An Oshkosh Corporation Company

Service and Maintenance Manual

Models

330LRT
430LRT

3121758

July 23, 2019 - Rev G

ANSI

CE

AS/NZS

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SECTION 1. SPECIFICATIONS

1.1 SPECIFICATIONS

Operating Specifications

Specification	330LRT	430LRT
Maximum Occupants	6	6 (5 -CE - Dual Ext.)
Maximum Workload (Capacity): Single Extension Platform: Dual Extension Platform: Megadeck Platform Rated: Max. on Extension (Each):	 2250 lb (1020 kg) 2000 lb (905 kg) 2000 lb (909 kg) 500 lb (227 kg)	 1500 lb (680 kg) 1250 lb (565 kg) - 500 lb (227 kg)
Maximum Stowed Travel Grade - Gradeability	45% (24°)	
Maximum Stowed Travel Grade - Sideslope	5°	
Maximum Platform Working Height	33 ft (10 m)	43 ft (13.11 m)
Maximum Drive Height	33 ft (10 m)	43 ft (13.11 m)
Maximum Drive Speed Platform Lowered: High Mid Low (> 9 Ft. 6 in.) Platform Elevated:	 3.5 mph (5.6 kph) 2.0 mph (3.21 kph) 1.0 mph (1.61 kph) 0.5 mph (0.8 kph)	
Lift Up Time (At Rated Load) (Stowed to Full Height)	35 seconds	45 seconds
Lift Down Time (At Rated Load) (Full Height to Stowed)	37 seconds	47 seconds
Maximum Wind Speed	28 mph (12.5 m/s)	
Maximum Horizontal Manual Side Force: ANSI/ANSI Export/CSA: CE/AUS/JPN:	 300 lb force (1335 N) 90 lb force (400 N)	
Maximum Tire Load (Each)	4400 lb (1996 kg)	
Ground Bearing Pressure w/Standard tires	48 psi (3.37 kg/cm^2)	56 psi (3.94 kg/cm^2)
Leveling Jack Pad Bearing Pressure	69 psi (4.85 kg/cm^2)	
Hydraulic System Pressure Main Relief: Lift Up Relief: Steer Relief: Leveling Jack Relief:	 2700 psi (186 bar) 2700 psi (186 bar) 2500 psi (172 bar) 2500 psi (172 bar)	

Specification	330LRT	430LRT
Electrical System Voltage	12 Volt	
Inside Turning Radius	106.5 in (2.70 m)	
Outside Turning Radius	233.5 in (5.93 m)	
Gross Vehicle Weight Dual Fuel/Diesel - ANSI/ANSI Exp./CSA/CE/AUS/JPN w/One Extension: w/Two Extensions: w/Mega Deck:	 11,820 lb (5372 kg) 12,350 lb (5614 kg) 14,225 lb (6466 kg)	 14,300 lb (6486 kg) 14,830 lb (6727 kg) N/A
NOTE: *Certain options or country standards increase weight.*		

Generator Specifications (If Equipped)

Type:	Brush Type, Synchronous, Revolving Field
Regulation: 3 Phase: 1 Phase: 1 Phase: Peak:	 240 Volt, 7.5 Kw, 18.3 Amps, 1.0 pf 240 Volt, 6 Kw, 26 Amps, 1.0 pf 120 Volt, 6 Kw, 50 Amps, 1.0 pf 3 Phase - 8.5 Kw, - 1 Phase - 6.0 Kw
Max Rated Temperature:	104 F (40C)
Rotational Inertia:	78 Lb. - IN - IN

Dimensional Data

	330LRT	430LRT
Wheelbase	117 in (297 cm)	117 in (297 cm)
Ground Clearance (center/platform stowed)	13.63 in (34.6 cm)	13.63 in (34.6 cm)
Machine Height (top of rails/platform stowed)	109 in (277 cm)	118 in (300 cm)
Machine Width	92.6 in (235 cm)	92.6 in (235 cm)
Machine Length (leveling jack to leveling jack)	192.2 in (488.3 cm)	192.2 in (488.3 cm)

Fluid Capacities

Fuel Tank Capacity Diesel: Gasoline: LP Tank:	 22 gal (83.3 L) 22 gal (83.3 L) 43.5 lb (20 Kg)
Hydraulic Tank	32.3 gal (122.2 L)

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Leveling Jack Directional Valve (If Equipped)

