

SERVICE MANUAL

ARTICULATING BOOMS

MODELS SJ46AJ SJ51AJ

168896AI August 2022

SKYJACK

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Section 1
SCHEDULED MAINTENANCE

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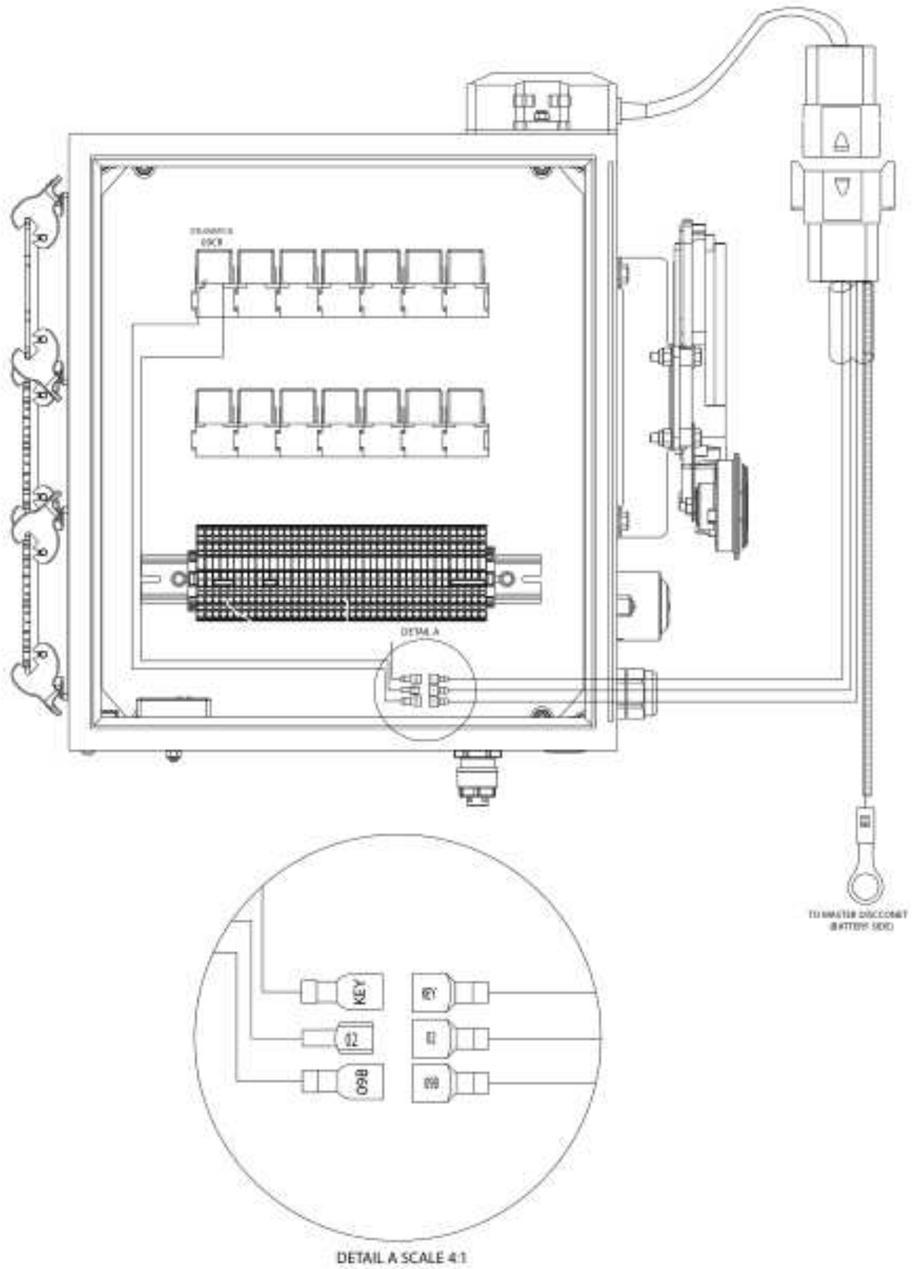
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AB

