AIR CONDITIONING

SS0O3-03

SERVICE DATA

Refrigerant charge volume	Single A/C	650 ± 50 g (22.93 ± 1.76 oz.)
	Dual A/C	1,050 ± 50 g (37.03 ± 1.76 oz.)
Idle speed	Magnetic clutch not engaged	700 ± 50 rpm
	Magnetic clutch engaged	780 ± 50 rpm
Magnetic clutch clearance		0.5 ± 0.15 mm (0.020 ± 0.0059 in.)

SS0O4-04

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Condenser x Discharge tube		5.4	55	48 in.·lbf
Condenser x Liquid tube		10	100	7
Compressor x Discharge hose		10	100	7
Compressor x Suction hose		10	100	7
Expansion valve x Evaporator		3.4	35	30
Liquid line (Block joint)		10	100	7
Liquid line (Piping line)		14	140	10
Discharge line (Piping joint)		22	225	16
Suction line (Block joint)		10	100	7
Suction line (Piping joint)	5/8”	32	330	24
	3/4”	42	425	31
Compressor x Cylinder block		49	500	36

AUTOMATIC TRANSMISSION

SS0OO-02

SERVICE DATA

A750F		
Line pressure (Wheel locked)		
	Engine idling	
	D position	362 - 420 kPa (3.7 - 4.3 kgf·cm^2, 53 - 61 psi)
	R position	500 - 580 kPa (5.1 - 5.9 kgf·cm^2, 73 - 84 psi)
	AT stall (Throttle valve fully opened)	
	D position	1,360 - 1,460kPa (13.9 - 14.9 kgf·cm^2, 197 - 212 psi)
	R position	1,295 - 1,415 kPa (13.2 - 14.4 kgf·cm^2, 188 - 205 psi)
Engine stall revolution	D and R positions	2,150 ± 150 rpm
Time lag	N → D position	Less than 1.2 seconds
	N → R position	Less than 1.5 seconds
Engine idle speed (A/C OFF)	N position	700 ± 50 rpm
Drive plate runout	Max.	0.20 mm (0.0079 in.)
Torque converter runout	Max.	0.30 mm (0.0118 in.)
Torque converter clutch installation distance		More than 17.1 mm (0.673 in.)
Shift schedule		
D position		
(Throttle valve fully opened)	1 → 2	45 - 57 km/h (28 - 35 mph)
	2 → 3	79 - 90 km/h (49 - 56 mph)
	3 → 4	113 - 128 km/h (70 - 80 mph)
	4 → 5	165 - 180 km/h (103 - 112 mph)
	5 → 4	158 - 173 km/h (98 - 108 mph)
	4 → 3	105 - 117 km/h (65 - 73 mph)
	3 → 2	70 - 78 km/h (43 - 48 mph)
	2 → 1	35 - 41 km/h (22 - 25 mph)
(Throttle valve fully closed)	4 → 5	32 - 38 km/h (20 - 24 mph)
	5 → 4	24 - 29 km/h (15 - 18 mph)
3 position		
(Throttle valve fully opened)	1 → 2	45 - 57 km/h (28 - 35 mph)
	2 → 3	79 - 90 km/h (49 - 56 mph)
	4 → 3	119 - 132 km/h (74 - 82 mph)
	3 → 2	70 - 78 km/h (43 - 48 mph)
	2 → 1	35 - 41 km/h (22 - 25 mph)
2 position		
(Throttle valve fully opened)	1 → 2	45 - 57 km/h (28 - 35 mph)
	3 → 2	80 - 88 km/h (50 - 55 mph)
	2 → 1	35 - 41 km/h (22 - 25 mph)
L position		
(Throttle valve fully opened)	2 → 1	41 - 47 km/h (25 - 29 mph)
Lock-up point	Throttle valve opening 5 %	
D position		
5th gear	Lock-up ON	67 - 74 km/h (42 - 46 mph)
	Lock-up OFF	60 - 67 km/h (37 - 42 mph)
4 position		
4th gear	Lock-up ON	61 - 68 km/h (38 - 42 mph)
	Lock-up OFF	54 - 61 km/h (34 - 38 mph)

SS0OP-02

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
No.1 vehicle speed sensor x Transfer case		16	160	12
No.2 vehicle speed sensor x Transmission case	NT	5.4	55	48 in.·lbf
	SP2	5.4	55	48 in.·lbf
ATF temperature sensor (for linear control) x Valve body		11	112	8
ATF temperature sensor (for oil temp warning lamp) x Valve body		10	100	7
ATF temperature sensor x Transmission case		5.4	55	48 in.·lbf
Park/neutral position switch	Bolt	13	130	9
	Nut	3.9	40	35 in.·lbf
Transmission control shaft lever x Transmission control rod		13	130	9
Shift solenoid lock plate x Valve body		6.4	65	57 in.·lbf
Shift solenoid S1 S2 x Valve body		10	102	7
Shift solenoid SR x Valve body		6.4	65	57 in.·lbf
Valve body x Transmission case		11	110	8
Oil stainer x Valve body		10	100	7
Oil pan x Transmission case		4.4	55	39 in.·lbf
Drain plug x Oil pan		20	205	15
Parking lock pawl bracket x Transmission case		7.4	75	65 in.·lbf
Shift lever assembly x Body		8.3	85	73 in.·lbf
Control lever x Shift lever plate		13	130	9
Transmission control rod x Shift lever assembly		13	130	9
Shift lever guide housing x Shift lever plate		4.9	50	43 in.·lbf
Power steering oil cooler sub-assy x Body		7.5	76	66 in.·lbf
Oil cooler bracket x Body		12	117	8
Oil cooler bracket x Oil cooler		4.9	50	43 in.·lbf
Oil cooler pipe x Body		4.9	50	43 in.·lbf
Oil filler pipe		12	122	9
Transfer shift lever x Transfer shift lever rod assembly		12	122	9
Transfer shift lever boot x Body		5.4	55	48 in.·lbf
Hole plug x Transmission housing		18	185	13
Drive plate x Torque converter clutch		48	490	35
Oil cooler pipe union nut		34	347	25
Crossmember	Bolt	50	510	37
	Nut	74	750	54
Engine mounting insulator rear x Transmission case		59	600	43
Transmission housing x Engine	Bolt A	71	724	52
	Bolt B	37	377	27
Drive plate x Crankshaft	1st	49	500	36
	2nd	Turn 90°	Turn 90°	Turn 90°

BODY ELECTRICAL

SS0CN-30

SERVICE DATA

AUTOMATIC LIGHT CONTROL SENSOR	
(Connector disconnected)	
3 - Ground (Ignition switch ON)	5.2 - 9.0V
TURN SIGNAL FLASHER	
1 - Ground (Ignition switch LOCK or ACC)	No voltage
1 - Ground (Ignition switch ON)	Battery positive voltage
4 - Ground (Constant)	Battery positive voltage
SPEEDOMETER (ON-VEHICLE)	
USA:	
Standard indication (mph)	Allowable range (mph)
20	18 - 24
40	38 - 44
60	56 - 66
80	78 - 88
100	98 - 110
120	118 - 132
CANADA:	
Standard indication (km/h)	Allowable range (km/h)
20	17 - 24
40	38 - 46
60	57.5 - 67
80	77 - 88
100	96 - 109
120	115 - 130
140	134 - 151.5
160	153 - 173
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
FUEL SENDER GAUGE	
Float position mm (in.)	Voltage (V)
F: Approx. 85.3 (3.36)	Approx. 0.30 ± 0.1
1/2: Approx. 1.7 (0.76)	Approx. 2.45 ± 0.1
E: Approx. 9.19 (3.62)	Approx. 4.60 ± 0.1
DEFOGGER SWITCH (w/ Navigation)	
B22 - Ground (Ignition switch LOCK or ACC)	No voltage

B22 - Ground (Ignition switch ON)	Battery positive voltage
A10 - Ground (Constant)	Battery positive voltage
DEFOGGER SWITCH (w/o Navigation)	
8 - Ground (Ignition switch LOCK or ACC)	No voltage
8 - Ground (Ignition switch ON)	Battery positive voltage
2 - Ground (Constant)	Battery positive voltage
SLIDING ROOF CONTROL ASSEMBLY	
5 - Ground (Constant)	Battery positive voltage
8 - Ground (Ignition switch LOCK or ACC)	No voltage
8 - Ground (Ignition switch ON)	Battery positive voltage
POWER MIRROR SWITCH	
4 - Ground (Ignition switch LOCK)	No voltage
4 - Ground (Ignition switch ACC or ON)	Battery positive voltage
POWER SEAT SWITCH (Driver's Seat)	
11 - Ground (Constant)	Battery positive voltage
POWER SEAT SWITCH (Passenger's Seat)	
11 - Ground (Constant)	Battery positive voltage
LUMBAR SUPPORT SWITCH (Driver's Seat)	
POWER MIRROR SWITCH (Wire harness side)	
4 - Ground (Ignition switch is LOCK)	No voltage
4 - Ground (Ignition switch is ACC or ON)	Battery positive voltage
POWER AMPLIFIER	
7 - Ground (Constant)	Battery positive voltage
16 - Ground (Constant)	Battery positive voltage
REAR SEAT AUDIO	
24 - Ground (Ignition switch LOCK)	No voltage
24 - Ground (Ignition switch ACC or ON)	Battery positive voltage
12 - Ground (Constant)	Battery positive voltage
DVD CHANGER	
1 - Ground (Ignition switch LOCK)	No voltage
1 - Ground (Ignition switch ACC or ON)	Battery positive voltage
10 - Ground (Constant)	Battery positive voltage
RADIO RECEIVER	
A1 - Ground (Ignition switch LOCK)	No voltage
A11 - Ground (Ignition switch ACC or ON)	Battery positive voltage
A11 - Ground (Constant)	Battery positive voltage
ANTENNA MOTOR CONTROL RELAY	
4 - Ground (Constant)	Battery positive voltage
7 - Ground (Ignition switch ACC or LOCK)	No voltage
7 - Ground (Ignition switch ON)	Battery positive voltage
17 - Ground (Ignition switch LOCK)	No voltage
17 - Ground (Ignition switch ACC or ON)	Battery positive voltage
OVERHEAD J/B	
8 - Ground (Constant)	Battery positive voltage

