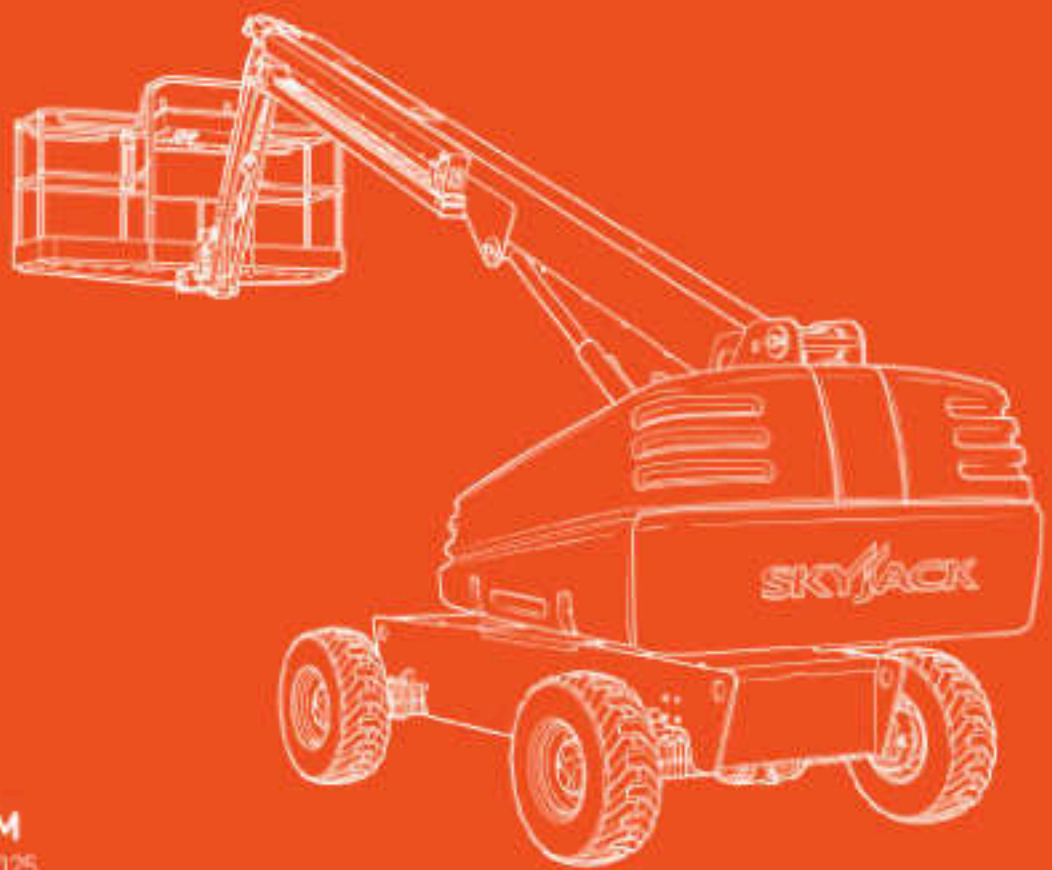
SKYJACK

SERVICE MANUAL

SJ40T, SJ45T

TELESCOPIC BOOMS



207563AM
September 2025
ANSI/CSA, CE, AS

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2...
Order the manual at mid-west-tech.com >

