SKYJACK

PARTS MANUAL

SJ643 TH, SJ843 TH

TELEHANDLERS



190125AJ
September 15 2026
ANSI

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901...

Order the manual at mid-west-tech.com >

Table of Contents

Foreword 3

General 3
Parts Ordering Information 3
Method of Listing 3
Quantities 3
How To Order Repair Parts 3
Recommended Service Parts 10

Section 1 – Main Frame 13

1.1 Sheet Metal 14
1.2 Frame Subgroup (S/N 87 112 757 and below) 16
1.3 Frame Subgroup - Dual Tilt Cylinders 18
1.4 Cowling Assembly (S/N 87 112 696 & below) 20
1.5 Steel Cowling (S/N 87 112 697 & above) 22
1.6 Fuel Tank 24
1.7 Hydraulic Tank 26

Section 2 – Axles 29

2.1 Front Axle 32
2.2 Front Axle - Internal Breakdown 34
2.3 Front Axle - Reduction Hub 36
2.4 Front Axle - Brakes 40
2.5 Front Axle - Steering 42
2.6 Front Axle - Trunion 43
2.7 Rear Axle 44
2.8 Rear Axle - Internal Breakdown 46
2.9 Rear Axle - Reduction Hub 48
2.10 Rear Axle - Brakes 50
2.11 Rear Axle - Steering 52
2.12 Rear Axle - Trunion 53
2.13 Drive Shaft 54
2.14 Tires and Wheels 56
2.15 Tire and Wheel Assembly - Non-marking 58

Section 3 – Engine and Transmission 61

3.1 Engine Tray 62
3.2 Engine Tray 2.2L Engine 64
3.3 Engine and Powershift Transmission 66
3.4 Engine and Powershift Transmission (EMR5) 68
3.5 2.9L Engine Components 70

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901... Order the manual at mid-west-tech.com >

3.6 2.2 L Engine Components....72
3.7 Powershift Transmission - Housing & Case....74
3.8 Transmission - Gear Group....78
3.9 Transmission - Drive Plate, Torque Converter & Pump....80
3.10 Transmission - Forward & Reverse Group....82
3.11 Transmission - 1st, 2nd & 3rd Shaft....84
3.12 Transmission - Output Shaft & Control Group....86
3.13 Transmission - Drop Box....88
3.14 Fuel Lines....90
3.15 Air Intake System....92
3.16 Exhaust Installation....94
3.17 Cooling Package 2.9L Engine....96
3.18 Cooler Subgroup - 2.2L Engine....98
3.19 Cooler - Internal Breakdown 2.9L Engine....100
3.20 Cooler - Internal Breakdown 2.2L Engine....102
3.21 Radiator - Internal Breakdown....104
3.22 Powershift Transmission Hydraulic Pump - 2.9L Engine....106
3.23 Hydraulic Pump - 2.2L Engine....108

Section 4 – Operator's Compartment....111

4.1 Cab Installation....112
4.2 Open Cab....114
4.3 Open Cab Side Window....120
4.4 Right Hand Console....122
4.5 Joystick Control....124
4.6 Premium Joystick....126
4.7 Front Console....128
4.8 LH Dash Panel....130
4.9 Engine Display....131
4.10 RH Dash Panel....132
4.11 Steering Console....134
4.12 Main Relay....136
4.13 Flip Chart....138
4.14 Fuse and Power....139
4.15 Enclosed Cab....140
4.16 Door Assembly....144
4.17 Door Window Assembly....146
4.18 Cab Heater System....148
4.19 Cab A/C System....150
4.20 A/C Compressor 2.9 L Engine....152
4.21 A/C Compressor 2.9 L Bracket Replacement Kit....154
4.22 A/C Compressor 2.2 L Engine....156
4.23 A/C Condenser....158

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901... Order the manual at mid-west-tech.com >

4.24 A/C Harness . . . 159
4.25 A/C and Heater Harness . . . 160

Section 5 – Electrical . . . 163
5.1 Chassis Harness . . . 164
5.2 Engine Harness . . . 166
5.3 Engine Harness (S/N 87 113 570 and above) . . . 170
5.4 Console Harness . . . 174
5.5 Glow Plug Harness - 2.9L Engine . . . 178
5.6 Glow Plug Harness - 2.2L Engine . . . 180
5.7 Enclosed Cab Harness . . . 182
5.8 Battery . . . 183
5.9 Battery Disconnect . . . 184
5.10 Battery Cables . . . 185
5.11 Tilt Sensor . . . 186
5.12 Jumper Harness . . . 187

