An Oshkosh Corporation Company

Service and Maintenance Manual

Models

450A

450AJ

PVC 2001

31215022

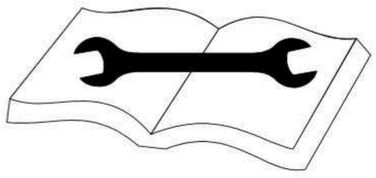
April 08, 2020 - Rev B

ANSI

CE

AS/NZS

MOL70



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

SECTION NO.	TITLE	PAGE NO.
SECTION A - INTRODUCTION - MAINTENANCE SAFETY PRECAUTIONS		
A	General	A-1
B	Hydraulic System Safety	A-1
C	Maintenance	A-1
SECTION 1 - SPECIFICATIONS		
1.1	Operating Specifications	1-1
1.2	Dimensional Data	1-1
1.3	Capacities	1-1
1.4	Tires	1-1
1.5	Engine Data	1-2
1.6	Hydraulic Oil	1-3
1.7	Major Component Weight	1-4
1.8	Maintenance and Lubrication	1-8
1.9	Threadlocking Compound	1-14
1.10	Torque Charts	1-15
	SAE Fastener Torque Chart	1-15
	SAE Fastener Torque Chart (Continued)	1-16
	SAE Fastener Torque Chart (Continued)	1-17
	SAE Fastener Torque Chart (Continued)	1-18
	SAE Fastener Torque Chart (Continued)	1-19
	SAE Fastener Torque Chart (Continued)	1-20
	Metric Fastener Torque Chart	1-21
	Metric Fastener Torque Chart (Continued)	1-22
	Metric Fastener Torque Chart (Continued)	1-23
	Metric Fastener Torque Chart (Continued)	1-24
SECTION 2 - GENERAL		
2.1	Machine Preparation, Inspection, and Maintenance	2-1
	General	2-1
	Preparation, Inspection, and Maintenance	2-1
	Pre-Start Inspection	2-1
	Pre-Delivery Inspection and Frequent Inspection	2-1
	Annual Machine Inspection	2-1
	Preventive Maintenance	2-1
2.2	Service and Guidelines	2-2
	General	2-2
	Safety and Workmanship	2-2
	Cleanliness	2-2
	Components Removal and Installation	2-2
	Component Disassembly and Reassembly	2-3
	Pressure-Fit Parts	2-3
	Bearings	2-3
	Gaskets	2-3
	Bolt Usage and Torque Application	2-3
	Hydraulic System	2-3
	Lubrication	2-3
	Battery	2-3
	Lubrication and Servicing	2-3
2.3	Lubrication and Information	2-4
	Hydraulic System	2-4
	Hydraulic Oil	2-4
	Changing Hydraulic Oil	2-4
	Lubrication Specifications	2-4

MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

SECTION NO.	TITLE	PAGE NO.
2.4	Cylinder Drift Test	2-5
	Theory	2-5
	Cylinder Leakage Test	2-5
	Cylinder Thermal Drift	2-5
2.5	Pins and Composite Bearing Repair Guidelines	2-6
2.6	Welding on JLG Equipment	2-6
	Do the Following When Welding on JLG Equipment	2-6
	Do NOT Do the Following When Welding on JLG Equipment	2-6
SECTION 3 - CHASSIS & TURNTABLE		
3.1	Tires and Wheels	3-1
	Tire Damage	3-1
	Tire Replacement	3-1
	Wheel Replacement	3-1
	Wheel Installation	3-1
3.2	Oscillating Axle System	3-2
3.3	Lockout Cylinder Bleeding	3-2
3.4	Chassis Tilt Indicator System	3-2
3.5	Oscillating Axle Lockout Test	3-6
3.6	Cold Start System (Diesel)	3-6
3.7	Drive Orientation System	3-6
3.8	Drive System	3-7
3.9	Wheel Drive Assembly	3-8
	Removal	3-8
	Installation	3-8
3.10	Torque Hub	3-9
	Roll and Leak Testing	3-9
	Tightening and Torquing Bolts	3-9
	Main Disassembly for "B" Drives	3-10
	Hub-Spindle Disassembly	3-10
	Cover Disassembly	3-17
	Carrier Disassembly	3-17
	Assemble Carrier	3-17
	Cover Sub-Assembly	3-19
	Hub-Spindle Sub-Assembly	3-20
	Main Assembly	3-22
	Tool List	3-27
3.11	Re-Align Torque Hub Input Coupling	3-28
	Equipment Required	3-28
	Procedure	3-28
3.12	Drive Motor	3-28
	Description	3-28
	Shaft Seal Replacement	3-29
	Loop Flushing Valve	3-29
	Troubleshooting	3-30
	Disassembly	3-31
	Inspection	3-35
	Assembly	3-37
	Initial Start-Up Procedures	3-41
3.13	Drive Brake	3-42
	Disassembly	3-42
	Inspection	3-42
	Assembly	3-42
3.14	Swing Bearing	3-45
	Removal	3-45
	Installation	3-45
	Turntable Bearing Mounting Bolt Condition Check	3-47
	Wear Tolerance	3-47

MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

SECTION NO.	TITLE	PAGE NO.
3.15	Swing Motor	3-51
	Removal	3-53
	Preparation Before Disassembly	3-55
	Disassembly and Inspection	3-55
	Assembly	3-62
	One Piece Stator Construction	3-68
	Two Piece Stator Construction	3-69
	Final Checks	3-70
	Installation	3-70
3.16	Generator	3-70
	Maintenance Schedule	3-70
	Overload Protection	3-71
	Inspecting Brushes, Replacing Brushes and Cleaning Slip Rings	3-71
	Troubleshooting	3-73
	Generator Disassembly and Assembly	3-74
	Lead Connection List for Generator	3-82
	Generator Pulley	3-83
	Removal	3-83
	Installation	3-83
	Removal	3-84
	Installation	3-84
	Removal	3-85
	Installation	3-85
	Removal	3-86
	Installation	3-86
	Removal	3-87
	Installation	3-87
3.17	Deutz Engine	3-88
3.18	Kubota Engine	3-92
3.19	Deutz Engine - D2.9L4	3-94
	Check Oil Level	3-94
	Replacing Engine Oil	3-94
	Replacing the Oil Filter	3-94
	Replacing the Fuel Filters	3-95
3.20	Deutz Engine - D2011L03	3-96
	Check Oil Level	3-96
	Replacing Engine Oil	3-97
	Replacing the Oil Filter	3-97
	Replacing the Fuel Filter	3-98
	Deutz EMR 2	3-99
3.21	Kubota Engine General Maintenance	3-136
	Checking Oil Level	3-136
	Replacing Engine Oil	3-136
	Replacing the Oil Filter	3-137
	Maintenance of the Drive Belt	3-137
	REPLACING OIL SEPARATOR	3-138
3.22	Deutz Engine D2.9L4 (STAGE V)	3-142
	General Maintenance	3-144
	Check Oil Level	3-144
	Replacing Engine Oil	3-144
	Replacing the Oil Filter	3-144
	Replacing the Fuel Filters	3-145
	Deutz EMR5	3-146
3.23	HRC Engine Emission Characteristics	3-173
	Terminology for Removing Soot	3-173

MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

Fault group	Fault no. (in SERDIA)	Fault locality/ Fault description	SPN	FMI	Cause	Remarks	Help
Control unit hardware	80	Power supply (Actuator)	SID 254	2	Power supply for actuator not in the permissible range.	Fault message (disappears when power again in the normal range).	Switch ignition off and on again. Check again. If faulty inform DEUTZ Service.
	83	Reference voltage 1	SID 254	2	Reference voltage for actuator not in the permissible range.	Fault message (disappears when power again in the normal range). Auxiliary value 5 V	Check voltage supply. Switch ignition off and on again. Check again. If faulty inform DEUTZ Service.
	84	Reference voltage 2	SID 254	2			
	85	Reference voltage 4	SID 254	2			
	86	Internal temperature	171	12	Internal temperature for control unit not in permissible range.	Fault message (disappears when power again in the normal range).	Switch ignition off and on again. Check again. If faulty inform DEUTZ Service.
	87	Atmospheric pressure	108	12	Atmospheric pressure not in permissible range.	Fault message (disappears when power again in normal range). Atmospheric pressure monitoring function de-activated.	
Program logic	90	Parameter fault (EEPROM retrieval or checksum faulty).	SID 253	2	No data found or checksum of data is faulty (note: fault only occurs during setting of parameter / saving or reset.).	Engine cannot be started.	Check data for correct settings. Save parameters. Switch ignition off and on again. Check again. If faulty inform DEUTZ Service.
	93	Stack overflow	SID 240	2	Internal calculation fault (so-called "Stack overflow" fault).	Emergency switch-off. Engine cannot be started.	Note parameters (3897 and 3898). Switch ignition off and on again. Check again. If faulty inform DEUTZ Service.
	94	Internal fault	SID 254	2			

