SKYJACK

SERVICE MANUAL

SJ46AJ, SJ51AJ

ARTICULATING BOOMS



194313AO
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ANSI/CSA, CE, AS

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Table 2.13 Engine Specifications

			SJ46AJ & SJ51AJ
Deutz TD2.9L	RPM Settings		900 Low / 1600 / 2600 High
	Horsepower @ 2600 rpm (intermittent)		55.4 kW / 75 hp
	Fuel Type		Diesel
	Fuel Tank Capacity		47 gal (170.3 L)
	Standard Oil Factory Fill	0°F to 115°F (-18°C to 45°C)	SAE 15W-40 API CF/CG/CH-6
	Cold Lube Oil Option	-20°F to 90°F (-29°C to 32°C)	SAE 0W-30 API CF/CG/CH-6
	Arctic Lube Oil Option	-40°F to 115°F (-40°C to 45°C)	SAE 0W-40 API CF/CG/CH-6
	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)
	Lube Oil Sump Capacity		2.64 gal (10.0 L)
Deutz D2.2	RPM Settings		1200 Low / 1600 / 2300 High
	Horsepower @ 2300 rpm (intermittent)		18.4.4 kW / 25 hp
	Fuel Type		Diesel
	Fuel Tank Capacity		47 gal (170.3 L)
	Standard Oil Factory Fill	0°F to 115°F (-18°C to 45°C)	SAE 15W-40 API CF/CG/CH-6
	Standard Coolant	-40°F to 115°F (-40°C to 45°C)	Delo 50/50 Extended Life Coolant
	Coolant Capacity		2.75 gal (10.4 L)
	Lube Oil Sump Capacity		2.11 gal (8.0 L)
Deutz D2011	RPM Settings		1600 Low / 2100 / 2675 High
	Horsepower @ 2600 rpm (intermittent)		48 kW / 65 hp
	Fuel Type		Diesel
	Fuel Tank Capacity		47 gal (170.3 L)
	Standard Oil Factory Fill	0°F to 115°F (-18°C to 45°C)	SAE 15W-40 API CF/CG/CH-6
	Cold Lube Oil Option	-20°F to 90°F (-29°C to 32°C)	SAE 0W-30 API CF/CG/CH-6
	Arctic Lube Oil Option	-40°F to 115°F (-40°C to 45°C)	SAE 0W-40 API CF/CG/CH-6
	Lube Oil Sump Capacity		2.64 gal (10.0 L)

1410AB-1

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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.

4.2-6 All Base Control Console Inoperative

1. Loose or broken wire #10 from base emergency stop switch S3 to ignition/ pump switch S5.	**Check continuity. Replace if defective.**
2. Defective ignition/ pump switch S5.	**Check continuity through switch when activated. Replace if defective.**
3. Loose or broken wire #10A from ignition/pump 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 jumper JMPR3 on base terminal block between wires #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 21CR. (ANSI/CSA)	**Check continuity. Replace if defective.**
11. Loose or broken wire #09 from base terminal block to relay 59CR. (CE)	**Check continuity. Replace if defective.**
12. Loose or broken wire #162A from relay 59CR to base terminal block. (CE)	**Check continuity. Replace if defective.**
13. Loose or broken wire #162A from base terminal block to relay 21CR. (CE)	**Check continuity. Replace if defective.**

NOTE
For further CE troubleshooting refer to Load Sensing System.

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Kubota WG2503 Diagnostic Trouble Codes