11 - Ground (Ignition switch OFF or ACC)	No voltage
11 - Ground (Ignition switch ON)	Battery positive voltage

BODY

TORQUE SPECIFICATION

SS0OL-11

Part tightened	N·m	kgf·cm	ft·lbf
FRONT BUMPER	-	-	-
Front bumper cover x Body Bolt:	8.5	87	76 in.·lbf
Front bumper cover x Body Screw:	3.0	31	27 in.·lbf
Fog light x Front bumper cover	4.9	50	43 in.·lbf
Front bumper reinforcement x Body	58	590	43
REAR BUMPER	-	-	-
Rear bumper cover x Body	20	204	15
Reflex reflector x Rear bumper cover	4.9	50	43 in.·lbf
Rear bumper step reinforcement x Extension mounting bracket	12.5	127	11
Extension mounting bracket x Body	19	195	14
Rear bumper reinforcement x Body	20	204	15
HOOD	-	-	-
Hood x Hood side hinge	18	185	13
FRONT DOOR	-	-	-
Door glass x Window regulator	8.0	82	71 in.·lbf
Window regulator x Door panel	8.0	82	71 in.·lbf
Door lock x Door panel	5.0	51	44 in.·lbf
Outside handle x Door panel	5.0	51	44 in.·lbf
Door lock cylinder x Outside handle	5.0	51	44 in.·lbf
Door hinge x Body	23	235	17
Door hinge x Door panel	26	265	19
Door check x Door panel	5.0	51	44 in.·lbf
Door check x Body	27	275	20
Door lock striker x Body	11	115	8
REAR DOOR	-	-	-
Door glass x Window regulator	8.0	82	71 in.·lbf
Window regulator x Door panel	8.0	82	71 in.·lbf
Door lock x Door panel	5.0	51	44 in.·lbf
Outside handle x Door panel	5.0	51	44 in.·lbf
Door hinge x Body	23	235	17
Door hinge x Door panel	26	265	19
Door check x Door panel	5.0	51	44 in.·lbf
Door check x Body	27	275	20
Door lock striker x Body	11	115	8
UPPER BACK DOOR	-	-	-
Back door hinge x Body	28	286	21
Back door hinge x Door panel	31	316	23
Door lock striker x Door panel	11.5	117	8
Back door control x Door panel	5.0	51	44 in.·lbf
Back door lock x Door panel	7.0	71	62 in.·lbf
LOWER BACK DOOR	-	-	-
Back door lock x Door panel	5.0	51	44 in.·lbf

Tail gate stay x Door panel	18.5	189	14
Tail gate stay x Body	18.5	189	14
Door hinge x Body	28	286	21
Door hinge x Door panel	31	316	23
Door lock striker x Body	11.5	117	8
Back door lock control x Door panel	5.0	51	44 in.·lbf
Upper back door striker x Door panel	11.5	117	8
BACK DOOR STAY	-	-	-
Back door stay x Body	17.5	178	13
Back door stay x Door panel	13	133	10
FRONT WIPER AND WASHER	-	-	-
Wiper arm x Wiper link	20	204	15
Wiper link x Body	5.4	55	48 in.·lbf
REAR WIPER AND WASHER	-	-	-
Wiper motor and link assembly x Door panel	5.4	55	48 in.·lbf
Wiper arm x Wiper link	5.4	55	48 in.·lbf
INSTRUMENT PANEL	-	-	-
Front passenger airbag assembly x Reinforcement	20	204	15
Steering wheel set nut	50	510	37
Front passenger airbag assembly x Instrument panel	6.0	61	53 in.·lbf
SIDE STEP	-	-	-
No. 1 side step bracket x Side step	5.0	51	44 in.·lbf
No. 1 side step bracket x Body	18	184	13
No. 2 side step bracket x Side step	5.0	51	44 in.·lbf
No. 2 side step bracket x Body Bolt:	18	184	13
No. 2 side step bracket x Body Nut:	12	120	9
No. 3 side step bracket x Side step	5.0	51	44 in.·lbf
No. 3 side step bracket x Body	18	184	13
FRONT SEAT	-	-	-
Front seat adjuster x Body	42	430	31
Seatback assembly x Seat adjuster	43	440	32
Armrest x Seatback assembly	37	380	27
Seat cushion assembly x Seat adjuster	21	210	15
Seat position control relay x Seat adjuster	5.5	56	49 in.·lbf
Seatback cover x Seatback frame w/ Side airbag:	4.7	48	42in.·lbf
Seat position sensor x Seat adjuster Driver's side:	8.0	82	71in.·lbf
REAR NO. 1 SEAT (LH)	-	-	-
Seat cushion hinge x Body	37	380	27
Seatback assembly x Seat adjuster	41	420	30
Seat adjuster x Seat cushion frame	41	420	30
REAR NO. 1 SEAT (RH)	-	-	-
Seat cushion hinge x Body	37	380	27
Seatback assembly x Seat adjuster	37	380	27
Seat adjuster x Seat cushion frame	37	380	27
REAR NO. 2 SEAT	-	-	-
Seatback assembly x Reclining adjuster	41	420	30

Reclining adjuster x Seat cushion frame		41	420	30
Seat leg adjuster x Seat cushion frame	A Bolt:	18	184	13
Seat leg adjuster x Seat cushion frame	B Bolt:	37	380	27
SEAT BELT		-	-	-
Outer belt shoulder anchor x Adjustable anchor		42	430	31
Adjustable anchor x Body		42	430	31
Outer belt shoulder anchor x Body		42	430	31
Seat belt reclining detecting part x Seat back assembly		3.9	40	35 in.·lbf
Seat belt floor anchor x Body		42	430	31
Retractor x Body	Upper Side:	5.0	51	44 in.·lbf
Retractor x Body	Lower Side:	42	430	31
Retractor x Seatback frame		42	430	31
Inner belt x seat cushion frame		42	430	31
Inner belt x Rear seat lock		42	430	31
Lap type center with inner belt x Seat cushion frame		42	430	31
Rear seat shoulder belt guide x Seatback frame		42	430	31
CRS tether anchor bracket x Body		27	275	20

BRAKE

SS062-17

SERVICE DATA

Brake pedal height (from asphalt sheet)		183.7 - 193.7 mm (7.232 - 7.626 in.)
Brake pedal freeplay		1.0 - 6.0 mm (0.039 - 0.236 in.)
Brake pedal reserve distance at 490 N (50 kgf, 110.1 lbf)		More than 116 mm (4.57 in.)
Brake pedal lever clearance		3.0 mm (0.118 in.)
Front brake pad thickness	STD	11.5 mm (0.453 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	0.07 mm (0.0028 in.)
Rear brake pad thickness	STD	12.0 mm (0.472 in.)
Rear brake pad thickness	Minimum	1.0 mm (0.039 in.)
Rear brake disc thickness	STD	18.0 mm (0.709 in.)
Rear brake disc thickness	Minimum	16.0 mm (0.611 in.)
Rear brake disc runout	Maximum	0.1 mm (0.004 in.)
Rear brake disc inside diameter	STD	230 mm (9.06 in.)
Rear brake disc inside diameter	Maximum	231 mm (9.09 in.)
Parking brake shoe lining thickness	STD	4.0 mm (0.157 in.)
Parking brake shoe lining thickness	Minimum	1.0 mm (0.039 in.)
Parking brake lever travel at 196 N (20 kgf, 44 lbf)		4 - 6 clicks
Parking brake clearance between rear shoe and lever		Less than 0.25 mm (0.0098 in.)
Parking brake shoe and lever clearance adjusting shim thickness		0.3 mm (0.012 in.) 0.4 mm (0.016 in.) 0.5 mm (0.020 in.) 0.6 mm (0.024 in.) 0.9 mm (0.035 in.)

