An Oshkosh Corporation Company

Service and Maintenance Manual

Model

340AJ

PVC 2001

31215004

December 16, 2019 - Rev A

ANSI

CE

AS/NZS

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004

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	1-2
	Major Component Weights	1-3
1.7	Operator Maintenance	1-5
1.8	Threadlocking Compound	1-8
1.9	Torque Charts	1-9
	SAE Fastener Torque Chart	1-9
	SAE Fastener Torque Chart (Continued)	1-10
	SAE Fastener Torque Chart (Continued)	1-11
	SAE Fastener Torque Chart (Continued)	1-12
	SAE Fastener Torque Chart (Continued)	1-13
	SAE Fastener Torque Chart (Continued)	1-14
	Metric Fastener Torque Chart	1-15
	Metric Fastener Torque Chart (Continued)	1-16
	Metric Fastener Torque Chart (Continued)	1-17
	Metric Fastener Torque Chart (Continued)	1-18
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 Lines and Electrical Wiring	2-3
	Hydraulic System	2-3
	Lubrication	2-4
	Battery	2-4
	Lubrication and Servicing	2-4
	Hydraulic System	2-4
	Hydraulic Oil	2-4
	Changing Hydraulic Oil	2-4
	Lubrication Specifications	2-4

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >

SECTION NO.	TITLE	PAGE NO.
2.3	Cylinder Drift	2-5
	Theory	2-5
	Cylinder Leakage Test	2-5
	Cylinder Thermal Drift	2-5
2.4	Pins and Composite Bearing Repair Guidelines	2-6
2.5	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 Replacement	3-1
	Wheel and Tire Replacement	3-1
	Wheel Installation	3-1
3.2	Drive Orientation System	3-2
3.3	Beyond Transport Position - Drive Speed Cutback System	3-2
3.4	Drive/Steer - Boom Function Interlock System (CE ONLY)	3-2
3.5	Drive System	3-2
3.6	Drive Motor	3-3
	Disassembly	3-3
	Assembly	3-3
3.7	Drive Hub	3-10
	Roll, Leak and Brake Testing	3-10
	Tightening and Torquing Bolts	3-10
	Measuring Rolling Torque	3-11
	Main Disassembly	3-11
	Housing-Spindle Disassembly	3-13
	Spindle-Brake Subassembly Disassembly	3-15
	Cover Disassembly	3-16
	Planet Gear Subassembly	3-18
	Spindle-Brake Subassembly	3-19
	Housing-Spindle Subassembly	3-21
	Housing-Ring Gear Subassembly	3-22
	Cover Subassembly	3-23
	Main Assembly	3-24
	Integral Brake Check Procedure	3-25
3.8	Oscillating Axle System	3-30
	Oscillating Axle Bleeding Procedure	3-30
3.9	Chassis Tilt Indicator System	3-32
3.10	Swing Motor	3-32
	Removal	3-34
	Preparation Before Disassembly	3-34
	Disassembly and Inspection	3-35
	Assembly	3-42
	One Piece Stator Construction	3-48
	Two Piece Stator Construction	3-49
	Final Checks	3-50
	Installation	3-50
3.11	Swing Drive	3-50
	Removal	3-50
	Installation	3-55
	Turntable Bearing Mounting Bolt Condition Check	3-56
	Wear Tolerance	3-56
	Swing Bearing Torque Value	3-56
	Disassembly	3-58
	Assembly	3-60
3.12	Engine Operating States	3-70
3.13	Engine Start Conditions	3-71