Table of Contents

Section 1 – Scheduled Maintenance 13

1.1 Read and Heed 13

1.1-1 Mobile Elevating Work Platform (MEWP) Definition 13

1.1-2 Purpose of Equipment 13

1.1-3 Use of Equipment 13

1.1-4 Manual 13

1.1-5 Service Policy and Warranty 13

1.1-6 Operator Safety Reminders, Warnings and Precautions 13

1.2 Maintenance and Service 14

1.2-1 Maintenance and Inspection Schedule 14

1.2-2 Owner's Annual Inspection Record 14

1.2-3 Replacement Parts 14

1.2-4 Maintenance and Service Safety Tips 14

1.2-5 Hydraulic System & Component Maintenance and Repair 15

1.2-6 Hydraulic Maintenance Hints 15

1.2-7 Railing Maintenance and Repair 16

1.3 Scheduled Maintenance 17

1.3-1 Service Bulletins 17

1.3-2 Maintenance and Inspection 17

1.3-3 Maintenance Instructions 17

1.4 Owner's Annual Inspection Record 18

1.5 Pre-Delivery/Maintenance Inspection Checklist 19

1.6 Scheduled Maintenance Inspections 20

1.6-1 Electrical 20

1.6-2 Hydraulic 20

1.6-3 Manuals & Required Documents (B) 20

1.6-4 Labels (B) 20

1.6-5 Limit Switches (B) 21

1.6-6 Engine Compartment 21

1.6-7 Control Compartment 24

1.6-8 Base 26

1.6-9 Platform Assembly 28

1.6-10 Boom Assembly 29

1.6-11 Optional Equipment/Attachments 30

1.7 Function Tests 31

Section 2 – Maintenance Tables and Diagrams 33

2.1 Standard Hose Numbering System 33

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2... Order the manual at mid-west-tech.com >

2.2 Aerial Platform Torque Specifications 35
2.3 Axle Torque Specifications 36
2.4 Torque Specifications for Fasteners (US) 37
2.5 Torque Specifications for Fasteners (Metric) 38
2.6 Torque Specifications for Hydraulic Couplings & Hoses 39
2.7 Axles Maintenance Intervals 40
2.8 Tire Specifications 41
2.9 Floor Loading Pressure 42
2.10 Hydraulic Specifications & Gear Oil 43
2.11 Specifications and Features - Dimensional Data 44
2.12 Specifications and Features - Performance and Speeds 45
2.13 Engine Specifications 46
2.14 Dimension and Reach Diagram - SJ40T 48
2.15 Dimension and Reach Diagram - SJ45T 49
2.16 Axle Oscillation Diagrams 50

Section 3 – System Component Identification and Schematics 51

3.1 Electrical Symbol Chart 52
3.2 Hydraulic Symbol Chart 53
3.3 Wire Number and Color Code 54
3.4 Hydraulic Parts List 55
3.5 Electrical Component Parts List 58
3.6 Rotary Manifold Port Identification 62
3.7 Brake Manifold Port Identification 63
3.8 System Pump Port Identification 64
3.9 Drive Pump Port Identification 65
3.10 Drive Motor Port Identification 66
3.11 Jib Valve Port Identification - SJ45T 67
3.12 No Jib Valve Port Identifications - SJ40T 68
3.13 Main Manifold Port Identification 69
3.14 Main Manifold Electrical Component Identification 70
3.15 Main Manifold Hydraulic Component Identification 71
3.16 Main Harness Wiring Diagram 72
3.17 ECU Engine Wiring Diagram - Deutz D2011 73
3.18 Engine Interface Harness - Deutz D2.9L 74
3.19 Engine Interface Harness - Kubota WG2503 75
3.20 Glow Plug Harness - Deutz D2.9L 76
3.21 Glow Plug Harness - Deutz D2011 77
3.22 Platform Harnesses 78
3.23 Platform Control Cables 79
3.24 Limit Switch Connections 80
3.25 Load Sensing Cable Connection (CE & AS) 81
3.26 Flashing Light Connection 82

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2... Order the manual at mid-west-tech.com >