SS063-18

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Brake line union nut	15	155	11
Hydraulic brake booster clevis lock nut	25	260	19
Hydraulic brake booster x Pedal bracket	15	155	11
Brake pedal bracket set bolt	20	200	14
ABS ECU or ABS & BA & TRAC & VSC ECU set nut	5.0	51	44 in.·lbf
Bleeder plug	11	110	8
Front disc brake caliper x Flexible hose	30	310	22
Front disc brake mounting bolt x Steering knuckle	123	1,250	90
Rear disc brake caliper installation bolt	26	270	20
Rear disc brake caliper x Flexible hose	30	310	22
Rear disc brake torque plate x Rear backing plate	103	1,050	76
Reservoir set screw	1.7	17.5	15.2 in.·lbf
Master cylinder pressure sensor (w/ ABS & BA & TRAC & VSC only)	81	830	60
Accumulator x Booster pump motor	54	550	36
Front speed sensor installation bolt	8.0	82	71 in.·lbf
Front speed sensor harness clamp bolt	13	130	9
Rear speed sensor installation bolt	8.0	82	71 in.·lbf
Rear speed sensor harness clamp bolt	13	130	9
Front brake disc x Front axle hub	74	750	54
Parking brake bellcrank assembly x Backing plate	13	130	9
Bellcrank stopper bolt lock nut	5.4	55	48 in.·lbf

CHARGING

SS0OF-04

SERVICE DATA

Battery	Specific gravity	at 20˚C (68˚F)	1.25 - 1.29
	Voltage	at 20˚C (68˚F)	12.5 - 12.9 V
Generator	Rated output		12V 130A
	Rotor coil resistance	at 20˚C (68˚F)	2.3 - 2.7 Ω
	Slip ring diameter	STD	14.2 - 14.4 mm (0.559 - 0.567 in.)
		Minimum	14.0 mm (0.551 in.)
	Brush exposed length	STD	10.5 mm (0.413 in.)
		Minimum	4.5 mm (0.177 in.)
Charging circuit	Without load	STD amperage	10 A or less
		STD voltage	13.2 - 14.8 V
	With load	STD amperage	30 A or less

SS0OG-04

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Bearing retainer x Drive end frame		2.6	27	23 in.·lbf
Rectifier end frame x Drive end frame		5.8	59	51 in.·lbf
Generator pulley x Rotor		110.3	1,125	81
Brush holder x Rectifier end frame		1.8	18	16 in.·lbf
End cover x Rectifier end frame		4.6	47	41 in.·lbf
Rear end cover x Rectifier end frame		4.6	47	41 in.·lbf
Generator x Cylinder block	Bolt	39	400	29
	Nut 10 mm	39	440	29
	Nut 8 mm	15.5	158	11

COOLING

SERVICE DATA

SS0O9-01

Thermostat	Valve opening temperature		80 - 84˚C (176 - 183˚F)
	Valve lift	at 95˚C (203˚F)	10 mm (0.39 in.) or more
Radiator cap	Relief valve opening pressure	STD	93 - 123 kPa (0.95 - 1.25 kgf/cm^2, 13.5 - 17.8 psi)
		Minimum	78 kPa (0.8 kgf/cm^2, 11.4 psi)

SS0OA-01

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Drain plug x Union on cylinder block		12.7	130	9
Water pump x Cylinder block	Bolt	21	215	15
	Stud bolt and nut	18	185	13
Water inlet housing x Water pump		18	185	13
Water inlet x Water inlet housing		19	195	14
Radiator x Fan shroud		5.0	50	44 in.·lbf
Radiator x Radiator side support		12.7	130	9
Radiator side support x Bracket		20	200	15
Radiator mounting bolt		18	185	13
Radiator mounting nut		20	200	15

EMISSION CONTROL

TORQUE SPECIFICATION

SS0O5-05

Part tightened	N·m	kgf·cm	ft·lbf
Front exhaust pipe x Exhaust manifold	62	632	46
Front exhaust pipe x Center pipe	40	408	30
Heated oxygen sensor x Front exhaust pipe	20	200	14

ENGINE MECHANICAL

SERVICE DATA

SS0OQ-10

Compression pressure	at 250 rpm STD	1,324 kPa (13.5 kgf/cm^2, 192 psi) or more
	Minimum	981 kPa (10.0 kgf/cm^2, 142 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.)
	Valve clearance adjusting shim No.00	2.000 mm (0.0787 in.)
	No.02	2.020 mm (0.0795 in.)
	No.04	2.040 mm (0.0803 in.)
	No.06	2.060 mm (0.0811 in.)
	No.08	2.080 mm (0.0819 in.)
	No.10	2.100 mm (0.0827 in.)
	No.12	2.120 mm (0.0835 in.)
	No.14	2.140 mm (0.0843 in.)
	No.16	2.160 mm (0.0850 in.)
	No.18	2.180 mm (0.0858 in.)
	No.20	2.200 mm (0.0866 in.)
	No.22	2.220 mm (0.0874 in.)
	No.24	2.240 mm (0.0882 in.)
	No.26	2.260 mm (0.0890 in.)
	No.28	2.280 mm (0.0898 in.)
	No.30	2.300 mm (0.0906 in.)
	No.32	2.320 mm (0.0913 in.)
	No.34	2.340 mm (0.0921 in.)
	No.36	2.360 mm (0.0929 in.)
	No.38	2.380 mm (0.0937 in.)
	No.40	2.400 mm (0.0945 in.)
	No.42	2.420 mm (0.0953 in.)
	No.44	2.440 mm (0.0961 in.)
	No.46	2.460 mm (0.0969 in.)
	No.48	2.480 mm (0.0976 in.)
	No.50	2.500 mm (0.0984 in.)
	No.52	2.520 mm (0.0992 in.)
	No.54	2.540 mm (0.1000 in)
	No.56	2.560 mm (0.1008 in.)
	No58	2.580 mm (0.1016 in.)
	No.60	2.600 mm (0.1024 in.)
	No.62	2.620 mm (0.1031 in.)
	No.64	2.640 mm (0.1039 in.)
	No.66	2.660 mm (0.1047 in.)
	No.68	2.680 mm (0.1055 in.)
	No.70	2.700 mm (0.1063 in.)
	No.72	2.720 mm (0.1071 in.)
	No.74	2.740 mm (0.1079 in.)
	No.76	2.760 mm (0.1087 in.)
	No.78	2.780 mm (0.1094 in.)
	No.80	2.800 mm (0.1102 in.)
Ignition timing	w/ Terminals TC and E1 connected of DLC1	5 -15˚ BTDC @ idle
Idle speed	-	700 ± 50 rpm
Timing belt tensioner	Protrusion from housing end	10.5 - 11.5 mm (0.413 - 0.453 in.)

Cylinder head	Warpage	Maximum	0.10 mm (0.039 in.)
	Valve seat		
	Refacing angle		30°, 45°, 60°
	Contacting angle		45°
	Contacting width		1.0 - 1.4 mm (0.039 - 0.055 in.)
	Valve guide bushing bore diameter	STD	10.285 - 10.306 mm (0.4049 - 0.4057 in.)
		O/S 0.05	10.335 - 10.356 mm (0.4069 - 0.4077 in.)
	Cylinder head bolt thread inside diameter	STD	9.810 - 9.960 mm (0.3862 - 0.3921 in.)
		Minimum	9.70 mm (0.3819 in.)
	Protrusion height	Intake	9.2 - 9.8 mm (0.362 - 0.386 in.)
		Exhaust	8.2 - 8.8 mm (0.323 - 0.346 in.)
Valve guide bushing	Inside diameter		5.510 - 5.530 mm (0.2169 - 0.2177 in.)
	Outside diameter (for repair part)	STD	10.285 - 10.306 mm (0.4049 - 0.4057 in.)
		O/S 0.05	10.335 - 10.356 mm (0.4069 - 0.4077 in.)
Valve	Valve overall length	STD Intake	95.05 mm (3.7421 in.)
		Exhaust	95.10 mm (3.7441 in.)
		Minimum Intake	94.55 mm (3.7224 in.)
		Exhaust	94.60 mm (3.7244 in.)
	Valve face angle		44.5°
	Stem diameter	Intake	5.470 - 5.485 mm (0.2154 - 0.2159 in.)
		Exhaust	5.465 - 5.480 mm (0.2152 - 0.2157 in.)
	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 IN	1.25 mm (0.049 in.)
		EX	1.4 mm (0.055 in.)
		Minimum	0.5 mm (0.020 in.)
Valve spring	Deviation	Maximum	2.0 mm (0.079 in.)
	Free length		54.1 mm (2.130 in.)
	Installed tension at 35.0 mm (1.378 in.)		204 - 226 N (20.8 - 23.0 kgf·cm, 45.9 - 50.7 lbf)
Valve lifter	Lifter diameter		30.966 - 30.976 mm (1.2191 - 2.2195 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 Intake	0.040 - 0.090 mm (0.0016 - 0.0035 in.)
		Exhaust	0.040 - 0.085 mm (0.0016 - 0.0033 in.)
		Maximum	0.12 mm (0.0047 in.)
	Journal oil clearance	STD	0.030 - 0.067 mm (0.0012 - 0.0026 in.)
		Maximum	0.10 mm (0.0039 in.)
	Journal diameter		26.954 - 26.970 mm (1.0612 - 1.0618 in.)
	Circle runout		0.08 mm (0.0031 in.)
	Cam lobe height	STD Intake	41.94 - 42.04 mm (1.6512 - 1.6551 in.)
		Exhaust	41.96 - 42.06 mm (1.6520 - 1.6559 in.)
		Minimum Intake	41.79 mm (1.6453 in.)
		Exhaust	41.81 mm (1/6461 in.)
	Camshaft gear backlash	STD	0.020 - 0.200 mm (0.0008 - 0.0079 in.)
		Maximum	0.30 mm (0.0188 in.)
	Camshaft gear spring end free distance		18.2 - 18.8 mm (0.712 - 0.740 in.)
Manifold	Warpage	Maximum Intake	0.15 mm (0.0059 in.)
		Exhaust	0.50 mm (0.0197 in.)

