SKYJACK

SERVICE MANUAL

SJ6832 RTE

ROUGH TERRAIN SCISSORS



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ANSI/CSA

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2.6 Torque Specifications for Fasteners (Imperial)

When specific torque values are not provided within this manual for a task, use the torque values given in the table below.

IMPERIAL BOLT TORQUE CHART							
Size	Torque Type	SAE 2		SAE 5		SAE 8	
		Dry	Lubed	Dry	Lubed	Dry	Lubed
4-40	(in-lb)	(5)	(4)	(8)	(6)	(12)	(9)
	Nm	0.6	0.5	0.9	0.7	1.4	1.0
4-48	(in-lb)	(6)	(5)	(9)	(7)	(13)	(10)
	Nm	0.7	0.6	1.0	0.8	1.5	1.1
6-32	(in-lb)	(10)	(8)	(16)	(12)	(23)	(17)
	Nm	1.1	0.9	1.8	1.4	2.6	1.9
6-40	(in-lb)	(12)	(9)	(18)	(13)	(25)	(19)
	Nm	1.4	1.0	2.0	1.5	2.8	2.1
8-32	(in-lb)	(19)	(14)	(30)	(22)	(41)	(31)
	Nm	2.1	1.6	3.4	2.5	4.6	3.5
8-36	(in-lb)	(20)	(15)	(31)	(23)	(43)	(32)
	Nm	2.3	1.7	3.5	2.6	4.9	3.6
10-24	(in-lb)	(27)	(21)	(43)	(32)	(60)	(45)
	Nm	3.1	2.4	4.9	3.6	6.8	5.1
10-32	(in-lb)	(31)	(23)	(49)	(36)	(68)	(51)
	Nm	3.5	2.6	5.5	4.1	7.7	5.8
1/4-20	(in-lb) / ft-lb	(66)	(50)	8	(75)	12	9
	Nm	7.5	5.6	11	8.5	16	12
1/4-28	(in-lb) / ft-lb	(76)	(56)	10	(86)	14	10
	Nm	8.6	6.3	14	9.7	19	14
5/16-18	ft-lb	11	8	17	13	25	18
	Nm	15	11	23	18	34	24
5/16-24	ft-lb	12	9	19	14	25	20
	Nm	16	12	26	19	34	27
3/8-16	ft-lb	20	15	30	23	45	35
	Nm	27	20	41	31	61	47
3/8-24	ft-lb	23	17	35	25	50	35
	Nm	31	23	47	34	68	47
7/16-14	ft-lb	32	24	50	35	70	55
	Nm	43	33	68	47	95	75
7/16-20	ft-lb	36	27	55	40	80	60
	Nm	49	37	75	54	108	81
1/2-13	ft-lb	50	35	75	55	110	80
	Nm	68	47	102	75	149	108
1/2-20	ft-lb	55	40	90	65	120	90
	Nm	75	54	122	88	163	122

Inch-Pound Force = in-lb Foot-Pound Force = ft-lb Newton-Meter = Nm

NOTE: Lubed includes lubricants such as lubrizing, oil, grease, and some uncured thread lockers. Refer to the specific thread locker manufacturer's instructions for specific torque adjustments.