3.27 Oil Cooler Harness Connections 83
3.28 Generator Wire Kit Connections. 84
3.29 Load Circuit Wiring 85
3.30 SGE Schematic 86
3.31 SGE Platform Control Box Wiring Diagram 87
3.32 Differential Lock Harness 88
3.33 Hydraulic Schematic - S/N 98 002 633 and above. 89
3.34 Hydraulic Schematic - S/N 98 002 632 and below. 90
3.35 Platform Controls Wiring - SJ40T ANSI/CSA Kubota 91
3.36 Platform Controls Wiring - SJ40T ANSI/CSA Deutz & Perkins 92
3.37 Platform Controls Wiring - SJ45T ANSI/CSA Kubota 93
3.38 Platform Controls Wiring - SJ45T ANSI/CSA Deutz & Perkins 94
3.39 Platform Controls Wiring - SJ45T CE Deutz 95
3.40 Platform Controls Wiring - SJ45T AS Deutz. 96
3.41 Base Controls Wiring - SJ40T ANSI/CSA Kubota 97
3.42 Base Controls Wiring - SJ40T ANSI/CSA Deutz D2011 98
3.43 Base Controls Wiring - SJ40T ANSI/CSA Deutz D2011 with Positive Air Shut-Off Option 99
3.44 Base Controls Wiring - SJ40T ANSI/CSA Deutz D2.9L 100
3.45 Base Controls Wiring - SJ40T ANSI/CSA Deutz D2.9L with Positive Air Shut-Off Option 101
3.46 Base Controls Wiring - SJ40T ANSI/CSA Perkins 102
3.47 Base Controls Wiring - SJ45T ANSI/CSA Kubota 103
3.48 Base Controls Wiring - SJ45T ANSI/CSA Deutz D2011 104
3.49 Base Controls Wiring - SJ45T ANSI/CSA Deutz D2011 with Positive Air Shut-Off Option 105
3.50 Base Controls Wiring - SJ45T ANSI/CSA Deutz D2.9L 106
3.51 Base Controls Wiring - SJ45T ANSI/CSA Deutz D2.9L with Positive Air Shut-Off Option 107
3.52 Base Controls Wiring - SJ45T ANSI/CSA Perkins 108
3.53 Base Controls Wiring - SJ45T CE Deutz D2.2 109
3.54 Base Controls Wiring - SJ45T CE Deutz D2011 110
3.55 Base Controls Wiring - SJ45T AS Deutz D2011 111
3.56 Electrical Schematic - ANSI/CSA Kubota (S/N 98003579 and below) 112
3.57 Electrical Schematic - ANSI/CSA Kubota (S/N 98003580 and above) 113
3.58 Electrical Schematic - ANSI/CSA Deutz D2011 (S/N 98003579 and below) 114
3.59 Electrical Schematic - ANSI/CSA Deutz D2011 (S/N 98003580 and above) 115
3.60 Electrical Schematic - ANSI/CSA Deutz D2.9L (S/N 98003579 and below) 116
3.61 Electrical Schematic - ANSI/CSA Deutz D2.9L (S/N 98003580 and above) 117
3.62 Electrical Schematic - ANSI Perkins (S/N 98003579 and below) 118
3.63 Electrical Schematic - ANSI Perkins (S/N 98003580 and above) 119
3.64 Electrical Schematic - CE Deutz D2.2 120
3.65 Electrical Schematic - CE Deutz D2011 (S/N 98003579 and below) 121
3.66 Electrical Schematic - CE Deutz D2011 (S/N 98003580 and above) 122
3.67 Electrical Schematic - AS Deutz D2011 (S/N 98003579 and below) 123
3.68 Electrical Schematic - AS Deutz D2011 (S/N 98003580 and above) 124
3.69 Interface & Engine Electrical Schematic - Kubota WG2503 125

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2... Order the manual at mid-west-tech.com >