Cylinder block	Cylinder head surface warpage	Maximum	0.07 mm (0.0028 in.)
	Cylinder bore diameter	STD STD Mark 1	94.002 - 94.010 mm (3.7009 - 3.7012 in.)
		Mark 2	94.010 - 94.023 mm (3.7012 - 3.7017 in.)
		Mark 3	94.023 - 94.031 mm (3.7017 - 3.7020 in.)
		Maximum STD	94.231 mm (3.7099 in.)
		O/S 050	94.731 mm (3.7296 in.)
	Main bearing cap bolt tension portion diameter	STD	10.760 - 10.970 mm (0.4236 - 0.4319 in.)
		Minimum	10.40 mm (0.4094 in.)
Piston and piston ring	Piston diameter	STD Mark 1	93.902 - 93.912 mm (3.6969 - 3.6973 in.)
		Mark 2	93.912 - 93.920 mm (3.6973 - 3.6976 in.)
		Mark 3	93.920 - 93.930 mm (3.6976 - 3.6980 in.)
		O/S 0.50	94.402 - 94.430 mm (3.7166 - 3.7177 in.)
	Piston oil clearance	STD	0.090 - 0.111 mm (0.0035 - 0.0044 in.)
		Maximum	0.13 mm (0.0051 in.)
	Piston ring groove clearance	No.1	0.030 - 0.080 mm (0.0012 - 0.0031 in.)
		No.2	0.030 - 0.070 mm (0.0012 - 0.0028 in.)
	Piston ring end gap	STD No.1	0.300 - 0.500 mm (0.0118 - 0.0197 in.)
		No.2	0.400 - 0.650 mm (0.0157 - 0.0256 in.)
		Oil	0.130 - 0.480 mm (0.0051 - 0.0189 in.)
		Maximum No.1	1.10 mm (0.0433 in.)
		No.2	1.20 mm (0.0472 in.)
		Oil	1.15 mm (0.0453 in.)
Connecting rod	Thrust clearance	STD	0.160 - 0.290 mm (0.0063 - 0.0138 in.)
		Maximum	0.35 mm (0.0138 in.)
	Connecting rod thickness		22.880 - 22.920 mm (0.9008 - 0.9024 in.)
	Connecting rod oil clearance	STD	0.027 - 0.053 mm (0.0011 - 0.0021 in.)
		Maximum	0.065 mm (0.0026 in.)
	Connecting rod bearing center wall thickness (Reference)	Mark 2	1.484 - 1.487 mm (0.0584 - 0.0585 in.)
		Mark 3	1.487 - 1.490 mm (0.0585 - 0.0587 in.)
		Mark 4	1.490 - 1.493 mm (0.0587 - 0.0588 in.)
		Mark 5	1.493 - 1.496 mm (0.0588 - 0.0589 in.)
		Mark 6	1.496 - 1.499 mm (0.0589 - 0.0590 in.)
		Mark 7	1.499 - 1.502 mm (0.0590 - 0.0591 in.)
	Rod bend	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.)
	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.)
	Bushing oil clearance	STD	0.005 - 0.011 mm (0.0002 - 0.0004 in)
		Maximum	0.05 mm (0.0020 in.)
	Connecting rod bolt tension portion diameter	STD	7.200 - 7.300 mm (0.2835 - 0.2874 in.)
		Minimum	7.00 mm (0.2756 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		2.440 - 2.490 mm (0.0961 - 0.0980 in.)
	Main journal bore diameter on cylinder block (with main bearing)		66.986 - 67.000 mm (2.6372 - 2.6378 in.)
	Main journal oil clearance	STD	0.040 - 0.058 mm (0.0016 - 0.0023 in.)
		Maximum	0.070 mm (0.0028 in.)
	Main journal diameter		66.988 - 67.000 mm (2.6373 - 2.6378 in.)

Crankshaft (cont'd)	Main bearing center wall thickness (Reference)		
	No.1 and No.5	Mark 3	2.481 - 2.484 mm (0.0977 - 0.0978 in.)
		Mark 4	2.484 - 2.487 mm (0.0978 - 0.0979 in.)
		Mark 5	2.487 - 2.490 mm (0.0979 - 0.0980 in.)
		Mark 6	2.490 - 2.493 mm (0.0980 - 0.0981 in.)
		Mark 7	2.493 - 2.496 mm (0.0981 - 0.0983 in.)
	Others	Mark 1	2.481 - 2.484 mm (0.0977 - 0.0978 in.)
		Mark 2	2.484 - 2.487 mm (0.0978 - 0.0979 in.)
		Mark 3	2.487 - 2.490 mm (0.0979 - 0.0980 in.)
		Mark 4	2.490 - 2.493 mm (0.0980 - 0.0981 in.)
		Mark 5	2.493 - 2.496 mm (0.0981 - 0.0983 in.)
	Crank pin diameter		51.982 - 52.000 mm (2.0465 - 2.0472 in.)
	Circle runout	Maximum	0.08 mm (0.0031 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.)

SS0OR-11

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Fan shroud x Radiator assembly		5	51	44 in.·lbf
Radiator bracket x Radiator assembly	Bolt	18	185	13
	Nut	20	200	15
A/C Compressor x Cylinder block		49	500	36
Generator x Generator bracket		39	400	29
No.1 idler pulley, No.2 idler pulley x Cylinder Block		34.5	350	25
Camshaft timing pulley x Camshaft timing tube		108	1,100	80
Drive belt tensioner x Cylinder block		16	160	12
Timing belt tensioner x Oil pump		26	270	19
Crankshaft pulley x Crankshaft		245	2,500	181
Fan bracket x Cylinder block	12 mm head	16	160	12
	14 mm head	32	330	24
No.2 timing belt cover x Cylinder block		16	160	12
No.3 timing belt cover x Cylinder block, cylinder head		7.5	80	66 in.·lbf
Drive belt idler pulley x Fan bracket		39	400	29
Fluid coupling x Fan bracket		21	215	16
Exhaust manifold x Cylinder head		44	450	33
Cylinder head x Cylinder block	1st	32	325	24
	2nd	Turn 90˚	Turn 90˚	Turn 90˚
	3rd	Turn 90˚	Turn 90˚	Turn 90˚
Camshaft bearing cap x Cylinder head	Bolt C	7.5	80	66 in.·lbf
	Others	16	160	12
Cylinder head cover x Cylinder head		6.0	60	53 in.·lbf
Engine hanger x Cylinder head		37	380	27
Front water bypass joint, Rear water bypass joint x Cylinder head		18	185	13
Intake manifold x Cylinder head		18	185	13
V-bank cover bracket x Intake manifold		7.5	80	66 in.·lbf
Timing belt rear plate x Cylinder head		7.5	80	66 in.·lbf
Drive plate x Crankshaft	1st	49	500	36
	2nd	Turn 90˚	Turn 90˚	Turn 90˚
Transmission x Cylinder block		72	730	53
Transmission x No.1 oil pan		37	380	27
Drive plate x Torque converter clutch		48	490	35
Flywheel housing under cover x Transmission		18	185	13
Frame crossmember x Body		50	510	37
Frame crossmember x Rear engine mounting insulator		74	750	55
Frame bracket x Engine mounting bracket		30	310	22
PS pump x Cylinder head		62	632	46
A/C compressor x Cylinder block, Fan bracket		49	500	36
Main bearing cap x Cylinder block	1st	27	275	20
	2nd	Turn 90˚	Turn 90˚	Turn 90˚
Connecting rod cap x Connecting rod	1st	24.5	250	18
	2nd	Turn 90˚	Turn 90˚	Turn 90˚
Rear oil seal retainer x Cylinder block		8.0	80	71 in.·lbf
Engine coolant drain union x Cylinder block		49	500	36

Engine mounting bracket x Cylinder block	36	370	27
Water bypass pipe x Cylinder block	18	185	13
Front exhaust pipe x Exhaust manifold	63	640	46
No.2 front exhaust pipe x Front exhaust pipe	40	408	30
Center exhaust pipe x Front exhaust pipe	40	408	30
Heated oxygen sensor (Bank 1, 2 sensor 2) x Front exhaust pipe	20	200	14
Heat insulator x Exhaust manifold	7.5	77	66 in.·lbf
Shift lever assembly x Transmission	8.3	86	73 in.·lbf
Shift lever assembly x Transmission control rod	13	130	9

IGNITION

SS0O6-03

SERVICE DATA

Firing order	-		1 - 8 - 4 - 3 - 6 - 5 - 7 - 2
Spark plug	Recommended spark plug	DENSO made	SK20R11
		NGK made	IFR6A11
	Correct electrode gap for new spark plug		1.1 mm (0.043 in.)
	Maximum electrode gap for used spark plug		1.3 mm (0.051 in.)
Camshaft position sensor	Resistance	Cold	835 - 1,400 Ω
		Hot	1,060 - 1,645 Ω
Crankshaft position sensor	Resistance	Cold	1,630 - 2,740 Ω
		Hot	2,065 - 3,225 Ω

SS0O7-01

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Spark plug x Cylinder head	17.5	180	13
Ignition coil (with igniter) x Cylinder head cover	7.5	80	66 in.·lbf
Camshaft position sensor x LH cylinder head	7.5	80	66 in.·lbf
Crankshaft position sensor x Oil pump	6.5	65	58 in.·lbf

LUBRICATION

SERVICE DATA

SS0OB-01

Oil pressure		at idle speed	29 kPa (0.3 kgf/cm^2, 4.3 psi) or more
		at 3,000 rpm	294 - 588 kPa (3.0 - 6.0 kgf/cm^2, 43 - 85 psi)
Oil pump	Tip clearance	STD	0.110 - 0.240 mm (0.0043 - 0.0094 in.)
		Maximum	0.35 mm (0.0138 in.)
	Side clearance	STD	0.030 - 0.090 mm (0.0012 - 0.0035 in.)
		Maximum	0.15 mm (0.0059 in.)
	Body clearance	STD	0.100 - 0.175 mm (0.0039 - 0.0069 in.)
		Maximum	0.30 mm (0.0118 in.)

