snorkel

UL40
UL32
UL25



PARTS & SERVICE MANUAL

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Contents

Table of Contents

Section Number		Page No.
1.0 Introduction		**1-1**
	Purpose of Equipment	1-1
	General Description	1-1
	Platform	1-1
	Mast	1-1
	Chassis	1-1
	Operator Controls	1-1
2.0 Introduction		**4-1**
	Special Tools	4-1
2.1 Preventative Maintenance (Table 2-1)		**4-1**
	Preventative Maintenance Table Key	4-2
	Preventative Maintenance Report	4-2
2.2 Lubrication		**4-3**
	Casters	4-3
	Chains	4-3
	Screw Jacks	4-3
	Hydraulic Oil Reservoir (Figure 2-2)	4-3
2.3 Battery Maintenance (DC units only)		**4-4**
	Battery Inspection and Cleaning	4-4
	Battery Charging (Figure 2-3)	4-4
	Battery Cell Equalization	4-5
2.5 Mast Assembly (Figure 2-6,2-7) Disassembly		**4-6**
	Platform Assembly Removal (Figure 2-6)	4-6
	#6 Mast	4-6
	#5 Mast	4-6
	#4 Mast	4-6
2.5 Mast Assembly (Cont.)		**4-9**
	#3 Mast	4-9
	#2 Mast	4-9
	Assembly (Figure 2-7)	4-9
	#2 Mast	4-9
	#3 Mast	4-9
	#4 Mast	4-9
	#5 Mast	4-9
	#6 Mast	4-9
2.5 Mast Assembly (Cont.)		**4-10**
	Platform Support Assembly	4-10
	Sequencing Strap Installation	4-10
2.6 Cylinder Assembly		**4-10**
	Seal Replacement (Figure 2-8)	4-10
2.6 Cylinder Assembly (Cont.)		**4-12**
	Orifice Valve Cleaning	4-12
	Cylinder Removal (Figure 2-9)	4-13
	Installation	4-13
2.6 Cylinder Assembly (Cont.)		**4-14**
	Installation (Cont.)	4-14
	Fasteners	4-14
2.7 Torque Specifications		**4-14**
	Hydraulic Components	4-14
3.0 Introduction		**5-1**
	General Procedure	5-1
4.0 Introduction		**6-1**
	Index	6-1
4.1 Electrical Schematics		**6-2**
4.2 Hydraulic Schematic		**6-4**

List of Illustrations

Figure Number		Page No.
1-1	UL Portable Personnel Lifts	1-1
2-1	Lubrication	2-3
2-2	Hydraulic Power Unit	2-3
2-3	Battery Charger	2-5
2-4	System Relief Valve	2-5
2-5	Lifting / Lowering UL Lift	2-6
2-6	Mast Assembly, Strap and Chain Detail	2-7
2-7	Mast Assembly Bearing Detail	2-8
2-8	Lift Cylinder	2-11
2-9	Chain Tensioning, Cylinder Installation	2-13
3-1	Circuit Board	3-5
3-1	Electrical Schematic, AC Models	3-3
3-2	Electrical Schematic, DC Models	3-3
3-3	Hydraulic Schematic	3-4

List of Tables

Table Number		Page No.
1-1	Specifications	1-2
2-1	Preventative Maintenance	2-2
2-2	Hydraulic Component Torque	2-14
2-2	Bolt Torque	2-14
3-1	Troubleshooting	3-2
4-1	Electrical Schematic Legend, AC	4-2
4-2	Electrical Schematic Legend, DC	4-2
4-3	Hydraulic Schematic Legend	4-4