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >

SECTION NO.	TITLE	PAGE NO.
3.14	Engine RPM Levels	3-71
	Engine Stop RPM	3-71
	Idle RPM	3-71
	Mid Engine RPM	3-71
	Multi-Function RPM	3-72
	High Engine RPM	3-72
	Generator RPM	3-72
3.15	Engine Controls	3-72
	Ambient Air Temperature Sensor	3-72
	Fuel Level Sensor	3-72
3.16	Engine Startup Procedure (Kubota)	3-73
3.17	Kubota Engine	3-74
	Engine Oil Pressure Switch	3-74
	Engine Speed Sensor	3-74
	Coolant Sensor	3-75
	Glow Plugs	3-75
	Engine Speed Actuators	3-76
	Engine Start	3-77
	Alternator Excitation	3-77
	Fuel Pump	3-77
	Shutdown	3-77
3.18	GM Dual Fuel Engine	3-82
	Communications with the JLG Control System	3-82
	Engine Start	3-82
	Oil Pressure	3-82
	Engine Speed	3-82
	Coolant Temperature	3-82
	Fuel Select	3-82
3.19	Fuel Reserve / Cut-Out System	3-96
3.20	Cold Start System (Diesel Engine)	3-96
3.21	Generator	3-96
3.22	Counterweight	3-97
SECTION 4 - BOOM & PLATFORM		
4.1	Platform Control Enable System	4-1
4.2	Platform Load Sensing System	4-1
4.3	Ground Control Keyswitch System	4-1
4.4	Function Speed Control System	4-1
4.5	Jib Lift End Of Stroke Dampening	4-1
4.6	Emergency Decent System	4-1
4.7	Transport Position Sensing System	4-1
4.8	Platform	4-2
	Platform/Support Removal	4-2
	Support Installation	4-3
4.9	Main Boom Powertrack	4-5
	Removal	4-5
	Installation	4-5
4.10	Powertrack Maintenance	4-6
	Remove Link	4-6
	Install New Link	4-9
	Replace Fixed End Brackets	4-12
	Replace Moving End Brackets	4-13
4.11	Boom Maintenance	4-15
	Disassembly of the Main Boom	4-15
	Inspection	4-16
	Assembly of the Main Boom	4-16
4.12	Boom Cleanliness Guidelines	4-20

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >

Troubleshooting

Table 4-1. Troubleshooting

Problem	Cause	Solution
1. Shaft rotates slowly or not at all	a. Insufficient torque output	a. Verify correct operating pressure. Do not exceed OEM's pressure specifications. Load may be above maximum capacity of the actuator.
	b. Low rate of fluid flow	b. Inspect ports for obstructions and hydraulic lines for restrictions and leaks.
	c. Control or counterbalance valve has internal leak	c. Disconnect hydraulic lines and bypass valve. Leave valve ports open and operate the actuator through housing ports (do not exceed OEM's operating pressure). The valve must be replaced if a steady flow of fluid is seen coming from the valve ports.
	d. Piston and/or shaft seal leak	d. Remove the plug and the housing's valve ports. Operate the actuator through the housing ports. Conduct the internal leakage test as described in the Testing section on page 24 of this manual.
	e. Corrosion build-up on the thrust surfaces	e. Re-build the actuator. Remove all rust then polish. Replacement parts may be needed.
	f. Swollen seals and composite bearings caused by incompatible hydraulic fluid	f. Re-build the actuator. Use fluid that is compatible with seals and bearings.
2. Operation is erratic or not responsive	a. Air in actuator	a. Purge air from actuator. See bleeding procedures.
3. Shaft will not fully rotate	a. Twisted or chipped gear teeth	a. Check for gear binding. Actuator may not be able to be re-built and may need to be replaced. Damage could be a result of overload or shock.
	b. Port fittings are obstructing the piston	b. Check thread length of port fittings. Fittings should during stroke not reach inside the housing bore.
4. Selected position cannot be maintained	a. Control or counterbalance valve has internal leak	a. Disconnect hydraulic lines and bypass valve. Leave valve ports open and operate the actuator through housing ports (do not exceed OEM's operating pressure). The valve must be replaced if a steady flow of fluid is seen coming from the valve ports.
	b. Piston and/or shaft seal leak	b. Remove the plug and the housing's valve ports. Operate the actuator through the housing ports. Conduct the internal leakage test as described in the Testing section on page 24 of this manual.
	c. Air in actuator	c. Purge air from actuator. See bleeding procedures

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >

Troubleshooting

The following tables are furnished to provide possible resolutions for common difficulties. Difficulties are classified as General, Calibration, Measurement Performance, and Host System Functionality.

