





Service and Maintenance Manual

Models

EcoLift50
SN P900004791 to Present
EcoLift70

SN P900004840to Present

31215861

January 15, 2020 - Rev A

ANSI





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SECTION A. INTRODUCTION - MAINTENANCE SAFETY PRECAUTIONS

A. GENERAL

This section contains the general safety precautions which must be observed during maintenance of the Mobile Elevating Work Platform. It is of utmost importance that maintenance personnel pay strict attention to these warnings and precautions to avoid possible injury to themselves or others or damage to the equipment. A maintenance program must be established by a qualified person and must be followed to ensure that the machine is safe to operate.

A WARNING

MODIFICATION OF THE MACHINE WITHOUT CERTIFICATION BY A RESPONSIBLE AUTHORITY THAT THE MACHINE IS AT LEAST AS SAFE AS ORIGINALLY MANUFACTURED IS A SAFETY VIOLATION.

The specific precautions to be observed during machine maintenance are inserted at the appropriate point in the manual. These precautions are, for the most part, those that apply when servicing hydraulic and larger machine component parts.

Your safety, and that of others, is the first consideration when engaging in the maintenance of equipment. Always be conscious of component weight and never attempt to move heavy parts without the aid of a mechanical device. Do not allow heavy objects to rest in an unstable position. When raising a portion of the equipment, ensure that adequate support is provided.

▲ WARNING

SINCE THE MACHINE MANUFACTURER HAS NO DIRECT CONTROL OVER THE FIELD INSPECTION AND MAINTENANCE, SAFETY IN THIS AREA IS THE RESPONSIBILITY OF THE OWNER/OPERATOR.

B. HYDRAULIC SYSTEM SAFETY

- It should be particularly noted that the machines hydraulic systems operate at extremely high and potentially dangerous pressures. Every effort should be made to relieve any system pressure prior to disconnecting or removing any portion of the system.
- Relieve system pressure by lowering the platform completely to direct any line pressure back into the return line to the reservoir. Pressure feed lines to system components can then be disconnected with minimal fluid loss.



C. MAINTENANCE

A WARNING

FAILURE TO COMPLY WITH SAFETY PRECAUTIONS LISTED IN THIS SECTION COULD RESULT IN MACHINE DAMAGE, PERSONNEL INJURY OR DEATH AND IS A SAFETY VIOLATION.

- REMOVE ALL RINGS, WATCHES, AND JEWELRY WHEN PER-FORMING ANY MAINTENANCE.
- DO NOT WEAR LONG HAIR UNRESTRAINED, OR LOOSE FIT-TING CLOTHING AND NECKTIES WHICH ARE APT TO BECOME CAUGHT ON OR ENTANGLED IN EQUIPMENT.
- OBSERVE AND OBEY ALL DANGER, WARNING, CAUTION AND OTHER INSTRUCTIONS ON MACHINE AND IN SERVICE MANUAL.
- KEEP STANDING SURFACES AND HAND HOLDS FREE OF OIL, GREASE, WATER, ETC.
- NEVER WORK UNDER AN ELEVATED PLATFORM UNTIL PLATFORM HAS BEEN SAFELY RESTRAINED FROM ANY MOVEMENT BY BLOCKING OR OVERHEAD SLING.
- BEFORE MAKING ADJUSTMENTS, LUBRICATING OR PER-FORMING ANY OTHER MAINTENANCE, SHUT OFF ALL POWER CONTROLS.
- BATTERY SHOULD ALWAYS BE DISCONNECTED DURING REPLACEMENT OF ELECTRICAL COMPONENTS.
- KEEP ALL SUPPORT EQUIPMENT AND ATTACHMENTS STOWED IN THEIR PROPER PLACE.
- USE ONLY APPROVED, NONFLAMMABLE CLEANING SOL-VENTS.
- ENSURE REPLACEMENT PARTS OR COMPONENTS ARE IDENTICAL OR EQUIVALENT TO ORIGINAL PARTS OR COM-PONENTS.

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SECTION 1. MACHINE SPECIFICATIONS

1.1 GENERAL SPECIFICATIONS

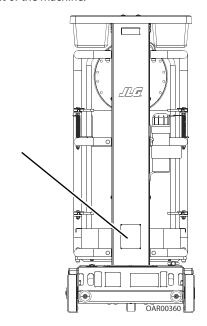
DESCRIPTION	EcoLift50	EcoLift70
Maximum Working Height	10.9 ft (3.32 m)	13.21 ft (4.03 m)
Maximum Platform Height	4.9 ft (1.50 m)	7.21ft (2.20 m)
Platform Dimensions	28.3 in (L) x 23.6 in (W) (720 mm (L) x 600 mm (W))	33.4 in (L) x 25.3 in (W) (850 mm (L) x 644 mm (W))
Working Footprint	38.8 in x 28.3 in (985 mm x 700 mm)	50.3 in x 29.1 in (1280 mm x 740 mm)
Maximum Platform Capacity (Platform and Tool Tray Combined)		(150 kg) n + tools)
Maximum Tool Tray Capacity	33 lb	(15 kg)
Maximum Manual Side Force	45 lb	(200 N)
Maximum Gradient for Operation	0 de	grees
Maximum Wind Force	Indoor	use only
Maximum Wheel Load	260lb (118 kg)	320 lb (145 kg)
Maximum Ground Bearing Pressure	168 psi (11.81 kg/cm²)	171 psi (12 kg/cm²)

1.2 DIMENSIONS

DESCRIPTION	EcoLift50	EcoLift70
Length	38.8 in (985 mm)	50.3 in (1280 mm)
Width	28.3 in (700 mm)	29.1in (740 mm)
Height	61 in (1550 mm)	76.77 in (1950 mm)
Weight	397 lb (180 kg)	672 lb (305 kg)

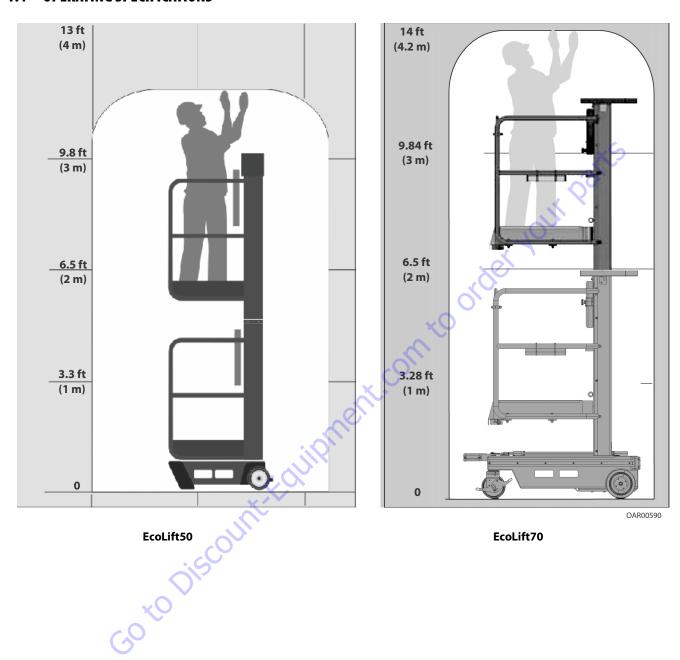
1.3 SERIAL NUMBER IDENTIFICATION

The serial number plate is attached to the mast frame on the front of the machine.