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SPECIFICATIONS

ITEM	UL 25	UL 32	UL 40
Platform Capacity	159 kg (350 lbs.)	136 kg (300 lbs.)	136 kg (300 lbs.)
Max. No. of Occupants	1 person	1 person	1 person
Height			
Working Height	9,52 m (31.5 ft.)	11,75 m (38.5 ft.)	14,19 m (46.5 ft.)
Max. Platform Height	7,62 m (25 ft.)	9,75 m (32 ft.)	12,19 m (40 ft.)
Min. Platform Height	38 cm (15 in.)	38 cm (15 in.)	38 cm (15 in.)
Dimensions			
Overall Weight	390Kg (860lbs)	435Kg (960lbs)	470Kg (1040lbs)
DC Option Weight	29 kg (64 lbs.)	29 kg (64 lbs.)	29 kg (64 lbs.)
Overall Width (outriggers extended)	2.06m (81 in)	2.06m (81 in)	2.95m (116 in)
Overall Length (outriggers extended)	1.98m (78 in)	1,98 m (78 in.)	2.84m (112 in)
Stowed Dimensions			
Vertical Height	1,98 m (78 in.)	2.53m (100 in)	2.90m (114 in)
Width	74 cm (29 in.)	74 cm (29 in.)	74 cm (29 in.)
Depth	1,24 m (49 in.)	1.32m (52 in)	1.32m (52in)
Diagonal Storage Height	1.94m (76 in)	1.94m (76 in)	2 m (79 in.)
Diagonal Storage Length	2.59 m (102 in.)	2,72m (107 in.)	3.05m (120 in)
System Voltage			
AC Electric Motor	120 VAC 60 Hz or 220 VAC 50/60 Hz		
DC Electric Power Source	1 - 12 Volt Battery, Group 27 105 Amp Hrs., Minimum Weight 22 kg (48 lbs.)		
Battery Charger	Automatic, 120 VAC 60 Hz or 220 VAC 50 Hz Output: 10 Amp, 12 Volts DC		
Hydraulic Tank Capacity	5,7 liter (1.5 gal.)		
Maximum Hydraulic Pressure	165 bar (2400 PSI)		
Hydraulic Fluid			
Normal Temperature: above 0° C [32° F]	ISO #46		
Low Temperature: below 0° C [32° F]	ISO #32		
Extreme Temperature: below -17° C [0° F]	ISO #15		
Control System	Push Button Lift and Lower, Red Mushroom EMERGENCY STOP Switch		
Guardrails	1,1 m (43.5 in.) High		
Toeboard	152mm (6 in) High		
Max Chassis Inclination	Zero Degrees in all directions		
Outrigger Loading	170 Kg (374lbs)		
Vibration	2.5m/sec²		
Sound Pressure	68dB (A) at Control Station		
Operating Temperature Range	-20° C to +50° C		

*Specifications are subject to change without notice. Hot weather or heavy use may affect performance.

Refer to the Service Manual for complete parts and service information.

The UL25/32/40 meets or exceeds the requirements of ANSI A92.3 - 1990

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Table 3-1: Troubleshooting (cont'd)

LIFT DOES NOT TURN ON - AC

All voltages arereferenced to Chassis ground. Using a voltmeter, place the negative probe directly to a clean ground source onthe AC motor. If equipped with battery back up, remove back up battery before proceeding. Disconnect both chassisconnector and coil cord connector. Set voltmeter for DC voltage. Plug lift into outlet.

1) Check for voltage at the power terminals of the circuit board. Turn off key switch and E-Stop switch. Power terminal is S28 and ground terminal is GND. See drawing.

1a) DC voltage at S28 is less than 11 VDC.	a) Extension harness excessive in length. b) Low line voltage. c) Damaged or faulty circuit board.
1b) Voltage is found at the ground terminal.	a) Damaged or faulty motor harness. b) Damaged or faulty circuit board.
1c) Between 11 VDC and 26 VDCfound at S28. Zero volts found at GND	a) Continue to #2.

2) Check for voltage at the terminals of the key switch. Turn the key switch on and and the E-Stop switch off.

2a) No voltage is found on either terminal.	a) Circuit board is damaged.
2b) Voltage is found only on one of the two key switch terminals.	a) Ignition key switch is faulty.
2c) Voltage is found at both sides of the key switch.	a) Continue to step 3.

3) Check voltages at the chassis harness. Turn on the ignition key and turn off the E-Stop. Disconnect the chassis harness. Check voltage of pin 6 and pin 1 of chassis connector on the circuit board.

3a) Voltage at pin 6 does not exist or is less than 11 volts DC.	a) Circuit board is damaged.
3b) Voltage at ground pin 1 is not zero.	a) Circuit board is damaged. b) Ground on motor harness damaged or connected improperly.
3c) Voltage at pin 6 is between 10 and 12 VDC, voltage at pin 1 is zero.	a) Continue to step 4.

4) Plug in Chassis harness. Turn on ignition key, turn off E-Stop switch. Check voltages at pin 1 and 6 of the chassis harness. This may require the use of a sharp probe to pierce the insulation of the corresponding wires.

4a) Pin 6 is not between 10 and 12 VDC.	a) Damaged or shorted chassis harness.
4b) Voltage found at pin 1.	a) Circuit board is damaged. b) Ground on motor harness damaged or connected improperly.

LIFT DOES NOT RAISE - AC

1) Plug lift into outlet. Make sure all outriggers are extended and raised. Turn off the E-Stop switch and turn on the ignition key. Wait five seconds for machine to turn on and outrigger lights to light.