Table 6-13. LSS Troubleshooting Chart

Difficulty	Possible Resolution
Empty Platform Weight (DIAGNOSTICS, PLATFORM LOAD) is not within ±15lb (±7kg) of zero. or Platform Load readings (DIAGNOTICS, PLTLOAD) are unstable by more than ±2lb (±1kg) (without the influence of vibration or wind). or There are large variations in Platform Load (DIAGNOSTICS, PLTLOAD) based on the location of the load. Tolerance to variations is 20lb for an evaluation using the technician's weight, and ±5% of Rated Load when using calibrated weights.	The LSS System is unable to properly measure the platform weight. 1. The Load Cell is not properly plugged into the LSS Harness. It is possible poor electrical contact is made. 2. Wiring leading to the Load Cell is damaged. Carefully inspect sensor wiring where it passes through cable clamps for signs of damage. Inspect wiring where damage to the channel is apparent. 3. The Load Cell was not assembled properly during installation. Examine the sensor's reading using the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL, LOAD displays and determine if the readings are reasonable. It is often helpful to apply slight downward pressure above the sensor and observe that its output increases (increasing force measurement; decreasing means the sensor is mounted upside-down). 4. The Load Cell is contaminated by debris or moisture. Examine the sensor's reading using the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL, LOAD displays and determine if the readings are reasonable and stable (not changing by more than ±2lb (±1kg) (without the influence of vibration or wind). Lack of measurement stability is a key indication of contamination. Unplug the connector and inspect for dirt or moisture. Look carefully into the female connector on the sensor's cordset for evidence of contamination. Debris should be brushed away with a soft bristle brush (do not introduce any cleaners as they will leave conductive residue). Moisture should be allowed to evaporate or accelerated with a heat-gun (use low heat and be carefully to not melt connector materials). Moisture intrusion into the molded portion of the connector (capillary action into the wire bundle) or the Shear Beam Load Cell itself will require replacement of the sensor. 5. The Load Cell has been mechanically damaged. If the Load Cell is physically deformed or has damage to the cover it should be replaced immediately. It is also possible to have invisible mechanical damage resulting from an extreme overload (>6000lb [>2722kg]).
The Visual and Audible Overload Warnings fail to sound when platform is loaded beyond Rated Load, or when simulated by unplugging the Load Cell. Controls remain functional at Platform and Ground Control positions.	The Control System is failing to regard the overload signal from the LSS System, or the signal is shorted. 1. The Load Sensing System must be enabled within the Control System. Plug the JLG Analyzer into the Control System, enter the Access Level 1 password (33271), and examine the MACHINE SETUP, LOAD sub-menu. The selection "2=CUTOUT PLT" should be displayed (platform controls prevented during overload, ground controls remain operational). In country- or customer-specific circumstance, the selection "3=CUTOUT ALL" is used (platform and ground controls prevented during overload).
The Ground Audible Warning fails to sound, but the Platform Audible Warning sounds properly.	The Ground Alarm is missing or improperly installed. Verify that the device is mounted. Verify wiring from the Main Terminal Box and Ground Module.
Controls remain functional at the Ground Control position during an overload, or when simulated by unplugging the Load Cell. The Controls at the Platform Control position are prevented when using the engine, but not when using the Auxiliary Power Unit.	The JLG Control System is configured to prevent platform controls only in the event of overload. Alternately, the Host Control System can be configured to prevent ground and platform controls for country- or customer-specific circumstances. Using the JLG Analyzer, enter the Access Level 1 password (33271). Proceed to the MACHINE SETUP, LOAD sub-menu. Set this parameter to "2=CUTOUT PLT" to prevent platform controls in the event of overload. Set this parameter to "3=CUTOUT ALL" to prevent platform and ground controls in the event of overload.

