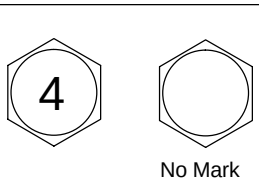
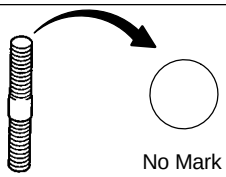
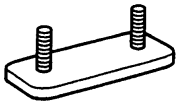
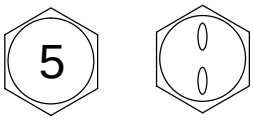
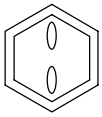
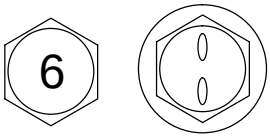
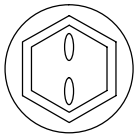
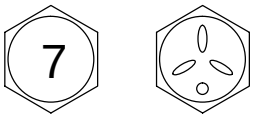
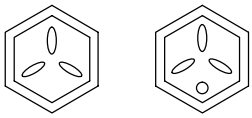
STANDARD BOLT

HOW TO DETERMINE BOLT STRENGTH

SS0ZS-01

Bolt Type				Class
Hexagon Head Bolt		Stud Bolt	Weld Bolt	
Normal Recess Bolt	Deep Recess Bolt			
				4T
				5T
				6T
				7T
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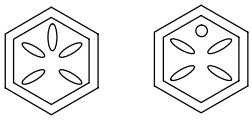
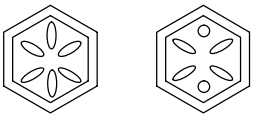
				9T
				10T
				11T

B06431

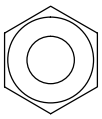
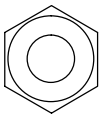
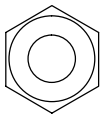
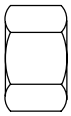
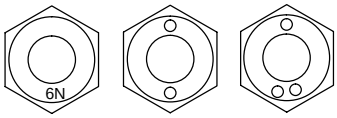
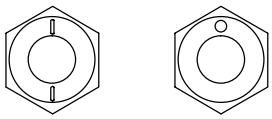
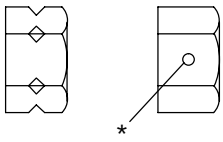
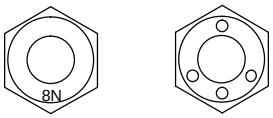
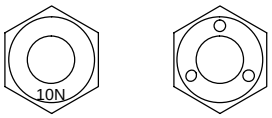
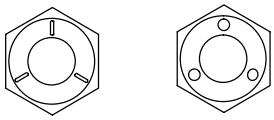
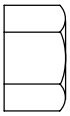
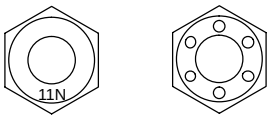
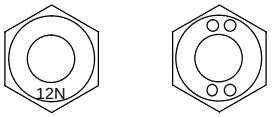
SS0ZT-01

SPECIFIED TORQUE FOR STANDARD BOLTS

Class	Diameter mm	Pitch mm	Specified torque					
			Hexagon head bolt			Hexagon flange bolt		
			N·m	kgf·cm	ft·lbf	N·m	kgf·cm	ft·lbf
4T	6	1	5	55	48 in.·lbf	6	60	52 in.·lbf
	8	1.25	12.5	130	9	14	145	10
	10	1.25	26	260	19	29	290	21
	12	1.25	47	480	35	53	540	39
	14	1.5	74	760	55	84	850	61
	16	1.5	115	1,150	83	-	-	-
5T	6	1	6.5	65	56 in.·lbf	7.5	75	65 in.·lbf
	8	1.25	15.5	160	12	17.5	175	13
	10	1.25	32	330	24	36	360	26
	12	1.25	59	600	43	65	670	48
	14	1.5	91	930	67	100	1,050	76
	16	1.5	140	1,400	101	-	-	-
6T	6	1	8	80	69 in.·lbf	9	90	78 in.·lbf
	8	1.25	19	195	14	21	210	15
	10	1.25	39	400	29	44	440	32
	12	1.25	71	730	53	80	810	59
	14	1.5	110	1,100	80	125	1,250	90
	16	1.5	170	1,750	127	-	-	-
7T	6	1	10.5	110	8	12	120	9
	8	1.25	25	260	19	28	290	21
	10	1.25	52	530	38	58	590	43
	12	1.25	95	970	70	105	1,050	76
	14	1.5	145	1,500	108	165	1,700	123
	16	1.5	230	2,300	166	-	-	-
8T	8	1.25	29	300	22	33	330	24
	10	1.25	61	620	45	68	690	50
	12	1.25	110	1,100	80	120	1,250	90
9T	8	1.25	34	340	25	37	380	27
	10	1.25	70	710	51	78	790	57
	12	1.25	125	1,300	94	140	1,450	105
10T	8	1.25	38	390	28	42	430	31
	10	1.25	78	800	58	88	890	64
	12	1.25	140	1,450	105	155	1,600	116
11T	8	1.25	42	430	31	47	480	35
	10	1.25	87	890	64	97	990	72
	12	1.25	155	1,600	116	175	1,800	130

SS0ZU-01

HOW TO DETERMINE NUT STRENGTH

Nut Type			Class
Present Standard Hexagon Nut	Old Standard Hexagon Nut		
	Cold Forging Nut	Cutting Processed Nut	
 No Mark			4N
 No Mark (w/ Washer)	 No Mark (w/ Washer)	 No Mark	5N (4T)
 6N			6N
		 *	7N (5T)
 8N			8N
 10N		 No Mark	10N (7T)
 11N			11N
 12N			12N

*: Nut with 1 or more marks on one side surface of the nut.

B06432

HINT:

Use the nut with the same number of the nut strength classification or the greater than the bolt strength classification number when tightening parts with a bolt and nut.

Example: Bolt = 4T

Nut = 4N or more

MAINTENANCE

TORQUE SPECIFICATION

SS1JW-02

Part tightened	N·m	kgf·cm	ft·lbf
Front seat mount bolts	37	375	27
Front suspension member x Body	98	1,000	72
Rear suspension member x Body	127	1,300	94

ENGINE MECHANICAL

SS0FH-11

SERVICE DATA

Compression pressure		at 250 rpm STD	1,324 kPa (13.5 kgf/cm^2, 192 psi) or more
		Minimum	1,079 kPa (11.0 kgf/cm^2, 156 psi)
		Difference of pressure between each cylinder	98 kPa (1.0 kgf/cm^2, 14 psi) or less
Valve clearance		at cold Intake	0.15 - 0.25 mm (0.006 - 0.010 in.)
		Exhaust	0.25 - 0.35 mm (0.010 - 0.014 in.)
	Adjusting shim (for repair part)	Mark 2.500	2.500 mm (0.0984 in.)
		2.550	2.550 mm (0.1004 in.)
		2.600	2.600 mm (0.1024 in.)
		2.650	2.650 mm (0.1043 in.)
		2.700	2.700 mm (0.1063 in.)
		2.750	2.750 mm (0.1083 in.)
		2.800	2.800 mm (0.1102 in.)
		2.850	2.850 mm (0.1122 in.)
		2.900	2.900 mm (0.1142 in.)
		2.950	2.950 mm (0.1161 in.)
		3.000	3.000 mm (0.1181 in.)
		3.050	3.050 mm (0.1201 in.)
		3.100	3.100 mm (0.1220 in.)
		3.150	3.150 mm (0.1240 in.)
		3.200	3.200 mm (0.1260 in.)
		3.250	3.250 mm (0.1280 in.)
		3.300	3.300 mm (0.1299 in.)
Ignition timing	w/ Terminals TE and E1 connected of DLC1		10˚ ± 2˚ BTDC @ idle
Idle speed	-		700 ± 50 rpm
Timing belt tensioner	Protrusion (from housing side)		8.0 - 8.8 mm (0.315 - 0.346 in.)
Cylinder head	Warpage		
	Cylinder block side	Maximum	0.10 mm (0.0039 in.)
	Intake manifold side	Maximum	0.10 mm (0.0039 in.)
	Exhaust manifold side	Maximum	0.10 mm (0.0039 in.)
	Valve guide bore diameter	STD	10.985 - 11.006 mm (0.4325 - 0.4333 in.)
		O/S 0.05	11.035 - 11.056 mm (0.4344 - 0.4353 in.)
	Valve seat		
	Refacing angle		15˚, 45˚, 75˚
	Contacting angle		45˚
	Contacting width	Intake	1.0 - 1.4 mm (0.039 - 0.055 in.)
		Exhaust	1.2 - 1.6 mm (0.047 - 0.063 in.)
	Cylinder head bolt diameter	STD	10.8 - 11.0 mm (0.425 - 0.433 in.)
		Minimum	10.7 mm (0.421 in.)
Valve guide bushing	Inside diameter		6.010 - 6.030 mm (0.2366 - 0.2374 in.)
	Outside diameter (for repair part)	STD	11.033 - 11.044 mm (0.4344 - 0.4348 in.)
		O/S 0.05	11.083 - 11.094 mm (0.4363 - 0.4368 in.)
Valve	Valve overall length	STD Intake	98.29 - 98.79 mm (3.8697 - 3.8894 in.)
		Exhaust	98.84 - 99.34 mm (3.8913 - 3.9110 in.)
		Minimum Intake	98.19 mm (3.8657 in.)
		Exhaust	98.74 mm (3.8874 in.)
	Valve face angle		44.5˚
	Stem diameter	Intake	5.970 - 5.985 mm (0.2350 - 0.2356 in.)
		Exhaust	5.965 - 5.980 mm (0.2348 - 0.2354 in.)

