SERVICE MANUAL

TELESCOPIC BOOMS

MODELS SJ40T SJ45T

194311AM September 2025

SKYJACK

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Section 1
SCHEDULED MAINTENANCE

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Table 2.11 Specifications and Features (Continued)

	MODEL		SJ40T & SJ45T
Engine - Deutz D2.9L	Engine Type		Deutz D2.9L
	RPM Settings		900 Low / 1700 / 2600 High
	Horsepower @ 2000 rpm (intermittent)		29.8 kW / 40 Hp
	Fuel Type		Diesel
	Fuel Tank Capacity		45 gal (170.3 L)
	Standard Lube Oil	0°F to 115°F (- 18°C to 45°C)	SAE 15W-40 API CF/CG/CH-4
	Cold Lube Oil	- 20°F to 90°F (- 29°C to 32°C)	SAE 0W-30 API CF/CG/CH-4
	Arctic Lube Oil	- 40°F to 115°F (- 40°C to 45°C)	SAE 0W-40 API CF/CG/CH-4
	Approved Alternates		See Engine Manual
	Lube Oil Sump Capacity		2.38 gal (9 L)
	Standard & Arctic Coolant	- 40°F to 115°F (- 40°C to 45°C)	Delo 50/50 Extended Life Coolant
	Coolant Capacity		3.0 gal (11.4 L)
Engine - Deutz D2011	Engine Type		Deutz D2011L03I
	RPM Settings		1600 Low / 2100 / 2675 High
	Gross Intermittent HP		36 kW / 48 Hp
	Horsepower @ 2600 rpm (intermittent)		34 kW / 45 Hp
	Fuel Type		Diesel
	Fuel Tank Capacity		45 gal (170.3 L)
	Standard Lube Oil	0°F to 115°F (- 18°C to 45°C)	SAE 15W-40 API CF/CG/CH-4
	Cold Lube Oil	- 20°F to 90°F (- 29°C to 32°C)	SAE 0W-30 API CF/CG/CH-4
	Arctic Lube Oil	- 40°F to 115°F (- 40°C to 45°C)	SAE 0W-40 API CF/CG/CH-4
	Approved Alternates		See Engine Manual
	Lube Oil Sump Capacity		1.45 gal (5.5 L)
Engine - GM	Engine Type		GM 3.0L Dual Fuel
	RPM Settings		900 Low / 1620 / 2675 High
	Gross Intermittent HP		46 kW / 62 Hp
	Horsepower @ 2600 rpm (intermittent)		45 kW / 60 Hp
	Fuel Type - Dual		Gasoline/Propane
	Fuel Tank Capacity		45 gal (170.3 L)
	Standard Lube Oil	- 40°F to 115°F (- 40°C to 45°C)	SAE 5W-30 API SL
	Approved Alternates		See Engine Manual
	Lube Oil Capacity		1.19 gal (4.5 L)
	Standard Coolant	- 20°F to 115°F (- 29°C to +45°C)	Delo 50/50 Extended Life Coolant
	Arctic Coolant	- 40°F to 115°F (- 40°C to 45°C)	Recochem 60/40 Extended Life Coolant
	Coolant Capacity		3.0 gal (11.4 L)
Engine - Kubota	Engine Type		Kubota 2.5L Dual Fuel WG2503
	RPM Settings		927 Low / 1700 / 2675 High
	Gross Intermittent HP		45.5 kW / 61 Hp
	Fuel Type - Dual		Gasoline/Propane
	Fuel Tank Capacity		45 gal (170.3 L)
	Standard Lube Oil	- 40°F to 115°F (- 40°C to 45°C)	SAE 5W-30 API SL
	Approved Alternates		See Engine Manual
	Lube Oil Capacity		2.5 gal (9 L)
	Standard Coolant	- 20°F to 115°F (- 29°C to +45°C)	Recochem 50/50 Extended Life Coolant
	Arctic Coolant	- 40°F to 115°F (- 40°C to 45°C)	Recochem 60/40 Extended Life Coolant
	Coolant Capacity		3.17 gal (12 L)
Hydraulic Oil	Oil Cooler Option	100°F to 115°F (38°C to 46°C)	Oil cooler option recommended
	Standard Hydraulic Oil	-15°F to 100°F (-26°C to 38°C)	Shell Tellus T46
	Arctic Hydraulic Oil	- 40°F to 100°F (- 40°C to 38°C)	Esso/Mobil UNIVIS HVI 26 Petro-Canada HYDREX EXTREME
	Approved Alternates	-15°F to 100°F (-26°C to 38°C)	Mobilfluid 424, Esso UNIVIS N46, Chevron Rycon MV
		- 40°F to 80°F (- 40°C to 27°C)	Mobil DTE 13M, Esso UNIVIS N22, Petro-Canada HYDREX MV Arctic 15
	Hydraulic Tank Capacity		59 gal (223.3 L)
Gear Oil	Standard Gear Oil	- 20°F to 115°F (- 29°C to 45°C)	LS 80W-90 GL5
	Arctic Gear Oil	- 40°F to 115°F (- 40°C to 45°C)	Duratran XL Synthetic Oil
	Gear Oil Capacity		10 gal (38 L)

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3.4 Hydraulic Schematic Parts List

Index No.	Skyjack Part No.	Qty.	Description
			Parts list continued from previous page.
OR8	194493	1	VALVE, Needle (Load Circuit)
P1	154119	1	PUMP (Hydrostatic)
P1A	154119	1	PUMP (Charge)
P2	163595	1	PUMP (System)
PR1	166051	1	VALVE, Control (Pressure Reducing)
PR2	168242	1	VALVE, Control (Pressure Reducing)
QD1	122420	1	QUICK DISCONNECT
RA1	144710	1	ACTUATOR (Platform)
RA2	167209	1	ACTUATOR (Swing)
RV1	166042	1	RELIEF (Main Manifold)
RV2	166049	1	RELIEF (Swing)
RV3	166047	1	RELIEF (Platform Level)
RV4	166048	1	RELIEF (Boom Extend)
RV5	166045	1	RELIEF (Brake Manifold)
RV6	N/A	1	RELIEF (Drive)
RV7	N/A	1	RELIEF (Drive)
RV8	N/A	1	RELIEF (Charge)
RV9	N/A	1	RELIEF (EPU)
SV1	141414	1	VALVE, Shuttle (Main Manifold)
SV2	141414	1	VALVE, Shuttle (Main Manifold)
SV3	141414	1	VALVE, Shuttle (Main Manifold)
SV4	N/A	1	VALVE, Shuttle (Generator Option)
SV5	166054	1	VALVE, Shuttle (Brake Manifold)
SV6	141414	1	VALVE, Shuttle (Brake Manifold)
SV7	138394	1	VALVE, Shuttle (Load Circuit)
V1	141436	1	VALVE, Control (Brake Release Override)
V2	166053	1	VALVE, Control (Loop Flush)
V3	159831	1	VALVE, Control (Brake Hand Pump)
V4	166060	1	VALVE, Control (Pilot Operated)
V5	166060	1	VALVE, Control (Pilot Operated)
V6	166060	1	VALVE, Control (Bypass, Towing)
V5	166060	1	VALVE, Control (Pilot Operated)
V6	N/A	1	VALVE, Control (Bypass, Towing)

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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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