

TECHNICAL DATA

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ENGINE

Item			Engine
			G6
Drive belt deflection [Applied pressure 98 N {10 kgf, 22 lbf}] (mm {in})	Generator	New	10.0—12.0 {0.40—0.47}
		Used	12.0—14.0 {0.48—0.55}
	P/S	New	6.6—7.2 {0.26—0.28}
		Used	7.2—8.0 {0.29—0.31}
	A/C	New	8.5—10.0 {0.34—0.39}
		Used	10.0—11.5 {0.40—0.45}
Drive belt tension (N {kgf, lbf})	Generator	New	491—588 {50—60, 110—132}
		Used	393—490 {40—50, 88—110}
	P/S	New	412—470 {42—48, 93—105}
		Used	354—402 {36—41, 80—90}
	A/C	New	557—641 {56.7—65.4, 125—143}
		Used	471—556 {48.0—56.7, 106—124}
Compression (kPa {kgf/cm ² , psi} [rpm])	Standard		1255 {12.8, 182} [270]
	Minimum		882.6 {9.0, 128} [270]
Pushing distance of the front oil seal (from the edge of the chain cover) (mm {in})			0—0.7 {0—0.027}
Pushing distance of the rear oil seal (from the edge of the rear cover) (mm {in})			0—0.5 {0—0.019}

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Item				Specification			
				WL	WL Turbo	WL-3	WLT-3
Type				Diesel, 4-cycle			
Cylinder arrangement and number				In-line, 4-cylinder			
Combustion chamber				Swirl type			
Valve system				OHC, timing gear and belt driven,12 valves			
Displacement (ml {cc, cu in})				2,499 {2,499, 152.4}			
Bore × stroke (mm {in})				93.0 × 92.0 {3.66 × 3.62}			
Drive belt deflection [Applied pressure 98 N {10 kgf, 22 lbf}] (mm {in})	Generator	New	7.0—9.0 {0.28—0.35}				
		Used	8.0—10.0 {0.32—0.39}				
		Limit	16.0 {0.63}				
	A/C (measuring point a)	New	5.0—6.2 {0.20—0.24}				
		Used	6.0—6.5 {0.24—0.25}				
		Limit	11.3 {0.44}				
	A/C (measuring point b)	New	9.5—11.8 {0.38—0.46}				
		Used	11.0—12.5 {0.44—0.49}				
		Limit	18.0 {0.71}				
Drive belt tension (N {kgf, lbf})	Generator	New	442—637 {45—65, 99—143}				
		Used	383—539 {39—55, 86—121}				
		Limit	177 {18, 40}				
	A/C	New	403—519 {41—53, 91—116}				
		Used	354—431 {36—44, 80—96}				
		Limit	181 {18.5, 41}				
Timing belt deflection [Applied pressure 98 N {10 kgf, 22 lbf}] (mm {in})		Standard	9.0—10.0 {0.36—0.39}				
Cylinder head bolt length (mm {in})	Bolt head mark W	Standard	101.2—101.8 {3.985—4.007}				
		Minimum	102.5 {4.035}				
	Bolt head mark N	Standard	113.2—113.8 {4.457—4.480}				
		Minimum	114.5 {4.508}				
Camshaft oil seal tapping amount (mm {in})		0.5—1.0 {0.02—0.03}					
Front oil seal tapping amount (mm {in})		0—0.4 {0—0.01}					
Rear oil seal tapping amount (mm {in})		0—0.5 {0—0.01}					
Compression ratio			21.9, 21.6*1	20.1, 19.8*1	21.6	19.9	
Compression pressure (kPa {kgf/cm ² , psi} [rpm])			2,942 {30, 427} [200]				
Valve timing	IN	Open BTDC (°)	8	10	8		
		Close ABDC (°)	28	24	23		
	EX	Open BBDC (°)	61				
		Close ATDC (°)	9				
Valve clearance (mm {in})	IN	Engine cold	0.05—0.15 {0.0020—0.0059} (0.10 ± 0.05 {0.0039 ± 0.0019})				
		Engine hot (Reference)	0.15 {0.0059}				
	EX	Engine cold	0.15—0.25 {0.0060—0.0098} (0.20 ± 0.05 {0.0078 ± 0.0019})				
		Engine hot (Reference)	0.25 {0.0098}				

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Item			Engine	
			F2 CARB	F2 CIS
Drive belt deflection [Applied pressure 98 N {10 kgf, 22 lbf}] (mm {in})	Generator	New	7.0—8.0 {0.28—0.31}	
		Used	8.0—9.0 {0.32—0.35}	
	P/S	New	5.0—6.0 {0.20—0.23}	
		Used	5.5—6.5 {0.22—0.25}	
	A/C	New	10.0—12.0 {0.40—0.47}	
		Used	12.0—14.0 {0.48—0.55}	
Drive belt tension (N {kgf, lbf})	Generator	New	510—588 {52—60, 115—132}	
		Used	432—509 {44—52, 97—114}	
	P/S	New	393—490 {40—50, 88—110}	
		Used	344—441 {35—45, 77—99}	
	A/C	New	373—490 {38—50, 84—110}	
		Used	275—372 {28—38, 62—83}	
Compression (kPa {kgf/cm ² , psi} [rpm])		Standard	1196 {12.2, 173} [300]	1226 {12.5, 178} [300]
		Minimum	837 {8.54, 121} [300]	858 {8.75, 124} [300]
Timing belt deflection [Applied pressure 98 N {10 kgf, 22 lbf}] (mm {in})		New	8.0—9.0 {0.32—0.35}	
		Used	9.0—10.0 {0.36—0.39}	
Pushing distance of the front oil seal (from the edge of the chain cover) (mm {in})			0 {0}	
Pushing distance of the rear oil seal (from the edge of the rear cover) (mm {in})			0—0.5 {0—0.019}	