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1.4 OPERATING SPECIFICATIONS



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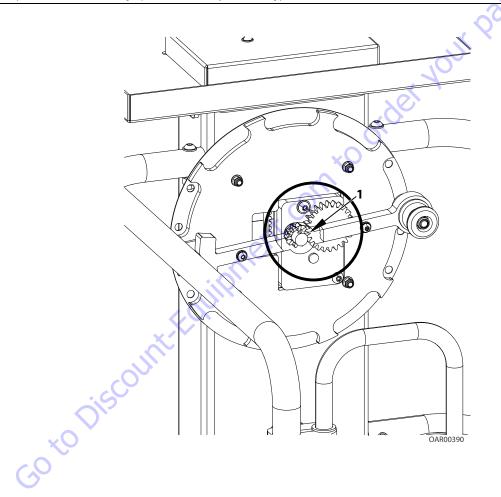
1.5 LUBRICATION INTERVALS

TF 1.4	COMPONENT	LUDE DOINTS	LUDE TVDF/METHOD *	IN	ITERVAL (a)
TEM	COMPONENT	LUBE POINTS	LUBE TYPE/METHOD *	1 Month	6 MONTHS	1 Year
1	Mast Flywheel	Flywheel Crank - Drive Gears	OGG - Inspect and lubricate. Do not use standard gear grease.		✓	

Lubrication Types:

• **OGG** - Open Gear Grease, Omega 73 - Grade 2, Harsh Environment Grease

NOTE: Recommended lubricating intervals are based on normal use. If machine is subjected to severe operating conditions (i.e., high number of cycles, harsh environment, corrosive/dirty environment, etc.), lubricating requirements must be adjusted accordingly.



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1.6 TORQUE CHARTS

In the event of maintenance or a loose fastener, use the following torque charts to determine proper torque value.

SAE Fasteners

The Dead of Street And Street A					1 1																																Ì			
The		JUTS*	tue 2 [™] or Vibra- ⁴ 131) 1,15	[N.m]									[N.m]	22	25	20	20	0 20	200	120	155	175	220	245	380	430	089	875	1015	1310	14/5	2055	2430	2760	3225	3625				
The		ADE 8 N	Tord (Loctite® 26 TITE ^{TI} K=C										FT-LB	20	20	35	35	20	200	08 08 08	244	130	160	180	280	315	500	645	745	965	1085	1510	1785	2030	2370	2665				
The Bolt Da State Calmp.Load Thorse Calmp.Load Thorse Calmp.Load		S & GR.	M or 271 TM E TM 111 or K=.18	[N.m]							15	17	[N.m]	25	35	55	09	06 2	6, 62	130	200+	210	260	290	460	515	815	1045	1215	1580	1770	2460	2915	3310	3870	4350	NO. 5000059		Ó	X
The Bolt Da State Calmp.Load Thorse Calmp.Load Thorse Calmp.Load) BOLT	Torqu -octite® 242 ¹ OR Vibra-TIT	IN-LB							129	148	FT-LB	20	25	40	45	92	0 10	110	240	155	190	215	340	380	009	770	895	1160	1300	1810	2145	2435	2845	3200		<)	,
The Bolt Da State Calmp.Load Thorse Calmp.Load Thorse Calmp.Load	50707)	НЕХ НС	98 263) (L C C						2	,	8 4	19	[N.m]	35	35	09	20	92	0 1,	145	240	230	285	325	510	570	910	1170	1355	1755	1965	2740	3245	3680	4305	4835	3			
The Bolt Da State Calmp.Load Thorse Calmp.Load Thorse Calmp.Load	Ref 41!	ADE 8 (Torque Dry or Loctite K= 0.2	IN-LB					43	09	143	164	FT-LB	25	25	45	20	0 20	90	105	155	170	210	240	375	420	029	980	995	1290	1945	2015	2385	2705	3165	3555	ĺ			
The Bolt Da State Calmp.Load Thorse Calmp.Load Thorse Calmp.Load	eners (SAE GR		ГB					1320	1580	1800	3280	LB	4720	5220	7000	2900	9550	07.00	12/50	0000	18250	20350	23000	30100	33600	45800	51500	29700	98700	000//	00996	04000	18100	26500	42200				
Torque T	te Fast	0)	or Vibra- Cla	N.m.]													-	+	+		+		4	4			-	-		+	+	+	-				ĺ			
Torque T	hroma		Torque titte® 262 [™] c TITE™ 13°														+	+	X								-			+	+	+	+	H		H	ĺ			
Torque T	low C	JTS															Y		1		ł						-		H		-	-					±10%			
Torque T	c Yel	E 2 NI	orque Ca 242 TM ca Vibra-TIT or 140)	N.n							12	15	n.N]	26	29	48	5	75	20 ;	136	100	187	224	258	386	446	707	918	100	114	621	176	207	238	275	312	RANCE =			
Torque T	for Zir	GRAD	Tc (Loctite 271 [™] OR 111	IN-∟B					*		105	135	FT-LB	19	21	35	40	22	8 6	£ 5	200	135	165	190	285	330	520	675	735	840	1175	1300	1525	1750	2025	2300	ODS TOLE			
Torque T	Values	OLTS &	que	[N.m]	0.7	0.8	1.5	2.5	2.6	G.S.	4 6	10	[N.m]	18	19	31	34	47	4 4	ς 88 29	800	122	149	176		298	475	651	719	813	682	1247	1491	1708	1979	2224	S UDIT METH			
		5	Tol	BT-NI	9	~ °	7 5	22	23	35	36	98	FT-LB	13	14	23	52	32	₽ į	22	8 6	06	110	130	200	220	350	480	530	009	099	920	1100	1260	1460	1640	FASTENER			
		NE GRA	(A ent	[N.m]	6.0	1.0	2.0	3.4	3.5	4.8	5.5	13.5	[N.m]	23	26	41	47	68	6/	102	140	163	203	230	353	407	637	868	949	1085	1193	1681	1979	2278	2630	2983	JM PLATED RED PER ST			
	5	S	Tor (D)	IN-LB	8	6	2 8	30	31	43	96	120	FT-LB	17	19	30	35	20	8	45	440	120	150	170	260	300	470	640	700	800	4120	1240	1460	1680	1940	2200	TO CADMIL			
			Namp Load	FIB.	380	420	580 610	006	940	1120	1285	2320	LB	3340	3700	4940	2600	6800	/ 220	9050	11600	12950	14400	16300	21300	23800	32400	38600	42200	42300	4/500	59600	64100	73000	78000	87700	NOT APPLY	D WASHER		
				SqIn	0.00604	0.00661	0.01015	0.01400	0.01474	0.01/50	0.02000	0.0364	Sq In	0.0524	0.0580	0.0775	0.0878	0.1063	0.1187	0.1419	1000	0.2030	0.2260	0.2560	0.3340	0.3730	0.5090	0909'0	0.6630	0.7630	0.8550	1.0730	1.1550	1.3150	1.4050	1.5800	/ALUES DO UES ARE ST	S HARDENE		
				П	H	+	+	0.1640	0.1640	0.1900	0.1900	0.2500	드	0.3125	0.3125	0.3750	0.3750	0.4375	0.43/5	0.5000	0.000.0	0.5625	0.6250	0.6250	0.7500	0.7500	0.8750	1.0000	1.0000	1.1250	1.1250	1.2500	1.3750	1.3750	1.5000	1.5000	E TORQUE '	EMBLY USE		
					H	+	+	-	Н	+	+	H			H	Н	+	+	+	+	+	╁		Н		+	╁		H	7	7 2	+	╁	H		H	1. THES	3. * ASS		
<u>8</u>			Size		4	G	٥	8		10	1/4			5/16		3/8		2//16	Ç	7/5	91/0	o io	8/9		3/4	6/2	0	-		1 1/8	V/+ +	-	1 3/8		1 1/2		NOTES:			

