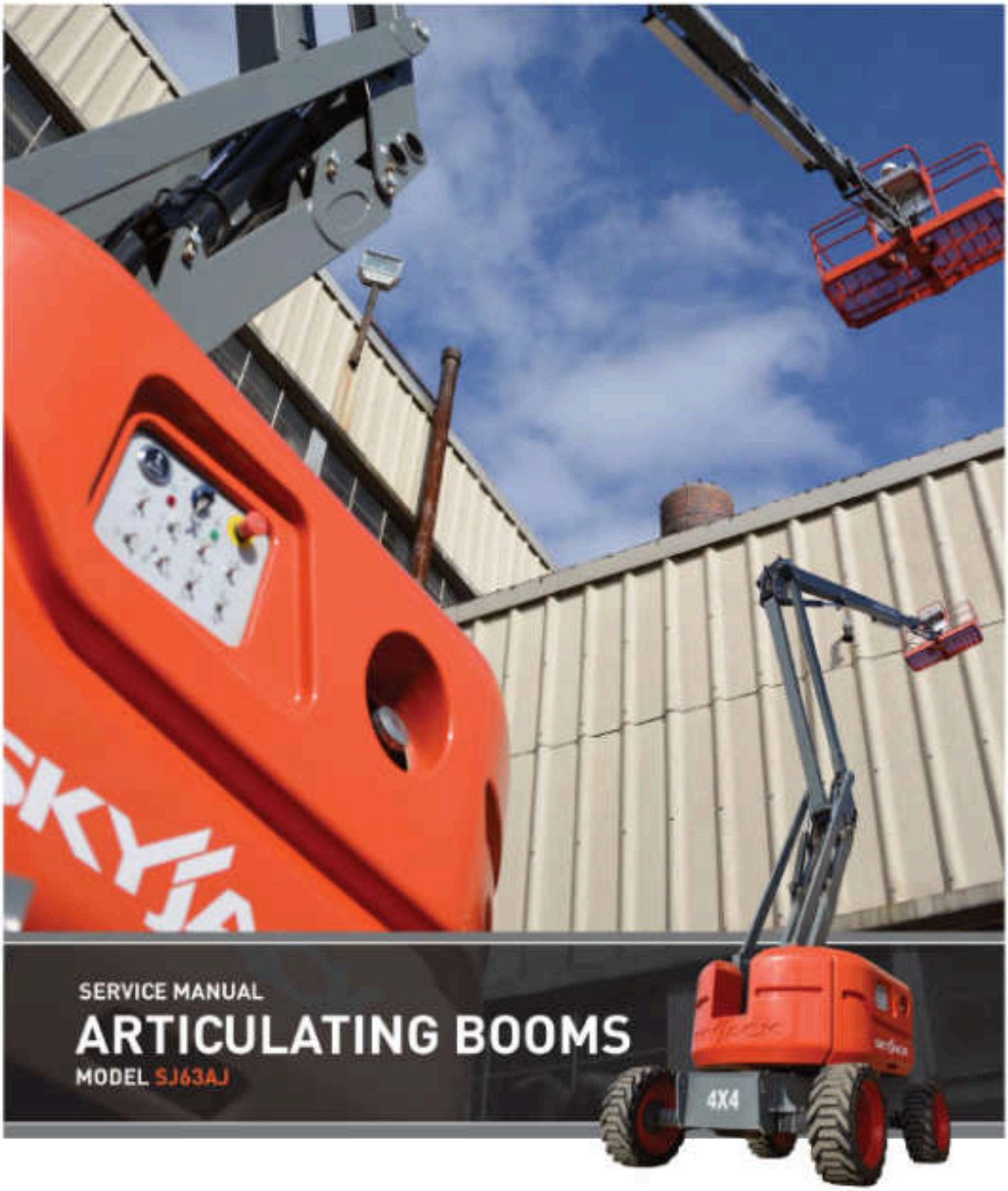


SERVICE MANUAL

ARTICULATING BOOMS

MODEL SJ63AJ

159763AH August 2022

SKYJACK

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >

Section 1
SCHEDULED MAINTENANCE

Table of Contents

Operator's Responsibility for Maintenance
Aerial Platform Definition....7
Purpose of Equipment....7
Use of Equipment....7
Manuals....7
Operator....7
Service Policy and Warranty....7
Optional Accessories....7
Scope of this Manual....8
Operator Safety Reminders....8
Electrocution Hazard....9
Safety Precautions....10
Maintenance and Inspection Schedule....14
Owner's Annual Inspection Record....14
Replacement Parts....14
Maintenance and Service Safety Tips....14
Hydraulic System & Component....15
Maintenance and Repair....15
Maintenance Hints....15
Railing Maintenance and Repair....16