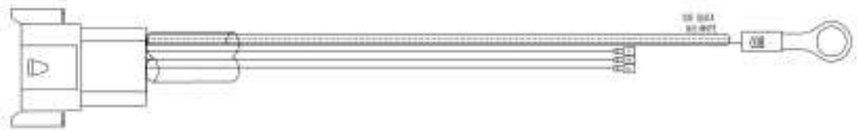
	MODEL	SJ 46AJ (ANSI/CSA)	SJ 44AJ (CE & AS)	SJ 51AJ (CE & AS)
	Maximum Load Capacity	500 lb. (227 kg)	227 kg	227 kg
Height & Reach	Working Height	52 ft. 3-1/4 in. (15.93 m)	16.1 m	17.93 m
	Platform Elevated Height	46 ft. 3-1/4 in. (14.1 m)	14.1 m	15.93 m
	Drive Height	Driveable at all heights	Driveable at all heights	Driveable at all heights
	Horizontal Reach	24 ft. 8-3/4 in. (7.54 m)	7.54 m	9.08 m
	Horizontal Reach at Maximum Height	8 ft. 1 in. (2.47 m)	2.47 m	2.86 m
	Tailswing	0	0	0
	Up and Over Clearance at Platform	24 ft. 8-3/4 in. (7.53 m)	7.53 m	7.53 m
	Up and Over Clearance at Main Boom	24 ft. 5-1/4 in. (7.45 m)	7.45 m	7.45 m
Platform	Platform Size	30 x 60 in. (0.76 x 1.52 m) 30 x 72 in. (0.76 x 1.83 m)	0.76 m x 1.52 m 0.76 m x 1.83 m	0.76 m x 1.52 m 0.76 m x 1.83 m
	Platform Rotation	178 degrees	178 degrees	178 degrees
	Platform Height - Stowed	10 in. (0.25 m)	0.25 m	0.25 m
	Platform Height - Overall	52 ft. 1/2 in. (1.33 m)	1.33 m	1.33 m
	Railing Height - Platform	43 ft. 1/2 in. (1.10 m)	1.10 m	1.10 m
Dimensional Data	Height - Stowed	6 ft. 9 in. (2.06 m)	2.06 m	2.06 m
	Length - Stowed	22 ft. 10 in. (6.95 m)	6.95 m	7.10 m
	Width	7 ft. 6 in. (2.29 m)	2.29 m	2.29 m
	Wheelbase	6 ft. 8 in. (2.06 m)	2.06 m	2.06 m
	Ground Clearance - Chassis	15-1/4 in. (0.39 m)	0.39 m	0.39 m
	Ground Clearance - Rear Axle	10-3/4 in. (0.27 m)	0.27 m	0.27 m
	Axle Oscillation	8 degrees	8 degrees	8 degrees
	Turning Radius - Inside	4 ft. 11-1/4 in. (1.50 m)	1.50 m	1.50 m
	Turning Radius - Outside	14 ft. 3 in. (4.34 m)	4.34 m	4.34 m
	Turning Angle	45 degrees	45 degrees	45 degrees
	Turret Rotation	360 degrees continuous	360 degrees continuous	360 degrees continuous
Jib	Length - Stowed	55-3/4 in. (1.42 m)	1.42 m	1.42 m
	Travel - Down	70 degrees	70 degrees	70 degrees
	Travel - Up	75 degrees	75 degrees	75 degrees
Performance & Speeds	Gradeability - Maximum	45%	45%	45%
	Drive Speed - Stowed/Low Torque	4.8 mph (7.7 km/h)	7.7 km/h	7.7 km/h
	Drive Speed - Stowed/High Torque	1.8 mph (2.9 km/h)	2.9 km/h	2.9 km/h
	Drive Speed - Elevated	0.5 mph (0.8 km/h)	0.8 km/h	0.8 km/h
	Turret Rotation	78 seconds	90 seconds	90 seconds
	Platform Rotation	20 seconds	20 seconds	20 seconds
	Main Boom Elevation - Up	26 seconds	26 seconds (AS) 29 seconds (CE)	26 seconds (AS) 29 seconds (CE)
	Main Boom Elevation - Down	26 seconds	26 seconds (AS) 29 seconds (CE)	26 seconds (AS) 29 seconds (CE)
	Riser Boom Elevation - Up	26 seconds	26 seconds	26 seconds
	Riser Boom Elevation - Down	31 seconds	26 seconds (AS) 31 seconds (CE)	26 seconds (AS) 31 seconds (CE)
	Fly Boom Extend	11 seconds	11 seconds	15 seconds
	Fly Boom Retract	19 seconds	19 seconds	26 seconds
	Jib Elevation - Up	39 seconds	39 seconds	39 seconds
	Jib Elevation - Down	23 seconds	23 seconds	23 seconds
	Main Boom + Riser Boom Elevation - Down	N/A	>39 seconds	>39 seconds
Tire	Size	12 x 16.5 in. (0.31 x 0.42 m)	12 x 16.5 in. (0.31 x 0.42 m)	12 x 16.5 in. (0.31 x 0.42 m)
	Wheel Assembly Weight - Air	115 lbs. (52 kg)	N/A	N/A
	Wheel Assembly Weight - Foam	315 lbs (143 kg)	143 kg	143 kg
Electrical	System Voltage	12 VDC	12 VDC	12 VDC
	Type	Lead / Acid	Lead / Acid	Lead / Acid
	Cold Cranking Amperes	950 CCA	950 CCA	950 CCA
Weight & Pressure	Weight with Air Tires - No Options	13,300 lbs. (6050 kg)	N/A	N/A
	Weight with Foam Tires - No Options	14,110 lbs. (6400 kg)	6400 kg	7050 kg
	Wheel Load	6900 lbs (3130 kg) Air 7338 lbs. (3315 kg) Foam	3315 kg	3640 kg
	Locally Concentrated Pressure - LCP	115 psi (793 kPa) Air 124 psi (856 kPa) Foam	856 kPa	940 kPa
	Overall Uniform Pressure - OUP	200 psf (9.6 kPa) Air 146 psf (10.1 kPa) Foam	10.1 kPa	11.0 kPa