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NO. 5000059 REV. K

				9			Valu	nes for	Magni (Values for Magni Coating Fasteners (Ref 4150701	Faster	ners (R	ef 4150	701)			
				S	AE GRA	ADE 5 B	SAE GRADE 5 BOLTS & GRADE 2 NUTS	GRADE	2 NUTS	S	SAEG	RADE	3 (HEX F	HD) BOL	TS & GF	SAE GRADE 8 (HEX HD) BOLTS & GRADE 8 NUTS*	NUTS*
Size	ТРІ	Bolt Dia	Tensile Stress Area	Clamp Load	(Ω (Σ)	Torque (Dry) K=0.17	Torr (Loctite® 271 [™] OR V 111 o K=0	Torque (Loctite® 242™ or 271™ OR Vibra-TITE™ 111 or 140) K=0.16	Tor (Loctite® 26 TITE ^{TI} K=0	Torque (Loctite® 262 TM or Vibra- TITE TM 131) K=0.15	Clamp Load	Tor (Dry or Lo K=	Torque (Dry or Loctite® 263) K= 0.17	Tol (Loctite® 271 [™] OR V 111 o	Torque (Loctite® 242™ or 271™ OR Vibra-TITE™ 111 or 140) K=.16	Torque (Loctite® 262 TM or Vibra- TITE TM 131) K=0.15	ue !™or Vibra- 131)
		u	Sq In	EB.	IN-LB	[N.m]	IN-LB	[N.m]	IN-LB	[N.m]	ΓB	IN-LB	[N.m]	IN-LB	[N.m]	IN-LB	[N.m]
4	40	0.1120	0.00604	380	7	0.8	X										
	48	0.1120	0.00661	420	8	6.0	V >)										
9	32	0.1380	0.00909	580	14	1.5											
α	32	0.1380	0.01015	010	75	9.6											
0	36	0.1640	0.01400	940	56	2.9					1320	37	4				
10	24	0.1900	0.01750	1120	36	4.1					1580	51	9				
	32	0.1900	0.02000	1285	42	4.7					1800	58	7				
1/4	20	0.2500	0.0318	2020	98	9.7	80	6	_		2860	122	14	114	13		
	28	0.2500	0.0364	2320	66	11.1	95	11			3280	139	16	131	15		
		드	Sq In	LB	FT-LB	[N.m]	FT-LB	[M.M]	FT-LB	[N.m]	В	FT-LB	[N.	FT-LB	[N.m]	FT-LB	[N.m]
5/16	18	0.3125	0.0524	3340	15	20	14	19	15	20	4720	20	25	20	25	20	25
	24	0.3125	0.0580	3700	15	20	15	21	15	20	5220	25	35	20	25	20	25
3/8	16	0.3750	0.0775	4940	25	32	25	34	25	34	7000	35	20	35	20	35	50
	24	0.3750	0.0878	5600	30	40	28	38	25	34	7900	40	55	40	55	35	50
7/16	14	0.4375	0.1063	0089	40	55	40	54	35	48	9550	09	80	55	75	50	70
	20	0.4375	0.1187	7550	45	09	44	09	40	54	10700	65	06	09	80	60	80
1/2	13	0.5000	0.1419	9050	65	90	09	82	55	75	12750	90	120	85	115	80	110
	50	0.5000	0.1599	10700	75	100	71	26	65	88	14400	100	135	96	130	90	120
9/16	27 5	0.5625	0.1820	11600	06	120	87	118	8	109	16400	130	175	125	170	115	155
Ç	20 7	0.5625	0.2030	12950	105	145	96,	132	90	122	18250	145	195	135	185	130	1/5
2/0	- 82	0.6250	0.2560	16300	145	195	136	185	125	170	23000	205	280	190	260	180	245
3/4	10	0.7500	0.3340	21300	225	305	213	290	200	272	30100	320	435	300	410	280	380
	16	0.7500	0.3730	23800	255	345	238	324	225	306	33600	355	485	335	455	315	430
2/8	6	0.8750	0.4620	29400	365	495	343	466	320	435	41600	515	200	485	099	455	620
	14	0.8750	0.5090	32400	400	545	378	514	355	483	45800	570	775	535	730	500	680
-	8	1.0000	0.6060	38600	545	740	515	200	480	653	51500	730	995	685	930	645	875
	12	1.0000	0.6630	42200	009	815	563	765	530	721	29700	845	1150	795	1080	745	1015
1 1/8	7	1.1250	0.7630	42300	675	920	635	863	595	808	68700	1095	1490	1030	1400	965	1310
	12	1.1250	0.8560	47500	755	1025	713	696	670	911	77000	1225	1665	1155	1570	1085	1475
1 1/4	7	1.2500	0.9690	53800	955	1300	897	1219	840	1142	87200	1545	2100	1455	1980	1365	1855
	12	1.2500	1.0730	29600	1055	1435	993	1351	930	1265	00996	1710	2325	1610	2190	1510	2055
1 3/8	9	1.3750	1.1550	64100	1250	1700	1175	1598	1100	1496	104000	2025	2755	1905	2590	1785	2430
	12	1.3750	1.3150	73000	1420	1930	1338	1820	1255	1707	118100	2300	3130	2165	2945	2030	2760
11/2	9	1.5000	1.4050	78000	1660	2260	1560	2122	1465	1992	126500	2690	3660	2530	3440	2370	3225
	12	1.5000	1.5800	87700	1865	2535	1/54	2385	1645	7523/	142200	3020	4105	2845	38/0	7665	3625

NOTES:

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^{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