SS0OC-02

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
No.2 oil pan x Drain plug		39	400	29
Oil pump body cover x Oil pump body		10	105	8
Oil pump x Cylinder block	14 mm head	30.5	310	22
	12 mm and 6mm hexagon head	15.5	160	11
Oil strainer x Cylinder block, Oil pump		7.5	80	66 in.·lbf
No.1 oil pan x Oil pump, Oil seal retainer		7.5	80	66 in.·lbf
No.1 oil pan x Cylinder block	10 mm head	7.5	80	66 in.·lbf
	12 mm head	28	290	21
Oil pan baffle plate x No.1 oil pan		7.5	80	66 in.·lbf
No.2 oil pan x No.1 oil pan		7.5	80	66 in.·lbf
Oil filter bracket x Oil pump		18	185	13
Oil cooler x Oil filter bracket	Union bolt	68.6	700	51
Oil dipstick guide x Cylinder head		15	153	11

PROPELLER SHAFT

SS0NK-02

SERVICE DATA

Shaft runout		Max.	0.8 mm (0.031 in.)
Bearing axial play		Max.	0 mm (0 in.)
Snap ring thickness	Color	Mark	
	–	1	2.28 - 2.30 mm (0.0898 - 0.0906 in.)
	–	2	2.30 - 2.32 mm (0.0906 - 0.0913 in.)
	–	–	2.32 - 2.34 mm (0.0913 - 0.0921 in.)
	Brown	–	2.34 - 2.36 mm (0.0921 - 0.0929 in.)
	Blue	–	2.36 - 2.38 mm (0.0929 - 0.0937 in.)
	–	6	2.38 - 2.40 mm (0.0937 - 0.0945 in.)
	–	7	2.40 - 2.42 mm (0.0945 - 0.0953 in.)
	–	8	2.42 - 2.44 mm (0.0953 - 0.0961 in.)
	–	九	2.44 - 2.46 mm (0.0961 - 0.0969 in.)
	–	10	2.46 - 2.48 mm (0.0969 - 0.0976 in.)

M00054

SS0NL-02

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Front propeller shaft x Front differential	80	820	59
Front propeller shaft x Transfer	80	820	59
Rear propeller shaft x Transfer	106	1,080	78
Rear propeller shaft x Rear differential	106	1,080	78

SUPPLEMENTAL RESTRAINT SYSTEM

SS061-66

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Steering wheel set nut		50	510	37
Steering wheel pad set screw (Torx screw)		8.8	90	78 in.·lbf
Front passenger airbag assembly x Instrument panel		6.0	61	53 in.·lbf
Front passenger airbag assembly x Instrument panel reinforcement		20	205	15
Front seat x Body		42	430	31
Seat cushion assembly x Seat adjuster assembly		21	210	15
Seatback cover with pad x Seatback frame		4.7	48	42 in.·lbf
Armrest x Seatback frame		37	380	27
Seatback frame x Seat adjuster assembly		43	440	32
Curtain shield airbag assembly x Body		9.8	100	86 in.·lbf
Airbag sensor assembly x Body		17.5	178	13
Front airbag sensor x Body		7.5	76	66 in.·lbf
Side and curtain shield airbag sensor assembly x Body		20	205	15
Front seat outer belt x Body	Upper bolt:	8.0	81	71 in.·lbf
	Lower bolt:	42	428	31
Curtain shield airbag sensor assembly x Body		17.5	178	13
Rear seat belt anchor x Body		42	428	31
Seat position sensor assembly x Seat adjuster assembly		8.0	82	71 in.·lbf

SUSPENSION AND AXLE

SS0OJ-10

SERVICE DATA

Cold tire inflation pressure	Tire size P275/70R16 Front	 200 kPa (2.0 kgf/cm^2, 29 psi) *220 kPa (2.2 kgf/cm^2, 32 psi)
	Rear	220 kPa (2.2 kgf/cm^2, 32 psi) *240 kPa (2.4 kgf/cm^2, 35 psi)
Front wheel alignment	Vehicle height Front A - B Rear C - D	 71 mm (2.795 in.) 51 mm (2.008 in.)
	Camber Right-left error	0°05' ± 45' (0.08° ± 0.75°) 30' (0.5°) or less
	Caster Right-left error	2°30' ± 45' (2.5° ± 0.75°) 30' (0.5°) or less
	Steering axis inclination Right-left error	12°10' ± 45' (12.17° ± 0.75°) 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.) 3.0 mm (0.118 in.) or less
	Wheel angle Inside wheel Outside wheel: Reference	36°42' (33°42' - 36°42') 36.7° (33.7° - 36.7°) 32°36' 32.6°
Front axle	Front axle hub preload (at starting)	42 - 67 N (4.3 - 6.8 kgf, 9.5 - 15.0 lbf)
	Snap ring thickness	1.8 mm (0.0709 in.) 2.0 mm (0.0787 in.) 2.2 mm (0.0866 in.) 2.4 mm (0.0945 in.) 2.6 mm (0.1024 in.) 2.8 mm (0.1102 in.)
Front drive shaft	Front drive shaft length	573.9 ± 5.0 mm (22.594 ± 0.197 in.)
Front suspension	Upper suspension arm ball joint turning torque	1.0 - 4.4 N·m (10 - 45 kgf·cm, 8.9 - 39 in.·lbf)
	Lower suspension arm ball joint turning torque	0.29 - 2.94 N·m (3 - 30 kgf·cm, 2.6 - 26 in.·lbf)
Rear axle shaft	Bearing backlash Max.	0.6 mm (0.024 in.)
	Axle shaft deviation Max.	0.05 mm (0.0020 in.)
	Axle shaft runout Max.	2.0 mm (0.079 in.)
	Axle shaft flange runout Max.	0.05 mm (0.0020 in.)

*: Trailer towing

A: Ground clearance of spindle center

B: Ground clearance of lower suspension arm front bolt center

C: Ground clearance of rear axle shaft center

D: Ground clearance of lower control arm front bushing center

Front differential	Companion flange vertical runout	Max.	0.09 mm (0.0035 in.)
	Companion flange lateral runout	Max.	0.09 mm (0.0035 in.)
	Drive pinion preload (at starting)	New bearing	1.0 - 1.6 N·m (10 - 16 kgf·cm, 8.9 - 14.2 in.·lbf)
		Reused bearing	0.5 - 0.8 N·m (5 - 8 kgf·cm, 4.4 - 7.1 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.4 - 0.6 N·m (4 - 6 kgf·cm, 3.5 - 5.3 in.·lbf)
	Ring gear runout	Max.	0.07 mm (0.0028 in.)
	Ring gear backlash		0.13 - 0.18 mm (0.0051 - 0.0071 in.)
	Side gear backlash		0.05 - 0.20 mm (0.0020 - 0.0079 in.)
	Differential case runout	Max.	0.07 mm (0.0028 in.)
	Front differential oil seal drive in depth		1.5 mm (0.059 in.)
	Side gear thrust washer thickness		0.9 mm (0.035 in.) 1.0 mm (0.039 in.) 1.1 mm (0.043 in.) 1.2 mm (0.047 in.) 1.3 mm (0.051 in.)

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

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

Rear differential	Companion flange vertical runout Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting) New bearing Reused bearing	1.3 - 1.8 N·m (13 - 19 kgf·cm, 11.5 - 15.9 in.·lbf) 0.64 - 0.92 N·m (6.5 - 9.4 kgf·cm, 5.7 - 8.1 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus 0.38 - 0.63 N·m (3.9 - 6.5 kgf·cm, 3.3 - 5.6 in.·lbf)
	Ring gear runout Max.	0.05 mm (0.0020 in.)
	Ring gear backlash	0.13 - 0.18 mm (0.0051 - 0.0071 in.)
	Side gear backlash	0.02 - 0.15 mm (0.0008 - 0.0059 in.)
	Differential case runout Max.	0.04 mm (0.0016 in.)
	Rear differential front oil seal drive in depth	0.5 mm (0.020 in.)
	Side gear thrust washer thickness	1.55 mm (0.061 in.) 1.60 mm (0.063 in.) 1.65 mm (0.065 in.) 1.70 mm (0.067 in.) 1.75 mm (0.069 in.) 1.80 mm (0.071 in.) 1.85 mm (0.073 in.) 1.90 mm (0.075 in.) 1.95 mm (0.077 in.) 2.00 mm (0.079 in.) 2.05 mm (0.081 in.) 2.10 mm (0.083 in.)
	Tooth contact pattern adjusting washer thickness	1.050 mm (0.04134 in.) 1.075 mm (0.04232 in.) 1.100 mm (0.04331 in.) 1.125 mm (0.04429 in.) 1.150 mm (0.04528 in.) 1.175 mm (0.04626 in.) 1.200 mm (0.04724 in.) 1.225 mm (0.04823 in.) 1.250 mm (0.04921 in.) 1.275 mm (0.05020 in.) 1.300 mm (0.05118 in.) 1.325 mm (0.05217 in.) 1.350 mm (0.05315 in.) 1.375 mm (0.05413 in.) 1.400 mm (0.05512 in.) 1.425 mm (0.05610 in.) 1.450 mm (0.05709 in.) 1.475 mm (0.05807 in.) 1.500 mm (0.05906 in.) 1.525 mm (0.06004 in.) 1.550 mm (0.06102 in.)