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LUBRICATION SYSTEM

Item		Engine			
		F2	G6	WL	WL Turbo
Oil pressure (kPa {kgf/cm ² , psi} [rpm])		295—392 {3.0—4.0, 43—56} [3000]	305—402 {3.1—4.1, 45—58} [3000]	452—529 {4.6—5.4, 66—76} [3000]	402—480 {4.1—4.9, 59—69} [3000]
Oil capacity (L {US qt, Imp qt})	Oil replacement	3.9 {4.1, 3.4}	4.5 {4.8, 4.0}	5.6 {5.9, 4.9}	
	Oil and oil filter replacement	4.2 {4.4, 3.7}	4.7 {5.0, 4.4}	6.3 {6.7, 5.5}	
	Total (dry engine)	4.6 {4.9, 4.0}	5.5 {5.8, 4.8}	6.7 {7.1, 5.9}	
Engine oil		API service SG		API service CD	
Viscosity	Above 30°C {86°F}	SAE 40		—	
	0°C—40°C {32°F—104°F}	SAE 30		—	
	–10°C—20°C {14°F—68°F}	SAE 20W-20		—	
	Above –25°C {–13°F}	SAE 10W-30*, 10W-40, 10W-50		—	
	Above –10°C {14°F}	SAE 20W-40, 20W-50		—	
	Below –20°C {–4°F}	SAE 5W-20		—	
	Below 0°C {32°F}	SAE 5W-30*		—	
	–15°C—40°C {5°F—104°F}	—	—	SAE 10W-30	
	Below 10°C {50°F}	—	—	SAE 5W-30	

- European specification vehicles use only those oils marked with an asterisk

COOLING SYSTEM

Item			Engine				
			F2	G6	WL	WL-3	WL turbo
Cooling system			Water-cooled, force circulation				
Coolant capacity (Approximate quantity) (L {US qt, Imp qt})		With heater	7.5 {7.9, 6.6}		9.4 {9.9,8.3}		
		Without heater	6.9 {7.3, 6.1}		8.8 {9.3, 7.7}		
Water pump	Type		Centrifugal, timing belt driven	Centrifugal, V-belt driven			
Thermo-stat	Type		Wax, flow-control	Wax, two-stage	Wax, bottom by-pass		
	Opening temperature (°C {°F})		83.5—89.5 {183—193}	Sub: 83.5—89.5 {183—193} Main: 86.5—89.5 {188—193}	80—84 {176—183}		
	Full-open temperature (°C {°F})		100 {212}		95 {203}		
	Full-open lift (mm {in})		8.5 {0.33} min	Sub: 1.5 {0.06} min Main: 8.0 {0.31} min	8.5 {0.33} min.		
Radiator	Type		Corrugated fin				
	Cap valve opening pressure (kPa {kgf/cm², psi})		74—102 {0.75—1.05, 10.7—14.9}		94—122 {0.95—1.25, 13.6—17.7}		
Cooling fan	Type		Thermo-modulation				
	Blade	Outer diameter (mm {in})	380 {15.0}	410 {16.1}	440 {17.3}		
		Number	7	8	10		

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FUEL AND EMISSION CONTROL SYSTEMS

CIS vehicles

Item		Engine	
		G6	F2
Idle speed (rpm)		730—770 (750 ± 20)	730—770 (750 ± 20)
Injection timing (BTDC °/rpm)		4—6/750	5—7/750
Idle speed* ¹ (rpm)	A/C ON* ²	700—800 (750 ± 50)	780—880 (830 ± 50)
	P/S ON* ³	700—800 (750 ± 50)	
CO concentration		Within the regulation	
HC concentration		Within the regulation	
Fuel pressure (kPa {kgf/cm ² , psi})	Hold pressure	More than 340 {3.5, 50}	
	Fuel pump maximum pressure	500—630 {5.0—6.5, 72—92}	
Fuel injector	Fuel leakage (drop/2 minutes)	Less than 1	
	Injection volume (ml {cc, fl oz}/15 sec.)	55—71 {55—71, 1.9—2.3}	46—60 {46—60, 1.6—2.0}
	Resistance (Ω) [20°C {68°F}]	12—16	
Pressure regulator	Fuel pressure (at vacuum ON) (kPa {kgf/cm ² , psi})	210—250 {2.1—2.6, 30—36}	
	Fuel pressure (at vacuum OFF* ⁴) (kPa {kgf/cm ² , psi})	270—310 {2.7—3.2, 39—45}	

*¹: Excludes temporary idle speed drop just after the loads (A/C, P/S) are turned on.

*²: A/C switch and fan switch are turned on.

*³: Steering wheel is fully turned.

*⁴: Hot condition at start.

DIESEL vehicles

Item		Engine	
		WL Turbo	WL
Idle speed (rpm)		760—800 (780 ± 20)* ¹ 700—740 (720 ± 20)* ²	700—740 (720 ± 20)
Injection timing		ATDC 10°	
Boost relief pressure (kPa {kgf/cm ² , psi})		107—115 {1.09—1.18, 15.5—16.8}	—
Idle-up speed (rpm)	When A/C is operated	825—875 (850 ± 25)	805—855 (830 ± 25) 825—875 (850 ± 25)* ³
	When P/S is operated	—	—
	When engine is cold	1200—1500 (1350 ± 150)	
Injection pump	Cam lift (mm {in})	2.48 {0.098}	
Injection nozzle	Injection starting pressure (MPa {kgf/cm ² , psi})	New: 11.4—12.2 {116—124, 1650—1760} Inspection: More than 10.0 {102, 1450}	
	Nozzle leakage	No leakage when pressure of 8.8 MPa {90 kgf/cm ² , 1280 psi} is applied.	
Diesel smoke (%)		Within the regulation	

*¹: General (L.H.D.)