IMPERIAL BOLT TORQUE CHART							
Size	Torque Type	SAE 2		SAE 5		SAE 8	
		Dry	Lubed	Dry	Lubed	Dry	Lubed
9/16-12	ft-lb	70	55	110	80	150	110
	Nm	95	75	149	108	203	149
9/16-18	ft-lb	80	60	120	90	170	130
	Nm	108	81	163	122	230	176
5/8-11	ft-lb	100	75	150	110	220	170
	Nm	136	102	203	149	298	230
5/8-18	ft-lb	110	85	180	130	240	180
	Nm	149	115	244	176	325	244
3/4-10	ft-lb	175	130	260	200	380	280
	Nm	237	176	353	271	515	380
3/4-16	ft-lb	200	150	300	220	420	320
	Nm	271	203	407	298	569	434
7/8-9	ft-lb	170	125	430	320	600	460
	Nm	230	169	583	434	813	624
7/8-14	ft-lb	180	140	470	360	660	500
	Nm	244	190	637	488	895	678
1-8	ft-lb	250	190	640	480	900	680
	Nm	339	258	868	651	1220	922
1-12	ft-lb	270	210	710	530	1000	740
	Nm	366	285	963	719	1356	1003
1-14	ft-lb	280	210	730	540	1020	760
	Nm	380	285	990	732	1383	1030
1 1/8-7	ft-lb	350	270	800	600	1280	960
	Nm	475	366	1085	813	1735	1302
1 1/8-12	ft-lb	400	300	880	660	1440	1080
	Nm	542	407	1193	895	1952	1464
1 1/4-7	ft-lb	500	380	1120	840	1820	1360
	Nm	678	515	1519	1139	2468	1844
1 1/4-12	ft-lb	550	420	1240	920	2000	1500
	Nm	746	569	1681	1247	2712	2034
1 3/8-6	ft-lb	670	490	1460	1100	2380	1780
	Nm	908	664	1979	1491	3227	2413
1 3/8-12	ft-lb	750	560	1680	1260	2720	2040
	Nm	1017	759	2278	1708	3688	2766
1 1/2-6	ft-lb	870	650	1940	1460	3160	2360
	Nm	1180	881	2630	1979	4284	3200
1 1/2-12	ft-lb	980	730	2200	1640	3560	2660
	Nm	1329	990	2983	2224	4827	3606

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3.4 Hydraulic Schematic Parts List

Index No.	Skyjack Part No.	Description
2H-13	103655	VALVE, Control (lowering)
2H-13-1	107269	VALVE, Holding (lower cylinder)w
2H-13-2	107269	VALVE, Holding (upper cylinder)
2H-17C	103655	VALVE, Holding (outrigger)
2H-20B	111937	VALVE, Control (high speed)
2H-21A	114365	VALVE, Dump (large pump)
2H-21A-1	103656	VALVE, Dump (small pump)
3H-14A	106273	VALVE, Control (lift)
3H-30	103623	VALVE, Control (brake)
4H-15	139256	VALVE, Control (reverse drive)
4H-15A	128318	VALVE, Control (parallel reverse drive)
4H-16	139256	VALVE, Control (forward drive)
4H-16A	128318	VALVE, Control (parallel forward drive)
4H-20A	139351	VALVE, Control (series/parallel)
4H-23	153336	VALVE, Control (right steer)
4H-24	153336	VALVE, Control (left steer)
4H-71	153336	VALVE, Control (front left outrigger retract)
4H-72	153336	VALVE, Control (front right outrigger retract)
4H-73	153336	VALVE, Control (rear right outrigger retract)
4H-74	153336	VALVE, Control (rear left outrigger retract)
4H-75	153336	VALVE, Control (front left outrigger extend)
4H-76	153336	VALVE, Control (front right outrigger extend)
4H-77	153336	VALVE, Control (rear right outrigger extend)
4H-78	153336	VALVE, Control (rear left outrigger extend)
C1	120989	CYLINDER, Lift (lower)
C2	120989	CYLINDER, Lift (upper)
C7	135896	CYLINDER, Steer
C8	107752	CYLINDER, Cushion
C9	132694	CYLINDER, Outrigger (front left)
C10	132694	CYLINDER, Outrigger (front right)
C11	132694	CYLINDER, Outrigger (rear right)
C12	132694	CYLINDER, Outrigger (rear left)
CB1	137181	VALVE, Counterbalance (main)
CB2	137181	VALVE, Counterbalance (parallel)
CV1	104624	VALVE, Check
CV2	104624	VALVE, Check
CV3	104624	VALVE, Pilot check
CV4	104624	VALVE, Pilot check
CV5	104624	VALVE, Pilot check
CV6	104624	VALVE, Pilot check
CV7	104115	VALVE, Pilot check
CV8	104115	VALVE, Pilot check
CV9	104115	VALVE, Pilot check
CV10	104115	VALVE, Pilot check
		Parts list continued on following page.