Valve (cont'd)	Stem oil clearance	STD Intake	0.025 - 0.060 mm (0.0010 - 0.0024 in.)
		Exhaust	0.030 - 0.065 mm (0.0012 - 0.0026 in.)
		Maximum Intake	0.08 mm (0.0031 in.)
		Exhaust	0.10 mm (0.0039 in.)
	Margin thickness	STD	0.8 - 1.2 mm (0.031 - 0.047 in.)
		Minimum	0.5 mm (0.020 in.)
Valve spring	Deviation	Maximum	2.0 mm (0.079 in.)
	Free length	Pink painted mark	43.71 mm (1.7209 in.)
		Yellow painted mark	44.10 mm (1.7362 in.)
	Installed tension at 34.5 mm (1.358 in.)		186.2 - 205.8 N (19.0 - 21.0 kgf, 41.9 - 46.3 lbf)
Valve lifter	Lifter diameter		30.966 - 30.976 mm (1.2191 - 1.2195 in.)
	Lifter bore diameter		31.000 - 31.016 mm (1.2205 - 1.2211 in.)
	Oil clearance	STD	0.024 - 0.050 mm (0.0009 - 0.0020 in.)
		Maximum	0.07 mm (0.0028 in.)
Camshaft	Thrust clearance	STD	0.080 - 0.190 mm (0.0031 - 0.0075 in.)
		Maximum	0.30 mm (0.0118 in.)
	Cam lobe height	STD Intake	44.310 - 44.360 mm (1.7445 - 1.7465 in.)
		Exhaust	44.250 - 44.350 mm (1.7421 - 1.7461 in.)
		Maximum Intake	44.16 mm (1.7386 in.)
		Exhaust	44.10 mm (1.7362 in.)
	Journal diameter		28.949 - 28.965 mm (1.1397 - 1.1404 in.)
	Journal oil clearance	STD	0.035 - 0.072 mm (0.0014 - 0.0028 in.)
		Maximum	0.10 mm (0.0039 in.)
	Circle runout	Maximum	0.08 mm (0.0031 in.)
Air intake chamber	Warpage	Maximum	0.15 mm (0.0059 in.)
Manifold	Warpage	Maximum Intake	0.15 mm (0.0059 in.)
		Exhaust	0.50 mm (0.0196 in.)
Cylinder block	Cylinder head surface warpage	Maximum	0.07 mm (0.0028 in.)
	Cylinder bore diameter	STD	86.000 - 86.013 mm (3.3858 - 3.3863 in.)
		Maximum	86.02 mm (3.3866 in.)
	Main bearing bolt diameter	STD	9.96 - 9.97 mm (0.3921 - 0.3925 in.)
		Minimum	9.7 mm (0.382 in.)
Connecting rod	Thrust clearance	STD	0.250 - 0.402 mm (0.0098 - 0.0158 in.)
		Maximum	0.50 mm (0.0197 in.)
	Connecting bolt diameter	STD	8.1 - 8.3 mm (0.319 - 0.327 in.)
		Minimum	8.0 mm (0.315 in.)
	Connecting rod oil clearance	STD STD	0.023 - 0.041 mm (0.0009 - 0.0016 in.)
		U/S 0.25	0.028 - 0.066 mm (0.0011 - 0.0026 in.)
		Maximum STD	0.07 mm (0.0027 in.)
		U/S 0.25	0.08 mm (0.0031 in.)
	Connecting rod bearing center wall thickness (Reference)		
		STD Mark 1	1.498 - 1.501 mm (0.0590 - 0.0591 in.)
		2	1.501 - 1.504 mm (0.0591 - 0.0592 in.)
		3	1.504 - 1.507 mm (0.0592 - 0.0593 in.)
		4	1.507 - 1.510 mm (0.0593 - 0.0594 in.)
		5	1.510 - 1.513 mm (0.0594 - 0.0596 in.)
	Bushing inside diameter		22.005 - 22.014 mm (0.8663 - 0.8667 in.)
	Piston pin diameter		21.997 - 22.006 mm (0.8660 - 0.8664 in.)
	Piston pin oil clearance	STD	0.005 - 0.011 mm (0.0002 - 0.0004 in.)
		Maximum	0.05 mm (0.0020 in.)
	Rod out-of alignment	Maximum per 100 mm (3.94 in.)	0.05 mm (0.0020 in.)
	Rod twist	Maximum per 100 mm (3.94 in.)	0.15 mm (0.0059 in.)

Piston and Piston ring	Piston diameter		85.935 - 85.945 mm (3.3833 - 3.3837 in.)
	Piston oil clearance	STD	0.055 - 0.078 mm (0.0022 - 0.0031 in.)
		Maximum	0.10 mm (0.0039 in.)
	Piston ring groove clearance	No. 1	0.011 - 0.070 mm (0.0004 - 0.0028 in.)
		No. 2	0.030 - 0.070 mm (0.0012 - 0.0028 in.)
	Piston ring end gap	STD No. 1	0.300 - 0.470 mm (0.0118 - 0.0185 in.)
		No. 2	0.350 - 0.520 mm (0.0138 - 0.0205 in.)
		Oil	0.130 - 0.450 mm (0.0051 - 0.0177 in.)
		Maximum No. 1	1.07 mm (0.0421 in.)
		No. 2	1.12 mm (0.0441 in.)
		Oil	1.05 mm (0.0413 in.)
Crankshaft	Thrust clearance	STD	0.020 - 0.220 mm (0.0008 - 0.0087 in.)
		Maximum	0.30 mm (0.0118 in.)
	Thrust washer thickness	STD	1.940 - 1.990 mm (0.0764 - 0.0783 in.)
	Main journal oil clearance	STD STD	0.026 - 0.040 mm (0.0010 - 0.0016 in.)
		U/S 0.25	0.025 - 0.061 mm (0.0010 - 0.0024 in.)
		Maximum STD	0.06 mm (0.0024 in.)
		U/S 0.25	0.08 mm (0.0031 in.)
	Main journal diameter	STD	61.984 - 62.000 mm (2.4403 - 2.4409 in.)
		U/S 0.25	61.745 - 61.755 mm (2.4309 - 2.4313 in.)
	Main bearing center wall thickness (Reference)	Mark 1	1.994 - 1.997 mm (0.0785 - 0.0786 in.)
		2	1.997 - 2.000 mm (0.0786 - 0.0787 in.)
		3	2.000 - 2.003 mm (0.0787 - 0.0789 in.)
		4	2.003 - 2.006 mm (0.0789 - 0.0790 in.)
		5	2.006 - 2.009 mm (0.0790 - 0.0791 in.)
	Crank pin diameter	STD	51.982 - 52.000 mm (2.0465 - 2.0472 in.)
		U/S 0.25	51.745 - 51.755 mm (2.0372 - 2.0376 in.)
	Circle runout	Maximum	0.06 mm (0.0024 in.)
	Main journal taper and out-of-round	Maximum	0.02 mm (0.0008 in.)
	Crank pin taper and out-of-round	Maximum	0.02 mm (0.0008 in.)

SS0FI-11

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Timing belt plate x Oil pump		8.0	80	71 in.·lbf
Idler pulley x Oil pump		35	350	26
No. 1 timing belt cover x Oil pump		8.0	80	71 in.·lbf
Camshaft timing pulley x Camshaft		81	810	60
Straight screw plug x Camshaft timing pulley		15	150	11
No. 1 oil pipe x No. 3 camshaft bearing cap		55	550	41
Cylinder head cover x Cylinder head		8.5	85	75 in.·lbf
High-tension cord x Cylinder head cover		8.0	80	71 in.·lbf
Timing belt tensioner x Oil pump		27	270	20
Crankshaft pulley x Crankshaft		330	3,300	243
Drive belt tensioner x Cylinder head		21	210	15
No. 2 timing belt cover x Cylinder head		8.0	80	71 in.·lbf
No. 3 timing belt cover x Cylinder head		8.0	80	71 in.·lbf
PS pump front bracket x PS vane pump		58	590	43
PS pump front bracket x Cylinder block		52	530	38
Drive belt tensioner absorber x Drive belt tensioner arm		20	200	14
Drive belt tensioner absorber x Drive belt tensioner bracket		20	200	14
Drive belt tensioner Arm x Drive belt tensioner		21	210	15
Drive belt tensioner bracket x Oil pump		28	280	21
ECT sensor x Cylinder head		19.6	200	14
Engine hanger x Cylinder head		40	400	30
Water outlet x Cylinder head		28	280	21
Cylinder head x Cylinder head	1st 2nd 3rd	35 Turn 90° Turn 90°	350 Turn 90° Turn 90°	26 Turn 90° Turn 90°
Camshaft bearing cap x Cylinder head		20	200	14
No. 3 camshaft bearing cap x Cylinder head	Hexagon bolt	5.0	50	44 in.·lbf
No. 4 timing belt cover x Cylinder head		8.0	80	71 in.·lbf
Intake manifold x Cylinder head		28	280	21
Manifold stay x Intake manifold		40	400	30
Manifold stay x Cylinder block		40	400	30
Vacuum control valve set x Intake manifold		21	210	15
Exhaust manifold x Cylinder head		40	410	30
Front exhaust pipe x Exhaust manifold		43	438	32
PS vane pump x Cylinder block		58	590	43
PS vane pump x A/C compressor		58	590	43
PS pump rear stay x PS pump bracket		39.2	400	29
PS pump rear stay x Manifold stay		39.2	400	29
Drive plate x Torque converter clutch		48	490	35
Engine hanger x Cylinder head		40	400	30
Rear support member x Body		25.5	260	19
Drive plate x Crankshaft		83	850	61
Transmission x Cylinder block		72	730	53
Starter x Transmission		37	380	27

No. 1 oil pan x Transmission		37	380	27
Torque converter clutch x Drive plate		48	490	35
Suspension member x Body		70	714	52
Engine rear mounting member x Transmission		13.5	135	10
Engine rear mounting member x Body		25.5	260	19
Lower arm x Steering knuckle		245	2,500	181
Shock absorber x Steering knuckle		64	650	47
Stabilizer bar x Body	Bolt	18	180	13
	Nut	49	500	30
Sliding yoke x Steering intermediate shaft		35	360	26
Transmission control rod x Shift lever		13	130	9
Transmission control rod x Transmission		13	130	9
A/C compressor x Cylinder block	Stud bolt	26	265	19
	Bolt and nut	52	530	38
Fuel inlet hose x Fuel pipe support		29	300	22
Front suspension member brace x Front suspension member		119	1,120	88
Front suspension member brace x Body		58	590	43
Main bearing cap x Cylinder block	1st	45	450	33
	2nd	Turn 90°	Turn 90°	Turn 90°
Connecting rod cap x Connecting rod	1st	30	300	22
	2nd	Turn 90°	Turn 90°	Turn 90°
Rear oil seal retainer x Cylinder block		6.0	60	53
Engine mounting bracket x Cylinder block		59	590	44
Fuel inlet pipe x Cylinder block		29	290	21
No. 1 oil pipe x Cylinder block		55	550	41
Oil filter bracket x Cylinder block		90	900	66
No. 2 water bypass pipe x Water pump		21	210	15
No. 2 water bypass pipe x Cylinder block		21	210	15
Generator x Water pump		40	400	30
Generator x Cylinder block		40	400	30
Front exhaust pipe x Exhaust manifold		43	438	32
Front exhaust pipe x Center exhaust pipe		43	438	32
Center exhaust pipe x Tailpipe		43	438	32
Tailpipe bracket x Body		13	133	10

EMISSION CONTROL

TORQUE SPECIFICATION

SS0FJ-12

Part tightened	N·m	kgf·cm	ft·lbf
Protector for charcoal canister x Body	5.5	56	49 in.·lbf
Charcoal canister x Protector	5.0	51	44 in.·lbf
RH rear drive shaft x Differential	83	850	61
Heated oxygen sensor x Exhaust manifold	45	450	33
Exhaust manifold x Cylinder head	40	408	30
Front exhaust pipe (with rear TWC) x Exhaust manifold	44	440	32
Front exhaust pipe (with rear TWC) x Center exhaust pipe	44	440	32
Pipe support bracket x Transmission	44	440	32