	×(₂	Torque 262 [™] or Vibra- 31) K=0.15	[N.m]									[N.	. 25	25	50	50	70	80	130	155	175	220	245	380	430	680 680	875	1015	1310	1475	1855	2055	2430	2760	3225
	Zinc Yellow Chromate Fasteners (Ref 4150707)*	Torque (Loctite® 262 [™] or Vibra- TITE [™] 131) K=0.15	IN-LB									FF-LB	20	20	35	35	50	09	8 6	115	130	160	180	280	315	455	645	745	965	1085	1365	1510	1785	2030	23/0
	ers (Ref	Torque (Loctite® 242™ or 271™ OR Vibra-TITE™111 or 140 OR Precoat 85®) K=0.18	[N.m]							Ļ	15	[N.m]	. 25	35	55	09	06	95	130	190	210	260	290	460	515	740	1055	1215	1580	1770	2225	2460	2915	3310	38/0
	Fasten	Tor (Loctite® 24 OR Vibra-T 140 OR Pr	IN-LB								129	FT-LB	20	25	40	45	65	70	32	140	155	190	215	340	380	242 600	775	895	1160	1300	1635	1810	2145	2435	2842
	hromate	Torque (Dry) K = .20	[N.m]								9 1	[N.m]	32	35	09	70	92	110	145	210	230	285	325	510	970	925	1170	1355	1755	1965	2470	2740	3245	3680	4305
SREWS	Yellow C	호 <u>구</u>	IN-LB								143	FT-LB	25	25	45	50	70	80	105	155	170	210	240	375	420	670	860	995	1290	1445	1815	2015	2385	2/05	3165
SOCKET HEAD CAP SCREWS	Zinc	Clamp Load See Note 4	EB.								3280	LB	4720	5220	7000	2900	9550	10700	12750	16400	18250	20350	23000	30100	33600	41600	51500	59700	68700	27000	87200	00996	104000	118100	005971
T HEA		Torque 262 TM or Vibra- 31) K=0.15	[N.m]									[N.m]	. 25	25	50	50	70	80	0110	155	175	220	245	380	430	020	875	1015	1310	1475	1855	2055	2430	2760	3225
SOCKE	1)*	(Loctite® TITE [™] 1	IN-LB									FT-LB	20	20	35	35	50	09	08	115	130	160	180	280	315	455	645	745	965	1085	1365	1510	1785	2030	23/0
3,	415070	Torque (Loctite® 242™ or 271™ OR Vibra-TITE™ 111 or 140 OR Precoat 85®) K=0.16	[N.m]							9	15	[N.m]	. 25	25	50	55	75	80	115	170	185	230	260	i.	455	000	930	1080	1400	1570	1980	2190	2590	2945	3440
	Magni Coating (Ref 4150701)*	Tor (Loctite® 24 OR Vibra-T 140 OR Pr	IN-LB				4	×			131	FT-LB	20	20	35	40	55	90	S d	125	135	170	190	300	335	485 535	685	795	1030	1155	1455	1610	1905	2165	2530
	gni Coat	Torque (Dry) K = .17	[N.m]							;	16	[N.m]	. 52	32	20	55	80	90	120	175	195	245	280	435	485	775	995	1150	1490	1665	2100	2325	2755	3130	3660
	Ma	~0	IN-LB								139	FT-LB	50	25	35	40	09	65	S 5	130	145	180	205	320	355	515	730	845	1095	1225	1545	1710	2025	2300	0807
	S	Clamp Load See Note 4	9							0000	3280	EB	4720	5220	7000	7900	9550	10700	12750	16400	18250	20350	23000	30100	33600	41600	51500	59700	68700	27000	87200	00996	104000	118100	1,5550
		Tensile Stress Area	Sq In	0.00604	0.00661	0.00909	0.01400	0.01474	0.01750	0.02000	0.0318	Sq In	0.0524	0.0580	0.0775	0.0878	0.1063	0.1187	0.1419	0.1820	0.2030	0.2260	0.2560	0.3340	0.3730	0.4620	0.6060	0.6630	0.7630	0.8560	0.9690	1.0730	1.1550	1.3150	1.4050
		Bolt Dia	드	0.1120	0.1120	0.1380	0.1580	0.1640	0.1900	0.1900	0.2500	드	0.3125	0.3125	0.3750	0.3750	0.4375	0.4375	0.5000	0.5625	0.5625	0.6250	0.6250	0.7500	0.7500	0.8750	1.0000	1.0000	1.1250	1.1250	1.2500	1.2500	1.3750	1.3750	0006.1
		IAT		40	48	35	32	36	24	32	28 50		18	24	16	24	14	20	13	12	18	11	18	10	91	s 7	tα	12	7	12	7	12	9 5	12	٥ ب
		Size		4		9	œ		10		1/4		5/16		3/8		7/16	9	1/2	9/16		2/8		3/4	Ç,	8//	-		1 1/8		1 1/4		1 3/8	5	7/1

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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 OR FASTENER IS PLACED AGAINST PLATED STEEL OR RAW ALUMINUM

4. CLAMP LOAD LISTED FOR SHCS IS SAME AS GRADE 8 OR CLASS 10.9 AND DOES NOT REPRESENT FULL STRENGTH CAPABILITY OF SHCS. IF HIGHER LOAD IS REQUIRED, ADDITIONAL TESTING IS REQUIRED.

Metric Fasteners

Values 101 ZIIIC TEIIOW CHIOHIAIE FASIEITEIS (THEI 4130707) SS • METBIC (HEX HE	ate Ft CLA	ASS 10.9 MET	asteners (Het 4150707) CLASS 10.9 METRIC (HEX HEAD) BOLTS) BOLTS
CLASS 8.8 METRIC (HEX/SOCKET HEAD) BOLTS CLASS 8 METRIC NUTS		CLASS 1	CLASS 12.9 SOCKET HEAD CAP SCREWS M3 - M5*	S EWS M3 - M5*
Clamp Torque Torque (Loctite® 263™) (Lub) TTE™131 Vibra-11	Torque (Lottle® 242™ or Clamp (271™OR Vibra-TITE™ 111 or 140)	Torque (Dry or Loctite® 263™) K = 0.20	Torque (Lub OR Loctite® 242™ or 271™ OR Vibra-TITE™ 111 or 140) K= 0.18	Torque (Loctite® 262™ OR Vibra-TITE™ 131) K=0.15
[N.m] [N.m]	[N.m]	[N.m]	[N.m]	[N.m]
2.19 1.3 1.0 1.2	1.4 3.13			
2.1 1.6 1.9	2.3 4.22			
3.1 2.3 2.8	3.4 5.47			
6.18 6.2 4.6 5.6	6.8 8.85			
11 7.9 9.4	12 12.5			
12.6 18 13 16	19 18.0	25	23	19
26 19 23	28 22.8	37	33	27
50 38 45	55 36.1	70	65	55
88 66 79	97 52.5	125	115	95
140 105 126	154 71.6	200	180	150
68.3 219 164 197	241 97.8	315	280	235
83.5 301 226 271	331 119.5	430	385	325
106.5 426 320 383	152.5	610	550	460
132.0 581 436 523	639 189.0	830	750	625
153.5 737 553 663	811 222.0	1065	096	800
99.5 1080 810 970	1130 286.0	1545	1390	1160
244.0 1460 1100 1320	1530 349.5	2095	1885	1575
302.0 1990 1490 1790	2090 432.5	2855	2570	2140
355.5 2560 1920 2300		3665	3300	2750
487.0 4090 3070 3680		5965	5275	4395

NOTES: 1. THESE TOROUE VALUES DO NOT APPLY TO CADMIUM PLATED FASTENERS

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

4. ASSEMBLY USES HARDENED WASHER OR FASTENER IS PLACED AGAINST PLATED STEEL OR RAW ALUMINUM

4. CLAMP LOAD LISTED FOR SHGS IS SAME AS GRADE 8 OR CLASS 10.9 AND DOES NOT REPRESENT FULL STRENGTH CAPABILITY OF SHGS. IF HIGHER LOAD IS REQUIRED, ADDITIONAL TESTING IS REQUIRED.

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SECTION 2. GENERAL SERVICE INFORMATION

2.1 MACHINE PREPARATION, INSPECTION, AND MAINTENANCE

This section provides the necessary information needed by those personnel that are responsible to place the machine in operation readiness and maintain its safe operating condition. For maximum service life and safe operation, ensure that all the necessary inspections and maintenance have been completed before placing the machine into service. With proper care, maintenance, and inspections performed per JLG's recommendations with any and all discrepancies corrected, this product will be fit for continued use.

Preparation, Inspection, and Maintenance

It is important to establish and conform to a comprehensive inspection and preventive maintenance program. The Preventive Maintenance and Inspection Schedule (Section 2.2) outlines the periodic machine inspections and maintenance recommended by JLG Industries, Inc. Consult your national, regional, or local regulations for further requirements for Mobile Elevating Work Platforms (MEWP). The frequency of inspections and maintenance must be increased as environment, severity and frequency of usage requires.