Service and Maintenance
About this Section....17
Service Bulletins....17
Maintenance and Inspection....17
Maintenance Instructions....17

Tables
Table 1.1 Owner's Annual Inspection Record....18
Table 1.2 Maintenance and Inspection Checklist....19

Scheduled Maintenance Inspections and Function Tests
1.1 Scheduled Maintenance Inspections....20
1.2 Function Tests....28

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >

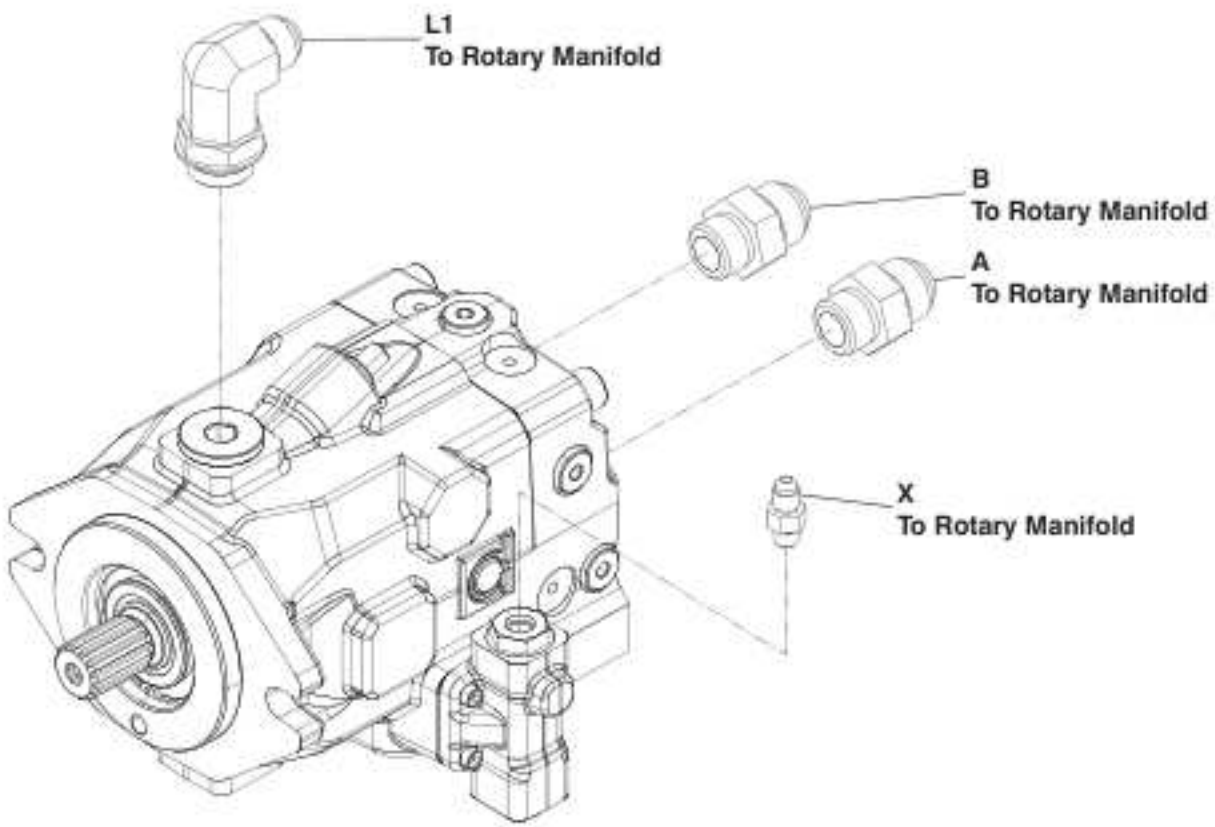
Table 2.9 Specifications and Features

MODEL		SJ63AJ
Platform Size	Total platform length (outside)	72 in. (183 cm) 96 in. (244 cm)
	Total platform depth (outside)	36 in. (91 cm)
Height	Working	69 ft. 7 in. (21.21 m)
	Platform elevated	63 ft. 7 in. (19.38 m)
	Drive	Driveable at all heights
	Turret	8 ft. 4 in. (2.54 m)
Length	Overall with platform	30 ft. (9.14 m)
	Base and tires	11 ft. 1 in. (3.38 m)
Width	Outside std. tires	8 ft. (2.44 m)
	Turret	7 ft. 4 in. (2.24 m)
Weight	Weight (with air tires)	21,200 lb (9,616 kg)
	Weight (with foam-filled tires)	22,000 lb (9,979 kg)
Platform rotation		175 degrees
Horizontal reach		40 ft. (12.19 m)
Horizontal reach @ maximum height		15 ft. 9 in (4.80 m)
Wheelbase		8 ft. (2.44 m)
Turret rotation		360 degrees continuous
Turret tailswing		0 in. (0 cm)
Gradeability		45%
Ground clearance between wheels		13 in. (33 cm)
Turning Radius	Inside	7 ft. 3 in. (2.21 m)
	Outside	17 ft. 5 in. (5.31 m)
Battery	System voltage	12V DC
	Type	Lead/Acid
	Cold cranking amperes	925A
Operating Times	Main boom up	32 sec
	Main boom down	41 sec
	Riser boom up	38 sec
	Riser boom down	29 sec
	Fly boom extend	30 sec
	Fly boom retract	22 sec
	Jib up	20 sec
	Jib down	17 sec
	Turret rotate - counterclockwise 360° (fully stowed)	121 sec
	Platform rotate - full	9 sec
Driving Speeds	Drive speed (maximum-stowed)	4.5 mph (7.3 km/h)
	Drive speed (maximum-elevated)	0.5 mph (0.8 km/h)

1032AA All Standards

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >

3.9 Drive Motor and Port Identifications



MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >

5. Loose or broken wire #54A from base terminal strip to relay 54ACR.
   - Check continuity. Replace if defective.
6. Loose or broken wire #11 from base terminal block to relay 54ACR.
   - Check continuity. Replace if defective.