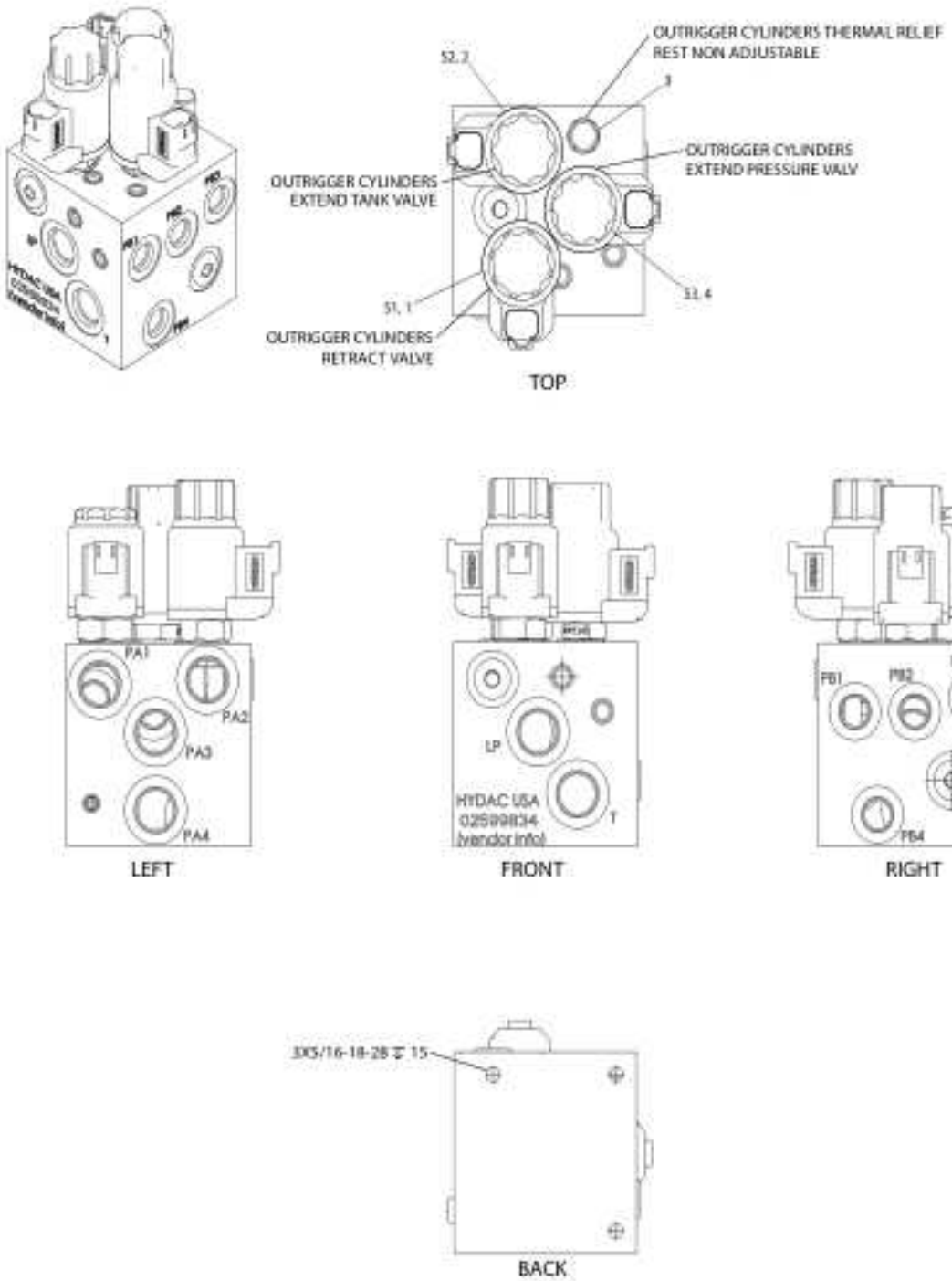


Figure 4-5. Leveling Jack Directional Valve

NOTE: *For valve torque specs see Table 4-7 on page 4-14.*
For internal hydraulic circuits Figure 4.32 on Page 4.42.

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Table 6-8. LSS Troubleshooting Chart - Measurement Performance