SFI

SS0FK-15

SERVICE DATA

Fuel pump	Resistance	at 20˚C (68˚F)	0.2 - 3.0 Ω
Fuel pressure regulator	Fuel pressure		304 - 343 kPa (3.1 - 3.5 kgf/cm^2, 44 - 50 psi)
Injector	Resistance Injection volume Difference between each cylinder Fuel leakage	at 20˚C (68˚F)	13.4 - 14.2 Ω 60 - 73 cm^3 (3.7 - 4.5 cu in.) per 15 sec. 13 cm^3 (0.8 cu in.) or less 1 drop or less per 12 min.
MAF meter	Resistance (THA - E2)	at -20˚C (-4˚F) at 20˚C (68˚F) at 60˚C (140˚F)	13.6 - 18.4kΩ 2.21 - 2.69 kΩ 0.493 - 0.667 kΩ
Throttle body	Throttle body fully closed angle		3.5˚
Throttle control motor	Motor (M+ - M-) Clutch (CL+ - CL-)	at 20˚C (68˚F) at 20˚C (68˚F)	0.3 - 100 Ω 4.2 - 5.2 Ω
Throttle position sensor	Resistance (VC - E2) Throttle valve opening percentage	at 20˚C (68˚F) STD	1.2 - 3.2 kΩ 14.8 ± 0.8 %
Accelerator pedal position sensor	Resistance (VC - E2) Accelerator pedal position voltage	at 20˚C (68˚F) STD	1.2 - 3.2 kΩ 0.3 - 0.9 V
Camshaft timing oil control valve	Resistance	at 20˚C (68˚F)	5.5 - 12 Ω
Fuel pump resister	Resistance	at 20˚C (68˚F)	0.30 - 0.35 Ω
VSV for EVAP	Resistance	at 20˚C (68˚F)	27 - 33 Ω
VSV for ACIS	Resistance	at 20˚C (68˚F)	38.5 - 44.5 Ω
VSV for CCV	Resistance	at 20˚C (68˚F)	24 - 30 Ω
VSV for pressure switching valve	Resistance	at 20˚C (68˚F) at 120˚C (248˚F)	37 - 44 Ω 51 - 62 Ω
ECT sensor	Resistance	at -20˚C (-4˚F) 0˚C (32˚F) 20˚C (68˚F) 40˚C (104˚F) 60˚C (140˚F) 80˚C (176˚F)	10 - 20 kΩ 4 - 7 kΩ 2 - 3 kΩ 0.9 - 1.3 kΩ 0.4 - 0.7 kΩ 0.2 - 0.4 kΩ
Vapor pressure sensor	Power sorce voltage		4.5 - 5.5 V
Heated oxygen sensor	Heater coil resistance	at 20˚C (68˚F) at 800˚C (1,472˚F)	11 - 16 Ω 23 - 32 Ω
Fuel cut rpm		Fuel return rpm	1,000 rpm
EFI main relay	Resistance 3 - 5 (Apply battery voltage to terminal 1 and 2)	3 - 5	10 kΩ or higher Below 1 Ω
Circuit opening relay	Resistance 3 - 5 (Apply battery voltage to terminal 1 and 2)	3 - 5	10 kΩ or higher Below 1 Ω

SS0FL-12

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Fuel line Union bolt	29	300	22
Flare nut for use with SST	30	310	22
for use without SST	38	387	28
Fuel tank vent tube set plate x Fuel tank	3.5	36	31 in.·lbf
Fuel inlet hose x Body	9.0	90	80 in.·lbf
Delivery pipe x Intake manifold	21	210	15
Fuel pressure pulsation damper x Fuel pipe support	32.5	325	24
Fuel inlet pipe x Intake manifold	9.0	90	80 in.·lbf
No. 2 vacuum pipe x Intake manifold	21	210	15
Fuel sender gauge x Fuel tank	1.5	15	13 in.·lbf
Fuel tank band x Body	39	400	29
MAF meter x Air cleaner	10.7	109	8
Throttle body bracket x Throttle body	21	210	15
Throttle body bracket x Cylinder head	21	210	15
Throttle position sensor x Throttle body	1.7	17.5	15 in.·lbf
Throttle control motor x Throttle body	3.7	37.5	33 in.·lbf
Throttle control motor cover x Throttle body	1.7	17.5	15 in.·lbf
Accelerator pedal position sensor x Throttle body	3.7	37.5	33 in.·lbf
Camshaft timing oil control valve x No. 3 camshaft bearing cap	8.0	80	71 in.·lbf
No. 3 timing belt cover x Cylinder head cover	8.0	80	71 in.·lbf
Intake air connector x Air intake chamber	28	280	21
Air intake chamber x Intake manifold	28	280	21
Vacuum control valve set x Intake manifold	21	210	15
ECT sensor x Cylinder head	19.6	200	14
Knock sensor x Cylinder block	44	450	33
PS pump rear stay x Manifold stay	39.2	400	29
PS pump rear stay x PS pump bracket	39.2	400	29
Heated oxygen sensor x Exhaust manifold	45	450	33
Heated oxygen sensor x Front exhaust pipe	45	450	33

COOLING

SERVICE DATA

SS0SD-04

Thermostat	Valve opening temperature Valve lift at 95˚C (203˚F)	80 - 84˚C (176 - 183˚F) 8.5 mm (0.335 in.) or more
Radiator cap	Relief valve opening pressure STD Minimum	93 - 123 kPa (0.95 - 1.25 kgf/cm^2, 13.5 - 17.8 psi) 78 kPa (0.8 kgf/cm^2, 11.4 psi)
Electric cooling fan	Rotating amperage at 20˚C (68˚F)	8.5 - 11.5 A
Cooling No. 1 fan relay	Resistance 3 - 5 3 - 5 (Apply battery voltage to terminal 1 and 2)	10 kΩ or higher Below 1 Ω
Cooling No. 2 fan relay	Resistance 3 - 4 3 - 4 (Apply battery voltage to terminal 1 and 2) 3 - 5 3 - 5 (Apply battery voltage to terminal 1 and 2)	Below 1 Ω 10 kΩ or higher 10 kΩ or higher Below 1 Ω
Cooling No. 3 fan relay	Resistance 3 - 5 3 - 5 (Apply battery voltage to terminal 1 and 2)	10 kΩ or higher Below 1 Ω

SS0SE-04

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Engine drain plug x Cylinder block	30	300	22
Water pump x Cylinder block	21	210	15
Water pump x No. 2 water bypass pipe	21	210	15
Generator x Water pump	40	400	30
Generator x Cylinder block	40	400	30
Water bypass outlet x Cylinder head	9.0	90	80 in.·lbf
Water pump pulley x Water pump	14	140	10
Drive belt tensioner absorber x Drive belt tensioner arm	20	200	14
Drive belt tensioner absorber x Drive belt tensioner bracket	20	200	14
Water inlet x Water pump	9.0	90	80 in.·lbf
Oil cooler x Radiator lower tank	8.3	85	74 in.·lbf
Oil cooler x Oil cooler pipe	14.7	150	11
Electric cooling fan x Radiator	5.0	50	44 in.·lbf
Upper radiator support x Body	13.5	135	10

LUBRICATION

SS0SF-03

SERVICE DATA

Oil pressure		at idle speed	49 kPa (0.5 kgf/cm^2, 7.3 psi) or more
		at 3,000 rpm	324 kPa (3.3 kgf/cm^2, 47 psi) or more
Oil pump	Tip clearance	STD	0.060 - 0.240 mm (0.0024 - 0.0094 in.)
		Maximum	0.30 mm (0.0118 in.)
	Body clearance	STD	0.100 - 0.175 mm (0.0039 - 0.0069 in.)
		Maximum	0.20 mm (0.0079 in.)
	Side clearance	STD	0.030 - 0.090 mm (0.0012 - 0.0035 in.)
		Maximum	0.12 mm (0.0047 in.)

SS0SG-03

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Union bolt x Cylinder block		90	900	66
Oil pressure switch x Union bolt		15	150	11
Oil drain plug x No. 2 oil pan		38	380	28
Oil pump body cover x Oil pump body		10	105	8
Plug x Oil pump body		49	500	36
Oil pump x Cylinder block		21	210	15
No. 1 oil pan x Cylinder block	12 mm head 14 mm head	21 40	210 400	15 30
Oil pan baffle plate x No. 1 oil pan		9.0	90	80 in.·lbf
Oil strainer x No. 1 oil pan		9.0	90	80 in.·lbf
No. 2 oil pan x No. 1 oil pan		9.0	90	80 in.·lbf
Oil level sensor x No. 1 oil pan		5.4	55	48 in.·lbf
Crankshaft position sensor x Oil pump		9.0	90	80 in.·lbf

IGNITION

SS0IM-03

SERVICE DATA

High-tension cord	Resistance	Maximum	25 kΩ per cord
Spark plug	Recommended spark plug	DENSO made	SK16R-P11
	Correct electrode gap for new plug		1.1 mm (0.043 in.)
	Maximum electrode gap for used plug		1.2 mm (0.047 in.)
Ignition coil	Primary coil resistance	at cold	0.33 - 0.52 Ω
		at hot	0.42 - 0.61 Ω
	Secondary coil resistance	at cold	8.5 - 14.7 kΩ
		at hot	10.8 - 17.2 kΩ
Camshaft position sensor	Resistance	at cold	835 - 1,400 Ω
		at hot	1,060 - 1,645 Ω
Crankshaft position sensor	Resistance	at cold	1,630 - 2,740 Ω
		at hot	2,065 - 3,225 Ω

SS0IN-03

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Spark plug x Cylinder head	18	180	13
Throttle body x Intake air connector	21	210	15
Throttle body bracket x Cylinder head	21	210	15
Throttle body bracket x Throttle body	21	210	15
Throttle body gasket x Intake air connector	21	210	15
Ignition coils and high-tension cord set assembly x Cylinder head	8.0	80	71 in.·lbf
PS pump rear stay x Manifold stay	39.2	400	29
PS pump rear stay x PS pump bracket	39.2	400	29
Camshaft position sensor x Cylinder head	9.0	90	80 in.·lbf
Crankshaft position sensor x Oil pump	9.0	90	80 in.·lbf