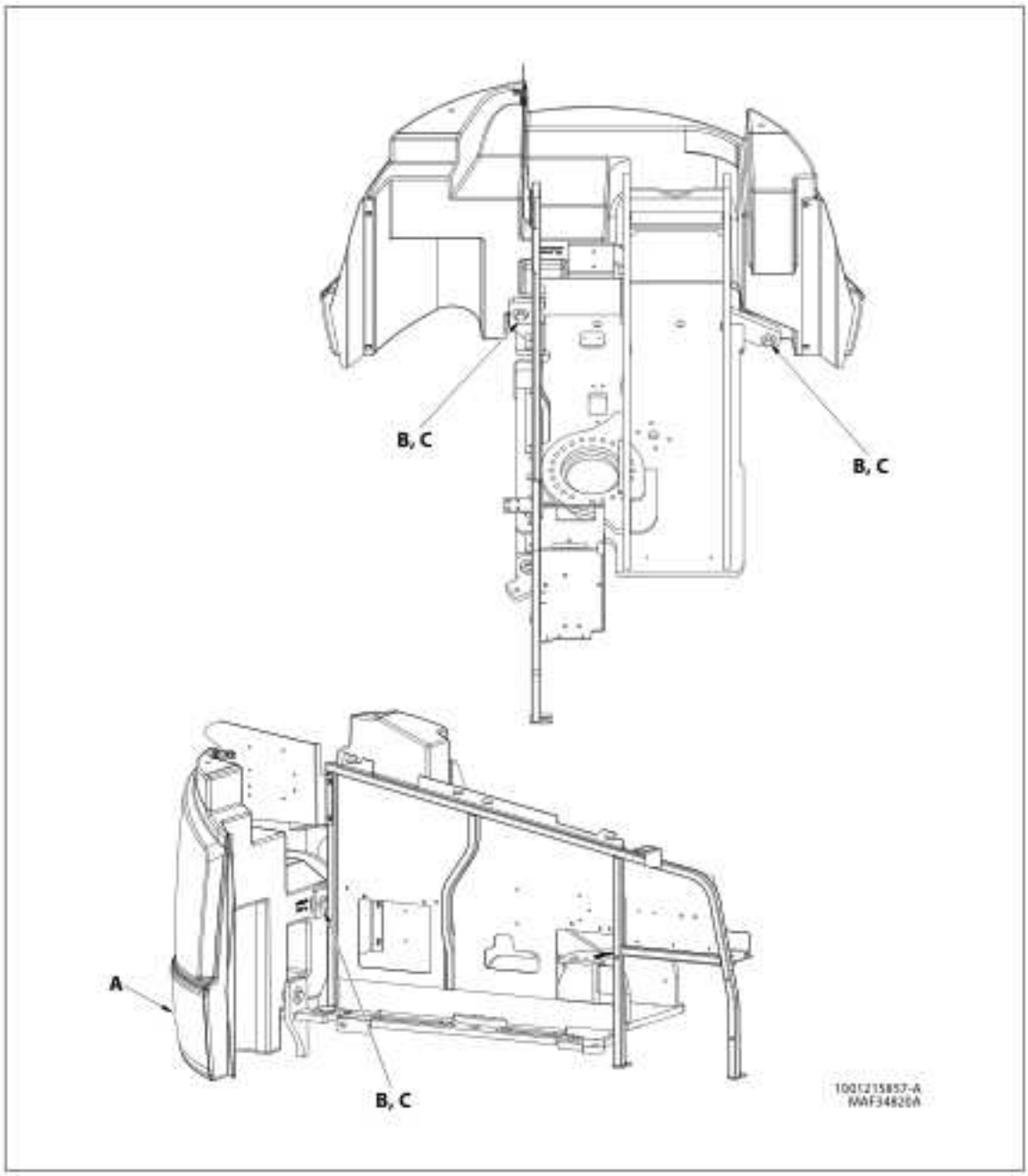
NOTE: SID is equal to 512. To get SPN #, add 512 + number. For example, SID 254 would be 512 + 254 or an SPN of 766.