NOTE: All dimensional values are nominal and do not account for tire deflection.

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DETAIL A SCALE 4:1





USE SEALING PLUG FOR ALL UNUSED CONNECTOR CAVITIES. FOR THE FOLLOWING PINS # 5,6,7,8.

8 PIN CONNECTOR



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Introduction

The following pages contain a table of Troubleshooting Information for locating and correcting most service trouble which can develop. Careful and accurate analysis of the systems listed in the table of Troubleshooting Information will localize the trouble more quickly than any other method. This manual cannot cover all possible troubles and deficiencies that may occur. If a specific trouble is not listed, isolate the major component in which the trouble occurs, isolate whether the problem is electrical or hydraulic, and then isolate and correct the specific problem.

The content of this section is separated into "probable cause" and "remedy." The information preceded by a number represents the "probable cause." The following line, noted by a dash represents the "remedy" to the "probable cause" directly above it. See example below for clarification.

1. Probable Cause
   - Remedy

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TROUBLESHOOTING INFORMATION

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Table 2.6 Torque Specifications for Hydraulic Couplings & Hoses

HYDRAULIC COUPLING TORQUE CHART O-Ring Port Connectors				
SAE Size	Steel Ports		Non-ferrous Ports	
	ft-lb	Nm	ft-lb	Nm
4	14-16	20-22	9-10	12-13
6	24-26	33-35	15-16	20-21
8	50-60	68-78	30-36	41-47
10	72-80	98-110	43-48	60-66
12	125-135	170-183	75-81	102-110
16	200-220	270-300	120-132	162-180
20	210-280	285-380	126-168	171-228
24	270-360	370-490	162-216	222-294
32	-	-	-	-