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Flash Code	Displayed on MDI	Probabable Cause	Remedy
05A62	TH. PROTECTION	ACE3 High temp alarm, if high temp is not real proceed to remedy	**Cause:** This alarm occurs when the temperature of the base plate is higher than 85°. Then the maximum current decreases proportionally with the temperature increases from 85° up to 105°. At 105° the Current is limited to 0 Amps. **Troubleshooting:** It is necessary to improve the controller cooling. In case of thermal dissipation realised with the controller base plate installed on chassis it is important the thickness of frame and the planarity and roughness of its surface. If the alarm is signalled when the controller is cold, the possible reasons are a thermal sensor failure or a failure in the logic card. In this case, it is necessary to replace the ACE3.
05A65	MOTOR TEMPERAT.	Motor temp high.	This warning occurs when the temperature sensor has overtaken the threshold of 150°. **Troubleshooting:** Check the thermal sensor inside the motor (use the MOTOR TEMPERATURE reading in the TESTER menu); check the sensor ohmic value and the sensor wiring. If the sensor is OK, improve the cooling of the motor. If the warning is present when the motor is cool, then the problem is inside the controller. Replace ACE3.
05A68	SENS MOT TEMP KO	Motor temp sensor fault	**Cause:** The output of the motor thermal sensor is out of range. **Troubleshooting:** Check the sensor ohm value (at 20C the Sensor should read approx 600 Ohms) and the sensor wiring. If the sensor is OK, then the problem is inside the controller Replace ACE3.
05A69	CRANKING FAILED	Range extender cranking procedure failed	Refer to Range Extender troubleshooting in Section 4.
05A70	GEN SWITCH FAULT	Range extender ON request and AUTO request active at the same time	Refer to Range Extender troubleshooting in Section 4.
05A71	GEN. OFF FAILED	Range extender shutdown procedure failed	Refer to Range Extender troubleshooting in Section 4.
05A72	GEN. FAILURE	Unrequested OFF state	Refer to Range Extender troubleshooting in Section 4.
05A73	PEB-PEVP NOT OK	Check of Positive feed for relays on wire #3C	Check ACE3 PIN A17 and fuse F3 for 12V.
05A74	DRIVER SHORTED	Internal ACE3 Controller check	Make sure coil wires on line contactor are connected securely. Check for 48 volts at coil wires. Make sure harness to coil is not shorted. Replace ACE3.
05A75	CONTACTOR DRIVER	Internal ACE3 Controller check	Make sure coil wires on line contactor are connected securely. Check for 48 volts at coil wires. Make sure harness to coil is not shorted. Replace ACE3.
05A76	MC COIL SHOR.	Check the Line Contactor coil	This code is displayed when the coil of the line contactor is shorted or the wiring to the coil is shorted. Check coil and wiring. If error code remains it is an internal fault in the controller. Replace ACE3.

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2.5 Torque Specifications

Cartridge						
Torque	Size					
	8	38	58	10	12	16
Lb-ft (max)	20			25	35	50
Lb-in (max)	240			300	420	600
Nm (max)	27.12			33.9	47.46	67.8

Coils	
Torque	Size
	All coils
Lb-ft (max)	4 to 5
Lb-in (max)	48 to 60
Nm (max)	5.42 to 6.78

SAE Plugs								
Torque	Size							
	2	4	5	6	8	10	12	16
Lb-ft (max)	3	10	15		25		30	35
Lb-in (max)	36	120	180		300		360	420
Nm (max)	4.07	13.56	20.34		33.9		40.68	47.46

Bolts		
Type of Bolt	Torque (ft-lb)	Torque (Nm)
Directional valve mounting bolts	2.33 (28-32 in-lb)	3.16 - 3.61
Wheel mounting bolts	90	122
Wheel motor castle nut (front)	350	474.54
Wheel motor castle nut (back)	350	474.54
Center drive sprocket mounting bolts	110 - 115 (242 Loctite)	149 -156
Hydraulic drive motor mounting bolts (Front)	75	101
Hydraulic drive motor mounting bolts (Rear)	150	203
Positive battery post cable/fuse nut	7.5 (90 in-lb)	10.2
Steer cylinder nut	70	94.9