STARTING

SERVICE DATA

SS0FQ-12

Starter	Rated voltage and output power		12 V 1.4 kW
	No-load characteristics	Current	90 A or less at 11.5 V
		rpm	3,000 rpm or more
	Brush length	STD	15.5 mm (0.610 in.)
		Minimum	10.0 mm (0.394 in.)
	Spring installed load	STD	17.6 - 23.5 N (1.8 - 2.4 kgf, 3.9 - 5.3 lbf)
		Minimum	11.8 N (1.2 kgf, 2.6 lbf)
	Commutator		
	Diameter	STD	30.0 mm (1.181 in.)
		Minimum	29.0 mm (1.412 in.)
	Undercut depth	STD	0.6 mm (0.024 in.)
		Minimum	0.2 mm (0.008 in.)
	Circle runout	Maximum	0.05 mm (0.0020 in.)
	Magnetic switch		
	Contact plate for wear	Maximum	0.9 mm (0.035 in.)
Starter relay	Resistance	3 - 5	10 kΩ or higher
	3 - 5 (Apply battery voltage to terminal 1 and 2)		Below 1 Ω

SS0FR-11

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Starter x Transmission	37	380	27
Lead wire x Terminal C of starter	5.9	60	52 in.·lbf
Field frame x Armature assembly	5.9	60	52 in.·lbf
Starter housing x Magnetic switch	5.9	60	52 in.·lbf
End cover x Field frame	1.5	15	13 in.·lbf
Terminal nut x Terminal 30 of starter	17	173	13
Terminal nut x Terminal C of starter	17	173	13
Magnetic switch end cover x Magnetic switch	2.5	26	22 in.·lbf

CHARGING

SS0E6-10

SERVICE DATA

Battery	Voltage (Maintenance-free battery)	at 20˚C (68˚F)	12.5 - 12.9 V
	Specific gravity (Except maintenance-free battery)	at 20˚C (68˚F)	1.25 - 1.29
Alternator	Rated output		12 V 80 A
	Rotor coil resistance	at 20˚C (68˚C)	2.1 - 2.5 Ω
	Slip ring diameter	STD	14.2 - 14.4 mm (0.559 - 0.567 in.)
		Minimum	12.8 mm (0.504 in.)
	Brush exposed length	STD	9.5 -11.5 mm (0.374 -0.453 in.)
		Minimum	1.5 mm (0.059 in.)
Voltage regulator	Regulating voltage		13.2 - 14.8 V

SS0E7-14

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Drive belt tensioner absorber x Drive belt tensioner arm		20	200	14
Drive belt tensioner absorber x Drive belt tensioner bracket		20	200	14
Generator x Water pump		40	400	30
Generator x Cylinder block		40	400	30
Bearing retainer x Drive end frame		3.0	31	27 in.·lbf
Rectifier end frame x Drive end frame		4.5	46	40 in.·lbf
Rectifier end frame with wire clip x Rectifier end frame		5.4	55	48 in.·lbf
Generator pully x Rotor		110.5	1,125	81
Rectifier holder x Coil lesd on rectifier end frame		2.9	30	26 in.·lbf
Voltage regulator x Rectifier end frame		2.0	20	18 in.·lbf
Voltage regulator x Rectifier holder		2.0	20	18 in.·lbf
Brush holder x Rectifier holder		2.0	20	18 in.·lbf
Brush holder x Voltage regulator		2.0	20	18 in.·lbf
Rear end cover x Rectifier holder		4.4	45	39 in.·lbf
Plate terminal x Rectifier holder	Nut	4.4	45	39 in.·lbf
	Bolt	3.9	40	35 in.·lbf
Terminal insulator x Rectifier holder		6.5	67	58 in.·lbf

CLUTCH

SERVICE DATA

SS1JS-01

Pedal height from asphalt sheet		162 - 172 mm (6.38 - 6.77 in.)
Pedal free play		5.0 - 15.0 mm (0.197 - 0.591 in.)
Push rod play at pedal top		1.0 - 5.0 mm (0.039 - 0.197 in.)
Full pedal stroke		142.0 - 147.5 mm (5.591 - 5.807 in.) or more
Clutch release point from pedal full stroke end position		25 mm (0.98 in.) or more
Clutch start switch ON-OFF Stroke		8.0 ± 0.5 mm (0.315 ± 0.020 in.)
Slotted spring pin protrusion		1.5 - 3.5 mm (0.059 - 0.138 in.)
Disc rivet head depth	Minimum	0.3 mm (0.012 in.)
Disc runout	Maximum	0.8 mm (0.031 in.)
Flywheel runout	Maximum	0.1 mm (0.004 in.)
Diaphragm spring finger wear	Maximum depth	0.6 mm (0.024 in.)
Diaphragm spring finger wear	Maximum width	5.0 mm (0.197 in.)
Diaphragm spring tip non-alignment	Maximum	0.5 mm (0.020 in.)

SS1JT-01

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Pedal hight lock nut	15.7	160	12
Push rod lock nut	12	120	9
Clutch line union	15.2	155	11
Master cylinder installation nut	12	120	9
Release cylinder installation bolt	12	120	9
Bleeder plug	10.7	109	8
Clutch cover x Flywheel	19.1	195	14
Release fork suppor	39.2	400	29

MANUAL TRANSMISSION

SS1JU-01

SERVICE DATA

Output shaft 2nd gear journal diameter	Minimum	42.975 mm (1.6919 in.)
Output shaft 3rd gear journal diameter	Minimum	31.969 mm (1.2586 in.)
Output shaft flange thickness	Minimum	5.70 mm (0.2244 in.)
Output shaft runout	Maximum	0.03 mm (0.0012 in.)
1st gear inner race flange thickness	Minimum	4.78 mm (0.1881 in.)
1st gear inner race outer diameter	Minimum	42.975 mm (1.6919 in.)
Counter gear bearing journal diameter	Minimum	29.950 mm (1.1791 in.)
Counter 5th gear journal diameter	Minimum	26.975 mm (1.0620 in.)
1st, 2nd and 3rd gear thrust clearance	Standard	0.10 - 0.25 mm (0.0039 - 0.0098 in.)
	Maximum	0.25 mm (0.0098 in.)
Counter 5th gear thrust clearance	Standard	0.10 - 0.41 mm (0.0039 - 0.0161 in.)
	Maximum	0.41 mm (0.0161 in.)
1st, 2nd and counter 5th gear radial clearance	Standard	0.009 - 0.060 mm (0.0004 - 0.0024 in.)
	Maximum	0.060 mm (0.0024 in.)
3rd gear radial clearance	Standard	0.015 - 0.066 mm (0.0006 - 0.0026 in.)
	Maximum	0.066 mm (0.0026 in.)
Reverse idler gear radial clearance	Standard	0.041 - 0.074 mm (0.0016 - 0.0029 in.)
	Maximum	0.074 mm (0.0029 in.)
No. 1 and No. 2 shift fork to hub sleeve clearance	Maximum	0.5 mm (0.020 in.)
No. 3 shift fork to hub sleeve clearance	Maximum	0.84 mm (0.0331 in.)
Synchronizer ring to 1st, 3rd and 4th gear clearance	Minimum	0.70 mm (0.0276 in.)
Synchronizer ring to 2nd and 3rd gear clearance	Minimum	0.74 mm (0.0291 in.)
Input shaft snap ring thickness		
	Mark 1	2.05 - 2.10 mm (0.0807 - 0.0827 in.)
	Mark 2	2.10 - 2.15 mm (0.0827 - 0.0846 in.)
	Mark 3	2.15 - 2.20 mm (0.0846 - 0.0866 in.)
	Mark 4	2.20 - 2.25 mm (0.0866 - 0.0886 in.)
	Mark 5	2.25 - 2.30 mm (0.0886 - 0.0906 in.)
	Mark 11	2.30 - 2.35 mm (0.0906 - 0.0925 in.)
	Mark 12	2.35 - 2.40 mm (0.0925 - 0.0945 in.)
Output shaft snap ring thickness		
No.2 clutch hub	Mark C-1	1.75 - 1.80 mm (0.0689 - 0.0709 in.)
	Mark D	1.80 - 1.85 mm (0.0709 - 0.0728 in.)
	Mark 11	1.86 - 1.91 mm (0.0732 - 0.0752 in.)
	Mark 12	1.92 - 1.97 mm (0.0756 - 0.0776 in.)
	Mark 13	1.98 - 2.03 mm (0.0780 - 0.0799 in.)
	Mark 14	2.04 - 2.09 mm (0.0803 - 0.0823 in.)
	Mark 15	2.10 - 2.15 mm (0.0827 - 0.0846 in.)
Output shaft snap ring thickness		
Rear bearing	Mark 8	2.31 - 2.36 mm (0.0909 - 0.0929 in.)
	Mark 9	2.37 - 2.42 mm (0.0933 - 0.0953 in.)
	Mark 10	2.43 - 2.48 mm (0.0957 - 0.0976 in.)
	Mark 11	2.49 - 2.54 mm (0.0980 - 0.1000 in.)
	Mark 12	2.55 - 2.60 mm (0.1004 - 0.1024 in.)
	Mark 13	2.61 - 2.66 mm (0.1028 - 0.1047 in.)
	Mark 14	2.68 - 2.73 mm (0.1055 - 0.1075 in.)
	Mark 15	2.74 - 2.79 mm (0.1079 - 0.1098 in.)

Output shaft snap ring thickness		
Reverse gear	Mark 5	2.25 - 2.30 mm (0.0886 - 0.0906 in.)
	Mark 11	2.30 - 2.35 mm (0.0906 - 0.0925 in.)
	Mark 12	2.35 - 2.40 mm (0.0925 - 0.0945 in.)
	Mark 13	2.40 - 2.45 mm (0.0945 - 0.0965 in.)
	Mark 14	2.45 - 2.50 mm (0.0965 - 0.0984 in.)
	Mark 15	2.50 - 2.55 mm (0.0984 - 0.1004 in.)
	Mark 16	2.55 - 2.60 mm (0.1004 - 0.1024 in.)
	Mark 17	2.61 - 2.66 mm (0.1028 - 0.1047 in.)
	Mark 18	2.67 - 2.72 mm (0.1051 - 0.1071 in.)
	Mark 19	2.73 - 2.78 mm (0.1075 - 0.1094 in.)
	Mark 20	2.79 - 2.84 mm (0.1098 - 0.1118 in.)
	Mark 21	2.85 - 2.90 mm (0.1122 - 0.1142 in.)
	Mark 22	2.91 - 2.96 mm (0.1146 - 0.1165 in.)
	Mark 23	2.97 - 3.02 mm (0.1169 - 0.1189 in.)
Coutner gear snap ring thickness		
Front bearing	Mark A	2.05 - 2.10 mm (0.0807 - 0.0827 in.)
	Mark B	2.10 - 2.15 mm (0.0827 - 0.0846 in.)
	Mark C	2.15 - 2.20 mm (0.0846 - 0.0866 in.)
	Mark D	2.20 - 2.25 mm (0.0866 - 0.0886 in.)
	Mark E	2.25 - 2.30 mm (0.0886 - 0.0906 in.)
	Mark F	2.30 - 2.35 mm (0.0906 - 0.0925 in.)
Counter gear snap ring thickness		
No.3 clutch hub	Mark 2	2.06 - 2.11 mm (0.0811 - 0.0831 in.)
	Mark 3	2.12 - 2.17 mm (0.0835 - 0.0854 in.)
	Mark 4	2.18 - 2.23 mm (0.0858 - 0.0878 in.)
	Mark 5	2.24 - 2.29 mm (0.0882 - 0.0902 in.)
Counter gear snap ring thickness		
Rear bearing	Mark 1	1.90 - 1.95 mm (0.0748 - 0.0768 in.)
	Mark 2	1.96 - 2.01 mm (0.0772 - 0.0791 in.)
	Mark 3	2.02 - 2.07 mm (0.0795 - 0.0815 in.)
	Mark 4	2.08 - 2.13 mm (0.0819 - 0.0839 in.)
	Mark 5	2.14 - 2.19 mm (0.0843 - 0.0862 in.)
	Mark 6	2.20 - 2.25 mm (0.0866 - 0.0886 in.)
	Mark 7	2.26 - 2.31 mm (0.0890 - 0.0909 in.)
Oil seal drive in depth		
Front bearing retainer (from retainer end)		12.2 ± 0.5 mm (0.480 ± 0.020 in.)
Extension housing		0 ± 0.5 mm (0 ± 0.020 in.)
Reverse restrict pin drive in depth		16 - 17 mm (0.63 - 0.67 in.)