1a) Outrigger lights do not turn on.	a) See LIFT DOES NOT TURN ON
1b) Outrigger lights turn on immediately and no five second delay is present.	b) Circuit board is damaged. Replace circuit board.
1c) Fewer than four indicator lights will operate.	a) Indicator light is damaged. b) Chassis harness damaged or incorrectly connected. c) Outrigger limit switch defective or improperly connected.
1d) All four indicator lights turn on five seconds after ignition key is turned on.	a) Continue to step 2.

2) Pull out both E-Stop switches. Activate the common and up switch on the upper control box.

2a) Motor does not run.	a) Continue to step 3.
2b) Motor runs but will not raise.	a) Hydraulic system failure. b) Damaged or improperly connected motor harness. c) Damaged pump solenoid.
2c) Motor attempts to start but machine turns off and then restarts in five seconds	a) Improperly connected or damaged motor harness. b) Improperly connected or damaged coil cord or upper control box. c) Damaged pump solenoid. d) Extension harness excessive in length. e) Low line voltage. f) Damaged pump motor.

3) Open the lid on the lower control box. Check for voltage at the E-Stop switch. Ignition key is turned on E-Stop is pulled out on both the upper and lower box.

3a) No voltage is present at either of the terminals on the E-Stop.	a) Circuit board is damaged. Replace circuit board.
3b) Voltage is present on both terminals of the E-Stop switch.	a) Check for correct operation of upper E-Stop switch. Continue to step 4.
3c) Voltage is only present at one side of the E-Stop switch.	a) Replace E-Stop switch in whole or in part.

4) Check Circuit board lift circuit. Place voltmeter probe at lift terminal S26 at the upper right hand side of the circuit board. See drawing(Page 3-5). Activate the common and up switch on the upper control box.

4a) When up button is pressed, 10-12 VDC is not present at pin S26.	a) Improperly connected or damaged coil cord or upper control control box. b) Improperly connected or damaged chassis harness. c) Damaged circuit board.
4b) When up button is pressed, 10-12 VDC is present at pin S26.	a) Continue to step 5.

5) Set voltometer for AC voltage. Place one probe of the voltometer on -120 and the other probe on motor. See drawing(Page 3-5). Plug the lift into an outlet. Set outriggers, turn on ignition key, and pull out both E-Stops. Press the common and up switches on the upper control box.

5a) Line voltage is found between -120 and motor.	a) Damaged or improperly connected motor harness. b) Damaged motor.
5b) Line voltage is not found between -120 and motor.	a) Circuit board damaged.

LIFT DOES NOT LOWER - AC

1) Lift will raise but will not lower. Turn on key switch, pull out both upper and lower E-Stops. Press the common and down push buttons on the upper control box.

1a) Lift turns off and restarts in five seconds	a) Low line voltage. b) Extension harness excessive in length. c) Improperly connected or damaged motor harness. d) Improperly connected or damaged coil cord or upper control box. e) Damaged down solenoid.
1b) Outrigger lights turn on immediately and no five second delay is present.	a) Continue to step 2.