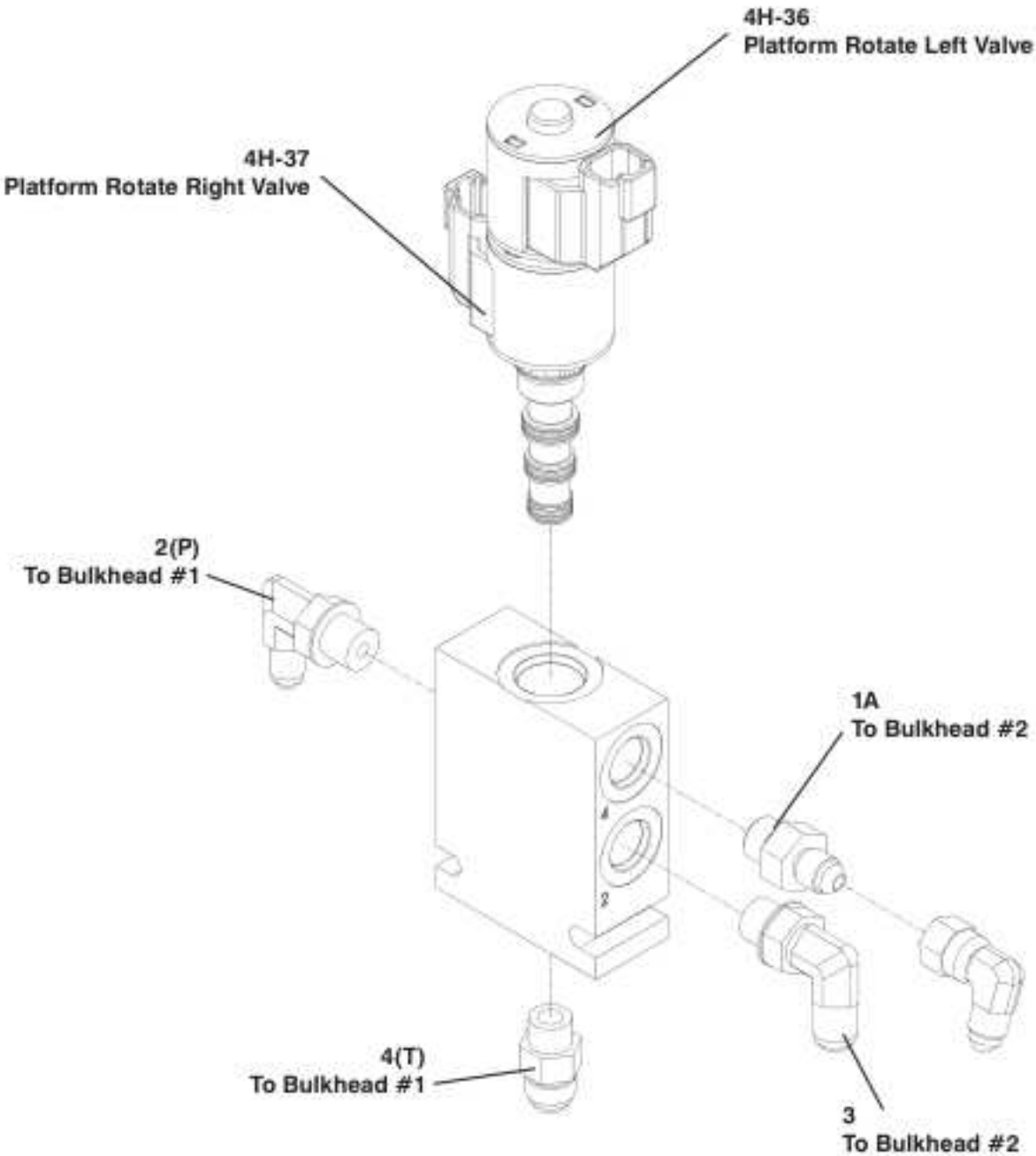
Table 2.11 Specifications and Features - Dimensional Data

	SJ40T ANSI/CSA		SJ45T ANSI/CSA		SJ45T CE	SJ45T AS
Height & Reach						
Working Height	46' 6-1/2"	14.19 m	51' 1-1/2"	15.58 m)	15.75 m	15.75 m
Platform Elevated Height	40' 6-1/2"	12.36 m	45' 1-1/2"	13.75 m	13.75 m	13.75 m
Horizontal Reach - Maximum	33' 11"	10.34 m	39' 8-1/4"	12.10 m	12.10 m	12.10 m
Horizontal Reach at Max Height	8' 9-3/4"	2.69 m	11' 10-1/4"	3.61 m	3.62 m	3.62 m
Tailswing	44"	1.12 m	44"	1.12 m	1.12 m	1.12 m
Platform						
Platform Size	36 x 72" 36 x 96"	0.91 x 1.83 m 0.91 x 2.44 m	36 x 72" 36 x 96"	0.91 x 1.83 m 0.91 x 2.44 m	0.91 x 2.44 m 0.91 x 1.83 m	0.91 x 2.44 m 0.91 x 1.83 m
Platform Rotation	170°	170°	175°	175°	175°	175°
Platform Height - Stowed	22-1/2"	0.57 m	10-3/4"	0.27 m	0.27 m	0.27 m
Platform Height - Overall	52-3/4"	1.34 m	52-3/4"	1.34 m	1.34 m	1.34 m
Railing Height - Platform	43"	1.09 m	43"	1.09 m	1.09 m	1.09 m
Dimensional Data						
Height - Stowed	7' 10-1/2"	2.40 m	7' 10-1/2"	2.40 m	2.40 m	2.40 m
Length - Stowed	25' 4-1/4"	7.73 m	28' 11-1/2"	8.83 m	8.83 m	8.83 m
Width - Outside of Wheels	7' 6"	2.29 m	7' 6"	2.29 m	2.29 m	2.29 m
Wheelbase	8'	2.44 m	8'	2.44 m	2.44 m	2.44 m
Ground Clearance - Chassis	13-3/4"	0.35 m	13-3/4"	0.35 m	0.35 m	0.35 m
Ground Clearance - Rear Axle	10-3/4"	0.27 m	10-3/4"	0.27 m	0.27 m	0.27 m
Axle Oscillation	3.7°	3.7°	3.7°	3.7°	3.7°	3.7°
Turning Radius - Inside	7' 4"	2.24 m	7' 4"	2.24 m	2.24 m	2.24 m
Turning Radius - Outside	17'	5.18 m	17'	5.18 m	5.18 m	5.18 m
Turning Angle	45°	45°	45°	45°	45°	45°
Turret Rotation	360°	360°	360°	360°	360°	360°
Lift Capacity						
Lift Capacity - to Max Gradeability	500 lb	227 kg	500 lb	227 kg	227 kg	227 kg
Jib						
Jib Length	N/A	N/A	63"	1.60 m	1.60 m	1.60 m
Travel - Down	N/A	N/A	63°	63°	63°	63°
Travel - Up	N/A	N/A	61°	61°	61°	61°
Weight						
Weight with Air Tires - No Options	14,100 lb	6400 kg	14,815 lb	6720 kg	N/A	N/A
Weight with Foam Tires - No Options	14,900 lbs	6758 kg	15,652 lb	7100 kg	7100 kg	7100 kg
Electrical						
System Voltage	12 volt DC		12 volt DC		12 volt DC	12 volt DC
Battery Type	Lead / Acid		Lead / Acid		Lead / Acid	Lead / Acid