*²: Europe and UK

*³: Europe

TECHNICAL DATA

CARB vehicles

Item			Engine
			F2 CARB
Idle speed (rpm)			800—850 (800 ⁺⁵⁰ ₋₀)
Injection timing (BTDC°)			5—7 (6 ± 1)
Idle-up speed (rpm)	A/C Operated		1400—1600 (1500 ± 100)
	P/S Operated		—
	D/P Operated		1900—2100 (2000 ± 100)
	T/P Operated		1050—1250 (1150 ± 100)
CO concentration (%)			2.0—2.5 (2.0 ^{+0.5} ₋₀)* ¹ , 2.0—3.0 (2.5 ± 0.5)* ²
HC concentration (ppm)			—
Fuel pump	Discharge pressure (kPa {kgf/cm ² , psi})		20—25 {0.2—0.25, 2.8—3.6}
	Discharge amount cc {cu in} min.		1150 {70.2}
Carburetor	Float level (mm {in})	H	8—9 {0.315—0.354}
		L	44—45 {1.732—1.772}
	Primary throttle opening angle (°)		48—52 {50 ± 2}

*1: GULF

*2: General

ENGINE ELECTRICAL SYSTEM

Item					Engine
					G6
Battery	Electrolyte gravity				1.27—1.29
	Back-up current * ¹ (mA)				Max. 20
	Test load chart (A)	Battery type	80D26R		195
	Slow charge (A)	Battery type (5-hour rate)	80D26R (55)		5.5—6.5
	Quick charge (A/30 min.)	Battery type (5-hour rate)	80D26R (55)		35
Generator	Rotor resistance (Between slip rings) (Ω)				3.7—4.4
	Brush length	Standard (mm {in})			18.5 {0.73}
		Minimum (mm {in})			5.0 {0.20}
	Brush spring force	Standard (N {kgf, lbf})			4.8—6.0 {0.48—0.62, 1.06—1.36}
		Minimum (N {kgf, lbf})			2.2 {0.22, 0.48}
	Standard voltage (V)	Ignition switch ON	Terminal	B	B+
				L	Approx. 1
				S	B+
		Idle [20°C {68°F}]	Terminal	B	14.1—14.7
				L	13.0—14.0
				S	14.1—14.7
	Generated current* ² (Reference) (A)	Engine speed (rpm)	1000	Approx. 0—43	
			2000	Approx. 0—62	

*1: Back-up current is the constant flow of current present (for the audio unit, clock, PCM, etc.) when the ignition switch is at OFF position and the ignition key is removed.

*2: Must not be 0 A.

TECHNICAL DATA

Item			Engine
			G6
Ignition coil	Resistance [20°C {68°F}]	Primary coil (Ω)	0.81—0.99
		Secondary coil (kΩ)	10—16
Spark plug	Type	NGK	ZFR5F-11 ^{*3} , ^{*5} , ZFR6F-11 ^{*4} , ^{*5} , BKR5E ^{*3} , BKR6E ^{*4}
		DENSO	KJ16CR11 ^{*3} , ^{*5} , KJ20CR11 ^{*4} , ^{*5} K16PR-U ^{*3} , K20PR-U ^{*4}
	Plug gap (mm {in})		1.0—1.1 {0.040—0.043} ^{*5} , 0.7—0.8 {0.028—0.031}
	Resistance (kΩ)	NGK	3.0—7.5
		DENSO	
	Tightening torque (N·m {kgf·m, ft·lbf})		15—22 {1.5—2.3, 11—16}
High-tension lead	Resistance (kΩ) [20 °C {68 °F}]	No.1 lead	2.9—7.7
		No.2 lead	4.3—10.8
		No.3 lead	5.4—13.5
		No.4 lead	6.6—16.2
		Center lead	4.5—11.2
Starter	Commutator diameter	Standard (mm {in})	29.4 {1.16}
		Minimum (mm {in})	28.8 {1.14}
	Brush length	Standard (mm {in})	12.3 {0.48}
		Minimum (mm {in})	7.0 {0.28}
	Brush spring force	Standard (N {kgf, lbf})	180—243 {18.3—24.8, 40.3—54.5}
		Minimum (N {kgf, lbf})	57.7 {5.88, 12.9}
	Pinion gap (mm {in})		3.0 {1.118}
	No load test	Voltage (V)	11.5
		Current (A)	Below 100

