An Oshkosh Corporation Company

Service & Maintenance Manual

Models

ES1330L
ES1530L

3121794

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ANSI CE CSA AS/NZS

An Oshkosh Corporation Company

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DESCRIPTION	ES1330L	ES1530L
Ground Clearance PHP Retracted: PHP Deployed:	2.4 in. (60 mm) 0.78 in. (19.8 mm)	
Maximum Hydraulic Pressure Main Relief: Steer Relief: Lift Relief:	3000 psi (206 bar) 1000 psi (69 bar) 2500 psi (172.3 bar)	

Platform Capacities

SPECIFICATION	MACHINE MODEL	MAXIMUM PLATFORM CAPACITY (1)	MAXIMUM CAPACITY ALLOWED ON PLATFORM EXTENSION	MAXIMUM PERSONS ALLOWED IN PLATFORM	MAX. SIDE FORCE (Platform Fully Extended @ Max. Capacity)	MAXIMUM OPERATING WIND SPEED	ENVIRONMENT
ANSI/CSA/CE/AUS/GB/CHN/KOR	ES1330L	500 lb (226 kg)	254 lb (115 Kg)	2	90 lb (400 N)	0 m/s	Indoor
ANSI/CSA/CE/AUS/GB/CHN/KOR	ES1530L	500 lb (226 kg)	254 lb (115 Kg)	1	45 lb (200 N)	0 m/s	Indoor
JPN					40 lb (180 N)		
NOTE: (1) Maximum Platform Capacity includes platform and platform extension. *(2) ES1530L and ES1330L machine are rated for INDOOR use only.*							

Machine Dimensional Data

DESCRIPTION	ES1330L	ES1530L	
	ANSI/CSA/CE/AUS/GB/CHN/KOR	ANSI/CSA/CE/AUS/GB/CHN/KOR	JPN
Platform Height - Elevated (Ground to Platform Floor)	150 in. (3.82 m)	178.4 in. (4.5 m)	
Platform Height - Stowed (Ground to Platform Floor)	28.1 in. (0.71 m)	31.1 in. (0.79 m)	
Rail Height (Platform Floor to Top of Rail) Fixed Rails: Dual Rails:	43.8 in. (1.11 m) -	43.8 in. (1.11 m) 44 in. (1.11 m)	39.9 in. (1.01 m) -
Overall Machine Height (Stowed) Fixed Rails: Dual Rails:	71.8 in. (1.82 m) -	74.8 in. (1.9 m) 74.8 in. (1.9 m)	70.8 in. (1.8 m) -
Overall Machine Width	29.9 in. (0.76 m)		
Overall Machine Length (with ladder)	57.5 in. (1.46 m)		
Platform Size - Length (Inside)	71.3 in. (1.81 m)		
Platform Size - Width (Inside)	24.1 in. (0.61 m)		
Extension Deck Length	21.7 in (0.55 m)		
Wheelbase	42.3 in. (1.07 m)		

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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" during 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" during 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)	Pressure1RawValue is greater than 22.0mA for 500mS. Only applicable if (MACHINE SETUP-> LOAD = CUTOUT ALL or CUTOUT PLTM)
LIFT CYLINDER HEAD PRESSURE 1 – OUT OF RANGE LOW (8524)	Pressure1RawValue is less than 3.5mA for 500mS. Only applicable if (MACHINE SETUP-> LOAD = CUTOUT ALL or CUTOUT PLTM)
LIFT CYLINDER HEAD PRESSURE 2 – OUT OF RANGE HIGH (8525)	This fault is triggered when the lift cylinder head pressure reading is high. This occurs when ground module V3-15 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.