Section 6 – Boom . . . 189
6.1 Boom Installation (S/N 87 112 757 & below) . . . 192
6.2 Boom Installation - Dual Tilt Cylinder . . . 194
6.3 First Boom Section . . . 196
6.4 Second Boom Section . . . 200
6.5 Third Boom Section . . . 202
6.6 Auxiliary Hydraulics . . . 204

Section 7 – Cylinders . . . 207
7.1 Extend Cylinder Components . . . 208
7.2 Lift Cylinder Components . . . 210
7.3 Fork Tilt Cylinder Components . . . 212
7.4 Tilt Compensation Cylinder . . . 214
7.5 Frame Level Cylinder Components . . . 216

Section 8 – Hydraulics . . . 219
8.1 Standard Hose Numbering System . . . 220
8.2 Main Manifold Installation . . . 222
8.3 Main Manifold Assembly . . . 224
8.4 Manifold Components . . . 226
8.5 LS Bleed Manifold - 2.2L Engine . . . 232
8.6 Hydraulic Return Filter . . . 234
8.7 Pressure Filter (S/N 87 112 771 & above) . . . 236
8.8 Boom & Telescopic Hydraulic Hoses . . . 238
8.9 Carriage Hydraulic Hoses . . . 240
8.10 Carriage Hydraulic Hoses - Dual tilt . . . 242
8.11 Frame Level Hydraulic Hoses . . . 244

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901... Order the manual at mid-west-tech.com >

Index No.	Skyjack Part No.	Qty.	Description
-	191604	1	ASSEMBLY, AUXILIARY CONTROL SUBGROUP
1	(Ref).	1	• ASSEMBLY, Auxiliary manifold subgroup (For components, refer to Section 8.17)
2	(Ref).	1	• ASSEMBLY, Auxiliary hydraulics hoses 643/843 (For components, refer to Section 8.16)
3	154241	2	• FITTING, Bulkhead 90° (08 JICM - 08 JICM)
4	154242	2	• NUT, Bulkhead - 08JIC
5	702598	2	• FITTING, 8JIC with lock nut
6	103885	5	• BOLT, Hex head 5/16"-18 x 1-3/4" grade 5
7	103996	2	• WASHER, Flat 5/16" SAE
8	103887	2	• BOLT, Hex head 5/16"-18 X 3/4" grade 5
9	103868	1	• BOLT, Hex head 5/16"-18 X 3-1/2" grade 5
10	104379	2	• WASHER, Flat 1/2" SAE hard
11	103470	2	• WASHER, Lock 1/2" grade 5
12	103907	2	• BOLT, Hex head 1/2"-13 X 1-1/2" grade 5
13	191127	1	• BRACKET, Sheave guard
14	191097	1	• BOLT, Shoulder 1-1/4" DIA x 2-1/2" long
15	191115	2	• SHEAVE, Hose
16	412663	8	• WASHER, Thrust
17	199762	6	• CLAMP, Twin #08
18	932673	6	• PLATE, Cover 3D
19	191128	1	• BRACKET, Bulkhead
20	191605	1	• PLATE, Hose stand off
21	206134	1	• COUPLING, Quick disconnect (flat-faced)
22	206135	1	• COUPLING, Nipple - quick disconnect
23	926080	1	• CAP, Dust - quick connect NI
24	926079	1	• CAP, Dust - quick connect CO
25	102659	2	• EXTENTION, Pipe 37° flare
26	197686	2	• FITTING, Bulk head straight (08 JICM - 08 ORBM)
27	119922	15"	• PROTECTIVE TRIM, 1/4"-1/2"

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901... Order the manual at mid-west-tech.com >