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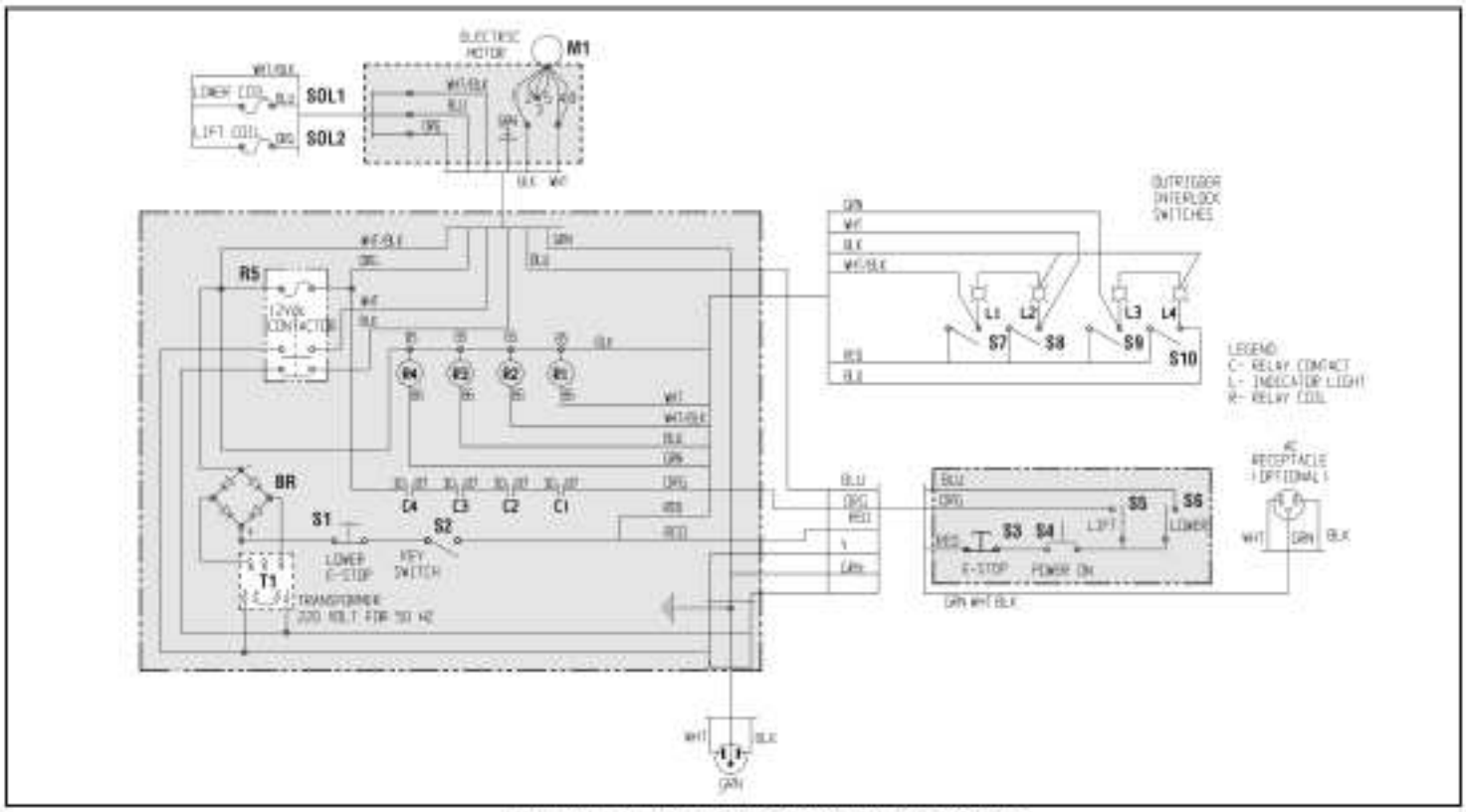