DTC	(J1939) SPN	(J1939) FMI	Detected Item/Hardware
341	723	2	-Cam+ or Cam- circuits in wrong connector terminal slot -Loss of feed voltage to Cam sensor -Loss of sensor feed -Open sensor ground -Open or shorted to ground signal wire -Sensor malfunctioning
342	723	4	-Loss of feed voltage to Cam sensor -Loss of signal or ground circuits -Faulty sensor
359	n/a	n/a	n/a
420	3050	n/a	n/a
524	100	1	-Low Oil Pressure
562	168	17	-Wiring harness open/short/damage -Battery abnormality
563	168	15	-System voltage abnormality (High Side)
601	628	13	-Faulty ECU -ROM Malfunction
604	630	12	- Faulty ECU
606	629	31	-Faulty ECU
627	1348	5	-Open coil in relay -Open in relay driver circuit in engine harness
628	1347	5	-Relay pull in coil shorted internally -Relay driver circuit shorted to ground in wire harness
629	1347	6	-Shorted relay pull in coil -Relay driver circuit shorted to voltage in wire harness
642	1079	4	-Wiring harness short to ground -ECM malfunction
643	1079	3	-Wiring harness short to 12.0 V power -ECM malfunction
652	1080	4	-Wiring harness short to ground -ECM malfunction
653	1080	3	-Wiring harness short to 10.0 V power -ECM malfunction
686	1485	4	-Short to ground in relay pull in coil -Short to ground in relay driver circuit in wire harness
687	1485	3	-Shorted relay pull in coil -Relay driver circuit shorted to voltage in wire harness -Power Relay Error
1111	515	16	-Engine overspeed condition, faulty Crank sensor or input
1112	515	0	-Engine overspeed condition, faulty Crank sensor or input
1151	4236	0	•exhaust leaks upstream or near the HEGO sensor • reduced fuel supply pressure to the gaseous fuel control system • a fuel supply or manifold leak • a non-responsive HEGO sensor

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5.3-5 Master Cylinder Replacement

1. Ensure the MEWP is parked on a firm and level surface.

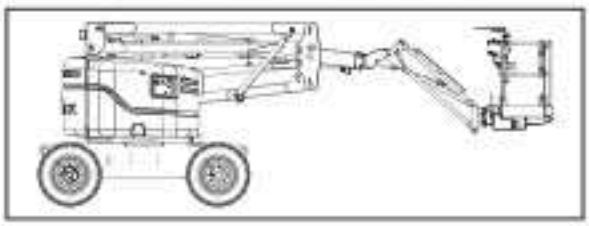
⚠ WARNING

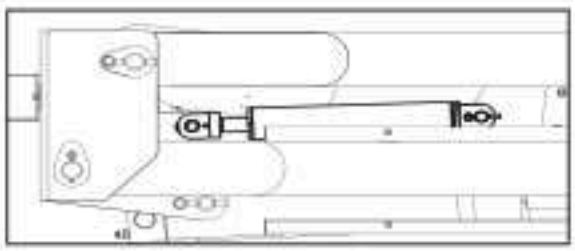
Ensure that there is sufficient room for boom to swing and elevate.

⚠ WARNING

Be aware of overhead obstructions or other possible hazards around the machine when lifting.

2. By using the base controls, position the machine as below to allow for easy work access to the basket/jib boom and the master cylinder.





3. Turn the main disconnect switch to the off position ◯. Lock the switch to prevent unauthorized use during this procedure.

NOTE

Ensure all components are secured before lifting or removing them.