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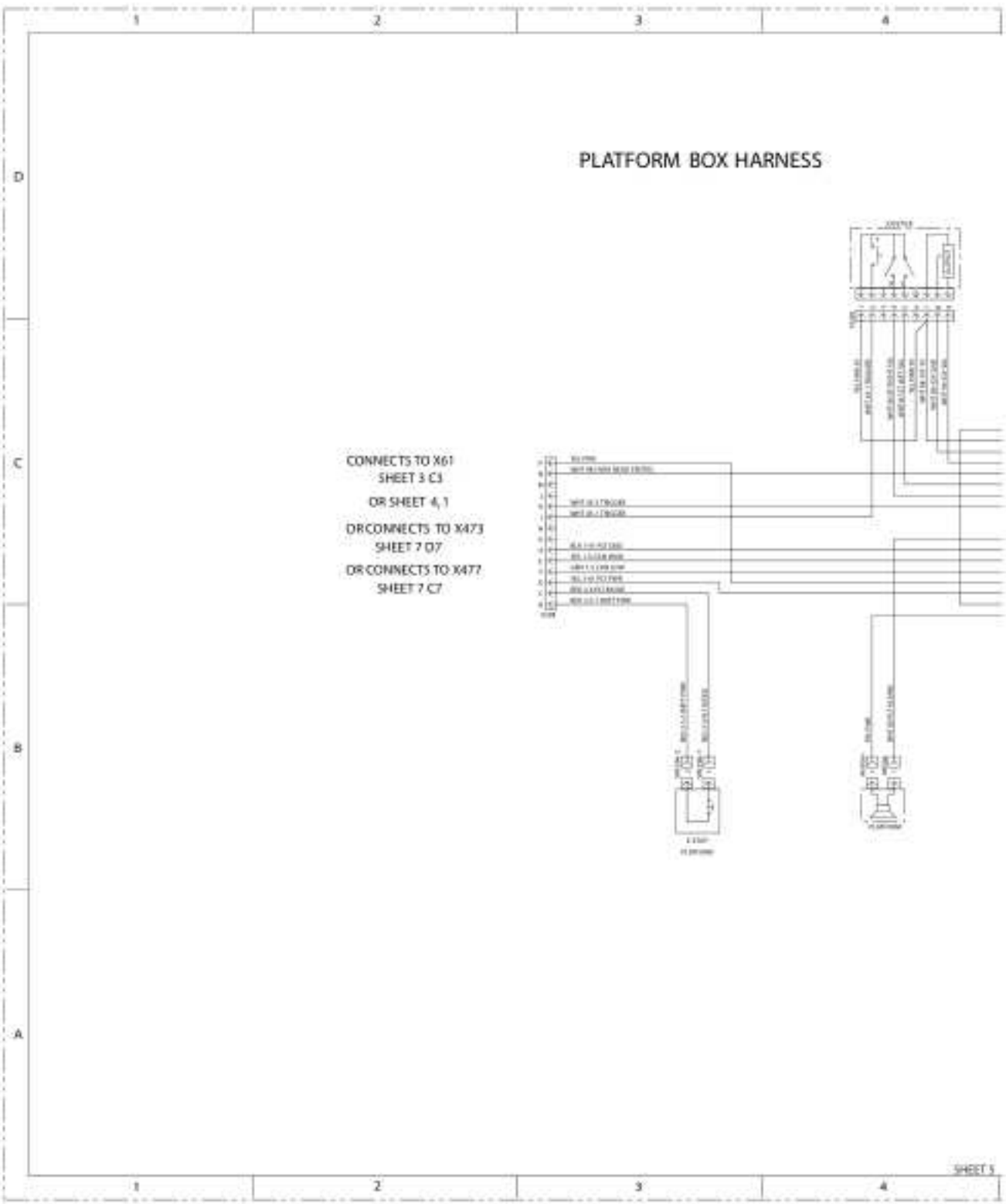


Figure 8-21. Electrical Schematic - Sheet 8 of 16

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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 500005 9K

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

3. * ASSEMBLY USES HARDENED WASHER

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8.4 DIELECTRIC GREASE APPLICATION

Dielectric grease helps to prevent corrosion of electrical contacts and improper conductivity between contacts from moisture intrusion. Non-waterproof connectors benefit from the application of dielectric grease.

Installation

The following is general guidance for the installation of dielectric grease in a connector system.

- Use dielectric grease in a tube for larger connection points or apply with a syringe for small connectors.
- Apply dielectric grease to plug/male connector housing which typically contains sockets contact/female terminals.
- Leave a layer of dielectric grease on the mating face of the connector, completely covering each connector terminal hole. Refer the pictures shown below.
- Assemble the connector system immediately to prevent moisture ingress or dust contamination.

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

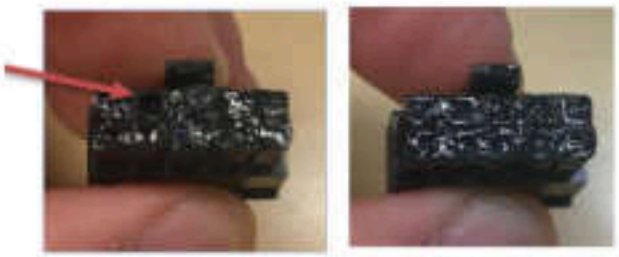
This connector system is typically used on operator switches at JLG. Follow the general guidance for installation.



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

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