Newton-meter = Nm	Foot-Pound Force = ft-lb	Inch-Pound Force = in-lb

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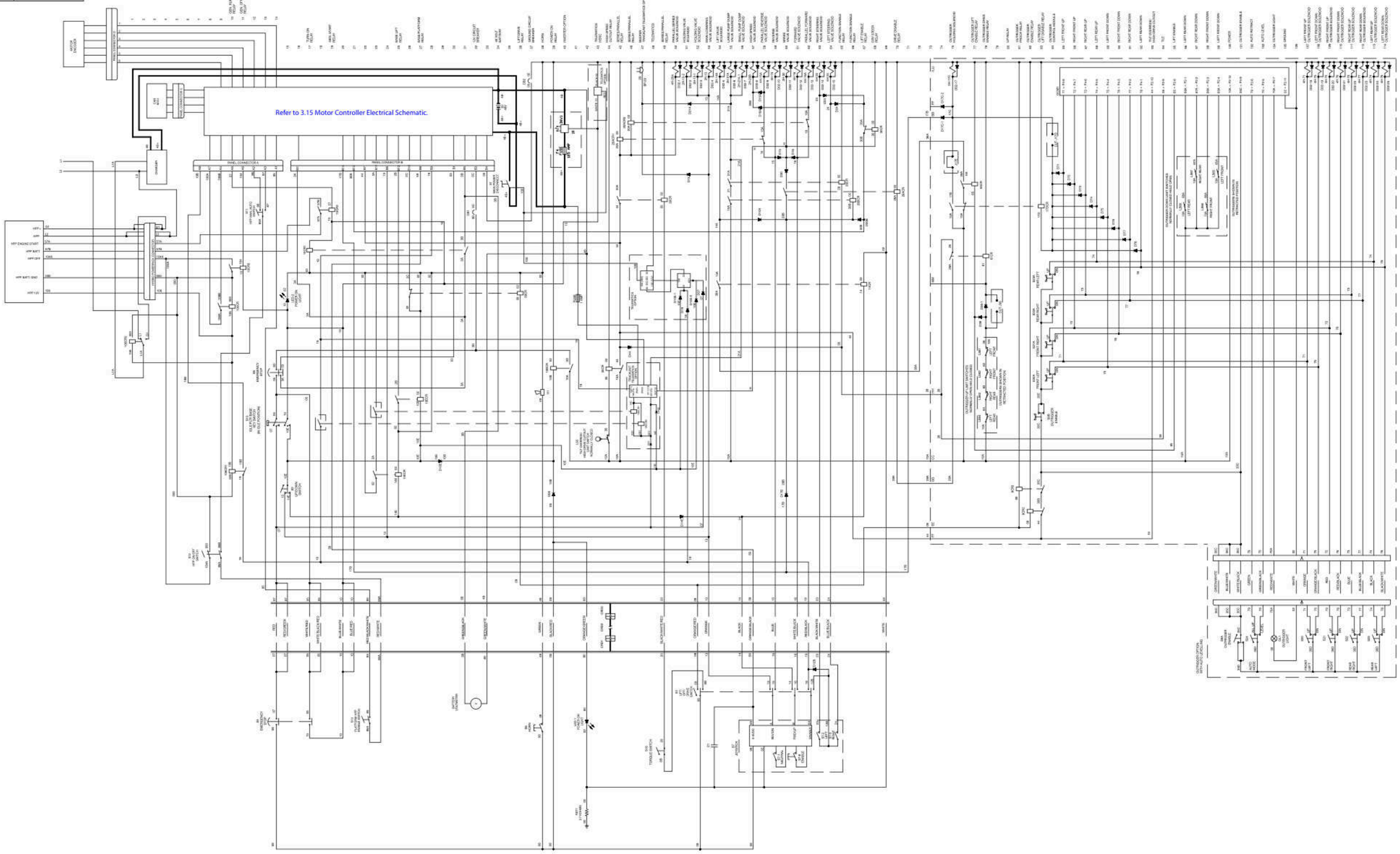
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3.22 Electrical Schematic – All Options – S/N 37300235 & above

Serial Number Breakdown Reference Chart	
Model	Serial Number
SJ68RTE	37300235 & above



M167372AF-Schematic

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