4. Using straps, secure the main boom on suitable lifting equipment such as a crane.

5. Secure the master cylinder with straps. See below for an example.



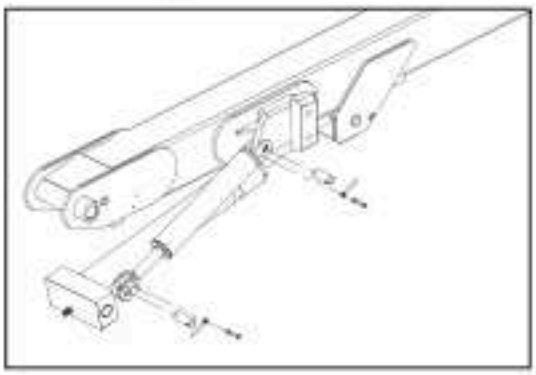
⚠ CAUTION

Label all electrical cables and hydraulic hoses before removal

⚠ CAUTION

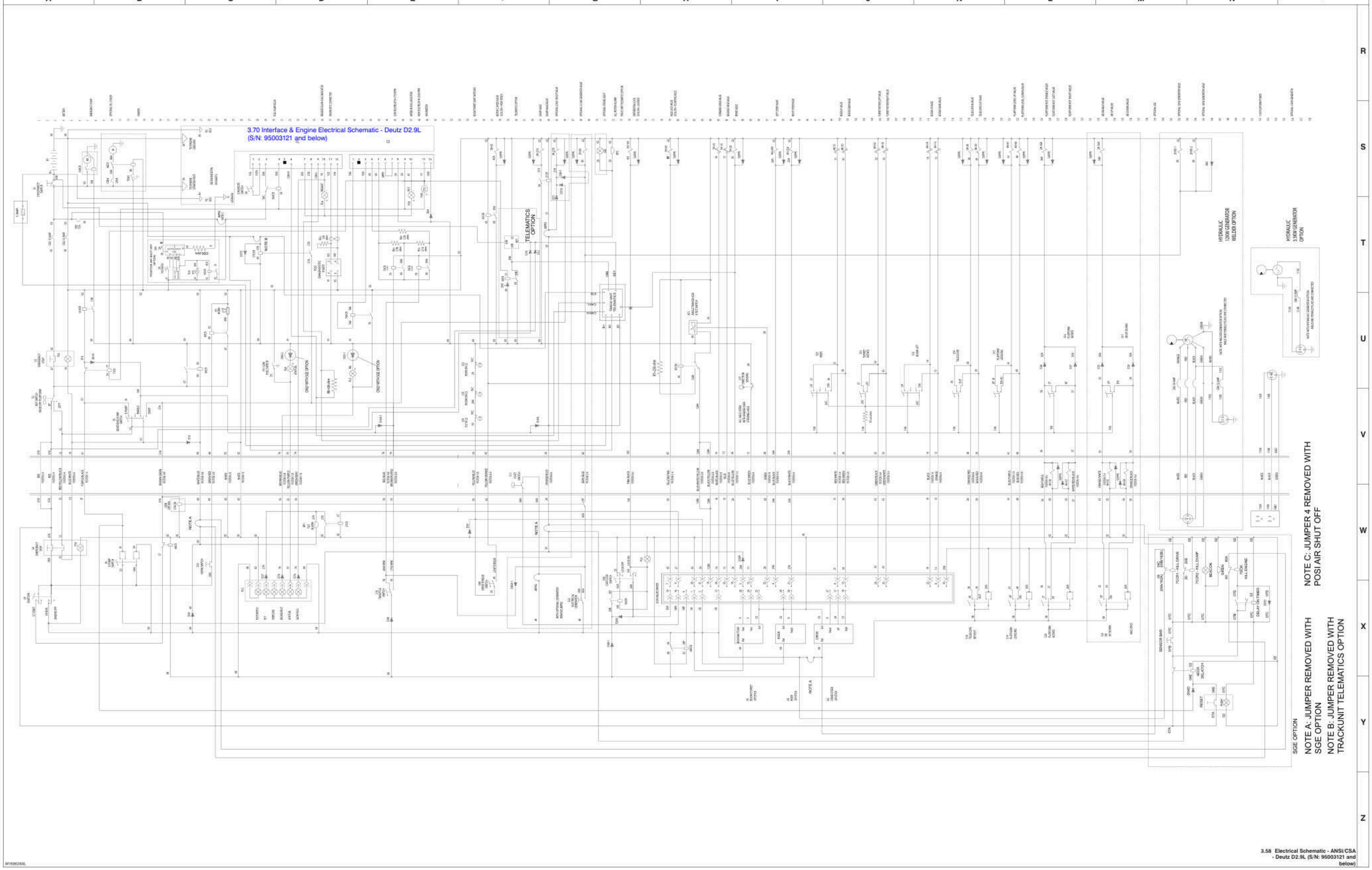
To prevent hydraulic system contaminations, cap all hydraulic hoses and fittings after removal.

6. Remove the hydraulic hoses and fittings on the master cylinder. Replace any worn or damaged components.
7. Disconnect the master cylinder from the main boom by removing the connecting pin, see below. Set all parts aside for reuse.



8. Install the new master by installing the cylinder pins as shown above. Secure the keeper pin and the bolt with Loctite 242 (Blue) or equivalent.
9. Install the hydraulic hoses and fittings on the master cylinder.

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M1696364L

3.58 Electrical Schematic - ANSI/CSA - Deutz D2.9L (S/N: 95003121 and below)

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