8.3 Main Manifold Assembly

Index No.	Skyjack Part No.	Qty.	Description
-	191301	1	ASSEMBLY, MAIN MANIFOLD
1	(Ref).	1	• MANIFOLD, 6/843 (For components, refer to Section 8.4)
2	150943	1	• FITTING, 90° LLL (08 JICM - 08 ORBM)
3	147536	2	• FITTING, 90° LLL (06 JICM - 06 ORBM)
4	114580	2	• FITTING, 45° (06 JICM - 06 ORBM)
5	139739	4	• FITTING, 45° (08JICM08ORBM)
6	131716	5	• FITTING, 45° (04 JICM - 04 ORBM)
7	702796	1	• PLUG, Fitting (08 ORB hex socket)
8	114583	4	• FITTING, 90 ° (08 JICM - 08 ORBM)
9	114578	3	• FITTING, 90° (06 JICM - 06 ORBM)
10	125883	3	• FITTING, 90 ° (04 JICM - 04ORBM)
11	191599	1	• FITTING, 90 ° LL (16 JICM - 16 ORBM)
12	702118	4	• FITTING, (12 ORBM - 12 JICM)
13	138667	1	• FITTING, (16 ORBM - 16 JICM)
14	162071	1	• FITTING, 90° (06 JICM - 06ORBM) - XL
15	149215	1	• FITTING, 45° (10JICM - 10 ORBM)
16	196193	1	• FITTING, Straight (06 ORBM - 06 ORBF)
17	102659	1	• FITTING, Straight (08 JICM - 08 ORBM)
18	126128	1	• FITTING, (04 SAE - 04 JIC)

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901... Order the manual at mid-west-tech.com >

Index No.	Skyjack Part No.	Qty.	Description
-	197113	-	RESERVE BRAKE GROUP
1	103472	6	• WASHER, Flat 3/8" SAE
2	103999	6	• WASHER, Lock 3/8"
3	103473	6	• BOLT, Head head -16 X 1" Gr. 5
-	191720	1	• ASSEMBLY, Reserve brake manifold
-	190558	1	• • MANIFOLD, Reserve brake sub assembly
4	190357	1	• • • MANIFOLD, Reserve brake
5	707234	1	• • • FITTING, 45° (04 JICM - 06 ORBM)
6	129127	1	• • • FITTING, 90° (04 JICM - 06 ORBM)
7	114583	3	• • • FITTING, 90° (08 JICM - 08 ORBM)
8	114578	1	• • • FITTING, 90° (06 JICM - 06 ORBM)
9	191742	1	• • • FITTING, Run tee (08 JICM - 06 ORBM - 08 JICM)
10	104402	1	• • • FITTING, (6 SAE TO 8 JIC)
11	103996	14	• • WASHER, Flat 5/16" SAE
12	103869	3	• • BOLT, Hex head 5/16"-18 X 4-1/2" Gr. 5
13	103984	7	• • NUT, Lock with nylon insert 5/16"-18 Gr. 5
14	191729	1	• • BRACKET, Reserve brake
15	191721	2	• BRACKET, Accumulator
16	400947	2	• ACCUMULATOR, Diaphragm, 3/4L low T°
17	104437	1	• PLUG, Fitting- (06 orb hex socket)
18	110554	1	• FITTING, Run tee (08 JICM - 08 ORBM - 08 JICM)
19	190562	2	• CLAMP, Accumulator
20	112532	4	• BOLT, Hex head 5/16"-18 X 1-1/4" Gr. 5
21	190563	1	• HARNESS, Reserve brake
22	191463	1	• INDICATOR, Reserve brake / positive shutoff
23	150943	1	• FITTING, 90° LLL (08 JICM - 08 ORBM)
24	197114	1	• INSTRUCTIONS, Reserve Brake Installation

Index No.	Hose P/N	From		To	
		Description	Port	Port	Description
-	191718	ASSEMBLY, Hose reserve brake			
25	H310400480	Reserve brake manifold	ST LS	ST LS	Main mainifold
26	H310401740	Reserve brake manifold	STEER	LS	Steering control unit
27	H310601620	Reserve brake manifold	A1	P	Brake pedal
28	H310800100	Accumulator			
29	H310800260	Reserve brake manifold	A2		Accumulator
30	H310801790	Reserve brake manifold	P	P	Steering console
31	H340800490	Reserve brake manifold	T	DR3	Main manifold
32	H340800820	Reserve brake manifold	P		

MidWestTech | Skyjack SJ643 TH, SJ843 TH Telehandler Parts Manual | Publication 1901... Order the manual at mid-west-tech.com >