1318AA-1

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2... Order the manual at mid-west-tech.com >

3.12 No Jib Valve Port Identifications - SJ40T



MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2...
Order the manual at mid-west-tech.com >

5.5-7 Deutz D2.9L Fault Codes

Code	SPN	FMI	Blink Code	Error Identification
1341	524035	12	5-5-5	Injector diagnostics; time out error in the SPI communication.
1342	524036	12	5-5-5	Injector diagnostics Slave; time out error in the SPI communication.
1345	524069	9	8-9-6	Timeout Error of CAN-Receive-Frame MSMon_FidFCCTO; Master-Slave CAN communication faulty.
1357	524052	11	8-3-6	Error memory Slave reports FID MSMonFC2 (collective error).
1368	524052	11	8-3-6	Error memory Slave reports FID MSMonFC3 (collective error).
1378	523919	2	6-9-4	Sensor air pump airpressure; plausibility error.
1379	523920	2	7-1-6	Sensor exhaust gas back pressure burner; plausibility error.
1380	3253	2	6-9-2	Sensor differential pressure (DPF); plausibility error.
1381	164	2	8-3-9	Rail pressure safety function is not executed correctly ().
1389	523922	5	7-1-5	Burner Shut Off Valve; open load.
1390	523922	12	7-1-5	Burner Shut Off Valve; powerstage over temperature.
1392	523922	4	7-1-5	Burner Shut Off Valve; short circuit to ground.
1395	523921	2	7-1-4	Burner temperature sensor; Plausibility Check for burner temperature sensor Sensor burner temperature; plausibility error.
1398	1136	0	6-8-1	Physical range check high for ECU temperature.
1402	4769	2	6-8-4	Sensor exhaust gas temperature OxiCat downstream (normal operation); plausibility error.
1403	4769	2	6-8-4	Sensor exhaust gas temperature OxiCat downstream (regeneration); plausibility error.
1411	1188	11	8-1-4	Wastegate actuator; internal error.
1412	1188	11	8-1-4	Wastegate actuator; EOL calibration not performed correctly.
1413	1188	13	8-1-4	Wastegate actuator calibration deviation too large, recalibration required.
1414	1188	2	8-1-4	Wastegate; status message from ECU missing.
1415	1188	7	8-1-4	Wastegate actuator; blocked.
1417	1188	11	8-1-4	Wastegate actuator; over temperature (> 135°C).
1418	1188	11	8-1-4	Wastegate actuator; operating voltage error.
1423	51	0	5-9-4	Warning threshold for an internal actuator error exceeded, < 4L EGR. actuator und >4L Air Intake Flap.
1424	51	1	5-9-4	Shut off threshold for an internal actuator error exceeded, < 4L EGR.actuator und >4L Air Intake Flap.
1425	172	0	2-2-6	air temperature within air filter box above maximum physical value.
1431	524028	2	8-1-5	CAN message PROEGRActr; plausibility error.
1432	524029	2	8-1-5	Timeout Error of CAN-Receive-Frame ComEGRActr - exhaust gas recirculation positioner.
1436	524034	5	8-1-6	Disc separator; open load.
1437	524034	12	8-1-6	Disc separator; powerstage over temperature.
1438	524034	3	8-1-6	Disc separator; short circuit to battery.