SS1JV-02

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Transmission x Engine	12 mm bolt	71.6	730	53
	10 mm bolt	37.3	380	27
Engine rear mounting x Transmission		25.5	260	19
Rear engine mounting member	Nut	13.5	138	10
	Bolt	25	255	18
Transmission x Starter		37.3	380	28
Starter wire set nut		9.8	10	7
Clutch release cylinder set bolt		11.7	119	9
Propeller shaft x Differential		74	750	54
Propeller shaft center bearing		49	500	36
Exhaust manifold x Front exhaust pipe		62	630	46
Front exhaust pipe x Pipe support bracket		43	438	32
Center exhaust pipe x Tailpipe		43	438	32
Drain and filler plugs		38	387	28
Exhaust manifold x Engine		40	408	29
Engine cover No. 1 set nut		5.0	51	44 in.·lbf
Shift lever x Control shift lever arm		8.0	82	71 in.·lbf
Back-up light switch clamp set bolt		5.8	59	51 in.·lbf
Back-up light switch		41	410	30
Vehicle speed sensor drain gear set bolt		13	130	9
Clutch housing x Transmission case		38	387	28
Control shift lever retainer x Extension housing		18.5	189	14
Straight screw plug x Control shift lever retainer		24.5	250	18
Restrict pin		41	418	30
Inner lever x Shift and select lever		33	337	24
Extension housing x Intermediate plate		38	387	28
Front bearing retainer x Transmission case		25	255	18
Oil separator x Intermediate plate		18.5	189	14
Straight screw plug x Intermediate plate		25	255	18
No. 1 and No. 2 shift fork set bolt		20	203	15
Reverse idler gear shaft stopper set bolt		25	255	18
Straight screw plug x Reverse shift head		25	255	18
Rear bearing retainer x Intermediate plate		18.5	189	14
Straight screw plug x Extension housing		25	25.5	18

AUTOMATIC TRANSMISSION

SS0C5-13

SERVICE DATA

Line pressure (Wheel locked)		
	Idling	
	D position	390 - 460 kPa (4.0 - 4.7 kgf·cm^2, 57 - 67 psi)
	R position	0
	Stall	
	D position	1,200 - 1,360 kPa (12.2 - 13.8 kgf·cm^2, 174 - 196 psi)
	R position	1,640 - 1,960 kPa (16.7 - 19.8 kgf·cm^2, 238 - 282 psi)
Engine stall revolution (D position)		2,700 ± 150 rpm
Time lag	N → D position	Less than 1.2 seconds
	N → R position	Less than 1.5 seconds
Engine idle speed (N position and A/C OFF)		700 ± 50 rpm
Drive plate runout	Max.	0.20 mm (0.0079 in.)
Torque converter clutch sleeve runout	Max.	0.30 mm (0.0118 in.)
Torque converter clutch installation (Correct distance)		More than 0.1 mm (0.004 in.)
Shift schedule (NORM and PWR mode)		
Differential gear ratio 3.909		
D, 4 position		
(Throttle valve fully opened)	1 → 2	47 - 59 km/h (29 - 37 mph)
	2 → 3	77 - 88 km/h (48 - 55 mph)
	3 → 4	118 - 133 km/h (73 - 83 mph)
	4 → 5	168 - 185 km/h (104 - 115 mph)
	5 → 4	163 - 176 km/h (101 - 109 mph)
	4 → 3	107 - 118 km/h (66 - 73 mph)
	3 → 2	60 - 66 km/h (37 - 41 mph)
	2 → 1	32 - 38 km/h (20 - 24 mph)
(Throttle valve fully closed)	4 → 5	37 - 43 km/h (23 - 27 mph)
	5 → 4	21 - 26 km/h (13 - 16 mph)
3 position		
(Throttle valve fully opened)	1 → 2	47 - 59 km/h (29 - 37 mph)
	2 → 3	77 - 87 km/h (48 - 54 mph)
	4 → 3	123 - 134 km/h (76 - 83 mph)
	3 → 2	60 - 66 km/h (37 - 41 mph)
	2 → 1	32 - 38 km/h (20 - 24 mph)
2 position		
(Throttle valve fully opened)	1 → 2	47 - 59 km/h (29 - 37 mph)
	3 → 2	82 - 90 km/h (51 - 56 mph)
	2 → 1	32 - 38 km/h (20 - 24 mph)
L position		
(Throttle valve fully opened)	2 → 1	17 - 22 km/h (11 - 14 mph)

Shift schedule (SNOW mode)		
Differential gear ratio 3.916		
D, 4 position		
(Throttle valve fully opened)	1 → 2	35 - 49 km/h (22 - 30 mph)
	2 → 3	55 - 73 km/h (34 - 45 mph)
	3 → 4	84 - 109 km/h (52 - 68 mph)
	4 → 5	121 - 151 km/h (75 - 94 mph)
	5 → 4	64 - 88 km/h (40 - 55 mph)
	4 → 3	38 - 54 km/h (24 - 34 mph)
	3 → 2	17 - 31 km/h (11- 19 mph)
(Throttle valve fully closed)	4 → 5	37 - 43 km/h (23 - 27 mph)
	5 → 4	21 - 26 km/h (13 - 16 mph)
3 position		
(Throttle valve fully opened)	1 → 2	35 - 49 km/h (22 - 30 mph)
	2 → 3	55 - 73 km/h (34 - 45 mph)
	4 → 3	123 - 134 km/h (76 - 83 mph)
	3 → 2	17 - 31 km/h (11 - 19 mph)
2 position		
(Throttle valve fully opened)	1 → 2	47 - 59 km/h (29 - 37 mph)
	3 → 2	82 - 90 km/h (51 - 56 mph)
L position		
(Throttle valve fully opened)	2 → 1	17 - 22 km/h (11 - 14 mph)
Lock-up point	(Throttle valve opening 5 %)	
5th gear (D position)	Lock-up ON	53 - 59 km/h (33 - 37 mph)
	Lock-up OFF	52 - 58 km/h (32 - 36 mph)
4th gear (4 position)	Lock-up ON	53 - 59 km/h (33 - 37 mph)
	Lock-up OFF	52 - 58 km/h (32 - 36 mph)
Flex lock-up point		
(Throttle valve opening 3 %)		
D position (When accelerating)		
5th gear	Lock-up ON	37 - 43 km/h (23 - 27 mph)
	Lock-up OFF	36 - 41 km/h (22 - 25 mph)
4th gear	Lock-up ON	28 - 33 km/h (17 - 32 mph)
	Lock-up OFF	27 - 32 km/h (18 - 20 mph)

SS139-04

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Extension housing x Transmission case	34	345	25
Transmission mounting bracket x Extension housing	12	120	9
Engine rear support member x Frame	25	260	19
Engine rear support member x Transmission mounting bracket	12	120	9
Vehicle speed sensor set bolt	5.4	55	48 in.·lbf
O/D direct clutch speed sensor set bolt	5.4	55	48 in.·lbf
AFT temperature sensor connector set bolt	5.4	55	48 in.·lbf
Drain plug	20	205	15
Shift solenoid valve SLU and SLT set bolt	6.4	65	56 in.·lbf
Shift solenoid valve SLN and No. 4 set bolt	10	100	7
Shift solenoid valve clamp set bolt	6.4	65	56 in.·lbf
Shift solenoid valve No. 1 and No. 3	6.4	65	56
Shift solenoid valve No. 2	10	100	7
Shift control rod set nut	13	130	9
Valve body x Transmission case	10	100	7
Oil pan x Transmission case	7.4	75	65 in.·lbf
Oil strainer x Valve body	10	100	7
Parking lock pawl bracket x Transmission case	7.4	75	65 in.·lbf
Control shaft lever set nut	13	130	9
Shift lever guide housing assembly x Shift lever plate	4.9	50	43 in.·lbf
Floor shift lever assembly set bolt	8.3	85	73 in.·lbf
Oil cooler pipe clamp bolt	5.4	55	48 in.·lbf
Oil cooler pipe union nut	44	450	33
Transmission x Engine 14 mm head	37	380	27
Transmission x Engine 17 mm head	72	730	53
Starter x Transmission	37	380	27
Exhaust pipe assembly x Exhaust manifold	62	632	46
Exhaust manifold with TWC x Engine	39	400	29
Pipe support bracket x Transmission	43	438	32
Torque converter clutch x Drive plate	48	490	35
Propeller shaft x Differential	74	750	54
Propeller shaft x Body	49	500	36
Drive plate x Crankshaft	83	850	61

PROPELLER SHAFT

SS132-01

SERVICE DATA

Shaft runout Max.	0.8 mm (0.031 in.)
Joint angle (No. 2 joint)	- 1° 21' ± 30'
Joint angle (No. 3 joint)	2° 18' ± 30'
Center support bearing adjusting washer thickness	2.0 mm (0.079 in.) 4.5 mm (0.177 in.) 6.5 mm (0.256 in.) 9.0 mm (0.354 in.) 11.0 mm (0.433 in.) 13.5 mm (0.531 in.)