DIFFICULTY	POSSIBLE RESOLUTION
Empty Platform Weight (DIAGNOSTICS, PLTLOAD) is not within ±15lbs (±7kg) of zero. **or** Platform Load readings (DIAGNOTICS, PLTLOAD) are unstable by more than ±2lbs (±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 40lbs (18kg) for an evaluation using the technician's weight, and ±5% of Rated Load when using calibrated weights.	The LSS Module is unable to properly measure the platform weight. 1. One of the Shear Pin Load Cells is not properly plugged into the LSS Module. Since the connectors seal with an O-ring and are located in a crowded area, it is possible that the connectors are threaded together, but poor electrical contact is made. Attempt to wiggle the molded portion of each connector on J5-J8. If properly tightened, the molded portion should not move. Also, examined each Shear Pin Load Cell's readings via the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL 1-4, LOAD displays and determine if the readings are reasonable. Note that it is possible to have only two sensors carrying all of the platform load due to fit between the platform and support structure (this is normal). 2. Wiring leading to one of the Shear Pin Load Cells is damaged. Examine each sensor's reading using the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL 1-4, LOAD displays and determine if the readings are reasonable and responsive to slight downward pressure above the sensor being viewed. Carefully inspect sensor wiring where it passes through cable clamps for signs of damage. Inspect wiring where damage to the channel is apparent. If damage to the sensor's cordset is found, replace the appropriate Shear Pin Load Cell since the cordset is not serviceable (connector is molded for moisture resistance; cordset is soldered into sensor beneath welded stainless steel cover). If damage to the sensors extension cordset is found, unplug both ends and fit a replacement. 3. One of the Shear Pin Load Cells was not assembled properly during installation. Examine each sensor's reading using the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL 1-4, LOAD displays and determine if the readings are reasonable. It is often helpful to apply slight downward pressure above the sensor being examined and observe that its output increases (increasing force measurement; decreasing means the sensor is mounted upside-down). Compare the order of assembly to the detail on the Installation Drawing and ensure that the only contact between the platform and the support is through the sensor bodies (nothing else touches except wires). Re-assemble according to print if necessary. 4. Damage to the platform or arm structure has occurred or one of the components is out-of-tolerance.Twists in the platform, for instance, will cause huge off-axis forces to be applied to the Shear Pin Load Cells, disturbing their primary measurement axis readings. If Lift Up / Down is noisy or not smooth, examine this issue thoroughly. Resolution is to replace the damaged or faulty component. Watch for Shear Pin Load Cell damage (yield) as a result of this difficulty. 5. One of the Shear Pin Load Cells is contaminated by debris or moisture. Examine each sensor's reading using the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL 1-4, LOAD displays and determine if the readings are reasonable and stable (not changing by more than ±2lbs (±1kg) (without the influence of vibration or wind). Lack of measurement stability is a key indication of contamination. Unplug the appropriate connector (J5 is CELL 1, J6 is CELL 2, J7 is CELL 3, and J8 is CELL 4) 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 Pin Load Cell itself will require replacement of the sensor. 6. One of the Shear Pin Load Cells has been mechanically damaged (yielded). Any Shear Pin Load Cell that is physically deformed or has damage to one of the stainless steel covers should be replaced immediately. It is also possible to have invisible mechanical damage resulting from an extreme overload (>4200lbs [>1900kg] for 1.25 in diam.; >5700 lbs or 2600 KG for 2 inch diam.). This can be detected by supporting the platform with an overhead crane and by removing the suspect sensor (no weight resting on the Shear Pin Load Cell). Examine the sensor's reading using the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL 1-4, LOAD displays and observe whether the unloaded sensors read with ±15lbs (±7kg) of zero (individually). Replace sensors that read excessive force when physically unloaded. 7. The LSS Module is suspect. Interchange the Shear Pin Load Cell connections (J5-J8) and observe the results via the JLG Analyzer. Proceed to the DIAGNOSTICS, CELL 1-4, LOAD displays and observe the readings. If the problem seems to remain with a particular sensor, carefully re-examine the issues above. If the problems seems to remain with a particular LSS Module channel, substitute another module.

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AMP Mate-N-Lok

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



DIN Connectors

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



Exclusions

A limited number of connectors do not benefit from dielectric grease, or may be permanently damaged by application. Dielectric grease may not be required in properly sealed enclosures.

BRAD HARRISON / PHOENIX CONTACT M12

The connector uses gold contact material to resist corrosion and an o-ring seal for moisture integrity. If dielectric grease is mistakenly applied to this connector system, the low-force contacts cannot displace the grease to achieve electrical contact. Once contaminated, there is no practical way to remove the dielectric grease (replacement of female contacts required). The JLG Load Sensing System and 1250AJP Rotary Angle Sensors are examples of components with the M12 connector system.



Figure 7-7. Brad-Harrison M12 – No Dielectric Grease



Figure 7-8. Phoenix Contact M12 – No Dielectric Grease

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Values for Magni Coating Fasteners (Ref 4150701)