Pre-Start Inspection

It is the User's or Operator's primary responsibility to perform a Pre-Start Inspection of the machine prior to use daily or at each change of operator. Reference the Operation and Safety Manual for completion procedures for the Pre-Start Inspection. The Operation and Safety Manual must be read in its entirety and understood prior to performing the Pre-Start Inspection.

Pre-Delivery Inspection and Frequent Inspection

The Pre-Delivery Inspection and Frequent Inspection shall be performed by a qualified JLG equipment mechanic. JLG Industries, Inc. recognizes a qualified JLG equipment mechanic as a person who, by possession of a recognized degree, certificate, extensive knowledge, training, or experience, has successfully demonstrated the ability and proficiency to service, repair, and maintain the subject JLG product model.

The Pre-Delivery Inspection and Frequent Inspection procedures are performed in the same manner, but at different times. The Pre-Delivery Inspection shall be performed prior to each sale, lease, or rental delivery. The Frequent Inspection shall be accomplished for each machine in service for 3 months or 150 hours; out of service for a period of more than 3 months; or when purchased used. The fre-

quency of this inspection must be increased as environment, severity and frequency of usage requires.

Reference the JLG Pre-Delivery and Frequent Inspection Form and the Inspection and Preventative Maintenance Schedule for items requiring inspection during the performance of these inspections. Reference the appropriate areas of this manual for servicing and maintenance procedures.

Annual Machine Inspection

JLG recommends that the Annual Machine Inspection be performed by a Factory-Trained Service Technician on an annual basis, no later than thirteen (13) months from the date of the prior Annual Machine Inspection. JLG Industries, Inc. recognizes a Factory-Trained Service Technician as a person who has successfully completed the JLG Service Training School for the subject JLG product model. Reference the machine Service and Maintenance Manual and appropriate JLG inspection form for performance of this inspection.

Reference the JLG Annual Machine Inspection Form and the Inspection and Preventative Maintenance Schedule for items requiring inspection during the performance of this inspection. Reference the appropriate areas of this manual for servicing and maintenance procedures.

For the purpose of receiving safety-related bulletins, it is important that JLG Industries, Inc. has updated ownership information for each machine. When performing each Annual Machine Inspection, notify JLG Industries, Inc. of the current machine ownership.

Preventative Maintenance

In conjunction with the specified inspections, maintenance shall be performed by a qualified JLG equipment mechanic. JLG Industries, Inc. recognizes a qualified JLG equipment mechanic as a person who, by possession of a recognized degree, certificate, extensive knowledge, training, or experience, has successfully demonstrated the ability and proficiency to service, repair, and maintain the subject JLG product model.

Refer to the Preventive Maintenance and Inspection Schedule and the appropriate areas of this manual for servicing and maintenance procedures. The frequency of service and maintenance must be increased as environment, severity and frequency of usage requires.

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Inspection and Maintenance Table

ТҮРЕ	FREQUENCY	PRIMARY RESPONSIBILITY	SERVICE QUALIFICATION	REFERENCE
Pre-Start Inspection	Prior to use each day; or At each Operator change.	User or Operator	User or Operator	Operator and Safety Manual
Pre-Delivery Inspection	Prior to each sale, lease, or rental delivery.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual and applicable JLG inspection form.
Frequent Inspection	Inservice for 3 months; or Out of service for a period of more than 3 months; or Purchased used.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual and applicable JLG inspection form.
Annual Machine Inspection	Annually, no later than 13 months from the date of the prior inspection.	Owner, Dealer, or User	JLG Factory-Trained Service Technician (Recommended)	Service and Maintenance Manual and applicable JLG inspection form.
Preventative Maintenance	At intervals as specified in the Service and Maintenance Manual.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual

NOTICE

JLG INDUSTRIES, INC. RECOGNIZES A FACTORY-TRAINED SERVICE TECHNICIAN AS A PERSON WHO HAS SUCCESSFULLY COMPLETED THE JLG SERVICE TRAINING SCHOOL FOR THE SPECIFIC JLG PRODUCT MODEL.

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2.2 PREVENTIVE MAINTENANCE AND INSPECTION SCHEDULE

The preventive maintenance and inspection checks are listed and defined in the following table. This table is divided into two basic parts, the "AREA" to be inspected and the "INTERVAL" at which the inspection is to take place. Under the "AREA" portion of the table, the various systems along with the components that make up that system are listed. The "INTERVAL" portion of the table is divided into two columns representing the various inspection time periods. The numbers listed within the interval column represent the applicable inspection code for which that component is to be checked.

The checks and services listed in this schedule are not intended to replace any local or regional regulations that may pertain to this type of equipment nor should the lists be considered as all inclusive. Variances in interval times may occur due to climate and or conditions and depending on the location and use of the machine.

	INTERVA	L
AREA ON MACHINE	Pre-Delivery ¹ or Frequent ² (Quarterly) Inspection	Annual ³ (Yearly) Inspection
MAST ASSEMBLY AND PLATFORM ASSEMBLY	VO.	
Mast Sections	2,3	2,3
Belt System	1,2,3	1,2,3
Slide Pads	1,2	1,2
Platform, Platform Gate, and Latches	1,3	1,3
Guard Rails	1,2	1,2
Covers and Shields	1,5	1,5
Floor	1,2	1,2
Lanyard Anchorage Point	1,2,6	1,2,6
Flywheel Crank Assembly	1,3	1,3,4
Tool Tray	1	1
CHASSIS AND BASE ASSEMBLY		
Brake Release	3	3
Wheel Locking Nut	1 ⁵⁰	1 ⁵⁰
Covers and Shields	1,5	1,5
StaticStrap	1	1
Wheel and Tire Assemblies	1,2	1,2
Bubble Level	1	1
Emergency Lowering Tool	1,3	1,3
GENERAL		
No Unauthorized Modifications or Additions	9	9
General Structural Condition and Welds	2	2
Paint and Appearance	5	5
Notify JLG of Machine Ownership	9	9
Annual Machine Inspection Due	-	9
All Relevant Safety Publications Incorporated	9	9
All Decals/Placards Installed, Secure, Legible	9	9
All Fasteners, Pins, Shields, and Covers	1,2	1,2
Function Test of All Systems	9	9
Stamp Inspection Date on Frame	-	9

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	INTE	RVAL
AREA ON MACHINE	Pre-Delivery ¹ or Frequent ² (Quarterly) Inspection	Annual ³ (Yearly) Inspection

Footnotes:

Performance Codes:

- 1 Check for proper and secure: installation, adjustment, or torque
- 2 Visual inspection for damage: (cracks, corrosion, abrasions, distortion, excessive wear, broken welds, gouges, chafing and threads showing)
- 3 Proper operation
- 4 Check for proper sealing, signs of leakage and fluid level
- 5 Clean and free of debris
- 6 Decals installed and legible
- 7 Check for proper tolerances, routing, and lubrication
- 8 Fully Charged
- 9-Verify/Perform

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¹Prior to each sale, lease, or delivery

² In service for 3 months; Out of service for 3 months or more; Purchased used

³ Annually, no later than 13 months from the date of the prior inspection, Includes all daily and quarterly inspections, mandated by regulating body

 $^{^{50}} Indicates\, a\, 50\, hour\, interval\, required\, to\, perform\, task\, after\, initial\, use\, of\, machine.\, This\, only\, occurs\, once\, in\, machine\, life\, and\, the\, contractions are considered as a fine of the contraction of t$

2.3 SERVICING AND MAINTENANCE GUIDELINES

General

The following information is provided to assist you in the use and application of servicing and maintenance procedures contained in this chapter.