7. Defective relay 54ACR.
   - Check relay. Replace if defective.
8. Defective glow plugs.
   - Check glow plugs. Replace if defective.

NOTE

For other glow plug related problems, consult engine manufacturer's manual.

4.1b-11 All Controls Inoperative from Base Console

1. Loose or broken wire #10 from base emergency stop switch S3 to base ignition/enable switch S5.
   - Check continuity. Replace if defective.
2. Defective ignition/enable switch S5.
   - Check continuity through switch when activated. Replace if defective.
3. Loose or broken wire #10A from ignition/enable switch S5 to base terminal block.
   - Check continuity. Replace if defective.
4. Loose or broken wire #10A from base terminal block to diode D10A.
   - Check continuity. Replace if defective.
5. Open or defective diode D10A.
   - Check diode. Replace if defective.
6. Loose or broken wire #20 from diode D10A to base terminal block.
   - Check continuity. Replace if defective.
7. Missing or broken terminal block jumper between wire #20 and #21.
   - Check for jumper. Replace if missing or broken.

NOTE

Jumper is removed if equipped with generator option.

8. Loose or broken wire #21 from base terminal block to relay 21CR.
   - Check continuity. Replace if defective.
9. Loose or broken wire #02 from base terminal block to relay 21CR.
   - Check continuity. Replace if defective.
10. Loose or broken wire #09 from base terminal block to relay 59CR.
    - Check continuity. Replace if defective.
11. Loose or broken wire #162A from relay 59CR to base terminal block.
    - Check continuity. Replace if defective.
12. Loose or broken wire #162A from base terminal block to relay 21CR.
    - Check continuity. Replace if defective.

NOTE

For further CE/AS troubleshooting refer to Load Sensing System.

13. Defective relay 21CR.
    - Check relay. Replace if defective.
14. Loose or broken wire #21A from relay 21CR to main harness plug pin #3.
    - Check continuity. Replace if defective.
15. Loose or broken wire #21A from main harness plug pin #3 to dump valve 2H-21A.
    - Check continuity. Replace if defective.

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >

Section 4
TROUBLESHOOTING INFORMATION

Table of Contents

Introduction 103

4.1a Electrical System (ANSI/CSA)

