An Oshkosh Corporation Company

Service & Maintenance Manual

Models

R1532i
R1932i
R1932

PVC 1910

PN - 31215088

October 16, 2019 - Rev A

ANSI CE CSA AS/NZS

An Oshkosh Corporation Company

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 31215088

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

TABLE OF CONTENTS

SUBJECT - SECTION, PARAGRAPH **PAGE NO.**

SECTION A - INTRODUCTION - MAINTENANCE SAFETY PRECAUTIONS

A General A-1
Hydraulic System Safety A-1
Maintenance A-1

SECTION 1 - SPECIFICATIONS

1.1 Operating Specifications 1-1
Machine Specifications 1-1
Platform Capacities 1-2
Machine Dimensional Data 1-2
Tires 1-2
Batteries 1-3
Motors 1-3
Electrical System 1-4
1.2 Limit Switch Activation 1-5
Tilt Alarm 1-5
High Drive Speed Cutout Height 1-5
1.3 Lubrication 1-5
Lubrication Capacities 1-5
Hydraulic Oil 1-5
Lubrication Specifications 1-6
1.4 Hydraulic Pressure Settings 1-6
1.5 Hydraulic Cylinder Specifications 1-6
1.6 Critical Stability Weights 1-7
1.7 Serial number location 1-7
1.8 Major Component Weights 1-7
1.9 Torque Requirements 1-7
1.10 Thread Locking Compound 1-9
1.11 Torque Charts 1-10
SAE Fastener Torque Chart 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
SAE Fastener Torque Chart (Continued) 1-15
Metric Fastener Torque Chart 1-16
Metric Fastener Torque Chart (Continued) 1-17
Metric Fastener Torque Chart (Continued) 1-18
Metric Fastener Torque Chart (Continued) 1-19

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
Preventative Maintenance 2-1
2.2 Preventive Maintenance and Inspection Schedule 2-3
Maintenance and Inspection Schedule Codes: 2-3

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

2.3 Service Maintenance Components 2-6
Scissor Arm - Safety Prop 2-6
Hydraulic Oil Check Procedure 2-7
2.4 Service and Guidelines 2-8
General 2-8
Safety and Workmanship 2-8
Cleanliness 2-8
Components Removal and Installation 2-8
Component Disassembly and Reassembly 2-8
Pressure-Fit Parts 2-8
Bearings 2-8
Gaskets 2-8
Bolt Usage and Torque Application 2-8
Hydraulic Lines and Electrical Wiring 2-9
Hydraulic System 2-9
Lubrication 2-9
Battery 2-9
2.5 Lubrication and Information 2-9
Hydraulic System 2-9
Hydraulic Oil 2-9
Changing Hydraulic Oil 2-9
Lubrication Specifications 2-10
2.6 Cylinder Drift Test 2-10
Platform Drift 2-10
Cylinder Drift 2-10
2.7 Pins and Composite Bearing Repair Guidelines 2-10

SECTION 3 - CHASSIS & SCISSOR ARMS

3.1 Left and Right Side component compartments 3-1
3.2 Battery Removal/Maintenance 3-3
Battery Quick-Disconnect 3-3
Battery Maintenance and Safety Practices 3-4
3.3 Battery Charging 3-4
Delta-Q - Battery Charger 3-5
Green Power - Battery Charger - (China Only) 3-5
Eagle Performance - Battery Charger 3-5
Battery Charger Maintenance 3-6
3.4 DC/AC Power Inverter Installation - Option 3-10
3.5 LOGIC control MODULE INSTALLATION 3-11
To swing the module down for access 3-11
To remove the module from the machine 3-11
3.6 Main Power Contactor Relay and pump control Module 3-12
3.7 Pump Control Module 3-12
Removal 3-12
Installation 3-12
3.8 Ground Control Station 3-14
Components Location 3-14
Removal 3-14
Installation 3-14
3.9 Platform Control Station 3-16
Overview of Control Station Components 3-16
Installation/Removal 3-16
Control Station Disassembly 3-17
Joystick Controller 3-18
3.10 Tilt Sensor Installation 3-19
Tilt Sensor Removal 3-19
Tilt Sensor Installation 3-19