^{*3}: Standard plug

^{*4}: Cold type plug

^{*5}: Europe

TECHNICAL DATA

Item					Engine	
					F2 CARB	F2 CIS
Battery	Electrolyte gravity				1.27—1.29	
	Back-up current ^{*1} (mA)				Max. 20	
	Test load chart (A)	Battery type	34B19R		110	—
			55D23R		180	
	Slow charge (A)	Battery type (5-hour rate)	34B19R (27)		3.0—4.0	—
			55D23R (48)		4.5—5.5	
	Quick charge (A/30 min.)	Battery type (5-hour rate)	34B19R (27)		20	—
55D23R (48)			30			
Generator	Rotor resistance (Between slip rings) (Ω)				3.7—4.4	
	Brush length	Standard (mm {in})			18.5 {0.73}	
		Minimum (mm {in})			5.0 {0.20}	
	Brush spring force	Standard (N {kgf, lbf})			4.8—6.0 {0.48—0.62, 1.06—1.36}	
		Minimum (N {kgf, lbf})			2.2 {0.22, 0.48}	
	Standard voltage (V)	Ignition switch ON	Terminal	B	B+	
				L	Approx. 1	
				S	B+	
		Idle [20°C {68°F}]	Terminal	B	14.1—14.7	
				L	13.0—14.0	
				S	14.1—14.7	
	Generated current*2 (Reference) (A)	Engine speed (rpm)		1000	Approx. 0—43	
				2000	Approx. 0—62	
Ignition coil	Resistance [20°C {68°F}]	Primary coil (Ω)		1.035—1.265	0.81—0.99	
		Secondary coil (kΩ)		10—16		
Distributor	Centrifugal spark advance °/rpm				0—2/1200, 9—13/2200, 19—23/6000	—
	Vacuum spark advance °/kPa {mmHg, inHg}				0—2/20 {150, 5.9}, 11—15/53.3 {400, 15.7}	—
Spark plug	Type		NGK	BKR5E*5 BKR6E*3 BKR7E*4	BPR5ES-11*3 BPR6ES-11*4	
			DENSO	K16PR-U*5 K20PR-U*3 K22PR-U*4	W16EXR-U11*3 W20EXR-U11*4	
	Plug gap (mm {in})				0.7—0.8 {0.028—0.031}	1.0—1.1 {0.040—0.043}
	Resistance (kΩ)	NGK		3.0—7.5		
		DENSO				
Tightening torque (N·m {kgf·m, ft·lbf})				15—22 {1.5—2.3, 11—16}		
High-tension lead	Resistance (kΩ) [20 °C {68 °F}]		No.1 lead		2.75—7.07	
			No.2 lead		4.19—10.43	
			No.3 lead		4.38—10.88	
			No.4 lead		5.73—14.08	
			Center lead		2.00—5.33	3.9—9.9

^{*1}: Back-up current is the constant flow of current present (for the audio unit, clock, PCM, etc.) when the ignition switch is at OFF position and the ignition key is removed.

^{*2}: Must not be 0 A.

^{*3}: Standard plug

^{*4}: Cold type plug

^{*5}: Hot type plug

TECHNICAL DATA

Item			Engine	
			F2 CARB	F2 CIS
Starter	Commutator diameter	Standard (mm {in})	32.0 {1.26}	
		Minimum (mm {in})	31.4 {1.24}	
	Brush length	Standard (mm {in})	17.0 {0.67}	
		Minimum (mm {in})	11.5 {0.46}	
	Brush spring force	Standard (N {kgf, lbf})	19.2 {1.95, 4.25}	
		Minimum (N {kgf, lbf})	8.83 {0.90, 1.98}	
	Pinion gap (mm {in})		0.5—2.0 {0.020—0.078}	
	No load test	Voltage (V)	11.5	
		Current (A)	Below 60	

Item					Engine
					WL, WL Turbo
Battery	Electrolyte gravity				1.27—1.29
	Back-up current ^{*1} (mA)				20 max.
	Test load chart (A)	Battery type	75D26L		195
			75D26R		195
			95D31R		250
	Slow charge (A)	Battery type (5-hour rate)	75D26L (52)		5.5—6.5
			75D26R (52)		5.5—6.5
			95D31R (64)		6.5—8.0
	Quick charge (A/30 min.)	Battery type (5-hour rate)	75D26L (52)		35
			75D26R (52)		35
95D31R (64)			40		
Generator	Rotor resistance (Between slip rings) (Ω)				2.50
	Brush length	Standard (mm {in})			17.9 {0.70}
		Minimum (mm {in})			5.0 {0.20}
	Brush spring force	Standard (N {kgf, lbf})			2.65 {0.27, 0.59}
		Minimum (N {kgf, lbf})			1.18 {0.12, 0.26}
	Standard voltage (V)	Engine switch ON	Terminal	B	B+
				A	B+
				S	0
				I	2.0—4.0
		Idle [20°C {68°F}]	Terminal	B	14.05—14.85
				A	14.05—14.85
				S	7.025—7.425
				I	13.00—14.85
Generated current*2 (Reference) (A)	Engine speed (rpm)	1000	Terminal B current	Approx. 0—58	
		2000	Terminal B current	Approx. 0—74	

*1: Back-up current is the constant flow of current present (for the audio unit, clock, PCM, etc.) when the engine switch is at OFF position and the engine key is removed.

*2: Must not be 0 A.

TECHNICAL DATA

Item			Engine
			WL, WL Turbo
Starter	Commutator diameter	Standard (mm {in})	29.5 {1.16}
		Minimum (mm {in})	27.3 {1.07}
	Brush length	Standard (mm {in})	17.7 {0.70}
		Minimum (mm {in})	8.7 {0.34}
	Brush spring force	Standard (N {kgf, lbf})	27.0—33.0 {2.75—3.37, 6.05—7.41}
		Minimum (N {kgf, lbf})	—
	Pinion gap (mm {in})		3.0 {0.12}
	No load test	Voltage (V)	11
		Current (A)	Below 130

CLUTCH

Item	Specification
Clutch pedal	
Height (mm {in})	241.6—246.6 {9.52—9.70}
Pedal free play (mm {in})	3.0—8.0 {0.12—0.31}
Clutch disc	
Runout limit (mm {in})	0.7 {0.027} max.
Clutch fluid	
Type	SAE J1703 or FMVSS116 DOT-3 or DOT-4