4.1a-1 All Controls Inoperative 104
4.1a-2 No Power To Platform 104
4.1a-3 No Power to Base 104
4.1a-4 Engine Will Not Crank from Base 105
4.1a-5 Engine Will Not Crank from Platform 105
4.1a-6 Engine Will Not Crank from Platform or Base (Deutz Diesel) 106
4.1a-7 Engine Cranks but Will Not Start (Deutz Diesel) 106
4.1a-8 Engine Will Not Crank from Platform or Base Control (GM Dual Fuel) 106
4.1a-9 Engine Cranks but Will Not Start (GM Dual Fuel) 107
4.1a-10 Glow Plug Circuit Inoperative 109
4.1a-11 All Controls Inoperative from Base Console 110
4.1a-12 No Main Boom Down, Riser Down or Turret Rotate from Base Control Console 111
4.1a-13 No Boom Up from Base Control Console 111
4.1a-14 No Boom Down from Base Control Console 111
4.1a-15 No Riser Up from Base Control Console 111
4.1a-16 No Riser Down from Base Control Console 112
4.1a-17 No Turret Rotate Left from Base Control Console 112
4.1a-18 No Turret Rotate Right from Base Control Console 112
4.1a-19 No Telescope Retract from Base Control Console 113
4.1a-20 No Telescope Extend from Base Control Console 113
4.1a-21 No Platform Rotate Left or Right 113
4.1a-22 Platform Rotates too Quickly 114
4.1a-23 No Platform Rotate Left from Base Control Console 114
4.1a-24 No Platform Rotate Right from Base Control Console 115
4.1a-25 No Jib Up from Base Control Console 115
4.1a-26 No Jib Down from Base Control Console 116
4.1a-27 No Manual Platform Level Up from Base Control Console 116
4.1a-28 No Manual Platform Level Down from Base Control Console 116
4.1a-29 All Controls Inoperative from Platform Control Console 117
4.1a-30 No Boom Up from Platform Control Console 118
4.1a-31 No Boom Down from Platform Control Console 118
4.1a-32 No Riser Up from Platform Control Console 119
4.1a-33 No Riser Down from Platform Control Console 119
4.1a-34 No Turret Left from Platform Control Console 120
4.1a-35 No Turret Right from Platform Control Console 121
4.1a-36 No Toggle Switch Functions from Platform Control Console 121
4.1a-37 No Telescope In from Platform Control Console 121
4.1a-38 No Telescope Out from Platform Control Console 122
4.1a-39 No Platform Rotate Left from Platform Control Console 122
4.1a-40 No Platform Rotate Right from Platform Control Console 123
4.1a-41 No Jib Up from Platform Control Console 124
4.1a-42 No Jib Down from Platform Control Console 125
4.1a-43 No Manual Platform Level Up from Platform Control Console 126
4.1a-44 No Manual Platform Level Down from Platform Control Console 126

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >

Table 2.4 Axles Maintenance Intervals

Operation		Frequency	Lubricants
Check Levels	Differential	monthly	SAE85W90 (API GL4 - MIL L-2105) With additives for oil-bath brakes
	Planetary reduction	every 200 hours	
Oil Change	Differential	every 800 hours *	
	Planetary reduction	every 1000 hours *	
	Self-locking differential gear	every 700 * &	

Operation	Member	Conditions	Frequency	Lubricants
Greasing	Articulations	Normal work	monthly	MOLIKOTE
		Awkward work	weekly	

Adjustments and Checks			
Unit	Operation	Frequency	Service Brake Circuit
Negative Brake	Adjustment	every 1000 hours *	Only for mineral oil use, e.g., ATF Dexron II. Make sure that master cylinder seals are suitable for mineral oil.
Service Brake	Adjustment	every 500 hours	
Wheel Nuts	Tightening	every 200 hours	