Rear differential (w/ Diff. Lock)	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing	1.3 - 1.8 N·m (13 - 19 kgf·cm, 11.5 - 15.9 in.·lbf)
		Reused bearing	0.64 - 0.92 N·m (6.5 - 9.4 kgf·cm, 5.7 - 8.1 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.3 - 0.5 N·m (3 - 5 kgf·cm, 2.7 - 4.4 in.·lbf)
	Ring gear runout	Max.	0.05 mm (0.0020 in.)
	Ring gear backlash		0.13 - 0.18 mm (0.0051 - 0.0071 in.)
	Side gear backlash		0.02 - 0.15 mm (0.0008 - 0.0059 in.)
	Differential case runout	Max.	0.04 mm (0.0016 in.)
	Rear differential front oil seal drive in depth		0.5 mm (0.020 in.)
	Side gear thrust washer thickness		1.55 mm (0.061 in.) 1.60 mm (0.063 in.) 1.65 mm (0.065 in.) 1.70 mm (0.067 in.) 1.75 mm (0.069 in.) 1.80 mm (0.071 in.) 1.85 mm (0.073 in.) 1.90 mm (0.075 in.) 1.95 mm (0.077 in.) 2.00 mm (0.079 in.) 2.05 mm (0.081 in.) 2.10 mm (0.083 in.)
	Ring gear backlash adjusting washer thickness	Mark	
		1	2.67 mm (0.1051 in.)
		2	2.70 mm (0.1063 in.)
		3	2.73 mm (0.1075 in.)
		4	2.76 mm (0.1087 in.)
		5	2.79 mm (0.1098 in.)
		6	2.82 mm (0.1110 in.)
		7	2.85 mm (0.1122 in.)
		8	2.88 mm (0.1134 in.)
		9	2.91 mm (0.1146 in.)
		10	2.94 mm (0.1157 in.)
		11	2.97 mm (0.1169 in.)
		12	3.00 mm (0.1181 in.)
		13	3.03 mm (0.1193 in.)
		14	3.06 mm (0.1205 in.)
		15	3.09 mm (0.1217 in.)
		16	3.12 mm (0.1228 in.)
		17	3.15 mm (0.1240 in.)
		18	3.18 mm (0.1252 in.)
		19	3.21 mm (0.1264 in.)
		20	3.24 mm (0.1276 in.)
		21	3.27 mm (0.1287 in.)
		22	3.30 mm (0.1299 in.)
		23	3.33 mm (0.1311 in.)

Rear differential (w/ Diff. Lock)	Tooth contact pattern adjusting washer thickness	1.050 mm (0.04134 in.) 1.075 mm (0.04232 in.) 1.100 mm (0.04331 in.) 1.125 mm (0.04429 in.) 1.150 mm (0.04528 in.) 1.175 mm (0.04626 in.) 1.200 mm (0.04724 in.) 1.225 mm (0.04823 in.) 1.250 mm (0.04921 in.) 1.275 mm (0.05020 in.) 1.300 mm (0.05118 in.) 1.325 mm (0.05217 in.) 1.350 mm (0.05315 in.) 1.375 mm (0.05413 in.) 1.400 mm (0.05512 in.) 1.425 mm (0.05610 in.) 1.450 mm (0.05709 in.) 1.475 mm (0.05807 in.) 1.500 mm (0.05906 in.) 1.525 mm (0.06004 in.) 1.550 mm (0.06102 in.)

Rear differential (w/ LSD)	Companion flange vertical runout Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting) New bearing	1.3 - 1.8 N·m (13 - 19 kgf·cm, 11.5 - 15.9 in.·lbf)
	Reused bearing	0.64 - 0.92 N·m (6.5 - 9.4 kgf·cm, 5.7 - 8.1 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus 0.38 - 0.63 N·m (3.9 - 6.5 kgf·cm, 3.3 - 5.6 in.·lbf)
	Ring gear runout Max.	0.05 mm (0.0020 in.)
	Ring gear backlash	0.13 - 0.18 mm (0.0051 - 0.0071 in.)
	Side gear backlash	0.02 - 0.15 mm (0.0008 - 0.0059 in.)
	Differential case runout Max.	0.04 mm (0.0016 in.)
	Side gear thrust washer thickness (Reference)	1.97 - 2.06 mm (0.0776 - 0.0811 in.)
	Clutch plate thickness (Reference)	1.97 - 2.03 mm (0.0776 - 0.0799 in.)
	Compression spring free length (Reference)	32.8 mm (1.291 in.)
	Rear differential front oil seal drive in depth	0.5 mm (0.020 in.)
	Adjusting shim thickness Mark	
	A	0.20 mm (0.0079 in.)
	B	0.25 mm (0.0098 in.)
	C	0.30 mm (0.0118 in.)
	D	0.35 mm (0.0138 in.)
	Tooth contact pattern adjusting washer thickness	1.050 mm (0.04134 in.) 1.075 mm (0.04232 in.) 1.100 mm (0.04331 in.) 1.125 mm (0.04429 in.) 1.150 mm (0.04528 in.) 1.175 mm (0.04626 in.) 1.200 mm (0.04724 in.) 1.225 mm (0.04823 in.) 1.250 mm (0.04921 in.) 1.275 mm (0.05020 in.) 1.300 mm (0.05118 in.) 1.325 mm (0.05217 in.) 1.350 mm (0.05315 in.) 1.375 mm (0.05413 in.) 1.400 mm (0.05512 in.) 1.425 mm (0.05610 in.) 1.450 mm (0.05709 in.) 1.475 mm (0.05807 in.) 1.500 mm (0.05906 in.) 1.525 mm (0.06004 in.) 1.550 mm (0.06102 in.)

SS0OK-05

TORQUE SPECIFICATION

FRONT			
Part tightened	N·m	kgf·cm	ft·lbf
Hub bolt	131	1,340	97
Knuckle stopper bolt lock nut	44	450	32
Steering knuckle x Brake caliper	123	1,250	91
Disc x Axle hub	74	750	55
Flange x Axle hub	33	335	24
Axle hub bearing lock nut	64	650	47
Flexible hose x Bracket	28	290	21
ABS speed sensor installation bolt	8.0	82	71 in.·lbf
ABS speed sensor wire harness x Steering knuckle arm	13	130	10
ABS speed sensor wire harness bracket x Steering knuckle	28	290	21
Steering knuckle arm x Steering knuckle	147	1,500	108
Tie rod end x Steering knuckle arm	122	1,250	90
Upper suspension arm x Steering knuckle	110	1,125	81
Lower suspension arm x Steering knuckle	159	1,625	117
Oil seal x Steering knuckle	18	185	13
Propeller shaft x Companion flange	80	820	59
Body x No. 3 frame crossmember	68	695	50
No. 3 frame crossmember x Differential support	186	1,900	137
Differential support x Differential tube	186	1,900	137
Differential support x Differential carrier	78	800	58
Differential support x Body	186	1,900	137
Differential carrier cover x Body	186	1,900	137
Breather hose bracket x Carrier cover	17	173	13
Filler plug	49	500	36
Drain plug	49	500	36
Differential tube x Differential carrier	105	1,070	77
Bearing cap x Differential carrier	85	870	63
Oil deflector x Carrier cover	7.3	74	65 in.·lbf
Carrier cover x Differential carrier	47	475	35
Differential case x Ring gear	97	985	72
Companion flange x Drive pinion	See page SA-47		
Lower suspension arm x Shock absorber	135	1,400	100
Piston rod x Body	68	700	50
Torque arm x Lower suspension arm	225	2,300	166
ABS speed sensor wire harness x Upper suspension arm	13	130	10
Upper suspension arm x Body	98	1,000	72
Stabilizer bar link x Lower suspension arm	52	530	38
Lower suspension arm x Body	230	2,350	170
Stabilizer bar x Stabilizer bar link	25	250	18
Stabilizer bar bracket x Body	18	185	13

REAR			
Part tightened	N·m	kgf·cm	ft·lbf
Hub bolt	131	1,340	97
Axle housing x Brake caliper	103	1,050	76
Axle housing x Backing plate	123	1,250	91
Brake line	15	150	11
Shock Absorber x Axle housing	98	1,000	72
Stabilizer bar bracket x Body	18	185	13
Follow spring x Body	28	290	21
Piston rod x Body	69	704	51
Lateral control rod x Body	150	1,530	111
Upper control arm x Body	150	1,530	111
Upper control arm x Axle housing	150	1,530	111
Lower control arm x Body	150	1,530	111
Lower control arm x Axle housing	150	1,530	111
Heat insulator x Body	18	185	13
Lateral control rod x Axle housing	149	1,520	110
Stabilizer bar x Stabilizer bar bracket	26	270	19
Stabilizer bar link x Stabilizer bar bracket	15	150	11
Stabilizer bar bracket x Axle housing	18	185	13
Propeller shaft x Companion flange	106	1,080	78
Companion flange x Drive pinion w/ Diff. Lock w/ LSD	See page SA-107 See page SA-127 See page SA-150		
Differential carrier x Axle housing	72	740	53
Filler plug	49	500	36
Drain plug	49	500	36
Differential case x Ring gear	137	1,400	101
Differential carrier			
Bearing cap x Differential carrier	83	850	61
Adjusting nut lock x Bearing cap	13	130	10
RH differential case x LH differential case	47	480	35
Differential carrier (w/ Diff. Lock)			
No. 1 actuator protector x Actuator	15	150	11
No. 2 actuator protector x Axle housing	36	367	27
Bearing cap x Differential carrier	113	1,150	83
Cover x Differential carrier	18	185	13
Actuator x Differential carrier	24	240	18
Actuator x Shift fork	20	200	15
Indicator switch	40	410	30
Differential cover x Differential case	58	590	43
Differential carrier (w/ LSD)			
Bearing cap x Differential carrier	83	850	61
Adjusting nut lock x Bearing cap	13	130	10
RH differential case x LH differential case	47	480	35