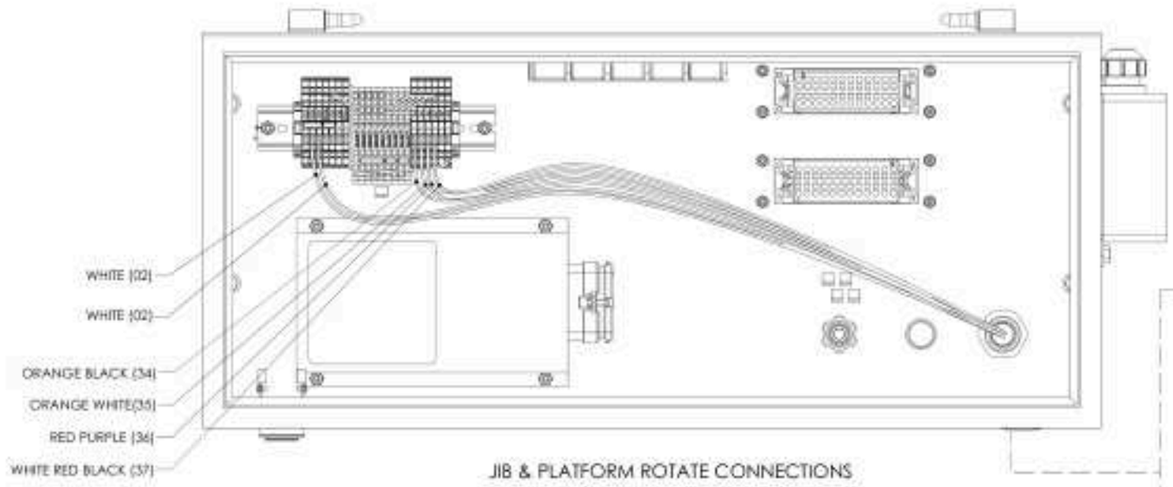
1513AA-17

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2... Order the manual at mid-west-tech.com >

5.5 Deutz Diesel Engines 205
5.5-1 Replace Engine Oil and Filter 205
5.5-2 Replace the Fuel Filter 206
5.5-3 Replace the Air Filter 206
5.5-4 Check the Engine Belt 206
5.5-5 Check the Oil Cooler (Deutz D2011 only) 206
5.5-6 Retrieve Engine Fault Codes - Deutz D2.9L 207
5.5-7 Deutz D2.9L Fault Codes 208
5.6 Kubota WG2503 Dual Fuel Engine 228
5.6-1 Engine Parameter Display (KAntrak 1700) 228
5.6-2 Diagnostic Trouble Codes 229
5.6-3 Diagnostic Trouble Codes 230
5.6-4 Diagnostic Trouble Codes 231
5.6-5 Diagnostic Trouble Codes 232
5.6-6 Diagnostic Trouble Codes 233
5.6-7 ECU Pin Reference Chart (Kubota WG2503) 234
5.6-8 Fuse Box (Kubota WG2503) 235
5.6-9 MAP Sensor (Kubota WG2503) 236
5.6-10 IAT Sensor (Kubota WG2503) 236
5.6-11 ECT (Kubota WG2503) 237
5.6-12 TPS & Engine Speed (Kubota WG2503) 237
5.6-13 Fuel Temperature Sensor (Kubota WG2503) 238
5.6-14 Oil Pressure Sensor (Kubota WG2503) 238
5.7 Hydraulic Tank 239
5.7-1 Hydraulic Oil Replacement 239
5.7-2 Hydraulic Filter Replacement 239
5.8 Manifold and Hydraulic Pumps 240
5.8-1 Hydraulic Brake Pressure Adjustment 240
5.8-2 Hydraulic Standby Pressure Adjustment 241
5.8-3 Hydraulic High Pressure Adjustment 242
5.8-4 Hydraulic System Relief Valve Adjustment 243
5.8-5 Turret Rotate Relief Valve Adjustment 244
5.8-6 Platform Level Relief Valve Adjustment 244
5.8-7 Fly Boom Relief Valve Adjustment 245
5.8-8 Test Charge Pump Pressure on Drive Pump 245
5.8-9 Test Forward Drive Pressure on Drive Pump 246
5.8-10 Test Reverse Drive Pressure on Drive Pump 246
5.9 Axles 247
5.9-1 Change the Oil in the Axles 247
5.9-2 Check the Oil Level in the Torque Hubs 247
5.9-3 Change the Oil in the Torque Hubs 247
5.9-4 Check the Oil Level in the Axle Gearbox 248
5.9-5 Change the Oil in the Axle Gearbox 248