MANUAL TRANSMISSION

M15M-D

Item			Specification
Transmission oil	Type		API service GL-4 or GL-5
	Viscosity	All-season	SAE 75W-90
		Above 10 °C {50 °F}	SAE 80W-90
	Capacity	(L {US qt, Imp qt})	2.0 {2.1, 1.8}

M15MX-D

Item			Specification
Transmission oil	Type		API service GL-4 or GL-5
	Viscosity	All-season	SAE 75W-90
		Above 10 °C {50 °F}	SAE 80W-90
	Capacity	(L {US qt, Imp qt})	2.5 {2.6, 2.2}
Transfer oil	Type		API service GL-4 or GL-5
	Viscosity	All-season	SAE 75W-90
		Above 10 °C {50 °F}	SAE 80W-90
	Capacity	(L {US qt, Imp qt})	2.0 {2.1, 1.8}

R15M-D

Item			Specification
Transmission oil	Type		API service GL-4 or GL-5
	Viscosity	All-season	SAE 75W-90
		Above 10 °C {50 °F}	SAE 80W-90
	Capacity	(L {US qt, Imp qt})	2.8 {3.0, 2.5}

TECHNICAL DATA

R15MX-D

Item			Specification
Transmission oil	Type		API service GL-4 or GL-5
	Viscosity	All-season	SAE 75W-90
		Above 10 °C {50 °F}	SAE 80W-90
	Capacity	(L {US qt, Imp qt})	3.2 {3.4, 2.8}
Transfer oil	Type		API service GL-4 or GL-5
	Viscosity	All-season	SAE 75W-90
		Above 10 °C {50 °F}	SAE 80W-90
	Capacity	(L {US qt, Imp qt})	2.0 {2.1, 1.8}

PROPELLER SHAFT

Item	Propeller shaft (4 × 2)	Front propeller shaft (4 × 4)	Rear propeller shaft (4 × 4)
Runout limit (mm {in})	0.4 {0.016}	0.4 {0.016}	0.4 {0.016}
Starting torque of universal (N·m {kgf·cm, in·lbf})	0.3—1.1 {3.0—12.0, 2.7—10.4}	0.3—0.7 {3.0—8.0, 2.7—6.9}	0.3—1.1 {3.0—12.0, 2.7—10.4}

FRONT AND REAR AXLES (VEHICLES BUILT UP TO 07/2002)

Item				4 × 2		4 × 4			
Front axle	Wheel bearing	Play (mm {in})		0 {0}					
		Preload (N·m {kgf·cm, in·lbf})		0.4—0.7 {4.0—8.0, 3.5—6.9}					
		Pull scale reading (N {kgf, lbf})		5.9—10.7 {0.6—1.1, 1.4—2.4}					
Rear axle	Wheel bearing play (mm {in})			0.05—0.25 {0.002—0.010}					
Drive shaft	Shaft length (mm {in})	Left side		551.0—561.0 {21.7—22.0}					
		Right side		619.0—629.0 {24.4—24.7}					
Differential	Pinion height (mm {in})		Front	−0.032—0.032 {−0.001—0.001}					
			Rear	−0.254—0.254 {−0.010—0.010}					
	Backlash of side gear and differential pinion (mm {in})		Front	0—0.1 {0—0.003}					
			Rear	—					
	Drive pinion preload (N·m {kgf·cm, in·lbf})		Front	0.9—1.3 {9.0—14.0, 7.9—12.1}					
			Rear	1.8—2.6 {18.0—27.0, 15.7—23.4}					
	Backlash of drive pinion and ring gear (mm {in})	Standard		0.09—0.11 {0.0036—0.0043} [Front] 0.12—0.20 {0.005—0.008} [Rear]					
		Minimum		0.05 {0.002} [Front], 0.12 {0.008} [Rear]					
		Allowance variation		0.07 {0.003} [Front], 0.08 {0.005} [Rear]					
	Final gear ratio			3.909	WL-3	4.444	WLT-3		
				4.444	F2 CIS		WL TURBO		
				4.100	F2 CARB		G6		
	Oil	Standard	Grade		API service GL-5				
			Viscosity	Front	—		Above-18°C {0°F}: SAE 90 Below-18°C {0°F}: SAE 80		
				Rear	SAE 90				
			Capacity (L {US qt, Imp qt})	Front	—		1.20 {1.27, 1.06} [MFW] 1.50 {1.59, 1.32} [RFW]		
				Rear	1.40 {1.48, 1.23}		1.85 {1.96, 1.63}		
			LSD	Grade		API service GL-6			
				Viscosity		SAE 90			
				Capacity (L {US qt, Imp qt})		1.40 {1.48, 1.23}		1.85 {1.96, 1.63}	

TECHNICAL DATA

FRONT AND REAR AXLES (VEHICLES BUILT FROM 08/2002)

