0.8 – 1.1 N·m 8 – 11.0 kgf·cm	6.9 – 9.5 in.·lbf
	Sector shaft end cover bushing inside diameter (4WD)		Maximum	36.07 mm	1.4201 in.
Power steering	Drive belt tension		New belt	441 – 667 N·m	45 – 68 kgf 100 – 150 lbf
			Used belt	265 – 441 N·m	27 – 45 kgf 60 – 100 lbf
	Maximum rise of oil level			5 mm	0.20 in.
	Oil pressure at idle speed		Minimum	7,335 kPa	75 kgf/cm^2 1,067 psi
	Steering effort	(w/o PPS)	Maximum	39 N	4 kgf 8.8 lbf
		(w/ PPS)	Maximum	29 N	3 kgf 6.6 lbf
	Rotor shaft bushing oil clearance		STD	0.01 – 0.03 mm	0.0004 – 0.0012 in.
			Maximum	0.07 mm	0.0028 in.
	Rotor to cam ring oil clearance (RN series)		Maximum	0.06 mm	0.0024 in.
	Vane plate to rotor groove clearance		Maximum	0.03 mm	0.0012 in.
	Vane plate	Minimum length		14.988 mm	0.5901 in.
		Minimum height		8.1 mm	0.319 in.
		Minimum thickness		1.797 mm	0.0707 in.
	Vane plate length	Rotor and cam ring mark			
			None	14.996 – 14.998 mm	0.59039 – 0.59047 in.
			1	14.994 – 14.996 mm	0.59032 – 0.59039 in.
			2	14.992 – 14.994 mm	0.59024 – 0.59032 in.
			3	14.990 – 14.992 mm	0.59016 – 0.59024 in.
			4	14.988 – 14.990 mm	0.59008 – 0.59016 in.

Specifications (Cont'd)

Power steering (cont'd)	Flow control valve spring length	
	STD	37 mm 1.46 in.
	Minimum	35 mm 1.38 in.
	Pump rotating torque Maximum	0.3 N·m 2.8 kgf·cm 2.4 in.·lbf
	Worm gear valve body ball clearance	0.15 mm 0.0059 in.
	Cross shaft adjusting screw thrust clearance	0.03 – 0.05 mm 0.0012 – 0.0020 in.
	Worm gear preload at Starting	0.3 – 0.5 N·m 3 – 5.5 kgf·cm 2.6 – 4.8 in.·lbf
	Total preload at Starting	0.5 – 0.9 N·m 5 – 9.5 kgf·cm 4.3 – 8.3 in.·lbf

Torque Specifications

	Part tightened	N·m	kgf·cm	ft·lbf
Steering column	Steering wheel set nut	34	350	25
	Column tube x Body	25	260	19
	Breakaway bracket x Body	25	260	19
	Column hole cover x Body	7.8	80	69 in.·lbf
	Main shaft x Intermediate shaft	35	360	26
	Intermediate shaft x Worm shaft	35	360	26
	Turn signal bracket x Upper column tube	7.8	80	69 in.·lbf
	Tilt pawl set nut	5.9	60	52 in.·lbf
	Compression spring set bolt	7.8	80	69 in.·lbf
	Tilt lever retainer set nut	15	150	11
	Protector x Breakaway bracket	19	195	14
	Tilt lever assembly installation bolt	2.0	20	17 in.·lbf
Manual gear housing	**[2WD]**			
	Gear housing x Body	118	1,200	87
	Intermediate shaft x Worm shaft	35	360	26
	Relay rod x Pitman arm	90	920	67
	Pitman arm x Sector shaft	123	1,250	90
	Worm bearing adjusting screw lock nut	109	1,110	80
	End cover set bolt	18	185	13
	Sector shaft adjusting screw lock nut	27	275	20
	Bleeder plug	7.4	75	65 in.·lbf
	[4WD]			
	Gear housing x Body	142	1,450	105
	Intermediate shaft x Worm shaft	35	360	26
	Pitman arm x Sector shaft	177	1,800	130
	Relay rod x Pitman arm	90	920	67
	Worm bearing adjusting screw lock nut	109	1,110	80
	End cover set bolt	93	1,000	72
	Sector shaft adjusting screw lock nut	44	450	33
	Bleeder plug	20	200	14

Torque Specifications (Cont'd)

	Part tightened		N·m	kgf·cm	ft·lbf
Power steering (PS pump)	Pressure tube x PS pump (RN series/4WD)		36	370	27
	Return hose clamp	(RN series)	1.5	15	13 in.·lbf
		(VZN series)	3.9	40	35 in.·lbf
	Pressure tube union bolt		47	475	34
	Pulley set nut		43	440	32
	PS pump x Bracket				
	(RN series)		39	400	29
	(VZN series)	Through bolt	58	590	43
		Adjusting bolt	39	400	29
	PS pump x Adjusting stay (VZN series)		41	420	30
	Reservoir tank x PS pump (VZN series)				
		12 mm bolt	13	130	9
		14 mm bolt	41	420	30
	Suction port union (RN series)		13	130	9
	Air control valve		36	370	27
	Pressure port union		69	700	51
	Front housing x Rear housing (RN series)		46	470	34
Power steering (Gear housing)	Pressure tube		44	450	33
	Return tube	Union bolt	47	475	34
		Others	49	500	36
	Return hose clamp	4WD	3.9	40	35 in.·lbf
	Intermediate shaft x Worm shaft		35	360	26
	Gear housing x Body	2WD	118	1,200	87
		4WD	142	1,450	105
	Pitman arm x Cross shaft		177	1,800	130
	Cross shaft adjusting screw set nut		46	470	34
	Cross shaft end cover set bolt		46	470	34
	Bleeder plug		7.8	80	69 in.·lbf
	Plunger guide nut		20	205	15
	Worm gear valve body set bolt		46	470	34
	Solenoid valve set bolt (wl PPS)		10	100	7
Steering linkage (2WD)	Pitman arm x Sector shaft	MS	123	1,250	90
		PS	177	1,800	130
	Pitman arm x Relay rod		90	920	67
	Tie rod tube clamp bolt		25	260	19
	Tie rod x Relay rod		90	920	67
	Tie rod x Knuckle arm		90	920	67
	Relay rod x Idler arm		59	600	43
	Knuckle arm x Steering knuckle		108	1,100	80
	Steering damper x Frame		13	130	9
	Steering damper x Relay rod		59	600	43
	Idler arm x Idler arm bracket		78	800	58
	Idler arm bracket x Frame		118	1,200	87