SFI

SS0CB-20

SERVICE DATA

Fuel pressure regulator	Fuel pressure	at no vacuum	265 - 304 kPa (2.7 - 3.1 kgf/cm^2, 38 - 44 psi)
Fuel pump	Resistance	at 20˚C (68˚F)	0.2 - 3.0 Ω
Injector	Resistance Injection volume Difference between each cylinder Fuel leakage	at 20˚C (68˚F)	13.4 - 14.2 Ω 56 - 69 cm^3 (3.4 - 4.2 cu in.) per 15 seconds 13 cm^3 (0.8 cu in.) or less 1 drop or less per 12 minutes
MAF meter	Resistance (THA - E2)	at -20˚C (-4˚F) at 20˚C (68˚F) at 60˚C (140˚F)	12.5 - 16.9 kΩ 2.19 - 2.67 kΩ 0.50 - 0.68 kΩ
Throttle body	Throttle body fully closed angle		5.5˚
Accelerator pedal position sensor	Standard throttle valve opening percentage Sensor lever full-open position		60 % or more
Throttle control motor	Motor resistance	at 20˚C (68˚F)	0.3 - 100 Ω
VSV for EVAP	Resistance	at 20˚C (68˚F)	30 - 34 Ω
VSV for vapor pressure sensor	Resistance	at 20˚C (68˚F)	30 - 36 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 source voltage		4.5 - 5.5 V
Heated oxygen sensor	Heater coil resistance	at 20˚C (68˚F)	11 - 16 Ω
Fuel cut rpm		Fuel return rpm	1,000 rpm
Fuel pump resistar	Resistance	at 20˚C (68˚F)	0.70 - 0.76 Ω
VSV for CCV	Resistance	at 20˚C (68˚F)	24 - 30 Ω

SS0CC-19

TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Fuel line				
Union bolt type		39	400	29
Flare nut type	for use with SST	34	345	25
		38	380	28
Fuel pressure pulsation damper x Delivery pipe	for use with SST	33	340	24
		39	400	29
Fuel pressure regulator x RH delivery pipe		7.5	80	66 in.·lbf
Fuel tank vent tube set plate x Fuel tank		3.5	35	31 in.·lbf
Front fuel pipe x Delivery pipe		39	400	29
Front fuel pipe x Lower intake manifold		7.5	80	66 in.·lbf
Fuel return pipe x LH delivery pipe		7.5	80	66 in.·lbf
Delivery pipe x Lower intake manifold		18	185	13
Fuel sender gauge x Fuel tank		1.5	15	13 in.·lbf
Fuel tank x Body		39	400	29
Drain plug x Fuel tank		6.5	65	58 in.·lbf
Fuel tank filler pipe x Fuel tank		3.5	35	31 in.·lbf
Cutoff valve cover x Fuel tank		1.5	15	13 in.·lbf
Accelerator pedal position sensor x Body		5.0	51	44 in.·lbf
Throttle body x Upper intake manifold, Lower intake manifold		18	185	13
Upper intake manifold, Accelerator cable bracket x Lower intake manifold		18	185	13
ECT sensor x Front water bypass joint		20.4	208	15
Knock sensor x Cylinder block		45	450	33
Heated oxygen sensor x Exhaust manifold		44	450	32
Heated oxygen sensor x Front exhaust pipe		20	200	14
No.1 rear seat x Body		41	420	30
MAF meter x Air cleaner		1.68	17	15 in.·lbf
Fuel pump resistor x Body		12	122	8.8

STEERING

SERVICE DATA

SS0OH-05

POWER STEERING FLUID		
Oil level rise	Maximum	Below 5 mm (0.20 in.)
Oil pressure at idle speed with valve closed	Minimum	10,000 kPa (102 kgf/cm^2, 1,451 psi)
STEERING WHEEL		
Steering wheel freeplay	Maximum	40 mm (1.58 in.)
Steering effort at idle speed	Maximum	4.9 N·m (50 kgf·cm, 43 in.·lbf)
PS VANE PUMP		
Pump shaft and front housing bushing oil clearance	STD	0.021 - 0.043 mm (0.00083 - 0.00169 in.)
	Maximum	0.070 mm (0.00276 in.)
Pump shaft and rear housing bushing oil clearance	STD	0.020 - 0.077 mm (0.00079 - 0.00303 in.)
	Maximum	0.080 mm (0.00315 in.)
Vane plate thickness	Minimum	1.405 mm (0.0531 in.)
Vane plate and pump rotor groove clearance	Maximum	0.03 mm (0.0012 in.)
Flow control valve spring length	Minimum	31.3 mm (1.2323 in.)
Pump rotating torque	Maximum	0.28 N·m (2.8 kgf·cm, 2.4 in.·lbf) or less
PS GEAR		
Steering rack runout	Maximum	0.03 mm (0.0118 in.)
Total preload	Center area	1.8 - 2.2 N·m (18.4 - 22.4 kgf·cm, 16.0 - 19.5 in.·lbf)
	End area	1.3 - 1.7 N·m (13.3 - 17.3 kgf·cm, 11.5 - 15.0 in.·lbf)

SS0OI-07

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
STEERING COLUMN			
Steering wheel set nut	50	510	37
Steering wheel pad set screw (Torx screw)	8.8	90	78 in.·lbf
Steering column assembly set nut and bolt	25	260	19
Intermediate shaft assembly x Sliding yoke	34	350	25
Sliding yoke x No. 2 Intermediate shaft assembly	34	350	25
Control valve shaft x No. 2 Intermediate shaft assembly	34	350	25
Main shaft assembly x Intermediate shaft assembly	34	350	25
Hole cover x Body	13	130	9
TILT STEERING COLUMN:			
Tube attachment x Column tube	15	150	11
Tilt steering bolt	20	210	15
No. 2 lower cover set nut	25	260	19
POWER TILT AND POWER TELESCOPIC STEERING COLUMN:			
Steering column protector No. 1 set bolt	15	150	11
Power tilt motor set bolt	20	210	15
Power telescopic motor set bolt	8.8	90	78 in.·lbf
Column tube stopper	19	190	14
Tube attachment x Column tube	15	150	11
Telescopic steering slider support set bolt	11	110	8
Telescopic steering screw set nut	2.0	20	17 in.·lbf
No. 2 lower cover set nut	25	260	19
Column upper tube sub-assembly x Column upper tube assembly	20	210	15
Telesco lever lock bolt	10	100	7
PS VANE PUMP			
Union bolt x Pressure feed tube	56	575	42
PS vane pump assembly set bolt	17	175	13
Suction port union set bolt	12	120	9
Pressure port union	69	700	51
Rear housing set bolt	22	225	16
PS GEAR			
Cylinder end stopper	110 (145)	1,122 (1,480)	81 (107)
Bearing guide nut	24.5	250	19
Control valve housing set bolt	18	180	13
Rack guide spring cap	25	250	18
Rack guide spring cap lock nut	51 (70)	520 (700)	38 (51)
Rack x Rack end	99 (132)	1,014 (1,350)	74 (98)
Tie rod end lock nut	55	560	41
Turn pressure tube union nut	23 (24.5)	230 (250)	17 (18)
PS gear assembly set bolt and nut	120	1,250	89
Return tube x Control valve housing	50 (44)	510 (450)	37 (29)
Pressure feed tube x Control valve housing	42	430	31
Tube clamp set bolt	18	180	13

Tie rod end x Steering knuckle	72	730	53
Engine oil filter assembly set bolt and nut	18	180	13

( ): For use without SST

STARTING

SERVICE DATA

SS0OD-01

Starter	Rated voltage and output power		12 V 2.0 kW
	No-load characteristics	Current	100 A or less at 11.5 V
		rpm	2,500 rpm or less
	Brush length	STD	15.0 mm (0.591 in.)
		Minimum	9.0 mm (0.354 in.)
	Spring installed load	STD	21.5 - 27.5 N (2.2 - 2.8 kgf, 4.8 - 6.2 lbf)
		Minimum	12.7 N (1.3 kgf, 2.9 lbf)
	Commutator		
	Diameter	STD	35.0 mm (1.378 in.)
		Minimum	34.0 mm (1.339 in.)
	Undercut depth	STD	0.7 mm (0.028 in.)
		Minimum	0.2 mm (0.008 in.)
	Circle runout	Maximum	0.05 mm (0.0020 in.)
	Field frame		
	Shunt coil resistance	at 20˚C (68˚F)	1.5 - 1.9 Ω
	Magnetic switch		
	Contact plate for wear	Maximum	0.9 mm (0.035 in.)