* Initially after 100 working hours
& When it starts sounding noisy

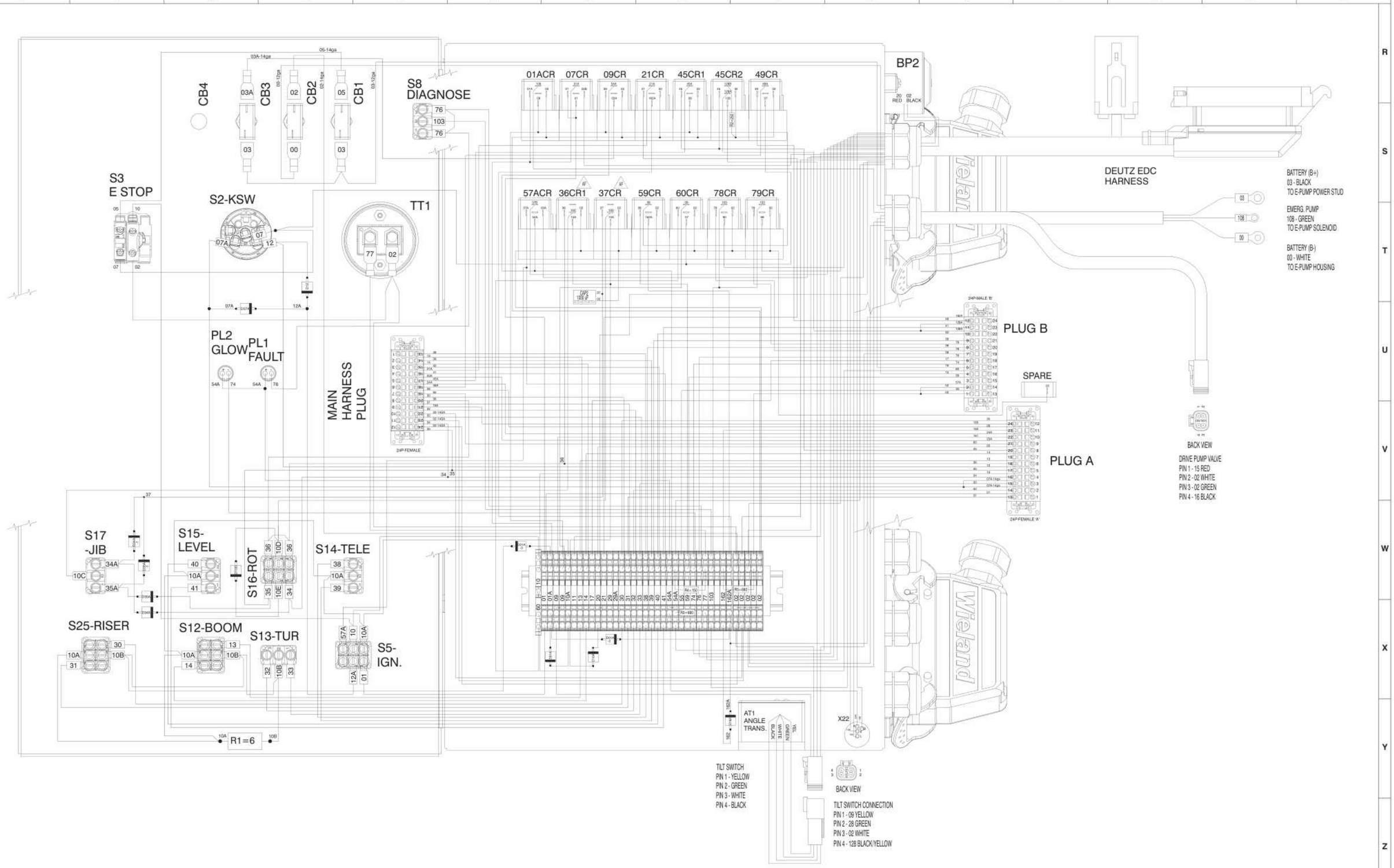
Gear Box Lubricant Intervals	
Check levels	monthly
Oil change	once at 50 hours after every 1000 hours
Screw/bolt tighten	every 200 hours
Lubricant	SAE 90 oil API GL3

Torque Wrench Settings (Nm)			
Size of Screw	8G/8.8	10K/10.9	12K/12.9
M4	2.9	4.1	-
M6	10	14	-
M8	25	35	-
M12	49	69	-
M10 x 1.25	-	73	-
M12	86	120	-
M14	135	190	-
M14 x 1.5	-	-	250
M16	210	295	-
A18	325	-	-

60572AA

Note: 1 Nm = 0.7376 ft-lb

MidWestTech | Skyjack SJ63AJ Articulating Boom Lift Service Manual | Publication 159763... Order the manual at mid-west-tech.com >


CB4
CB3
CB2
CB1
03A
03
02
00
05
03
S8 DIAGNOSE
76
103
76
01ACR
07CR
09CR
21CR
45CR1
45CR2
49CR
57ACR
36CR1
37CR
59CR
60CR
78CR
79CR
BP2
20 RED
02 BLACK
DEUTZ EDC HARNESS
BATTERY (B+)
03 - BLACK
TO E-PUMP POWER STUD
EMERG. PUMP
108 - GREEN
TO E-PUMP SOLENOID
BATTERY (B-)
00 - WHITE
TO E-PUMP HOUSING
S3
E STOP
S2-KSW
TT1
PL2
GLOW
PL1
FAULT
MAIN HARNESS PLUG
24P-FEMALE
24P-MALE 'B'
PLUG B
SPARE
24P-FEMALE 'A'
PLUG A
BACK VIEW
DRIVE PUMP VALVE
PIN 1 - 15 RED
PIN 2 - 02 WHITE
PIN 3 - 02 GREEN
PIN 4 - 16 BLACK
S17
-JIB
S15-
LEVEL
S16-ROT
S14-TELE
S25-RISER
S12-BOOM
S13-TUR
S5-
IGN.
R1=6
AT1
ANGLE
TRANS.
X22
TILT SWITCH
PIN 1 - YELLOW
PIN 2 - GREEN
PIN 3 - WHITE
PIN 4 - BLACK
BACK VIEW
TILT SWITCH CONNECTION
PIN 1 - 09 YELLOW
PIN 2 - 28 GREEN
PIN 3 - 02 WHITE
PIN 4 - 128 BLACK/YELLOW