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >

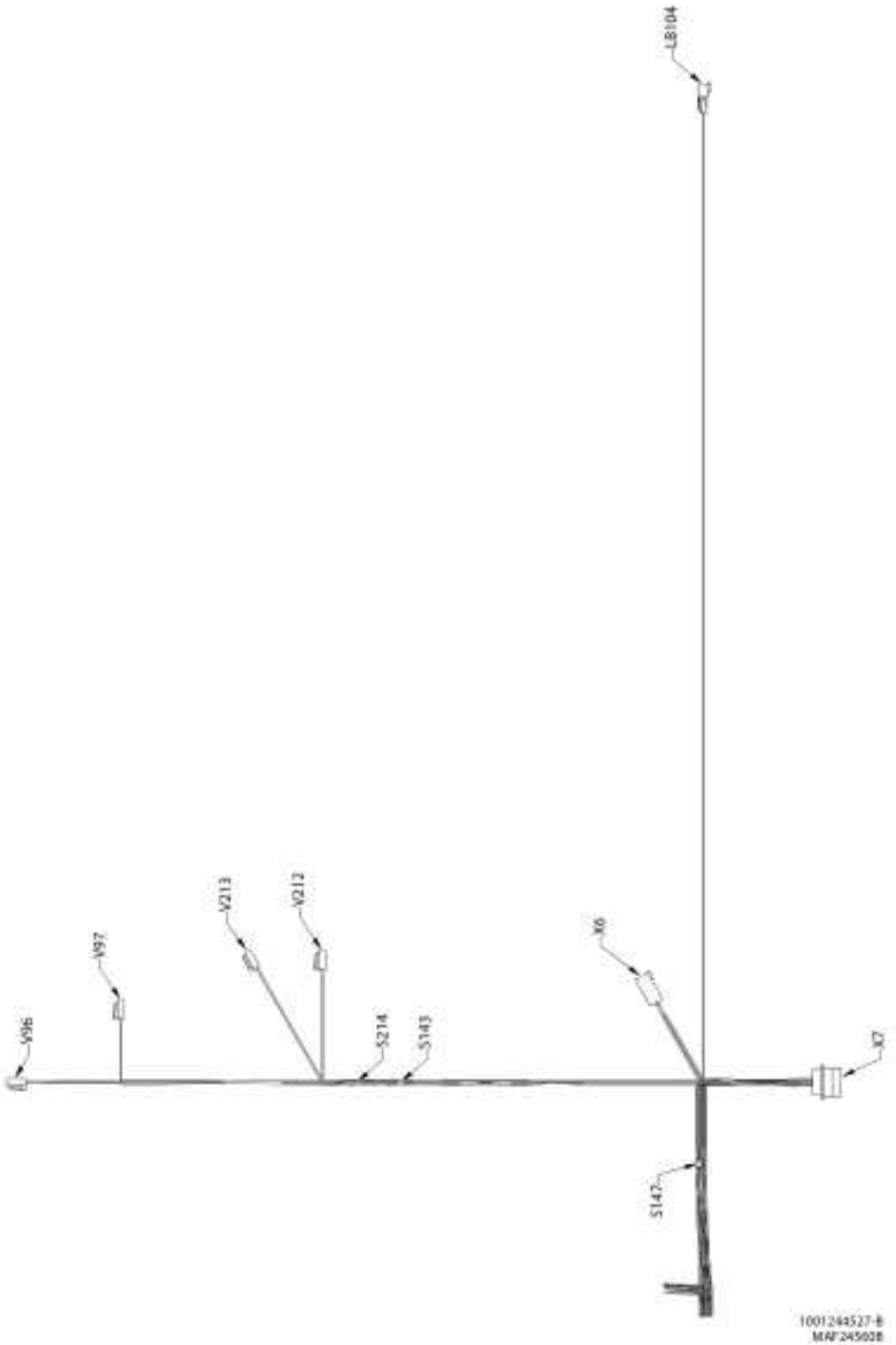


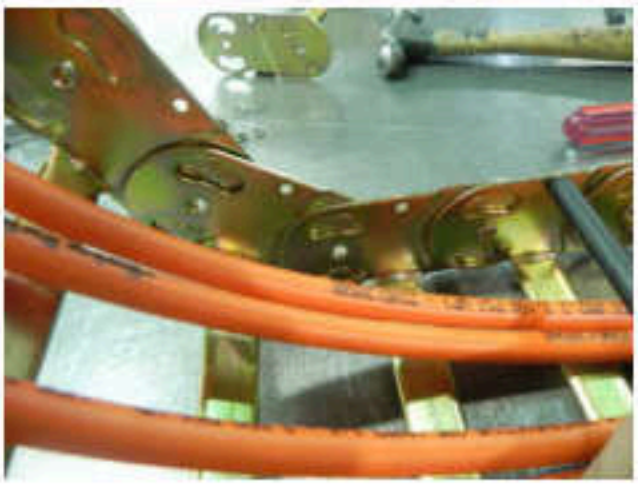
Figure 7-43. Mid Engine Harness - Sheet 8 of 10

MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004

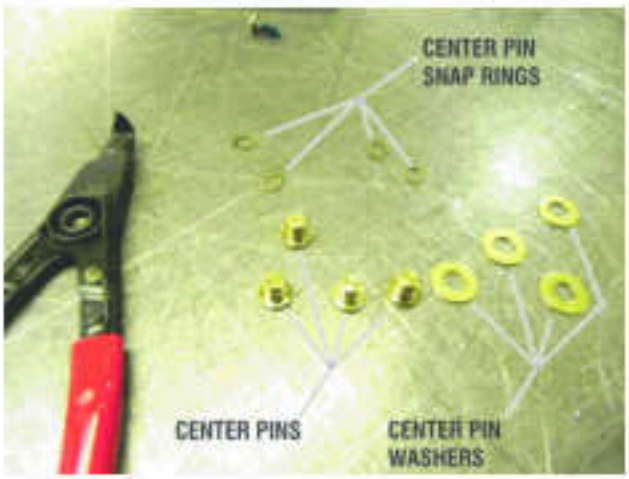
Order the manual at mid-west-tech.com >

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.



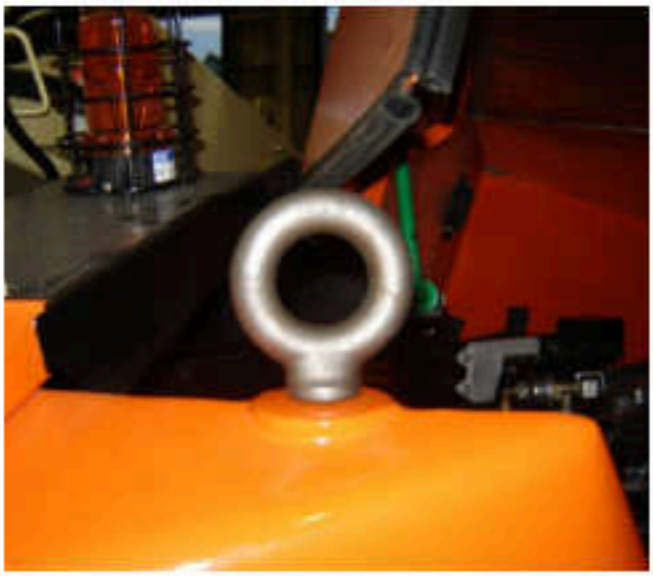


7. Install snap ring in groove on pin. Repeat pin installation steps for all center holes with rivets removed.



MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >

3. Install eyebolts as specified in Figure 3-33., Eyebolt for Counterweight in the counterweight.





4. Securely strap the booms together to prevent any movement during the lifting process.





MidWestTech | JLG 340AJ Boom Lift Service Manual | Publication 31215004 Order the manual at mid-west-tech.com >