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

3.11 Scissor Arm - Rotary Angle Sensor 3-20
Rotary Angle Sensor Installation 3-20
3.12 PotHole Protection System Components 3-21
3.13 Steer And Spindle Assembly Components 3-23
Drive Motor Covers Installation - Option 3-24
Tire Wear and Damage 3-25
Wheel and Tire Replacement 3-25
Wheel Installation 3-25
3.14 Arms and Platform Positioning and Support 3-26
3.15 Platform Removal 3-26
R1532i 3-26
R1932i/R1932 3-26
3.16 Scissor Arms Removal 3-27
Removing Scissor Arm Assembly as a Complete Unit 3-27
Removing/installing Scissor Arms Individually 3-27

SECTION 4 - HYDRAULICS

4.1 Cylinders - Theory of Operation 4-1
4.2 Valves - Theory of Operation 4-1
Solenoid Control Valves (Bang-Bang) 4-1
Relief Valves 4-1
Crossover Relief Valves 4-1
Proportional Valve 4-1
Manual Descent Valve 4-1
4.3 Pump/Motor 4-2
Pump Motor Electrical Evaluation 4-2
4.4 Hydraulic Tank Installation 4-4
Hydraulic Oil Check Procedure 4-5
4.5 Hydraulic Pump and Electric motor assembly 4-6
Pump/Motor Removal 4-6
Pump/Motor Disassembly 4-7
Pump/Motor Assembly 4-7
Pump/Motor Installation 4-7
4.6 Hydraulic Manifold Valve Installation 4-8
4.7 Drive Motor Installation 4-12
4.8 Hydraulic Brake Installation 4-13
Hydraulic Brake Release 4-13
4.9 Remote tow Components 4-14
Push Button Brake Release (AUS only) 4-14
4.10 Pressure Setting Procedure 4-15
Main Relief 4-15
Lift Up Relief 4-15
Steer Relief 4-15
4.11 Cylinder Checking Procedure 4-15
4.12 Lift Cylinder Removal 4-16
Lift Cylinder - LSS Pressure Sensor Location (If Equipped) 4-16
4.13 Lift Cylinder Repair 4-19
Disassembly 4-19
Cleaning and Inspection 4-20
Assembly 4-20
4.14 Hydraulic Schematics 4-24

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

Platform Capacities

MACHINE MODEL	Markets	MAXIMUM PLATFORM CAPACITY (1)	MAXIMUM CAPACITY ALLOWED ON PLATFORM EXTENSION	MAXIMUM PERSONS ALLOWED IN PLATFORM(2)	MAX. SIDE FORCE (Platform Fully Extended @ Max. Capacity)(2)	MAXIMUM OPERATING WIND SPEED
R1532i	All Markets(3)	606 lb (275 kg)	265 lb (120 Kg)	2 Person	90 lb (400 N)	0 m/s
R1932i	All Markets	507 lb (230 kg)	265 lb (120 Kg)	1 Person	45 lb (200 N)	0 m/s
R1932	All Markets	507 lb (230 kg)	265 lb (120 kg)	Outdoor - 1 Person Indoor - 2 persons	Outdoor - 45 lb (200 N) Indoor - 90 lb (400 N)	28 mph (12.5 m/s)

NOTE: *(1) Maximum Platform Capacity includes platform and platform extension.*

NOTE: *(2) INDOOR USE is use of a MEWP in areas shielded from wind so that there is no wind. OUTDOOR USE is use of a MEWP in an environment that can be exposed to wind.*

NOTE: *(3) R1532i is not available in AUS market.*

Machine Dimensional Data

DESCRIPTION	R1532i	R1932i/R1932
Platform Height - Elevated (Ground to Platform Floor)	15 ft (4.57 m)	19 ft (5.8 m)
Platform Height - Stowed (Ground to Platform Floor)	34.7 in (88.1 cm)	38.7 in (98.3 cm)
Rail Height (Platform Floor to Top of Rail)	43.9 in (111.5 cm) folding 44.3 in (112.5 cm) dual	39.9 in (101.4 cm) fixed 43.88 in (111.4 cm) folding 44.3 in (112.5 cm) dual
Overall Height - Fixed Rail (Ground to Top Rail)	78.7 in (199.9 cm) folding 78.9 in (200 cm) dual	78.8 in (200 cm) fixed 82.8 in (210.3 cm) folding/ dual
Overall Height - Rails Folded (Ground to Mid Rail)	60.6 in (153.9 cm) folding 65.55 in (166.4 cm) dual	63.3 in (160.8 cm) fixed 64.27 in (163.2 cm) folding 69.4 in (176.2 cm) dual
Overall Machine Width	32 in (81.3 cm)	32 in (81.3 cm)
Overall Machine Length	68.7 in (174.5 cm)	68.7 in (174.5 cm)
Extension Deck Length	33.7 in (85.6 cm) folding/ fold 34.2 in (86.9 cm) dual	33.7 in (85.6 cm) folding/ fold 34.2 in (86.9 cm) dual
Wheelbase	53 in (134.6 cm)	53 in (134.6 cm)