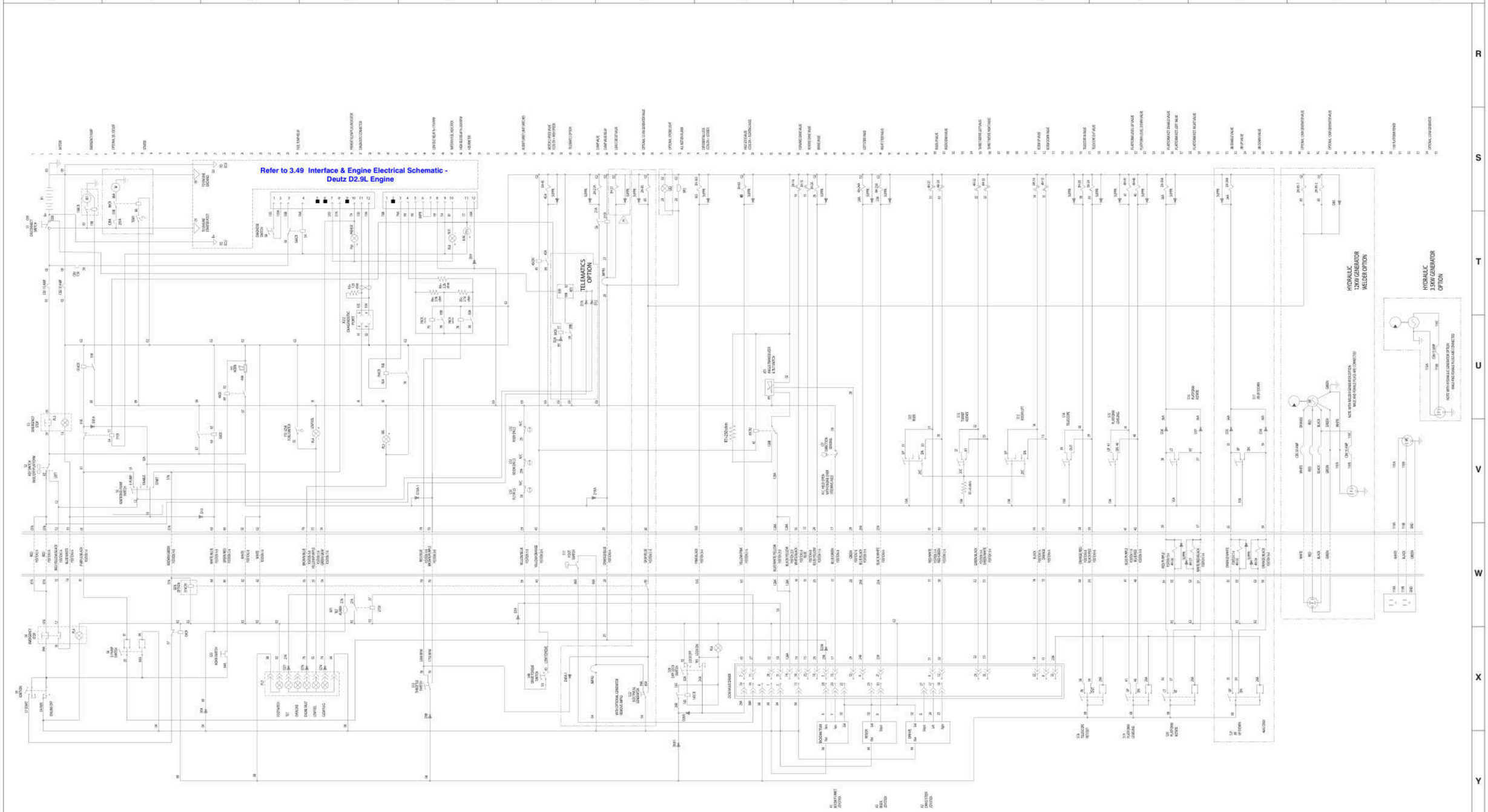
HOSE END TORQUE CHART for JIC									
Size		Steel				Brass			
Dash	Frac.	ft-lb		Nm		ft-lb		Nm	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
-4	1/4"	10	11	13	15	5	6	6.75	9
-6	3/8"	17	19	23	26	12	15	17	20
-8	1/2"	34	38	47	52	20	24	27.66	33
-10	5/8"	50	56	69	76	34	40	46.33	55
-12	3/4"	70	78	96	106	53	60	72.33	82
-16	1"	94	104	127	141	74	82	100.5	111
-20	1 1/4"	124	138	169	188	75	83	101.5	113
-24	1 1/2	156	173	212	235	79	87	107	118
-32	2"	219	243	296	329	158	175	214	237

HOSE END TORQUE CHART for Flat-Face O-Ring Seal (Steel)					
Size		Torque Specification			
Dash	Frac.	ft-lb		Nm	
		Min.	Max.	Min.	Max.
-4	1/4"	10	12	14	16
-6	3/8"	18	20	24	27
-8	1/2"	32	40	43	54
-10	5/8"	46	56	60	75
-12	3/4"	65	80	90	110
-14	1"	65	80	90	110
-16	1 1/4"	92	105	125	240
-20	1 1/2	125	140	170	190
-24	2"	150	180	200	245

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