Item				Specification		
Drive type				4x2	4x4	
Front axle	Wheel bearing	Play (mm {in})		0 {0}	0.05 {0.002}	
		Preload (N·m {kgf·cm, in·lbf})		0.4—0.7 {4.0—8.0, 3.5—6.9}		
		Pull scale reading (N {kgf, lbf})		5.9—10.7 {0.6—1.1, 1.4—2.4}		
Rear axle	Wheel bearing play (mm {in})			0.05—0.25 {0.002—0.010}		
Drive shaft	Shaft length (Air in boot at atmospheric pressure) (mm {in})	Left side		—	525.5—535.5 {20.69—21.08}	
		Right side		—	593.5—603.5 {23.37—23.75}	
Differential	Pinion height (mm {in})		Front	−0.032—0.032 {−0.001—0.001}		
			Rear	−0.254—0.254 {−0.010—0.010}		
	Backlash of side gear and differential pinion (mm {in})		Front	0—0.1 {0—0.003}		
			Rear	—		
	Drive pinion preload (N·m {kgf·cm, in·lbf})		Front	0.9—1.3 {9.0—14.0, 7.9—12.1}		
			Rear	1.8—2.6 {18.0—27.0, 15.7—23.4}		
	Backlash of drive pinion and ring gear (mm {in})	Standard		0.09—0.11 {0.0036—0.0043} [Front] 0.12—0.20 {0.005—0.008} [Rear]		
		Minimum		0.05 {0.002} [Front], 0.12 {0.008} [Rear]		
		Allowance variation		0.07 {0.003} [Front], 0.08 {0.005} [Rear]		
	Final gear ratio			3.909 WL−3 4.444 F2 CIS 4.100 F2 CARB WL	4.444 WLT−3 WL TURBO G6 4.777 WL	
	Oil	Standard	Grade		API service GL-5	
			Viscosity	Front	—	Above-18°C {0°F}: SAE 90 Below-18°C {0°F}: SAE 80
				Rear	SAE 90	
			Capacity (L {US qt, Imp qt})	Front	—	1.20 {1.27, 1.06} [MFW] 1.50 {1.59, 1.32} [RFW]
		Rear		1.40 {1.48, 1.23}	1.85 {1.96, 1.63}	
		LSD	Grade		API service GL-6	
			Viscosity		SAE 90	
			Capacity (L {US qt, Imp qt})		1.40 {1.48, 1.23}	1.85 {1.96, 1.63}

TECHNICAL DATA

STEERING SYSTEM

Item		Manual steering	Engine speed sensing power steering
Steering wheel	Play (mm {in})	0—30 {0—1.18}	
	Effort (N·m {kgf·cm, in·lbf})	45 {460, 399} max.	7.8 {80, 69} max.
Steering gear	Backlash (mm {in})	0 {0}	
	Worm shaft preload (N·m {kgf·cm, in·lbf})	1.0—1.3 {10—14, 8.7—12.1}	0.7—1.2 {6.5—12.5, 5.7—10.8}
	Gear housing pressure (MPa {kgf/cm ² , psi})	—	8.9—9.3 {90—95, 1280—1350}
Oil	Grade	API service GL-4, SAE 90	ATF M-III or equivalent (e.g. Dexron® II)
	Capacity (L {US qt, Imp qt})	0.34 {0.36, 0.30}	1.1 {1.2, 1.0}
Power steering oil pump	Oil pump fluid pressure (MPa {kgf/cm ² , psi})	—	8.9—9.3 {90—95, 1280—1350}

BRAKING SYSTEM (VEHICLES BUILT UP TO 07/2002)

Item		4 × 2		4 × 4
		F2, G6	WL, WL Turbo	
Brake pedal				
Brake pedal height (mm {in})		L.H.D.: 214—219 {8.43—8.81} R.H.D.: 219—224 {8.63—8.81}		
Brake pedal play (mm {in})		3—8 {0.12—0.31}		
Brake pedal-to-floor clearance (mm {in})		105 {4.2} min.		
Power brake unit				
Fluid pressure when pedal depressed at 196 N {20 kgf ,44 lbf}) (kPa {kgf/cm ² , psi})	Power brake unit at 0 kPa {0 mmHg, 0 in Hg}	790 {8, 114} min.		
	Power brake unit at 66.7 kPa {500 mmHg, 19.7 in Hg}	8,240 {84, 1,200} min.		
Vacuum pump				
Vacuum specification [In 20 seconds] [When engine speed 1,500 rpm] (kPa {mmHg, in Hg})		73.3 {550, 21.7}		
Maximum vacuum [When engine speed 3,000 rpm] (kPa {mmHg, in Hg})		93.3 {700, 27.6}		
Braking force control device				
Type		LSPV		
Rear fluid pressure when front pressure is 4,900 kPa {50 kgf/cm ² , 711 psi} (kPa {kgf/cm ² , psi})		2,550 {26, 370}		
Front disc brake				
Disc pad thickness limit (mm {in})		2.0 {0.08}		
Disc plate	Thickness limit (mm {in})	22 {0.87}		
	Runout limit (mm {in})	0.05 {0.002}		
Rear drum brake				
Brake lining thickness limit (mm {in})		1.0 {0.04}		
Drum maximum diameter (mm {in})		271.5 {10.68}	296.5 {11.67}	
Parking brake				
Parking brake lever stroke [When pulled at 98 N {10 kgf, 22 lbf}) (notches)		1—7		
Brake fluid				
Type		SAE J1703 or FMVSS116 DOT-3 or DOT-4		

TECHNICAL DATA

BRAKING SYSTEM (VEHICLES BUILT FROM 08/2002)