SS133-03

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Propeller shaft x Differential		74	750	54
Propeller shaft x Intermediate shaft		74	750	54
Intermediate shaft x Center support bearing x Universal joint flange	1st	181	1,850	134
	2nd	Loosen nut		
	3rd	69	700	51
Center support bearing x Body		49	500	36
Exhaust pipe assembly x Exhaust manifold		62	632	46
Heated oxygen sensor x Exhaust pipe assembly		44	450	33
Pipe support bracket x Transmission		43	438	32

SUSPENSION AND AXLE

SS0FD-11

SERVICE DATA

Cold tire inflation pressure (SEDAN)	Tire size: 215/45ZR17 or P205/55R16 89V	
	Front*1	230 kPa (2.3 kgf/cm^2, 33 psi)
	Rear*1	230 kPa (2.3 kgf/cm^2, 33 psi)
	Front*2	300 kPa (3.0 kgf/cm^2, 44 psi)
	Rear*2	300 kPa (3.0 kgf/cm^2, 44 psi)
Cold tire inflation pressure (WAGON)	Tire size: 215/45ZR17	
	Front*1	230 kPa (2.3 kgf/cm^2, 33 psi)
	Front*2	300 kPa (3.0 kgf/cm^2, 44 psi)
	Tire size: 225/45ZR17	
	Rear*1	240 kPa (2.4 kgf/cm^2, 35 psi)
	Rear*2	310 kPa (3.1 kgf/cm^2, 45 psi)
	Tire size: P205/55R16 89V	
	Front*1	230 kPa (2.3 kgf/cm^2, 33 psi)
	Rear*1	230 kPa (2.3 kgf/cm^2, 33 psi)
	Front*2	300 kPa (3.0 kgf/cm^2, 44 psi)
	Rear*2	320 kPa (3.2 kgf/cm^2, 46 psi)
Front wheel alignment (SEDAN, Canada)	Vehicle height Front: B*4 - A*3	66 mm (2.60 in.)
	Rear: C*5 - D*6	66 mm (2.60 in.)
	Camber	-0°21' ± 30' (-0.35° ± 0.5°)
	Right-left error	30' (0.5°) or less
	Caster	5°46' ± 30' (5.77° ± 0.5°)
	Right-left error	30' (0.5°) or less
	Steering axis inclination	9°16' ± 30' (9.27° ± 0.5°)
	Right-left error	30' (0.5°) or less
	Toe-in (total)	0°06' ± 12' (0.1° ± 0.2°, 1 ± 2 mm, 0.04 ± 0.08 in.)
	Rack end length difference	1.5 mm (0.059 in.) or less
	Wheel angle Inside wheel	41°02' (39°02' – 42°02')
		41.03° (39.03° – 42.03°)
	Outside wheel: Reference	33°30'
		33.5°
Front wheel alignment (SEDAN, Except Canada)	Vehicle height Front: B*4 - A*3	72 mm (2.83 in.)
	Rear: C*5 - D*6	85 mm (3.35 in.)
	Camber	-0°30' ± 30' (-0.5° ± 0.5°)
	Right-left error	30' (0.5°) or less
	Caster	6°07' ± 30' (6.12° ± 0.5°)
	Right-left error	30' (0.5°) or less
	Steering axis inclination	9°25' ± 30' (9.42° ± 0.5°)
	Right-left error	30' (0.5°) or less
	Toe-in (total)	0°06' ± 12' (0.1° ± 0.2°, 1 ± 2 mm, 0.04 ± 0.08 in.)
	Rack end length difference	1.5 mm (0.059 in.) or less
	Wheel angle Inside wheel	41°01' (39°01' – 42°01')
		41.02° (39.02° – 42.02°)
	Outside wheel: Reference	33°23'
		33.38°

Front wheel alignment (WAGON, Canada)	Vehicle height Front: B*4 - A*3 Rear: C*5 - D*6	56 mm (2.20 in.) 58 mm (2.28 in.)
	Camber Right-left error	-0°05' ± 30' (-0.08° ± 0.5°) 30' (0.5°) or less
	Caster Right-left error	5°31' ± 30' (5.52° ± 0.5°) 30' (0.5°) or less
	Steering axis inclination Right-left error	8°59' ± 30' (8.98° ± 0.5°) 30' (0.5°) or less
	Toe-in (total) Rack end length difference	0°06' ± 12' (0.1° ± 0.2°, 1 ± 2 mm, 0.04 ± 0.08 in.) 1.5 mm (0.059 in.) or less
	Wheel angle Inside wheel Outside wheel: Reference	41°03' (39°03' – 42°03') 41.05° (39.05° – 42.05°) 33°40' 33.6°
Front wheel alignment (WAGON, Except Canada)	Vehicle height Front: B*4 - A*3 Rear: C*5 - D*6	66 mm (2.60 in.) 66 mm (2.60 in.)
	Camber Right-left error	-0°21' ± 30' (-0.35° ± 0.5°) 30' (0.5°) or less
	Caster Right-left error	5°46' ± 30' (5.77° ± 0.5°) 30' (0.5°) or less
	Steering axis inclination Right-left error	9°16' ± 30' (9.27° ± 0.5°) 30' (0.5°) or less
	Toe-in (total) Rack end length difference	0°06' ± 12' (0.1° ± 0.2°, 1 ± 2 mm, 0.04 ± 0.08 in.) 1.5 mm (0.059 in.) or less
	Wheel angle Inside wheel Outside wheel: Reference	41°02' (39°02' – 42°02') 41.03° (39.03° – 42.03°) 33°30' 33.5°
Rear wheel alignment (SEDAN, Canada)	Camber Right-left error	-0°23' ± 30' (-0.38° ± 0.5°) 30' (0.5°) or less
	Toe-in (total) Right and left length difference	0°12' ± 12' (0.2° ± 0.2°, 2 ± 2 mm, 0.08 ± 0.08 in.) 4.0 mm (0.157 in.) or less
Rear wheel alignment (SEDAN, Except Canada)	Camber Right-left error	-0°55' ± 30' (-0.92° ± 0.5°) 30' (0.5°) or less
	Toe-in (total) Right and left length difference	0°12' ± 12' (0.2° ± 0.2°, 2 ± 2 mm, 0.08 ± 0.08 in.) 4.0 mm (0.157 in.) or less
Rear wheel alignment (WAGON, Canada)	Camber Right-left error	-0°04' ± 30' (-0.07° ± 0.5°) 30' (0.5°) or less
	Toe-in (total) Right and left length difference	0°12' ± 12' (0.2° ± 0.2°, 2 ± 2 mm, 0.08 ± 0.08 in.) 4.0 mm (0.157 in.) or less
Rear wheel alignment (WAGON, Except Canada)	Camber Right-left error	-0°23' ± 30' (-0.38° ± 0.5°) 30' (0.5°) or less
	Toe-in (total) Right and left length difference	0°12' ± 12' (0.2° ± 0.2°, 2 ± 2 mm, 0.08 ± 0.08 in.) 4.0 mm (0.157 in.) or less

*1: For driving under 160 km/h (100 mph)
*2: For driving at 160 km/h (100 mph) or over
*3: Ground clearance of the front No .1 lower suspension arm mounting bolt center.
*4: Ground clearance of the front wheel center.
*5: Ground clearance of the rear wheel center.
*6: Ground clearance of the No. 2 lower suspension arm mounting bolt (Suspension member side) tail center.

Front axle	Wheel bearing backlash	Maximum	0.05 mm (0.0020 in.)
	Axle hub deviation	Maximum	0.05 mm (0.0020 in.)
Front suspension	Upper ball joint turning torque		1.0 - 3.4 N·m (10 - 35 kgf·cm, 9 - 30 in.·lbf)
	Lower ball joint excessive play	Maximum	0.9 mm (0.035 in.)
	Lower ball joint turning torque		0.5 - 3.0 N·m (5 - 30 kgf·cm, 0.4 - 26 in.·lbf)
	Stabilizer bar link ball joint turning torque		0.05 - 1.9 N·m (0.5 - 20 kgf·cm, 0.4 - 16 in.·lbf)
Rear axle	Wheel bearing backlash	Maximum	0.05 mm (0.0020 in.)
	Axle hub deviation	Maximum	0.07 mm (0.0028 in.)
Rear drive shaft	Drive shaft standard length		RH: 585.4 ± 5.0 mm (23.047 ± 0.197 in.) LH: 539.8 ± 5.0 mm (21.252 ± 0.197 in.)
Rear suspension	Upper ball joint turning torque		1.0 - 2.9 N·m (10 - 30 kgf·cm, 9 - 26 in.·lbf)
	Toe control link ball joint turning torque		1.0 - 2.5 N·m (10 - 25 kgf·cm, 9 - 22 in.·lbf)
	Stabilizer bar link ball joint turning torque		0.05 - 1.0 N·m (0.5 - 10 kgf·cm, 0.4 - 9.0 in.·lbf)
Rear differential	Companion flange vertical runout	Maximum	0.09 mm (0.0035 in.)
	Companion flange lateral runout	Maximum	0.09 mm (0.0035 in.)
	Ring gear runout	Maximum	0.07 mm (0.0028 in.)
	Ring gear backlash	Maximum	0.13 - 0.18 mm (0.0051 - 0.0071 in.)
	Drive pinion bearing (at starting)	New bearing Reused bearing	0.98 - 1.57 N·m (10 - 16 kgf·cm, 8.7 - 13.9 in.·lbf) 0.49 - 0.78 N·m (5 - 8 kgf·cm, 4.3 - 6.9 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.39 - 0.59 N·m (4 - 6 kgf·cm, 3.5 - 5.2 in.·lbf)
	Side gear backlash (2 pinion differential)		0.05 - 0.20 mm (0.0020 - 0.0079 in.)
	Differential case runout	Maximum	0.07 mm (0.0028 in.)
	Side gear shaft oil seal drive in depth		0 ± 0.50 mm (0 ± 0.0197 in.)
	Front oil seal drive in depth		2.00 ± 0.45 mm (0.0787 ± 0.0177 in.)
	Right and left side gear shafts standard distance		279.7 mm (11.012 in.) or less
	Pinion gear backlash adjusting thrust washer		1.6 mm (0.062 in.) 1.7 mm (0.067 in.) 1.8 mm (0.071 in.)
Rear differential	Drive pinion bearing adjusting washer thickness		1.70 mm (0.0669 in.) 1.73 mm (0.0681 in.) 1.76 mm (0.0693 in.) 1.79 mm (0.0704 in.) 1.82 mm (0.0717 in.) 1.85 mm (0.0729 in.) 1.88 mm (0.0740 in.) 1.91 mm (0.0752 in.) 1.94 mm (0.0764 in.) 1.97 mm (0.0776 in.) 2.00 mm (0.0787 in.) 2.03 mm (0.0799 in.) 2.06 mm (0.0811 in.) 2.09 mm (0.0822 in.) 2.12 mm (0.0835 in.) 2.15 mm (0.0847 in.) 2.18 mm (0.0858 in.) 2.21 mm (0.0870 in.) 2.24 mm (0.0882 in.) 2.27 mm (0.0894 in.) 2.30 mm (0.0906 in.) 2.33 mm (0.0918 in.)