Tires

DESCRIPTION	R1532i/R1932i/R1932
Size (Front and Rear)	12.72 in. x 3.9 in. (32.3 cm x 10.0 cm)
Wheel Nut Torque (42 mm Slotted Nut with Cotter Pin)	150 ft. lbs. (203 Nm)

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

LSS Troubleshooting

The following tables are furnished to provide possible resolutions for common difficulties.

Table 6-7. LSS Troubleshooting

PROBLEM	POSSIBLE RESOLUTION
JLG Analyzer displays "FAIL NOT IN GND MODE" durnng LSS calibration	The technician has triggered the calibration process but the key switch is not in the Ground Mode position. Change the key-switch position and re-attempt LSS calibration.
JLG Analyzer displays "FAIL CAL ANGLE" during LSS calibration	The elevation sensor is not calibrated and this must be completed prior to LSS calibration. Execute the elevation sensor calibration procedure using CALIBRATIONS → SET STOW ELEV and CALIBRATIONS → SET MAX ELEV. Re-attempt LSS calibration afterward.
JLG Analyzer displays "FAIL PLAT NOT STOWED" durnng LSS calibration	The LSS calibration procedure must start with the platform completely stowed. Lift down using ground controls and then re-attempt LSS calibration.
JLG Analyzer displays "FAIL MOTION STOPPED" during LSS calibration	The technician released lift down during the LSS calibration procedure and the calibration data points could not be collected by the control system. Re-attempt LSS calibration.
JLG Analyzer displays "CAL FAIL" during LSS calibration	The technician halted the LSS calibration procedure by pressing ESC. Alternately, calibration data points collected from the vehicle did not fit within guidelines. This can be caused by debris in the platform, excessive slide block friction, or structural damage. This can also occur when accessories are fitted to the platform and the PERSONALITY → LOAD → ACC'Y setting is adjusted improperly. Remove debris and address any damaged components. Refer to the documentation for Sky Accessories.
LSS Visual and Audible Overload Warnings fail to sound when the platform is loaded beyond rated load. Controls remain functional at Ground and Platform Control positions.	• LSS is not enabled in the control system. Connect the JLG Analyzer and enter the Access Level 1 password (33271). Navigate to MACHINE SETUP → LOAD and adjust the configuration to CUTOUT ALL to prevent platform and ground controls during an overload. Adjust the configuration to CUTOUT PLTM to prevent platform controls only during an overload. • LSS requires re-calibration. Re-calibrate the elevation sensor first, and then the LSS using the procedures listed in this document.
LSS Visual and Audible Overload Warnings are active when the platform is empty.	• LSS has not been calibrated or calibration has been lost. Calibration data points are stored within the Ground Module so replacement of this component will cause the need for re-calibration. Adjusting some settings within the MACHINE SETUP menu will also delete the calibration. • LSS requires re-calibration. Re-calibrate the elevation sensor first, and then the LSS using the procedures listed in this document. • A fault related to LSS has occurred and the vehicle has assumed the platform is overloaded to be conservative. Refer to the resolution of specific faults in the table below.
Controls remain functional at the Ground Control position during an overload. Controls at the Platform Control position are prevented.	The MACHINE SETUP → LOAD setting is configured to prevent Platform Controls only. Connect the JLG Analyzer and enter the Access Level 1 password (33271). Proceed to the MACHINE SETUP → LOAD menu and adjust the configuration to CUTOUT ALL to prevent platform and ground controls during an overload.
PLATFORM OVERLOADED (255) fault is triggered	This fault is triggered whenever the LSS is enabled and overloaded.
LSS HAS NOT BEEN CALIBRATED (825)	This fault is triggered when LSS has not been calibrated or a configuration change in MACHINE SETUP has deleted the calibration. Follow the procedure in this document for LSS calibration to resolve.
LSS – OUT OF CALIBRATIO N (8217)	LSS did not meet performance expectations during the verification procedure. If the procedure was not executed properly, cycle power and re-attempt. Otherwise, the LSS should be re-calibrated. Follow the procedure in this document for LSS calibration to resolve.
LIFT CYLINDER HEAD PRESSURE 1 – OUT OF RANGE HIGH (8523)	For the R1532i, R1932i, and R1932, this fault is triggered when the primary lift cylinder head pressure reading is excessively high. This occurs when ground module V4-7 exceeds 22.0mA for 500mS. This occurs when ground module V4-7 exceeds 4.75V for 500mS. Check the wire harness that connects to the lift cylinder for short circuits (crushed). Replace the lift cylinder head pressure transducer if the wire harness is intact. Refer to LSS Theory of Operation.