A CAUTION

WHEN AN ABNORMAL CONDITION IS NOTED AND PROCEDURES CONTAINED HEREIN DO NOT SPECIFICALLY RELATE TO THE NOTED IRREGULARITY, WORK SHOULD BE STOPPED AND TECHNICALLY QUALIFIED GUIDANCE OBTAINED BEFORE WORK IS RESUMED.

Safety and Workmanship

Your safety, and that of others, is the first consideration when engaging in the maintenance of equipment. Always be conscious of component weight. Never attempt to move heavy parts without the aid of a mechanical device. Do not allow heavy objects to rest in an unstable position. When raising a portion of the equipment, ensure that adequate support is provided.

A WARNING

NEVER WORK UNDER AN ELEVATED PLATFORM UNTIL PLATFORM HAS BEEN SAFELY RESTRAINED FROM ANY MOVEMENT BY BLOCKING OR OVERHEAD SLING.

Cleanliness

The most important single item in preserving the long service life of a machine is to keep dirt and foreign materials out of the vital components. Precautions have been taken to safeguard against this. Shields, covers, seals, and filters are provided to keep the wheel bearings, mast sections and oil supply clean; however, these items must be maintained on a scheduled basis in order to function properly.

At any time when oil lines are disconnected, clear adjacent areas as well as the openings and fittings themselves. As soon as a line or component is disconnected, cap or cover all openings to prevent entry of foreign matter.

Clean and inspect all parts during servicing or maintenance, and assure that all passages and openings are unobstructed. Cover all parts to keep them clean. Be sure all parts are clean before they are installed. New parts should remain in their containers until they are ready to be used.

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Components Removal and Installation

Use adjustable lifting devices, whenever possible, if mechanical assistance is required. All slings (chains, cables, etc.) should be parallel to each other and as near perpendicular as possible to top of part being lifted.

Should it be necessary to remove a component on an angle, keep in mind that the capacity of an eyebolt or similar bracket lessens, as the angle between the supporting structure and the component becomes less than 90 degrees.

If a part resists removal, check to see whether all nuts, bolts, cables, brackets, wiring, etc., have been removed and that no adjacent parts are interfering.

Component Disassembly and Reassembly

When disassembling or reassembling a component, complete the procedural steps in sequence. Do not partially disassemble or assemble one part, then start on another. Always recheck your work to assure that nothing has been overlooked. Do not make any adjustments, other than those recommended, without obtaining proper approval.

Pressure-Fit Parts

When assembling pressure-fit parts, use an "anti-seize" or molybdenum disulfide base compound to lubricate the mating surface.

Bearings

When a bearing is removed, cover it to keep out dirt and abrasives. Clean bearings in nonflammable cleaning solvent and allow to drip dry. Compressed air can be used but do not spin the bearing.

Discard bearings if the races and balls (or rollers) are pitted, scored, or burned.

If bearing is found to be serviceable, apply a light coat of oil and wrap it in clean (waxed) paper. Do not unwrap reusable or new bearings until they are ready to install.

Lubricate new or used serviceable bearings before installation. When pressing a bearing into a retainer or bore, apply pressure to the outer race. If the bearing is to be installed on a shaft, apply pressure to the inner race.

Gaskets

Check that holes in gaskets align with openings in the mating parts. If it becomes necessary to hand-fabricate a gasket, use gasket material or stock of equivalent material and thickness. Be sure to cut holes in the right location, as blank gaskets can cause serious system damage.

Bolt Usage and Torque Application

Use bolts of proper length. A bolt which is too long will bottom before the head is tight against its related part. If a bolt is too short, there will not be enough thread area to engage and hold the part properly. When replacing bolts, use only those having the same specifications of the original, or one which is equivalent.

Unless specific torque requirements are given within the text, standard torque values should be used on heat-treated bolts, studs, and steel nuts, in accordance with recommended shop practices.

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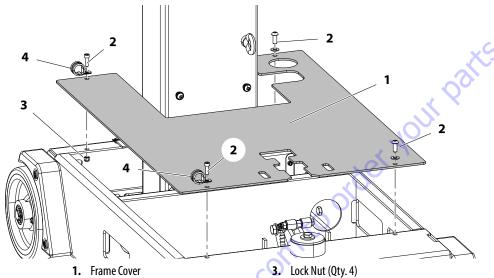
SECTION 3. COMPONENT SERVICING

FRAME COVER INSTALLATION 3.1

EcoLift50

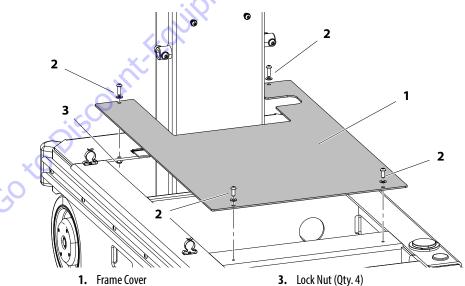
NOTE:

Do not release the flywheel crank and raise the platform without weight in the platform. The mast contains a charged gas cylinder under constant pressure to help assist the lifting process.



- 2. Screws and Washers
- 4. Emergency Lowering Tool Mounting Clamps

EcoLift70

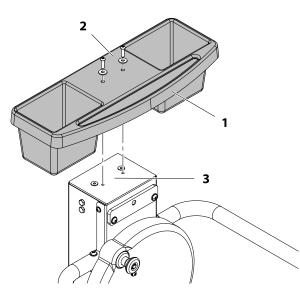


- 2. Screws and Washers

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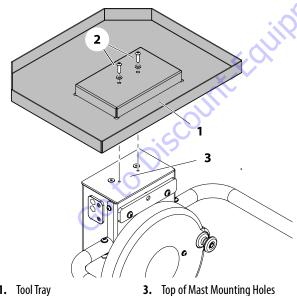
3.2 **TOOL TRAY INSTALLATION**

EcoLift50



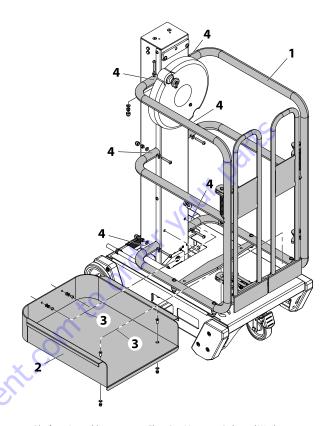
- 1. Tool Tray
- 3. Top of Mast Mounting Holes 2. Attach Screws and Washers

EcoLift70



- **1.** Tool Tray
- 2. Attach Screws and Washers

3.3 **PLATFORM INSTALLATION**



- 1. Platform Assembly
- 3. Floor Pan Mounting Bolts and Washers
- 2. Floor Pan Assembly
- 4. Platform to Mast Bolts and Washers
- Remove the four bolts, nuts and washers securing the floor pan to the platform assembly. Remove floor pan.
- Remove the six bolts, nuts and washers securing the platform assembly to the mast assembly.
- Loosen the bolt and nuts on the bottom rail crossmember to allow the platform rails to clear the mast mounting sockets.
- With the aid of an assistant, remove platform from mast by pulling each rail out from it's mast socket then lifting the platform off and setting aside.