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

SS0FE-12

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
FRONT AXLE			
Hub nut	103	1,050	76
Brake caliper x Steering knuckle	118	1,200	87
ABS speed sensor x Steering knuckle	8.0	82	71 in.·lbf
Steering knuckle x Upper suspension arm	65	660	50
Steering knuckle x Lower ball joint	113	1,150	83
Brake dust cover x Steering knuckle	8.3	85	74 in.·lbf
Tie rod end lock nut	56	570	41
Axle hub lock nut	147	1,500	108
FRONT SUSPENSION			
Height control sensor link x Lower arm bracket	5.4	55	48 in.·lbf
ABS speed sensor wire harness x Shock absorber	5.0	51	44 in.·lbf
Stabilizer bar x Stabilizer bar link	74	755	55
Shock absorber x Shock absorber bracket	64	650	47
Piston rod x Suspension support	34	350	25
Suspension support x Body	35	360	26
Upper suspension arm x Body	59	600	44
No. 1 lower suspension arm x Front suspension member	184	1,880	136
Steering gear housing bracket x Front suspension member	74	755	55
Front suspension member brace x No. 2 lower suspension arm x Body	119	1,210	88
Front suspension member brace x Body	58	590	43
Front suspension member brace x Front suspension member	58	590	43
Stabilizer bar link x Shock absorber bracket	95	970	70
No. 1 lower suspension arm x No. 2 lower suspension arm	245	2,500	180
No. 1 lower suspension arm x Lower ball joint	123	1,250	91
Shock absorber bracket x No. 1 lower suspension arm	25	250	18
Tie rod end x Lower ball joint	54	550	40
Stabilizer bar bracket x Body	23	235	17
REAR AXLE			
Hub nut	103	1,050	76
Brake caliper x Axle carrier	104	1,065	77
Axle carrier x Upper suspension arm	108	1,100	80
Backing plate x Axle carrier	59	600	43
No.2 lower suspension arm x Axle carrier	110	1,120	81
No.1 lower suspension arm x Axle carrier	75	765	55
Toe control link x Axle carrier	49	500	36
ABS speed sensor x Axle carrier	8.0	82	71 in.·lbf
Parking brake cable x Backing plate	7.8	80	69 in.·lbf
REAR DRIVE SHAFT			
Drive shaft x Axle hub	289	2,950	213
Drive shaft x Differential side gear shaft	68	695	50
REAR DIFFERENTIAL			
Differential drain plug	49	500	36

Differential filler plug		49	500	36
Differential mounting bolt	Front	95	970	71
	Rear	142	1,450	105
Ring gear set bolt		97	985	71
Companion flange lock nut		See page SA-88		
Differential carrier cover set bolt		47	475	34
Breather plug		21	210	15
Rear suspension member brace set bolt		50	510	37
Center exhaust pipe x Tailpipe		43	440	32
Front exhaust pipe x Exhaust pipe assembly		62	632	46
Heated oxygen sensor		44	450	33
Propeller shaft center support bearing set bolt		49	500	36
Propeller shaft assembly x Rear differential		74	750	54
Differential carrier x Bearing cap		85	870	63
Oil deflector x Differential carrier cover		8.0	82	71 in.·lbf
Rear suspension member x Body		127	1,300	94
Rear suspension member stopper x Body		19	195	14
Rear suspension member lower brace x Body		19	195	14
Parking brake cable x Body		7.8	80	69 in.·lbf
REAR SUSPENSION				
Height control sensor link x Lower arm bracket		5.4	55	48 in.·lbf
Rear seat belt assembly outer x Body		42	430	31
Rear seatback assembly x Body		18	185	13
Suspension support x Body	Upper side	64	650	47
	Lower side	18	185	13
Piston rod x Suspension support		18	185	13
Upper suspension arm x Body	Front side	88	900	65
	Rear side	74	755	55
No. 1 lower suspension arm x Body		75	765	55
No. 2 lower suspension arm x Stabilizer bar link		30	305	22
No. 2 lower suspension arm x Shock absorber		110	1,120	81
No. 2 lower suspension arm x Rear suspension member		110	1,120	81
ABS speed sensor wire harness x Toe control link		5.0	51	44 in.·lbf
Toe control link x Rear suspension member		49	500	36
Stabilizer bar x Stabilizer bar link		65	663	48
Stabilizer bar bracket x Suspension member		18	185	13

BRAKE

SS062-22

SERVICE DATA

Brake pedal height (from asphalt sheet)		154.0 - 164.0 mm (6.063 - 6.457 in.)
Brake pedal freeplay		1.0 - 6.0 mm (0.04 - 0.24 in.)
Stop light switch crearance		1.5 - 2.5 mm (0.059 - 0.098 in.)
Brake pedal reserve distance at 490 N (50 kgf, 110.2 lbf)		More than 99 mm (3.90 in.)
Brake booster push rod to piston clearance (w/ SST)		0 mm (0 in.)
Front brake pad thickness	STD	11.0 mm (0.433 in.)
Front brake pad thickness	Minimum	1.0 mm (0.039 in.)
Front brake disc thickness	STD	32.0 mm (1.260 in.)
Front brake disc thickness	Minimum	30.0 mm (1.181 in.)
Front brake disc runout	Maximum	0.05 mm (0.0020 in.)
Rear brake pad thickness	STD	10.5 mm (0.413 in.)
Rear brake pad thickness	Minimum	1.0 mm (0.039 in.)
Rear brake disc thickness	STD	12.0 mm (0.472 in.)
Rear brake disc thickness	Minimum	10.5 mm (0.413 in.)
Rear brake disc runout	Maximum	0.05 mm (0.0020 in.)
Rear brake disc inside diameter	STD	190 mm (7.48 in.)
Rear brake disc inside diameter	Maximum	191 mm (7.52 in.)
Parking brake shoe lining thickness for rear disc brake	STD	2.5 mm (0.098 in.)
Parking brake shoe lining thickness for rear disc brake	Minimum	1.0 mm (0.039 in.)
Parking brake pedal lever at 196 N (20 kgf, 44.1 lbf)		5 - 8 clicks
Parking brake clearance between rear shoe and lever		Less than 0.35 mm (0.0138 in.)
Parking brake adjusting shim thickness for rear disc brake		0.3 mm (0.012 in.) 0.6 mm (0.024 in.) 0.9 mm (0.035 in.)

SS063-24

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Master cylinder x Brake booster	13	130	9
Master cylinder x Piston stopper bolt	10	102	7
Brake line union nut	15	155	11
Brake booster clevis lock nut	25	260	19
Brake booster x Pedal bracket	13	130	9
Bleeder plug (Brake caliper)	11	110	8
Bleeder plug (ABS & TRAC / VSC actuator)	8.3	85	74 in.·lbf
Brake pedal x pedal bracket	37	377	27
Reservoir set screw	1.8	18	16 in.·lbf
Front brake caliper installation bolt	34	350	25
Front disc brake caliper x Flexible hose	30	310	22
Front disc brake torque plate x Steering knuckle	118	1,200	87
Rear disc brake caliper x Flexible hose	30	310	22
Rear disc brake caliper x Rear axle carrier	104	1,065	77
ABS & TRC Actuator x Actuator Bracket	5.4	55	48 in.·lbf
ABS & TRC Actuator Assembly x Body	19	195	14
Front speed sensor installation bolt	8.0	82	71 in.·lbf
Front speed sensor harness clamp bolt	5.0	51	44 in.·lbf
Rear speed sensor installation bolt	8.0	82	71 in.·lbf
Rear speed sensor harness x Body	5.0	51	44 in.·lbf
Rear speed sensor harness x Toe control link	5.0	51	44 in.·lbf

STEERING

SERVICE DATA

SS0MY-18

POWER STEERING FLUID		
Fluid level rise	Maximum	5 mm (0.20 in.)
Fluid pressure at idle speed with valve closed	Minimum	6,900 kPa (70 kgf/cm^2, 996 psi)
STEERING WHEEL		
Steering wheel freeplay	Maximum	30 mm (1.18 in.)
Steering effort at idle speed		4.2 - 5.4 N·m (43 - 55 kgf·cm, 37 - 48 in.lbf)
POWER STEERING VANE PUMP		
Vane pump rotating torque		0.25 N·m (2.5 kgf·cm, 2.2 in.·lbf) or less
Vane pump shaft and front housing bushing oil clearance	STD	0.03 - 0.05 mm (0.0012 - 0.0020 in.)
	Maximum	0.07 mm (0.0028 in.)
Vane plate height	Minimum	8.6 mm (0.339 in.)
Vane plate thickness	Minimum	1.40 mm (0.0551 in.)
Vane plate length	Minimum	14.99 mm (0.5902 in.)
Vane plate and vane pump rotor groove clearance	Maximum	0.033 mm (0.0013 in.)
Vane plate length	Pump rotor and cam ring mark	
	None	14.999 - 15.001 mm (0.59051 - 0.59059 in.)
	1	14.997 - 14.999 mm (0.59043 - 0.59051 in.)
	2	14.995 - 14.997 mm (0.59035 - 0.59043 in.)
	3	14.993 - 14.995 mm (0.59027 - 0.59035 in.)
	4	14.991 - 14.993 mm (0.59020 - 0.59027 in.)
Spring free length	Minimum	33.2 mm (1.307 in.)
POWER STEERING GEAR		
Steering rack runout	Maximum	0.15 mm (0.0059 in.)
Total preload	Turning	1.2 - 1.7 N·m (12.2 - 17.3 kgf·cm, 10.6 - 15.0 in.·lbf)

SS136-04

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
TILT STEERING COLUMN				
Tilt steering shaft		20	210	15
Turn signal bracket set bolt		2.9	30	26 in.·lbf
Column protector set bolt		6.1	60	52 in.·lbf
Column tube support x Column tube		15	150	11
No. 2 intermediate shaft assembly x Main shaft assembly		35	360	26
Steering column assembly set nut		26	270	19
Sliding yoke x No. 2 intermediate shaft assembly		35	360	26
Sliding yoke x Control valve shaft		35	360	26
Steering wheel set nut		50	510	37
Steering wheel pad set screw (Torx screw)		8.8	90	78 in.·lbf
POWER STEERING VANE PUMP				
Rear housing		24	240	17
Pressure port union		83	850	61
Oil reservoir	Front side	13	130	9
	Rear side	24	240	17
Vane pump pulley set nut		44	450	33
Vane pump assembly set bolt		58	590	43
Pressure feed tube x PS vane pump assembly		49	500	36
POWER STEERING GEAR				
Cylinder end stopper		59	600	44
Bearing guide nut		25	250	18
Control valve housing x Rack housing		18	180	13
Rack guide spring cap lock nut		50 (69)	510 (700)	37 (51)
Rack x Rack end		76 (103)	780 (1,050)	56 (76)
Tie rod end lock nut		56	570	41
Turn pressure tube union nut		22 (25)	220 (250)	16 (18)
PS gear assembly set bolt		74	750	54
Return tube x PS gear assembly		40 (44)	410 (450)	30 (33)
Pressure feed tube x PS gear assembly		42	430	31
Front suspension member brace	Bolt A	119	1,210	88
	Bolt B	58	590	43
Sliding yoke x Control valve shaft		35	360	26
Tie rod end x Steering knuckle		54	550	40
Front brake caliper x Steering knuckle		118	1,200	87
Steering wheel set nut		50	510	37