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

8.8 ELECTRICAL SCHEMATICS

SHEET 2: NA

SHEET 3 (R1532i, R1932, R1932i):
POWER CABLES
LIFT DOWN LSS
PLATFORM /AC CABLE
PLATFORM CONTROL CABLE
BATTERY DISCONNECT
BATTERY JUMPER
CHARGER INTERLOCK
CHARGER INTERLOCK OVERRIDE
CHARGER DC CONNECTION

SHEET 4: NA

SHEET 5:
BEACON (DUAL)
PLATFORM CONTROL W/FST
PLATFORM CONTROL, COILED W/FST
PLATFORM CONTROL, COILED
INVERTER
BATT+ TO INV CONTACTOR CABLE
INV CONTACTOR TO INV+ CABLE
INVERTER HARNESS
INVERTER TO AC FILTER
AC FILTER TO AC PLUG
PUMP CTRL B- TO INVERTER

SHEET 6:
PLATFORM BOX HARNESS

SHEET 7: NA

SHEET 8:
WORKLIGHTS CABLE
QUICKWELDER CABLE
PLATFORM CONTROL, COILED W/OVER HEAD SWT
PLATFORM CONTROL, W/OVER HEAD SWT
HARNESS, OVERHEAD PROTECTION
HARNESS, TAA
CABLE, TAA
CABLE, LSS
HARNESS, MOBILE CONTROL

SHEET 9:
DATA LOGGER
HARNESS,RSCISSOR CLEARSKY CAN

SHEET 10:
CHASSIS HARNESS (LSS)

SHEET 11: OPTIONS
HARNESS,REMOTE TOW
HARNESS,RSCISSOR CLEARSKY CAN
HARNESS,RSCISSOR CAN SPLICE
HARNESS,CHARGER, 24VDC, J1939

Sheet 1 of 15

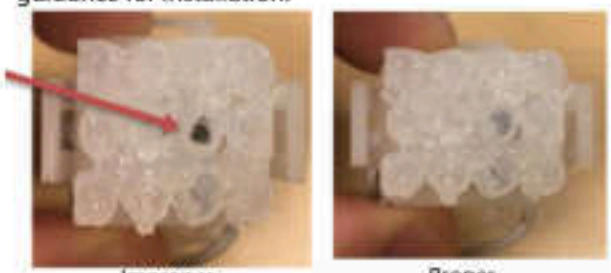
1001200627-H

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

The following connector systems are specifically addressed because of their widespread use at JLG. However, this guidance may be applied to similar devices.

AMP Mate-N-Lok

This connector system is widely used inside enclosures for general-purpose interconnect. Follow the general guidance for installation.



Improper Proper

AMP Faston

This connector system is typically used on operator switches at JLG. Follow the general guidance for installation.



Improper Proper

AMP Micro-Fit

This connector system is typically used on control modules at JLG. Follow the general guidance for installation.



Improper Proper

AMP Mini Fit Jr

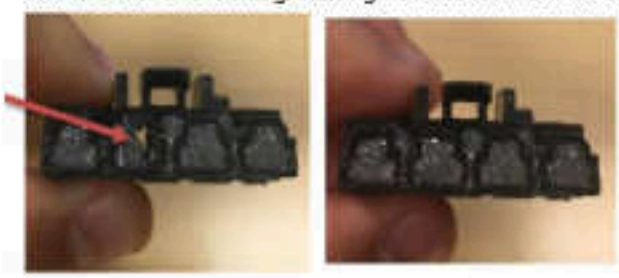
This connector system is typically used on control modules at JLG. Follow the general guidance for installation.