Item		Specification	
Drive type		4x2	4x4
Brake pedal			
Brake pedal height (mm {in})		L.H.D.: 214—219 {8.43—8.81} R.H.D.: 219—224 {8.63—8.81}	
Brake pedal play (mm {in})		3—8 {0.12—0.31}	
Brake pedal-to-floor clearance (mm {in})		105 {4.2} min.	
Power brake unit			
Fluid pressure when pedal depressed at 196 N {20 kgf ,44 lbf} (kPa {kgf/cm ² , psi})	Power brake unit at 0 kPa {0 mmHg, 0 in Hg}	790 {8, 114} min.	
	Power brake unit at 66.7 kPa {500 mmHg, 19.7 in Hg}	8,040 {82, 1,166} min.	
Vacuum pump			
Vacuum specification [In 20 seconds] [When engine speed 1,500 rpm] (kPa {mmHg, in Hg})		73.3 {550, 21.7}	
Maximum vacuum [When engine speed 3,000 rpm] (kPa {mmHg, in Hg})		93.3 {700, 27.6}	
Load sensing proportioning valve (LSPV)			
Fluid pressure (kPa {kgf/cm ² , psi})	When front pressure is 4,900 kPa {50 kgf/cm ² , 711 psi}	Without ABS: 2,250—2,850 {22.95—29.06, 327—413} With ABS: 2,910—3,710 {29.68—37.83, 423—538}	Without ABS: 2,250—2,850 {22.95—29.06, 327—413} With ABS: 2,650—3,450 {27.03—35.18, 385—500}
	When front pressure is 9,800 kPa {100 mmHg, 19.7 in Hg}	Without ABS: 3,150—3,930 {31.92—40.07, 454—569} With ABS: 4,970—6,170 {50.68—62.91, 721—894}	Without ABS: 3,130—3,930 {31.92—40.07, 454—569} With ABS: 4700—5,900 {47.93—60.16, 682—855}
Front disc brake			
Disc pad thickness limit (mm {in})		2.0 {0.08}	
Disc plate	Thickness limit (mm {in})	22 {0.87}	26 {1.02}
	Runout limit (mm {in})	0.05 {0.002}	
Rear drum brake			
Brake lining thickness limit (mm {in})		1.0 {0.04}	
Drum maximum diameter (mm {in})		271.5 {10.68}	
Parking brake			
Parking brake lever stroke [When pulled at 98 N {10 kgf, 22 lbf}] (notches)		1—7	
Brake fluid			
Type		SAE J1703 or FMVSS116 DOT-3 or DOT-4	

TECHNICAL DATA

SUSPENSION

Suspension

Item			4 × 2	4 × 4
Front wheel alignment [unloaded*1]	Total toe-in	(mm {in})	3 ± 3 {0.12 ± 0.12}	
		(Degree)	0°16' ± 16'	0°14' ± 14'
	Maximum steering angle	Inner	35°00' ^{+2°} _{-3°}	33°30' ^{+2°} _{-3°}
		Outer	33°00' ^{+2°} _{-3°}	30°00' ^{+2°} _{-3°}
	Camber angle		0°56' ± 30'	1° 06' ± 30'
	Caster angle*2		1°37' ± 45'	2°02' ± 45'
Exposed thread of shock absorber piston		(mm {in})	6—8 {0.24—0.31}	
Lower arm ball joint rotation torque (Pull scale reading)		(N {kgf, lbf})	14—44 {0.7—4.5, 1.6—9.9}	
Upper arm ball joint rotation torque (Pull scale reading)		(N {kgf, lbf})	3.4—32.5 {0.4—3.2, 0.9—7.0}	
Exposed thread of stabilizer control link bolt		(mm {in})	18—21 {0.71—0.82}	

*1: Fuel tank is full. Engine coolant and engine oil are at specified levels. Spare tire, jack, and tools are in designated positions.

Adjust to the median when carrying out wheel alignment.

*2: Difference between left and right must not exceed 45'.

Wheels and Tires

(Vehicles built up to 07/2002)

Europe

Item				4 × 2		4 × 4	
Tire	Size	Front		195R14C-8PR	205/75R14C	235/75R15 105S	205R16C-8PR
		Rear					
	Air pressure (kPa {kgf/cm ² , psi})	Front	Up to full passenger	180 {1.8, 26}	200 {2.0, 28}	180 {1.8, 26}	180 {1.8, 26}
			Full loaded		220 {2.2, 31}		200 {2.0, 28}
		Rear	Up to full passenger	180 {1.8, 26}	200 {2.0, 28}	180 {1.8, 26}	180 {1.8, 26}
			Full loaded	450 {4.5, 63}		250 {2.5, 35}	450 {4.5, 63}
	Wear limit		(mm {in})		1.6 {0.06}		
Wheel	Size			14 × 5J 14 × 5 1/2J	14 × 5 1/2J	15 × 6 1/2JJ	16 × 6JJ
	Offset (mm {in})			40 {1.57}		25 {0.98}	35 {1.38}
	Pitch circle diameter (mm {in})			139.7 {5.45}			
Wheel and tire	Tightening torque (N·m {kgf·cm, in·lbf})			Standard wheel: 89—117 {9—12, 65—86} Styled wheel (16 × 6JJ): 118—147 {12—15, 87—108}			
	Runout limit (mm {in})	Horizontal		2.0 {0.078}			
		Vertical		1.5 {0.059}			
	Imbalance limit			(g {oz})		10 {0.35}	

- One balance weight: max. 60 g {2.1 oz}.
- If the total weight exceeds 100 g {3.5 oz} on one side, rebalance after moving the tire around on the rim.
- Do not use more than two balance weights on either side of the wheel.