Figure 3-84. EMR2 Fault Codes - Sheet 5 of 5

MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

3.26 COUNTERWEIGHT

If the counterweight has been removed, ensure the retaining bolts are torqued to the proper value as shown in Figure 3-103., Counterweight - 450A and Figure 3-104., Counterweight - 450AJ



A. Counterweight Casting
B. Apply High Strength Threadlocking Compound to Bolt Threads and to Threads in Counterweight.
C. Torque to 345.9 ft. lbs. (469 Nm). Typical Three Places.

Figure 3-103. Counterweight - 450A

MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

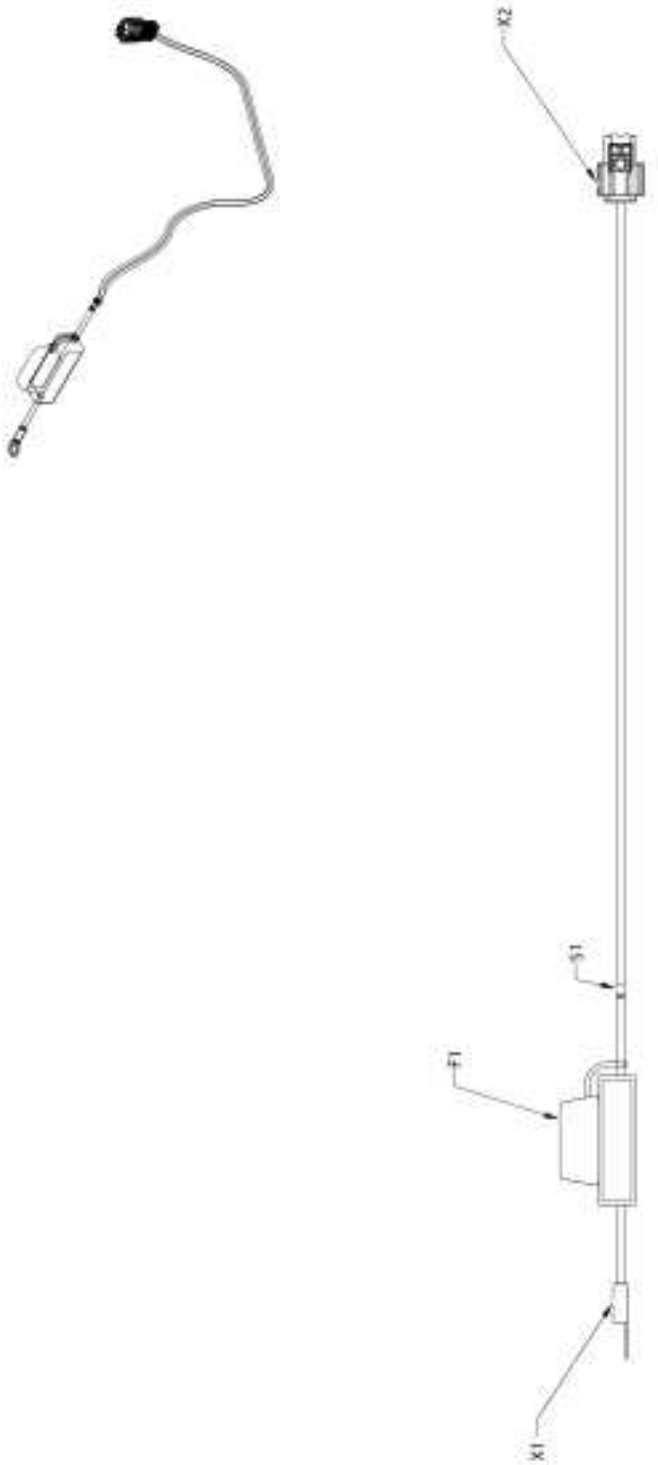
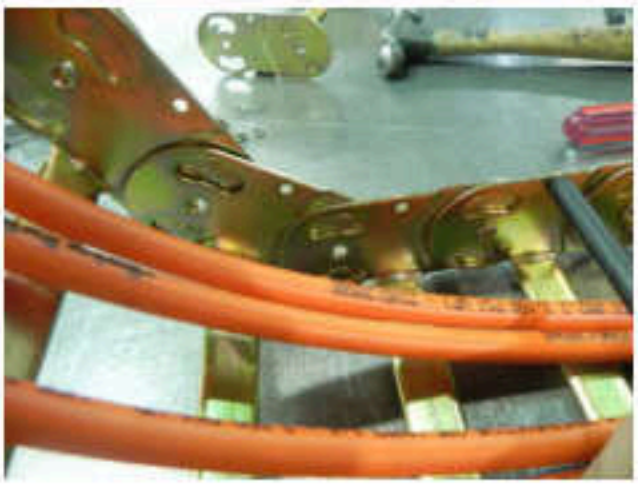