Torque Specifications (Cont'd)

	Part tightened	N·m	kgf·cm	ft·lbf
Steering linkage (4WD)	Pitman arm x Sector shaft	177	1,800	130
	Pitman arm x Relay rod	90	920	67
	Tie rod tube clamp bolt	25	260	19
	Tie rod x Relay rod	90	920	67
	Tie rod x Knuckle arm	90	920	67
	Relay rod x Idler arm	59	600	43
	Relay rod x Steering damper	59	600	43
	Knuckle arm x Steering knuckle	183	1,870	135
	Idler arm x Idler arm bracket	78	800	58
	Idler arm bracket x Frame	142	1,450	105

BODY
Torque Specifications

Part tightened	N·m	kgf·cm	ft·lbf
MOON ROOF			
Removable roof hinge case x Body	3.4	35	30 in.·lbf
Removable roof lock base x Body	5.9	60	52 in.·lbf
Removable roof hinge x Removable roof	2.9	30	26 in.·lbf
Removable roof handle x Removable roof	2.9	30	26 in.·lbf
ONE–TOUCH TAIL GATE			
Tail gate stay x Tail gate	14	140	10
SEAT			
Front Seat			
Seat adjuster x Body	37	375	27
Rear Jump Seat (Extra Cab)			
Back panel trim x Body	4.9	50	43 in.·lbf
Seat cushion x Body	4.9	50	43 in.·lbf
SEAT BELT			
Seat belt anchor x Body	43	440	32
Seat belt guide x Body	43	440	32
Buckle x Body	43	440	32

LUBRICANT

Item			Capacity			Classification
			Liters	U S qts	Imp. qts	
Manual transmission oil						
2W D	G57		2.2	2.3	1.9	API GL–4 or GL–5 SAE 75W–90
	R 150		3.0	3.2	2.6	API GL–4 or GL–5 SAE 75W–90
4WD	G58		3.9	4.1	3.4	API GL–4 or GL–5 SAE 75W–90
	R 150F		3.0	3.2	2.6	
Automatic transmission fluid						ATF DEXRON 11
A43D	Dry fill		6.5	6.9	5.7	
	Drain and refill		2.4	2.5	2.1	
A340E	Dry fill		7.2	7.6	6.3	
	Drain and refill		1.6	1.7	1.4	
A340H						
(Transmission)	Dry fill		10.3	10.9	9.1	
	Drain and refill		4.5	4.8	4.0	
(Transfer)	Dry fill		1.1	1.2	1.0	
	Drain and refill		0.8	0.8	0.7	
A340F	Dry fill		7.6	8.0	6.7	
	Drain and refill		1.6	1.7	1.4	
Transfer oil	W56 (RF 1 A)		1.6	1.7	1.4	API GL–4 or GL–5
	G 58, R 150F, A340F (VF 1 A)		1.1	1.2	1.0	SAE 75W–90
Differential oil						Standard differential API GL–5 hypoid gear oil Above –18°C (0°F) SAE 90 Below –18°C (0°F) SAE 80W–90 or 80W A.D. D. (4WD Front only) TOYOTA "GEAR OIL SUPER" oil or hypoid gear oil API GL–5 SAE 75W–90
2WD	7.5 in.		1.35	1.4	1.2	
	8.0 in.	2 pinion	1.8	1.9	1.6	
		4 pinion	2.2	2.3	1.9	
4WD	Front	Standard differential	1.6	1.7	1.4	
		A.D.D.	1.86	2.0	1.6	
	Rear		2.2	2.3	1.9	
Steering gear box oil						API GL–4, SAE 90
	2W D		380 — 400 cc	23.2 — 24.4 cu in.		
	4WD		400 cc	24.4 cu in.		

LUBRICANT (Cont'd)

Item	Capacity			Classification
	Liters	US qts	Imp. qts	
Power steering fluid				ATF DEXRON° 11
Pump	300 cc	18.3 cu in.		
Total	900 cc	54.9 cu in.		
Ball joint grease (2WD)	—			Molybdenum disulphide lithium base, NLG I No. 1 or No. 2
Chassis grease (4WD)	—			Lithium base, NLG I No. 2
Propeller shaft (Except double cardan joint)				Molybdenum disulphide lithium base, NLG I No. 2
Double cardan joint				
Wheel bearing grease	—			Lithium base multipurpose, NLG I No. 2
Steering knuckle and front axle shaft grease (4WD)	—			Molybdenum disulphide lithium base, NLG I No. 2
Brake fluid	—			SAE J 1703 or FMVSS No. 116 DOT 3