TECHNICAL DATA

General

Item				4 × 2		4 × 4			
Tire	Size	Front		185R14C-8PR	195R14C-8PR	205R16C-8PR	235/75R15 105S	P235/75R1 5 105S	P235/75R1 5 106S
		Rear							
	Air pressure (kPa {kgf/cm ² , psi})	Front	Unloaded (Up to full passenger)	200 {2.0, 28}	180 {1.8, 26}	180 {1.8, 26}	200 {2.0, 28}	180 {1.8, 26}	
			Loaded (Full loaded)						200 {2.0, 28}
		Rear	Unloaded (Up to full passenger)	180 {1.8, 26}					
			Loaded (Full loaded)	450 {4.5, 63}		250 {2.5, 35}	240 {2.4, 34}		260 {2.6, 36}
		Wear limit (mm {in})			1.6 {0.06}				
Wheel	Size			14 × 5J	14 × 5J 14 × 5 1/2J	16 × 6JJ	15 × 6 1/2JJ		
	Offset (mm {in})			40 {1.57}		35 {1.38}	25 {0.98}		
	Pitch circle diameter (mm {in})			139.7 {5.45}					
Wheel and tire	Tightening torque (N·m {kgf·cm, in·lbf})			Standard wheel: 89—117 {9—12, 65—86} Styled wheel (16 × 6JJ): 118—147 {12—15, 87—108}					
	Runout limit {in}) (mm	Horizontal		2.0 {0.078}					
		Vertical		1.5 {0.059}					
	Imbalance limit (g {oz})			10 {0.35}					

- One balance weight: max. 60 g {2.1 oz}.
- If the total weight exceeds 100 g {3.5 oz} on one side, rebalance after moving the tire around on the rim.
- Do not use more than two balance weights on the inner or outer side of the wheel.

TECHNICAL DATA

Wheels and Tires (Vehicles built from 08/2002)

L.H.D

Item				Specification								
Drive type				4x2		4x4						
Tire	Size	Front		195R14 C—8PR	205/75 R14C	205R16 C—8PR	235/75 R15 105S	P235/7 5R15 108S	265/70 R15 110S	265/70 R15 112S		
		Rear										
	Air Pressure (kPa {kgf/cm ² , psi})	Front	Unloaded	210 {2.1, 30}					210 {2.1, 30}			
			Loaded									
		Rear	Unloaded								450 {4.6, 65}	
			Loaded									
	Wear limit		(mm {in})		1.6 {0.06}							
Wheel	Size		(mm {in})		14x5J	14x5 1/2JJ	16x6JJ	15x6 1/2JJ		16x7JJ		
	Offset		(mm {in})		40 {1.57}		35 {1.38}	25 {0.98}		10 {0.39}		
	Pitch circle diameter		(mm {in})		139.7 {5.50}							
Wheel and tire	Tightening torque (N·m {kgf·cm, ft·lbf})			Standard wheel: 89—117 {9—12, 65—86} Styled wheel (16x6JJ): 118—147 {12—15, 87—108}								
	Runout limit (mm {in})			Vertical: 1.5 {0.059} max. Horizontal: 2.0 {0.079} max.								
	Imbalance limit (g {oz})			10 {0.35} max.								

- One balance weight: max. 60 g {2.0 oz}.
- If the total weight exceeds 100 g {3.5 oz} on each side, rebalance after moving the tire around the rim.
- Do not use more than two balance weights on the inner or outer side of the wheel.

R.H.D

Item				Specification				
Drive type				4x2	4x4			
Tire	Size	Front		205/75 R14C	235/75 R15 105S	P235/75 R15 108S	265/70 R15 110S	265/70 R15 112S
		Rear						
	Air Pressure (kPa {kgf/cm ² , psi})	Front	Unloaded	210 {2.1, 30}			210 {2.1, 30}	
			Loaded					
		Rear	Unloaded					
			Loaded	450 {4.6, 65}	250 {2.5, 36}	240 {2.4, 35}		
	Wear limit		(mm {in})	1.6 {0.06}				
Wheel	Size	(mm {in})		14x5 1/2JJ	15x6 1/2JJ		15x7JJ	
	Offset	(mm {in})		40 {1.57}	25 {0.98}		10 {0.39}	
	Pitch circle diameter	(mm {in})		139.7 {5.50}				
Wheel and tire	Tightening torque (N·m {kgf·cm, ft·lbf})			89—117 {9—12, 65—86}				
	Runout limit (mm {in})			Vertical: 1.5 {0.059} max. Horizontal: 2.0 {0.079} max.				
	imbalance limit (g {oz})			10 {0.35} max.				

- One balance weight: max. 60 g {2.0 oz}.
- If the total weight exceeds 100 g {3.5 oz} on each side, rebalance after moving the tire around the rim.
- Do not use more than two balance weights on the inner or outer side of the wheel.

TECHNICAL DATA

BODY ELECTRICAL SYSTEM

Item			Specification
Exterior light bulb capacity (W)	Headlight	High beam/Low beam*	60/55 × 2
	Parking light		5 × 2
	Front turn light		21 × 2
	Brake light/taillight		21/5 × 2
	Rear turn light		21 × 2
	Back-up light		21 × 2
	Rear fog light		21 × 1
	License plate light		5 × 2
Interior light bulb capacity (W)	Interior light	Stretch cab, Double cab	10 × 1
		Regular cab	8 × 1
	Instrument cluster illumination		3.4 × 4
Warning and indicator light bulb capacity (W)	Oil pressure warning light		1.4 × 1
	Generator warning light		1.4 × 1
	Sedimentor warning light		1.4 × 1
	Brake system warning light		1.4 × 1
	Rear window defroster indicator light		1.4 × 1
	Glow indicator light		1.4 × 1
	High beam indicator light		1.4 × 1
	Turn indicator light		1.4 × 2
	Air bag system warning light		1.4 × 1
	4 × 4 indicator light		1.4 × 1
	LOCK indicator light		1.4 × 1

*: Also remains illuminated when high beam turned on.

HEATER AND AIR CONDITIONER SYSTEMS

Item			Specification	
			G6, WL	F2
Refrigerant	Regular amount (g {oz})		550 {19.4}	
A/C compressor	Lubricating oil	Sealed volume (ml {cc, fl oz})	180 {180, 6.08}	
	Magnetic clutch clearance (mm {in})		0.35—0.75 {0.014—0.029}	0.3—0.6 {0.012—0.023}