Improper Proper

Mini Fit Sr

This connector system is typically used on control modules at JLG. Follow the general guidance for installation.



Improper Proper

DIN Connectors

This connector is typically used on hydraulic valves. Follow the installation instructions.



Improper Proper

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >

SAE Fastener Torque Chart (Continued)

Values for Zinc Yellow Chromate Fasteners (Ref 4150707)										
SAE GRADE 8 (HEX HD) BOLTS & GRADE 8 NUTS*										
Size	TPI	Bolt Dia	Tensile Stress Area	Clamp Load	Torque (Dry or Loctite® 263) K=0.20		Torque (Loctite® 242™ or 271™ or Vibra-TITE™ 111 or 140) K=0.18		Torque (Loctite® 262™ or Vibra-TITE™ 131) K=0.15	
		In	Sq In	LB	IN-LB	[N.m]	IN-LB	[N.m]	IN-LB	[N.m]
4	40	0.1120	0.00604							
	48	0.1120	0.00661							
6	32	0.1380	0.00909							
	40	0.1380	0.01015							
8	32	0.1640	0.01400							
	36	0.1640	0.01474	1320	43	5				
10	24	0.1900	0.01750	1580	60	7				
	32	0.1900	0.02000	1800	68	8				
1/4	20	0.2500	0.0318	2860	143	16	129	15		
	28	0.2500	0.0364	3280	164	19	148	17		
		In	Sq In	LB	FT-LB	[N.m]	FT-LB	[N.m]	FT-LB	[N.m]
5/16	18	0.3125	0.0524	4720	25	35	20	25	20	25
	24	0.3125	0.0580	5220	25	35	25	35	20	25
3/8	16	0.3750	0.0775	7000	45	60	40	55	35	50
	24	0.3750	0.0878	7900	50	70	45	60	35	50
7/16	14	0.4375	0.1063	9550	70	95	65	90	50	70
	20	0.4375	0.1187	10700	80	110	70	95	60	80
1/2	13	0.5000	0.1419	12750	105	145	95	130	80	110
	20	0.5000	0.1599	14400	120	165	110	150	90	120
9/16	12	0.5625	0.1820	16400	155	210	140	190	115	155
	18	0.5625	0.2030	18250	170	230	155	210	130	175
5/8	11	0.6250	0.2260	20350	210	285	190	260	160	220
	18	0.6250	0.2560	23000	240	325	215	290	180	245
3/4	10	0.7500	0.3340	30100	375	510	340	460	280	380
	16	0.7500	0.3730	33600	420	570	380	515	315	430
7/8	9	0.8750	0.4620	41600	605	825	545	740	455	620
	14	0.8750	0.5090	45800	670	910	600	815	500	680
1	8	1.0000	0.6060	51500	860	1170	770	1045	645	875
	12	1.0000	0.6630	59700	995	1355	895	1215	745	1015
1 1/8	7	1.1250	0.7630	68700	1290	1755	1160	1580	965	1310
	12	1.1250	0.8560	77000	1445	1965	1300	1770	1085	1475
1 1/4	7	1.2500	0.9690	87200	1815	2470	1635	2225	1365	1855
	12	1.2500	1.0730	96600	2015	2740	1810	2460	1510	2055
1 3/8	6	1.3750	1.1550	104000	2385	3245	2145	2915	1785	2430
	12	1.3750	1.3150	118100	2705	3680	2435	3310	2030	2760
1 1/2	6	1.5000	1.4050	126500	3165	4305	2845	3870	2370	3225
	12	1.5000	1.5800	142200	3555	4835	3200	4350	2665	3625

NOTES: 1. THESE TORQUE VALUES DO NOT APPLY TO CADMIUM PLATED FASTENERS 5000059K

2. ALL TORQUE VALUES ARE STATIC TORQUE MEASURED PER STANDARD AUDIT METHODS TOLERANCE = ±10%

3. * ASSEMBLY USES HARDENED WASHER

MidWestTech | JLG R1532i, R1932, R1932i Scissor Lift Service Manual | Publication 3121... Order the manual at mid-west-tech.com >