Figure 7-99. Kubota D/F PWR Harness - Sheet 1 of 2

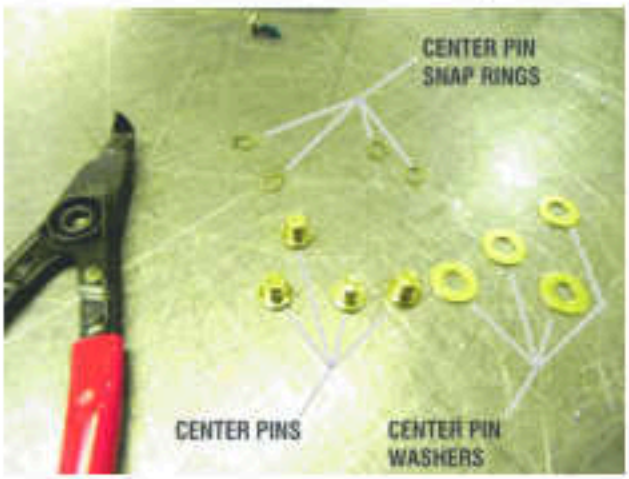
MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

4. Pull moving end over track so new connection is positioned in curve of powertrack. Round half-shears will rotate into cut-outs.





5. Parts shown below connect new link to powertrack.



6. Push pin through center hole then slide washer on pin.





7. Install snap ring in groove on pin. Repeat pin installation steps for all center holes with rivets removed.



MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >

SECTION 5. BASIC HYDRAULICS INFORMATION & SCHEMATICS

5.1 LUBRICATING O-RINGS IN THE HYDRAULIC SYSTEM

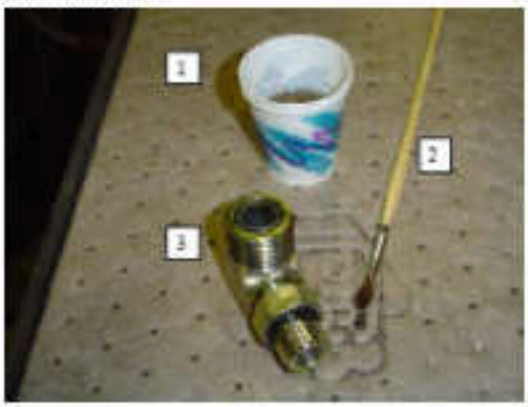
When assembling connectors in the hydraulic that use o-ring fittings, it is necessary to lubricate all fittings with hydraulic oil prior to assembly. To lubricate the fittings, use one of the following procedures.

NOTE: *All O-ring fittings must be pre-lubricated with hydraulic oil prior to assembly.*

Cup and Brush

The following is needed to correctly oil the o-ring in this manner:

- A small container for hydraulic oil
- Small paint brush



1. Hold the fitting in one hand while using the brush with the other hand to dip into the container. Remove excess hydraulic oil from the brush so an even film of oil is applied on the o-ring.



2. Holding the fitting over the hydraulic oil container, brush an even film of oil around the entire o-ring in the fitting, making sure the entire o-ring is completely saturated.



3. Turn the o-ring on the other side of the fitting and repeat the previous step, ensuring the entire o-ring is coated with hydraulic oil.



MidWestTech | JLG 450A, 450AJ Boom Lift Service Manual | Publication 31215022 Order the manual at mid-west-tech.com >