SS0OE-01

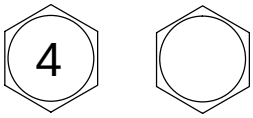
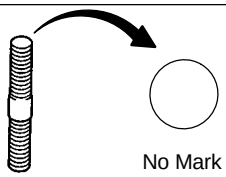
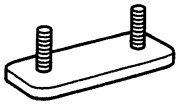
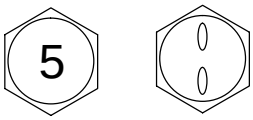
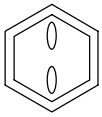
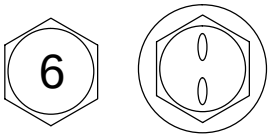
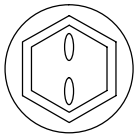
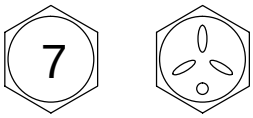
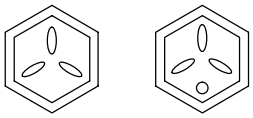
TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Terminal 30 nut, Terminal C nut x Terminal bolt	17	170	13
End cover x Magnetic switch housing	3.6	37	32 in.·lbf
End cover x Brush holder	3.8	39	34 in.·lbf
Starter hosing x Magnetic switch	9.3	95	82 in.·lbf
End cover with field frame x Magnetic switch	9.3	95	82 in.·lbf
Lead wire of field coil x Terminal C	5.9	60	52 in.·lbf
Wire clamp, Starter wire x Starter	9.81	100	87 in.·lbf
Starter x Cylinder block	39	400	29

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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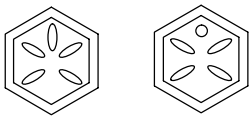
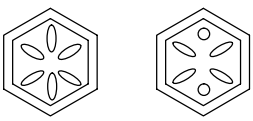
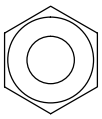
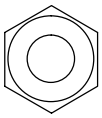
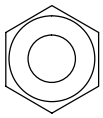
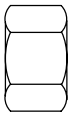
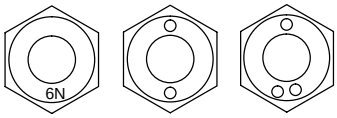
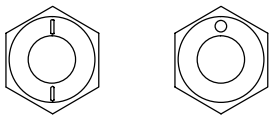
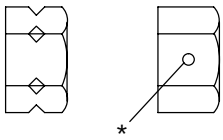
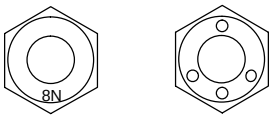
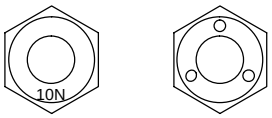
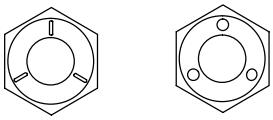
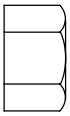
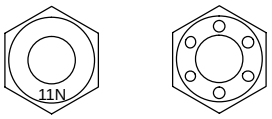
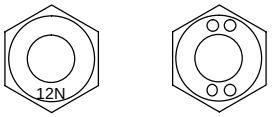
				10T
				11T

B06431

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

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

TRANSFER

SS0OM-03

SERVICE DATA

Idler gear rear bearing adjusting shim thickness		
	Mark 2	0.30 mm (0.0118 in.)
	Mark 3	0.45 mm (0.0177 in.)
	Mark 4	2.40 mm (0.0945 in.)
	Mark 5	2.60 mm (0.1024 in.)
	Mark 6	2.80 mm (0.1102 in.)
	Mark 7	3.00 mm (0.1181 in.)
	Mark 8	3.20 mm (0.1260 in.)
	Mark 9	3.40 mm (0.1339 in.)
	Mark 10	3.60 mm (0.1417 in.)
	Mark 11	3.80 mm (0.1496 in.)
	Mark 12	4.00 mm (0.1575 in.)
	Mark 13	0.55 mm (0.0216 in.)
Output shaft rear bearing adjusting shim thickness		
	Mark B	0.30 mm (0.0118 in.)
	Mark C	0.45 mm (0.0177 in.)
	Mark D	1.00 mm (0.0394 in.)
	Mark E	1.20 mm (0.0472 in.)
	Mark F	1.40 mm (0.0551 in.)
	Mark G	1.60 mm (0.0630 in.)
	Mark H	1.80 mm (0.0709 in.)
	Mark J	2.00 mm (0.0787 in.)
	Mark K	2.20 mm (0.0866 in.)
	Mark L	2.40 mm (0.0945 in.)
	Mark M	2.60 mm (0.1024 in.)
	Mark N	0.55 mm (0.0216 in.)
Input gear snap ring thickness		
	Mark A	2.90 mm (0.1141 in.)
	Mark B	2.95 mm (0.1161 in.)
	Mark C	3.00 mm (0.1181 in.)
	Mark D	3.05 mm (0.1201 in.)
	Mark E	3.10 mm (0.1220 in.)
	Mark F	3.15 mm (0.1240 in.)
Input shaft rear ball bearing snap ring thickness		
	Mark A	2.00 mm (0.0787 in.)
	Mark B	2.10 mm (0.0827 in.)
	Mark C	2.20 mm (0.0866 in.)
	Mark D	2.30 mm (0.0906 in.)
	Mark E	2.40 mm (0.0945 in.)
Idler low gear thrust clearance	STD	0.125 - 0.275 mm (0.00492 - 0.01083 in.)
	Max.	0.275 mm (0.01083 in.)
Idler low gear radial clearance	STD	0.015 - 0.068 mm (0.00059 - 0.00268 in.)
	Max.	0.068 mm (0.00268 in.)
Idler gear diameter	STD	38.48 - 38.50 mm (1.5149 - 1.5157 in.)
	Max.	38.50 mm (1.5157 in.)
Idler low gear diameter	STD	45.52 - 45.54 mm (1.7922 - 1.7930 in.)
	Max.	45.54 mm (1.7930 in.)
High speed output gear thrust clearance	STD	0.10 - 0.25 mm (0.0039 - 0.0098 in.)
	Max.	0.25 mm (0.0098 in.)
High speed output gear radial clearance	STD	0.035 - 0.091 mm (0.00138 - 0.00358 in.)
	Max.	0.091 mm (0.00358 in.)
Center differential front case, rear case backlash	Max.	0.05 mm (0.0020 in.)

Shift fork No.2 and clutch sleeve clearance	STD	0.1 - 0.4 mm (0.0039 - 0.0157 in.)
	Max.	0.4 mm (0.0157 in.)
Center differential side gear thrust washer thickness		
		1.70 mm (0.0669 in.)
		1.85 mm (0.0728 in.)
		2.00 mm (0.0787 in.)
		2.15 mm (0.0846 in.)
		2.30 mm (0.0906 in.)
		2.45 mm (0.0965 in.)
		2.60 mm (0.1024 in.)
		2.75 mm (0.1083 in.)
		2.90 mm (0.1142 in.)
		3.05 mm (0.1201 in.)
Front drive gear piece snap ring thickness		
	Mark A	2.00 mm (0.0787 in.)
	Mark B	2.10 mm (0.0827 in.)
	Mark C	2.20 mm (0.0866 in.)
	Mark D	2.30 mm (0.0906 in.)
	Mark E	2.40 mm (0.0945 in.)
	Mark F	2.50 mm (0.0984 in.)
	Mark G	2.60 mm (0.1024 in.)
	Mark H	2.70 mm (0.1063 in.)
	Mark J	2.80 mm (0.1102 in.)
	Mark K	1.80 mm (0.0709 in.)
	Mark L	1.90 mm (0.0748 in.)
Front extension housing ball bearing snap ring thickness		
	Mark A	1.70 mm (0.0669 in.)
	Mark B	1.80 mm (0.0709 in.)
Front output shaft hub snap ring thickness		
	Mark A	1.80 mm (0.0709 in.)
	Mark B	1.90 mm (0.0748 in.)
	Mark C	2.00 mm (0.0787 in.)
	Mark D	2.10 mm (0.0827 in.)
	Mark E	2.20 mm (0.0866 in.)
Oil pump driven rotor body clearance	STD	0.08 - 0.17 mm (0.0031 - 0.0067 in.)
	Max.	0.17 mm (0.0067 in.)
Oil pump driven rotor body tip clearance	STD	0.05 - 0.15 mm (0.0020 - 0.0059 in.)
	Max.	0.15 mm (0.0059 in.)
Oil pump side clearance	STD	0.03 - 0.10 mm (0.0012 - 0.0039 in.)
	Max.	0.10 mm (0.0039 in.)
Rear extension housing ball bearing snap ring thickness		
	Mark A	1.70 mm (0.0669 in.)
	Mark B	1.80 mm (0.0709 in.)
Rear output shaft ball bearing snap ring thickness		
	Mark 1	1.95 mm (0.0768 in.)
	Mark 2	2.05 mm (0.0807 in.)
	Mark 3	2.15 mm (0.0847 in.)
	Mark 4	2.25 mm (0.0886 in.)
Motor actuator		
Terminal 1 - Terminal 5	STD resistance	0.3 - 100 Ω
Terminal 1 or 5 - body ground	STD resistance	More than 0.5 MΩ
Breather hose (from the hose end to the clip end)		5 mm (0.20 in.) or more

SS0ON-04

TORQUE SPECIFICATION

Part tightened	N·m	kgf·cm	ft·lbf
Crossmember x Frame	50	510	37
Crossmember x Engine rear mounting	74	750	54
Transfer x Transmission	69	700	51
Filler and drain plug	37	380	27
Oil pump plate x Rear extension housing	4.9	50	43 in.·lbf
Oil pump cover x Rear extension housing	4.9	50	43 in.·lbf
Lever lock pin	12	120	9
Oil strainer x Rear case	4.9	50	43 in.·lbf
Oil receiver x Front case	12	120	9
Case cover x Rear case	37	380	27
Rear extension housing x Rear case	37	380	27
Front extension housing x Front case	37	380	27
Transfer indicator switch (Center diff. lock)	37	380	27
Transfer indicator switch (Low switch)	37	380	27
Transfer indicator switch (Neutral switch)	37	380	27
Screw plug x Front case	19	190	14
Screw plug x Rear extension housing	29	300	22
Motor actuator x Front case	18	185	13
Differential front case x Differential rear case	See page TR-31		
Front case x Rear case	37	380	27
Crossmember x Transfer case protector	28	290	21
Speed sensor driven gear	11	115	8
Transfer shift lever rod assembly x Shift outer lever	14	140	10
Transfer control shift lever retainer x Transmission	19	190	14
Transfer x Front propeller shaft	80	820	59
Front propeller shaft x Front differential	80	820	59
Transfer x Rear propeller shaft	106	1,080	78
Rear propeller shaft x Rear differential	106	1,080	78
Rear extension housing x Retainer	39	400	29