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 2... Order the manual at mid-west-tech.com >

3.22 Platform Harnesses



JIB & PLATFORM ROTATE CONNECTIONS



CAVITY	WIRE NO.	COLOUR	DESCRIPTION
1	34	ORANGE/BLK	JIB DOWN
2	02	WHITE (SPLICE 2)	GROUND

CAVITY	WIRE NO.	COLOUR	DESCRIPTION
1	35	ORANGE/WHITE	JIB UP
2	02	WHITE (SPLICE 2)	GROUND



CAVITY	WIRE NO.	COLOUR	DESCRIPTION
1	36	RED/PURPLE	ROTATE CW
2	02	WHITE (SPLICE 1)	GROUND

CAVITY	WIRE NO.	COLOUR	DESCRIPTION
1	37	WHITE/RED/BLK	ROTATE CCW
2	02	WHITE (SPLICE 1)	GROUND

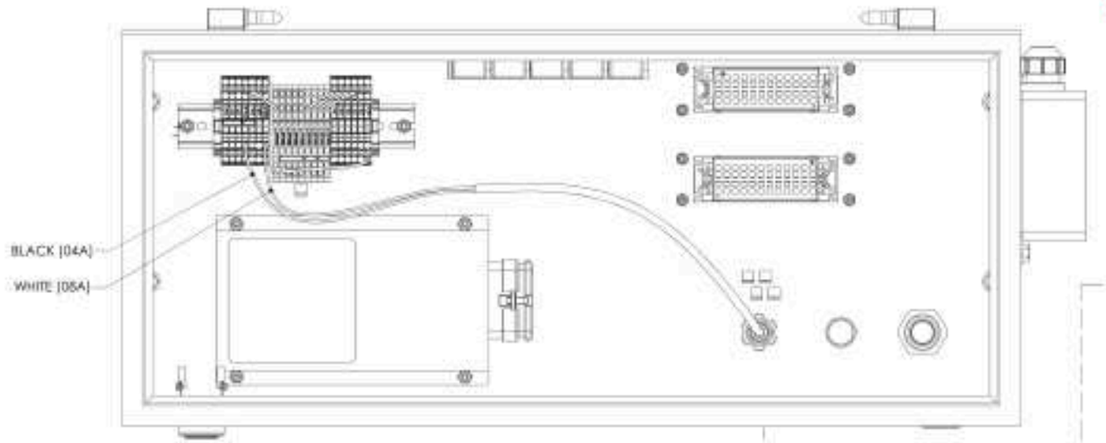
JIB & PLATFORM ROTATE HARNESS (45T/66T)

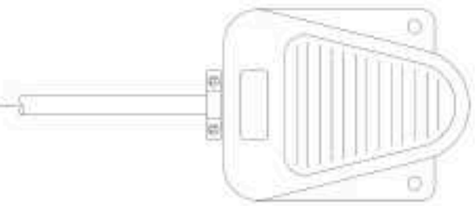


CAVITY	WIRE NO.	COLOUR	DESCRIPTION
1	36	RED/PURPLE	ROTATE CW
2	02	WHITE (SPLICE)	GROUND

CAVITY	WIRE NO.	COLOUR	DESCRIPTION
1	37	WHITE/RED/BLK	ROTATE CCW
2	02	WHITE (SPLICE)	GROUND

PLATFORM ROTATE HARNESS (40T/61T)





FOOT PEDAL CONNECTIONS

M167780AA_M167858AB_M167740AB

MidWestTech | Skyjack SJ40T, SJ45T Telescopic Boom Lift Service Manual | Publication 207563AM
Order the manual at mid-west-tech.com >