Size	TPI	Bolt Dia	Tensile Stress Area	SAE GRADE 5 BOLTS & GRADE 2 NUTS								SAE GRADE 8 (HEX HD) BOLTS & GRADE 8 NUTS*							
				Clamp Load	Torque (Dry) K=0.17		Torque (Loctite® 242™ or 271™ OR Vibra-TITE™ 111 or 140) K=0.18		Torque (Loctite® 262™ or Vibra-TITE™ 131) K=0.15		Clamp Load	Torque (Dry or Loctite® 263) K= 0.17		Torque (Loctite® 242™ or 271™ OR Vibra-TITE™ 111 or 140) K= 16		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]	LB	IN-LB	[N.m]	IN-LB	[N.m]	IN-LB	[N.m]
4	40	0.1120	0.00604	380	7	0.8											
	48	0.1130	0.00661	420	8	0.9											
5	32	0.1380	0.00909	580	14	1.5											
	40	0.1389	0.01015	610	14	1.6											
8	32	0.1640	0.01400	900	25	2.8											
	36	0.1640	0.01474	940	26	2.9											
10	24	0.1900	0.01750	1120	36	4.1					1335	37	4				
	32	0.1900	0.02000	1285	42	4.7					1525	51	6				
1/4	20	0.2500	0.0318	2020	86	9.7	82	9			1802	58	7				
	28	0.2500	0.0364	2320	99	11.1	95	11			2065	123	14	114	13		
		In	Sq In	LB	FT-LB	[N.m]	FT-LB	[N.m]	FT-LB	[N.m]	LB	FT-LB	[N.m]	FT-LB	[N.m]	FT-LB	[N.m]
5/16	18	0.3125	0.0524	3340	15	20	14	16	16	20	4726	26	35	20	26	20	28
	24	0.3125	0.0580	3700	16	20	15	21	16	20	5232	29	35	20	26	20	28
3/8	16	0.3750	0.0775	4940	25	35	25	34	25	34	7000	35	50	35	50	35	50
	24	0.3750	0.0878	5600	30	40	28	38	25	34	7920	40	55	40	55	35	50
7/16	14	0.4375	0.1063	6800	40	55	45	54	35	49	9595	55	80	55	75	45	70
	20	0.4375	0.1187	7560	45	60	44	60	40	54	10700	65	90	65	80	60	80
1/2	13	0.5000	0.1419	9050	65	90	60	82	55	75	12750	90	120	85	115	80	110
	20	0.5000	0.1599	10200	75	100	71	97	65	88	14400	100	135	95	130	90	120
9/16	12	0.5625	0.1820	11600	90	120	87	118	80	109	16400	130	175	120	170	115	155
	18	0.5625	0.2030	12950	105	145	97	132	90	122	18250	140	190	135	185	130	175
5/8	11	0.6250	0.2260	14400	130	175	120	163	115	156	20350	190	255	170	230	160	220
	18	0.6250	0.2560	16300	145	195	135	185	130	170	23000	205	280	190	260	180	245
3/4	10	0.7500	0.3340	21300	225	305	213	290	205	278	30100	330	435	300	410	280	380
	16	0.7500	0.3730	23800	255	345	238	324	225	306	33600	395	495	335	455	315	430
7/8	9	0.8750	0.4620	29450	385	486	343	466	325	435	41600	515	700	485	660	455	620
	14	0.8750	0.5090	32450	420	545	378	514	355	483	45800	570	775	535	730	500	680
1	8	1.0000	0.6080	38800	545	740	515	700	485	653	51500	730	995	685	930	645	875
	12	1.0000	0.6630	42250	620	815	563	765	530	721	59700	845	1150	795	1080	745	1015
1 1/8	7	1.1250	0.7630	48700	675	920	625	851	594	809	68700	1045	1490	1030	1400	965	1315
	12	1.1250	0.8440	47500	765	1025	713	969	678	911	77000	1225	1665	1155	1570	1085	1475
1 1/4	7	1.2500	0.9440	53400	955	1305	897	1219	845	1143	87200	1545	2110	1455	1980	1365	1855
	12	1.2500	1.0730	60650	1065	1435	993	1351	935	1265	96600	1710	2325	1610	2190	1510	2055
1 3/8	6	1.3750	1.1550	64100	1250	1705	1175	1588	1100	1498	109000	2025	2755	1905	2590	1795	2435
	12	1.3750	1.3150	73500	1450	1965	1338	1820	1255	1707	118100	2300	3130	2165	2945	2030	2765
1 1/2	6	1.5000	1.4050	78500	1660	2260	1560	2122	1465	1992	128850	2680	3650	2530	3440	2370	3225
	12	1.5000	1.5800	87700	1865	2535	1754	2385	1645	2237	142250	3020	4105	2845	3870	2665	3625

NOTES:
1. THESE TORQUE VALUES DO NOT APPLY TO CADMIUM PLATED FASTENERS
2. ALL TORQUE VALUES ARE STATIC TORQUE MEASURED PER STANDARD AUDIT METHODS TOLERANCE = ±10%
3. * ASSEMBLY USES HARDENED WASHER

NO. 5000659 REV. K

Figure 1-6. Torque Chart - Sheet 2 of 5 (SAE Fasteners)

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