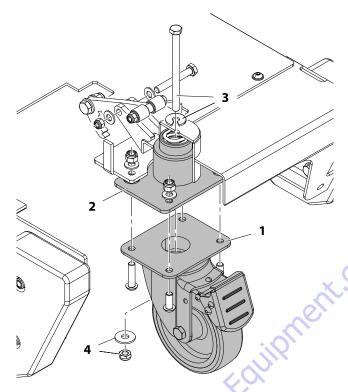
NOTE: When assembling apply anti-seize compound to the platform rail attach bolts/nuts (item 4).

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3.4 CASTOR WHEEL ASSEMBLY

In order to ensure the castors are maintained in serviceable and safe condition, regular inspection is required, especially where arduous conditions are known to be involved or there is suspicion of misuse or abuse.

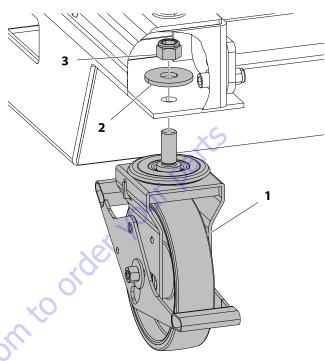
EcoLift50



- 1. Castor Wheel Assembly
- 2. Spring Mount
- B. Mounting Bolt and Washer
- 4. Locking Nut and Washer
- Use suitable lifting equipment to raise and support the front of the machine to allow removal of the castor wheel.
- 2. Be certain the castor is in the down position removing the tension from the internal spring.
- Using correct size wrench or socket hold the mounting bolt head on the top of the chassis frame housing and remove the locking nut and washer on the bottom of the castor wheel assembly inside the castor wheel frame.
- Slide castor and mount assembly out bottom of frame.

Install in reverse order using the above steps.

EcoLift70



- 1. Castor Wheel Assembly
- 3. Locking Nut
- 2. Washer
- 1. Using suitable lifting equipment raise the front of the machine to allow removal of the castor wheel.
- 2. Using correct size wrench or socket remove the attaching nut on the top of the castor wheel assembly inside the frame.
- 3. Slide castor assembly out bottom of frame.

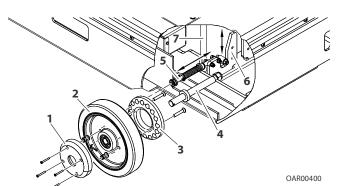
Install in reverse order using the above steps.

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3.5 REAR AXLE ASSEMBLY

The rear axle assembly includes a locking wheel brake system which is activated when the platform is raised from the stowed position. When activated along with the front castor brake, this helps keep the machine from moving when the platform is raised.

This brake system consists of a disc bolted to the back of the wheel hub assembly, the disc has a series of holes into which a spring loaded pin will engage when the platform is raised. Both rear axle wheels are equipped with the brake system



- 1. Caster Wheel Assembly
- 2. White Bearing version d
- Wheelnesse(Ωthy. 4) (a)
- 3. Wheel Brake Disk
- **4.** Axle, Spacer and Mounting Nut Assembly
- 3. Caster Shim (b)
- 5. Spring Loaded Pin
- 6. Brake Actuator
- **7.** Mast

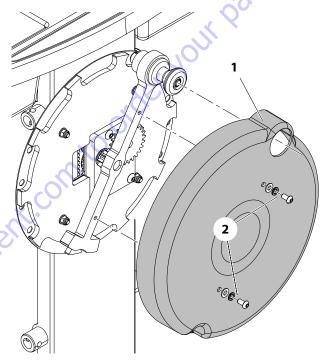
3.6 FLYWHEEL CRANK COVER INSTALLATION

▲ CAUTION

DO NOT RELEASE THE FLYWHEEL CRANK AND ATTEMPT TO RAISE THE PLATFORM WITHOUT WEIGHT IN THE PLATFORM. THE MAST CONTAINS A GAS CHARGED CYLINDER UNDER CONSTANT PRESSURE TO HELP ASSIST THE LIFTING PROCESS WHEN THE PLATFORM IS IN THE STOWED POSITION.

▲ CAUTION

ONCE FLYWHEEL CRANK COVER IS REMOVED KEEP HANDS AND FINGERS AWAY FROM THE CRANK MECHANISM IF RELEASING AND ROTATING THE HANDLE.

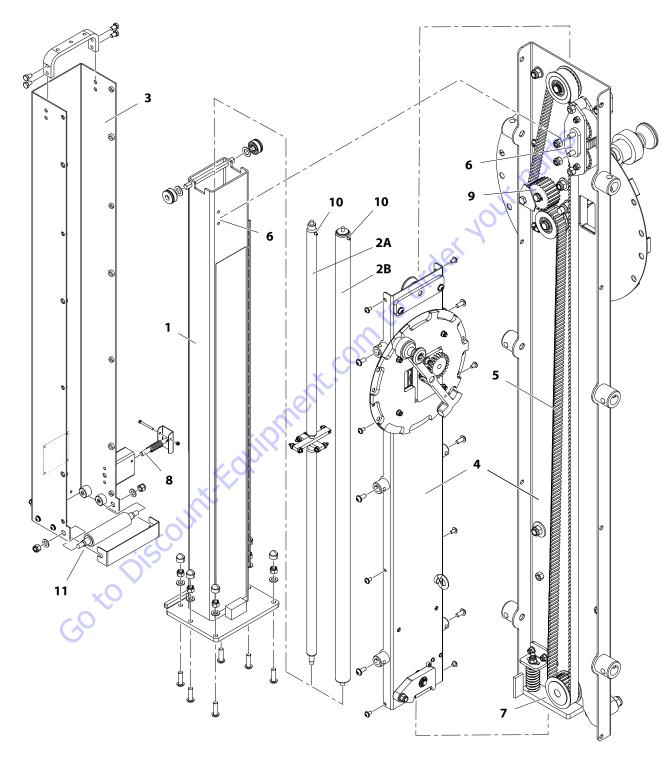


1. Frame Cover

2. Mounting Screws/Washers

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3.7 MAST INSTALLATION



- Inner Mast Assembly
 A Ecolift50 Pressurized Gas Cylinder
 B Ecolift70 Pressurized Gas Cylinder
 Outer Mast Section (Rear Half)
- 5. Outer Mast Section (Front Cover)
- 6. Belt Drive System
 7. Stationary Belt Clamp Assembly and Mounting Holes
 8. Belt Spring Tensioner and Interlock Plate

- 9. Mast Safety Interlock Pin
 10. Flywheel Crank Drive Gear
 11. Gas Cylinder Fill Valve
 12. Mast Guide Roller Assembly

▲ CAUTION

THE MAST CONTAINS A GAS CHARGED CYLINDER UNDER CONSTANT PRESSURE. WHEN THE PLATFORM IS FULLY LOWERED THE GAS IS UNDER THE MOST PRESSURE.

DO NOT RELEASE THE FLYWHEEL CRANK WITHOUT WEIGHT IN THE PLATFORM DUE TO THE CONSTANT PRESSURE OF THE GAS CYLINDER.

IF REMOVING THE MAST ASSEMBLY FROM THE MACHINE, THE GAS MUST BE RELIEVED FROM THE PRESSURIZED GAS CYLINDER.

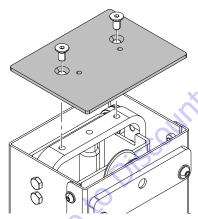
Mast Disassembly

The mast assembly can be disassembled while on the machine or removed completely from the machine and disassembled.