( ): For use without SST

SUPPLEMENTAL RESTRAINT SYSTEM

SS061-63

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Steering wheel	50	510	37
Steering wheel pad	8.8	90	78 in.·lbf
Front passenger airbag assembly x Instrument panel	5.4	55	48 in.·lbf
Front passenger airbag assembly x Instrument panel reinforcement	20	205	15
Front seat installation bolt	37	375	27
Seatback assembly x Seat cushion assembly	43	440	32
Front seat airbag door x Seat back assembly	4.7	48	42 in.·lbf
Airbag sensor assembly	20	205	15
Front airbag sensor	8.5	86.7	75 in.·lbf
Side and curtain shield airbag sensor assembly	20	205	15
Curtain shield airbag assembly x Body	9.8	100	86 in.·lbf

BODY ELECTRICAL

SS0CN-27

SERVICE DATA

AUTOMATIC LIGHT CONTROL SENSOR	
1 - Ground (Ignition switch LOCK or ACC)	No voltage
1 - Ground (Ignition switch ON)	9.5 V or more
SPEEDOMETER (ON-VEHICLE)	
Standard indication (mph) USA Models	Allowable range (mph)
20	18.5 - 21.5
40	38 - 41.5
60	58 - 62
80	77.5 - 82
100	97 - 102
120	116.5 - 122
140	136 - 142
Standard indication (km/h) CANADA Models	Allowable range (km/h)
20	18 - 23
40	40 - 44
60	60 - 64.5
80	80 - 85
100	100 - 105
120	120 - 125.5
140	140 - 146
160	160 - 169
180	180 - 188
200	200 - 209
220	220 - 230
240	240 - 251
Speedometer	Resistance (Ω)
A - B	160 Ω
C - D	160 Ω
TACHOMETER (ON-VEHICLE)/ DC 13.5 V 25 ˚C at (77 ˚F)	
Standard indication	Allowable range
700	630 - 770
1,000	900 - 1,100
2,000	1,850 - 2,150
3,000	2,800 - 3,200
4,000	3,800 - 4,200
5,000	4,800 - 5,200
6,000	5,750 - 6,250
7,000	6,700 - 7,300
8,000	7,700 - 8,300
Tachometer	Resistance (Ω)
A - B	160 Ω
C - D	160 Ω

FUEL RECEIVER GAUGE	Resistance (Ω)
A - B	160 Ω
C - D	160 Ω
FUEL MAIN SENDER GAUGE	
Float position mm (in.)	Resistance (Ω)
F: Approx. 22.9 (0.90) ± 3 (0.12)	Approx. 2.0 ± 1.0
1/2: Approx. 58.3 (2.30) ± 3 (0.12)	Approx. 30.3 ± 3.0
E: Approx. 133.6 (5.26) ± 3 (0.12)	Approx. 55.0 ± 1.0
FUEL SUB SENDER GAUGE	
Float position mm (in.)	Resistance (Ω)
F: Approx. 29.1 (1.15) ± 3 (0.12)	Approx. 2.0 ± 1.0
1/2: Approx. 65.8 (2.59) ± 3 (0.12)	Approx. 29.7 ± 3.0
E: Approx. 169.5 (6.67) ± 3 (0.12)	Approx. 55 ± 1.0
ENGINE COOLANT TEMPERATURE RECEIVER GAUGE (Resistance)	Resistance (Ω)
A - B	160 Ω
C - D	160 Ω
VOLTAGE GAUGE (Resistance)	Resistance (Ω)
A - B	160
C - D	160
SPECIFIC FUEL CONSUMPTION GAUGE (Resistance)	Resistance (Ω)
A - B	160
C - D	160

BODY

TORQUE SPECIFICATION

SS137-07

Part tightened	N·m	kgf·cm	ft·lbf
FRONT BUMPER			
Front bumper cover x Front fender panel	5.4	55	48 in.·lbf
REAR BUMPER (Sedan)			
Rear bumper cover x Side mounting bracket	5.4	55	48 in.·lbf
Rear bumper cover x Rear fender panel	5.4	55	48 in.·lbf
Rear bumper cover x Body Nut	8.3	85	74 in.·lbf
Rear bumper reinforcement x Body	6.0	61	53 in.·lbf
HOOD			
Hood x Hood hinge	13	133	10
Hood lock x Body	8.0	82	71 in.·lbf
FRONT DOOR			
Outside handle x Key cylinder	5.5	56	49 in.·lbf
Outside handle x Door panel	5.5	56	49 in.·lbf
Door lock x Door panel	5.5	56	49 in.·lbf
Window regulator x Door panel	8.0	82	71 in.·lbf
Door glass x Window regulator	5.5	56	49 in.·lbf
Outside rear view mirror x Door panel	8.0	82	71 in.·lbf
Front No.2 speaker x Body	8.0	82	71 in.·lbf
Door hinge x Body	30	306	22
Door hinge x Door panel	30	306	22
Door check x Door panel	5.5	56	49 in.·lbf
Door lock striker x Body	23	235	17
REAR DOOR			
Outside handle x Door panel	5.5	56	49 in.·lbf
Door lock x Door panel	5.5	56	49 in.·lbf
Window regulator x Door panel	8.0	82	71 in.·lbf
Door hinge x Body	21	214	15
Door hinge x Door panel	30	306	22
Door check x Door panel	5.5	56	49 in.·lbf
Door lock striker x Body	23	235	17
BACK DOOR			
Back door lock x Body	12.5	128	9
Door hinge x Door panel	8.0	82	71 in.·lbf
Door hinge x Body	11.5	117	8
Door lock striker x Body	23	235	17
Back door outside handle x Back door outside garnish	4.0	40	35 in.·lbf
BACK DOOR STAY			
Back door stay x Door panel	22	224	16
Back door stay x Body	19.5	199	14
LUGGAGE COMPARTMENT DOOR AND HINGE			
Door lock striker x Body	5.5	56	49 in.·lbf
Luggage compartment door x Hinge	8.0	82	71 in.·lbf

Luggage compartment door lock x Body	5.5	56	49 in.·lbf
Luggage compartment door hinge x Body	5.5	56	49 in.·lbf
FRONT WIPER AND WASHER			
Wiper motor x Wiper link	5.4	55	48 in.·lbf
Wiper link assembly x Body	5.5	56	49 in.·lbf
Wiper arm x Wiper link assembly	26	265	19
REAR WIPER AND WASHER (Wagon)			
Wiper arm x Rear wiper motor	5.5	56	49 in.·lbf
Nut x Rear wiper motor	12	122	9
Rear wiper motor x Rear wiper motor	5.5	56	49 in.·lbf
SLIDING ROOF			
Sliding roof housing x Body	5.5	56	49 in.·lbf
Sliding roof bracket x Body	8.0	82	71 in.·lbf
Sliding roof bracket x Sliding roof housing	5.5	56	49 in.·lbf
INSTRUMENT PANEL			
Front passenger airbag assembly x Reinforcement	20	205	15
Front passenger airbag assembly x Instrument panel	5.5	56	49 in.·lbf
ROOF HEADLINING			
Inner rear view mirror x Body	5.5	56	49 in.·lbf
FRONT SEAT			
Seatback assembly x Seat track	43	440	32
Seat cushion assembly x Seat track	21	210	15
Seat track x Body	38	387	28
REAR SEAT (Sedan)			
Seatback assembly x Body	7.8	80	69 in.·lbf
REAR SEAT (Wagon)			
Seatback x Body	21	214	15
SEAT BELT			
Front seat outer belt:			
Shoulder anchor x Adjuster anchor	41	420	30
Floor anchor x Body	41	420	30
Retractor x Body Upper bolt	7.8	80	69 in.·lbf
Adjustable anchor x Body	41	420	30
Inner belt x Seat track	41	420	30
Rear seat belt (Sedan):			
Shoulder anchor x Body	41	420	30
Floor anchor x Body	41	420	30
Inner belt x Body	41	420	30
Shoulder anchor x Body	41	420	30
Floor anchor x Body	41	420	30
CRS anchor set bolt	21	210	15
Rear Seat Belt (Wagon):			
Floor anchor x Body	42	428	31
Inner belt x Body	42	428	31

Retractor x Body	Floor side: Roof Side:	42	428	31
CRS anchor set bolt		13.2	135	10

AIR CONDITIONING

SERVICE DATA

SS0F5-05

Refrigerant volume		600 ± 50 g (21.16 ± 1.76 oz.)
Idle Speed	Magnetic clutch not engaged	600 ± 50 rpm
	Magnetic clutch engaged	650 ± 50 rpm
Magnetic clutch clearance		0.5 ± 0.15 mm (0.020 ± 0.0059 in.)

SS0F6-04

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
REFRIGERANT LINE			
Condenser x Discharge hose	10	100	7
Condenser x Liquid tube	10	100	7
Compressor x Discharge hose	10	100	7
Compressor x Suction hose	10	100	7
Suction line (Block joint)	10	100	7
A/C unit x Liquid and suction tubes	10	100	7
AIR CONDITIONER UNIT			
Tube connector x Expansion valve x Tube and accessory	4.1	42	36 in.·lbf
Tube and accessory x Evaporator	4.1	42	36 in.·lbf
COMPRESSOR AND MAGNETIC CLUTCH			
Compressor x Engine (Bolt)	52	530	38
Compressor x Engine (Nut)	52	530	38
Compressor x Engine (Stud bolt)	26	265	19
PS pump bracket x Compressor x Engine	52	530	38
PS pump bracket x Compressor bracket Engine	58	590	43
Compressor bracket x Engine	39	400	29
Pump stay x Compressor bracket	39	400	29
Compressor bracket x Compressor	58	590	43
Pressure plate x Compressor	13.2	135	9
CONDENSER			
Cap x Condenser	12.3	125	9
CONDENSER FAN			
Radiator x Cooling fan assembly	5	50	44 in.·lbf
PRESSURE SWITCH			
Pressure switch x Liquid tube	10	100	7
ENGINE COOLANT TEMPERATURE (ECT) SWITCH			
Engine coolant temperature (ECT) switch x Radiator	7.4	75	65 in.·lbf