- Remove the tool tray from the top of the mast assembly. (See Section 3.2)
- 2. Remove the frame cover from the base frame. (See Section 3.1)

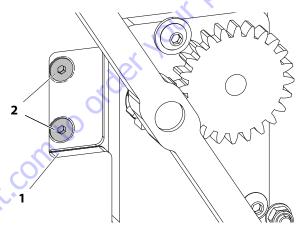
NOTE: Be sure to have provisions to refill the gas cylinder once mast is reassembled.

- Remove the mast top cover and using the valve on the top of the gas cylinder, allow all the gas to escape from the cylinder.
- **4.** Remove the platform from the mast. (See Section 3.6).
- Remove the mast from the base frame. If disassembling off the machine.
- Remove the flywheel crank cover from the flywheel crank. (See Section 3.6)
- 7. Remove the mast top cap.



- 1. Top Cover
- 2. Mounting Screws
- **8.** With the gas cylinder de-pressurized, loosen, **but do not remove**, the four bolts attaching the gas cylinder mount to the top of the outer mast section.
- 9. Check that the mount can be moved up and down by hand, and there is not a great amount of pressure on the mount from the gas cylinder. If OK, remove the bolts from the mount and remove the mount from the top of the mast.
- **10.** Remove the safety interlock pin cover and pull the interlock pin out and rotate 90° to lock the pin in the retracted position.

- Remove the outer mast/front cover assembly from the mast.
 - **a.** Remove the 14 screws (7 each side) from the front cover assembly.
- The belt drive system clamp assembly which clamps the belt ends, is anchored to the inner mast section and must be unbolted.
 - **a.** The head of the belt clamp mounting bolts must first be aligned with the access hole in the flywheel mounting plate on the front of the mast. This is so they can be kept from turning while removing the nuts inside the inner mast section.
 - b. At the top of the mast assembly approximately 6 in. down on the inside of the inner mast weldment, remove the two lock nuts attaching the belt clamp assembly to the inner mast weldment.



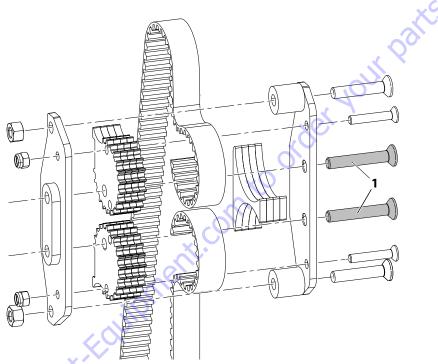
- 1. Flywheel Plate Access Hole
- 2. Belt Clamp Mounting Bolts

NOTE: Extend or retract mast assembly to almost stowed position to align with belt clamp bolt heads.

- **13.** Once step 8 and 9 are completed the complete outer mast front cover and flywheel assembly can be lifted off the mast assembly for further disassembly, if required.
- **14.** Remove the mast guide roller from the bottom front of the mast assembly.
- Using an assistant, lift the outer mast section off the inner mast section and set aside for disassembly, if necessary.
- 16. If necessary, remove the gas cylinder from the inner mast section. If tight in the mounting hole on the bottom of the inner mast section, you may have to tap the cylinder rod with a flat punch to get it started out of the mounting hole.
- **17.** At the top of the inner mast section carefully pull the gas cylinder out of the inner mast section.

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- **18.** If necessary to remove the drive belt assembly from the front cover.
 - **a.** Compress the spring tensioner enough to allow the belt to be slid off the lower belt cog gear.
 - b. Remove the bolt from the belt guide roller plate beside the drive gear, this will allow the belt to be removed from the drive gear and idler cog gear next to it.
 - **c.** The belt and clamp assembly should now be free from the front cover assembly.
 - **d.** If replacing belt, disassemble the belt clamp assembly and install new belt.



1. Belt Clamp to Inner Mast - Mounting Bolts

Mast Re-Assembly

Assemble the mast reversing the steps above.

Mast components requiring lubrication, anti-seize compound, or thread locking compound during assembly:

- Thread Locking Compound Required:
 - Apply to threads of lanyard attach eyelet. (on item 4)
 - Belt tensioner stop apply to socket head screw and nut just above the pulley block on front panel. (on item 4)
 - Apply to threads of belt guide plate mounting bolt and nut. (item 9)
 - Apply to threads of belt clamp allen head mounting bolts. (item 6)
 - Apply to threads of gas strut support bracket mast bolts. (top of item 3)
- Anti-Seize Compound:
 - Apply to threaded stud on belt spring tensioner. (on item 6)
 - Coat the flat facing surface of the three pulleys and drive gear and the guide plate. (on item 4 and 9)

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Gas Cylinder Pressurizing

A CAUTION

BEFORE PRESSURIZING THE GAS CYLINDER BE CERTAIN THE FLYWHEEL CRANK PIN IS ENGAGED WITH ONE OF THE FLYWHEEL BACKING PLATE SLOTS.

Fill each gas cylinder through the valve on the side of the cylinder barrel with nitrogen gas.

A CAUTION

DO NOT EXCEED 1450 PSI (100 BAR) MAXIMUM PRESSURE IN THE GAS STRUT. **EcoLift50**

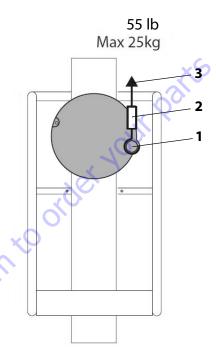
AMBIENT TEMPERATURE IN RECHARGING AREA	PRESSURE
5°F to 23°F	928 PSI +/- 7 PSI
(-15.0 to -5.1°C)	(64 bar +/- 0.5 bar)
23°F to 41°F	972 PSI +/- 7 PSI
(-5.0 to +4.9°C)	(67 bar +/- 0.5 bar)
41°F to 59°F	1015 PSI +/- 7 PSI
(+5.0to +14.9℃)	(70 bar +/- 0.5 bar)
59°F to 77°F	1059 PSI +/- 7 PSI
(+15.0to +24.9°C)	(73 bar +/- 0.5 bar)
77°F to 95°F	1102 PSI +/- 7 PSI
(+25.0to +34.9°C)	(76 bar +/- 0.5 bar)

EcoLift70

AMBIENT TEMPERATURE IN RECHARGING AREA	PRESSURE
5°F to 23°F	1001 PSI +/- 7 PSI
(-15.0 to -5.1°C)	(69 bar +/- 0.5 bar)
23°F to 41°F	1044 PSI +/- 7 PSI
(-5.0 to +4.9°C)	(72 bar +/- 0.5 bar)
41°F to 59°F	1088 PSI +/- 7 PSI
(+5.0to +14.9°C)	(75 bar +/- 0.5 bar)
59°F to 77°F	1031 PSI +/- 7 PSI
(+15.0to +24.9°C)	(78 bar +/- 0.5 bar)
77°F to 95°F	1175 PSI +/- 7 PSI
(+25.0to +34.9°C)	(81 bar +/- 0.5 bar)

Flywheel Rotation Force - Testing

When the gas cylinder is pressurized properly, it should take no more than 55 lb (25 kg) of force to turn the flywheel handle in the counter-clockwise (lowering) direction, when the platform is close to fully lowered. At this mast position the gas cylinder inside the mast assembly is almost fully compressed.



- 1. Flywheel Crank Pin Released + Person in Platform
- 2. Calibrated Digital Spring Balance
- 3. Rotate in Counter-Clockwise Direction

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