Figure 4-1: Electrical Schematic, AC Models

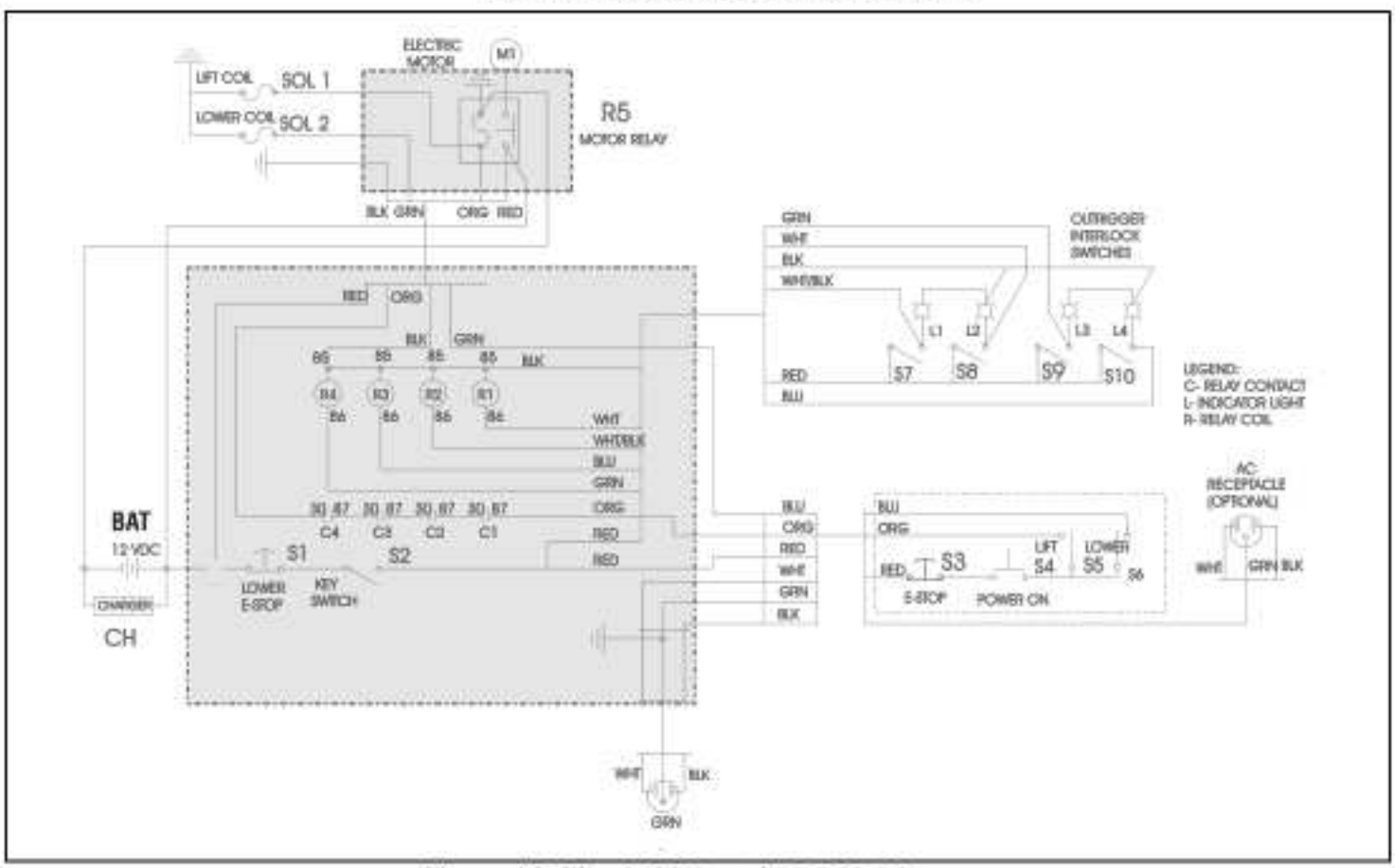


Figure 4-2: Electrical Schematic, DC Models

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OPERATION MANUAL

WARNING

All personnel shall carefully read, understand and follow all safety rules and operating instructions before operating or performing maintenance on any Snorkel aerial work platform.

Safety Rules

Electrocution Hazard



THIS MACHINE IS NOT INSULATED!

Tip Over Hazard



NEVER elevate the platform unless all four (4) outriggers have been properly installed.



NEVER elevate the platform without first leveling the base.



NEVER attempt to push the Snorkel Lift with people or materials on the platform or with the platform elevated.

Collision Hazard



NEVER position the platform without first checking for overhead obstructions or other hazards.

Fall Hazard



NEVER climb, stand, or sit on platform guardrails or midrail.

THIS MACHINE IS FOR INDOOR USE ONLY! Do not use out of doors.

USE OF THE AERIAL WORK PLATFORM: This aerial work platform is intended to lift persons and his tools as well as the material used for the job. It is designed for repair and assembly jobs and assignments at overhead workplaces (ceilings, cranes, roof structures, buildings etc.). All other uses of the aerial work platform are prohibited!

THIS AERIAL WORK PLATFORM IS NOT INSULATED! For this reason it is imperative to keep a safe distance from live parts of electrical equipment! DO NOT get closer than the minimum distance recommended by the "National Regulations".

Exceeding the specified permissible maximum load **is prohibited!** See "Special Limitations" on page 4 for details.

The use and operation of the aerial work platform as a lifting tool or a crane (lifting of loads from below upwards or from up high on down) **is prohibited!**

NEVER exceed the manual force allowed for this machine. See "Special Limitations" on page 4 for details.

DISTRIBUTE all platform loads evenly on the platform.

NEVER operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps, curbs, or debris; and avoiding them.

OPERATE machine only on surfaces capable of supporting outriggers.

IN CASE OF EMERGENCY push EMERGENCY STOP switch to deactivate all powered functions.

Climbing up the railing of the platform, standing on or stepping from the platform onto buildings, steel or prefab concrete structures, etc., **is prohibited!**

Dismantling the entry gate or other railing components **is prohibited!** Always make certain that the entry gate is closed and securely locked!

It is prohibited to keep the entry gate in an open position (held open with tie-straps) when the platform is raised!

To extend the height or the range by placing of ladders, scaffolds or similar devices on the platform **is prohibited!**

NEVER perform service on machine while platform is elevated without blocking elevating assembly.

INSPECT the machine thoroughly for cracked welds, loose or missing hardware, hydraulic leaks, loose wire connections, and damaged cables or hoses before using.

VERIFY that all labels are in place and legible before using.

NEVER use a machine that is damaged, not functioning properly, or has damaged or missing labels.

To bypass any safety equipment **is prohibited** and presents a danger for the persons on the aerial work platform and in its working range.

NEVER charge batteries near sparks or open flame. Charging batteries emit explosive hydrogen gas.

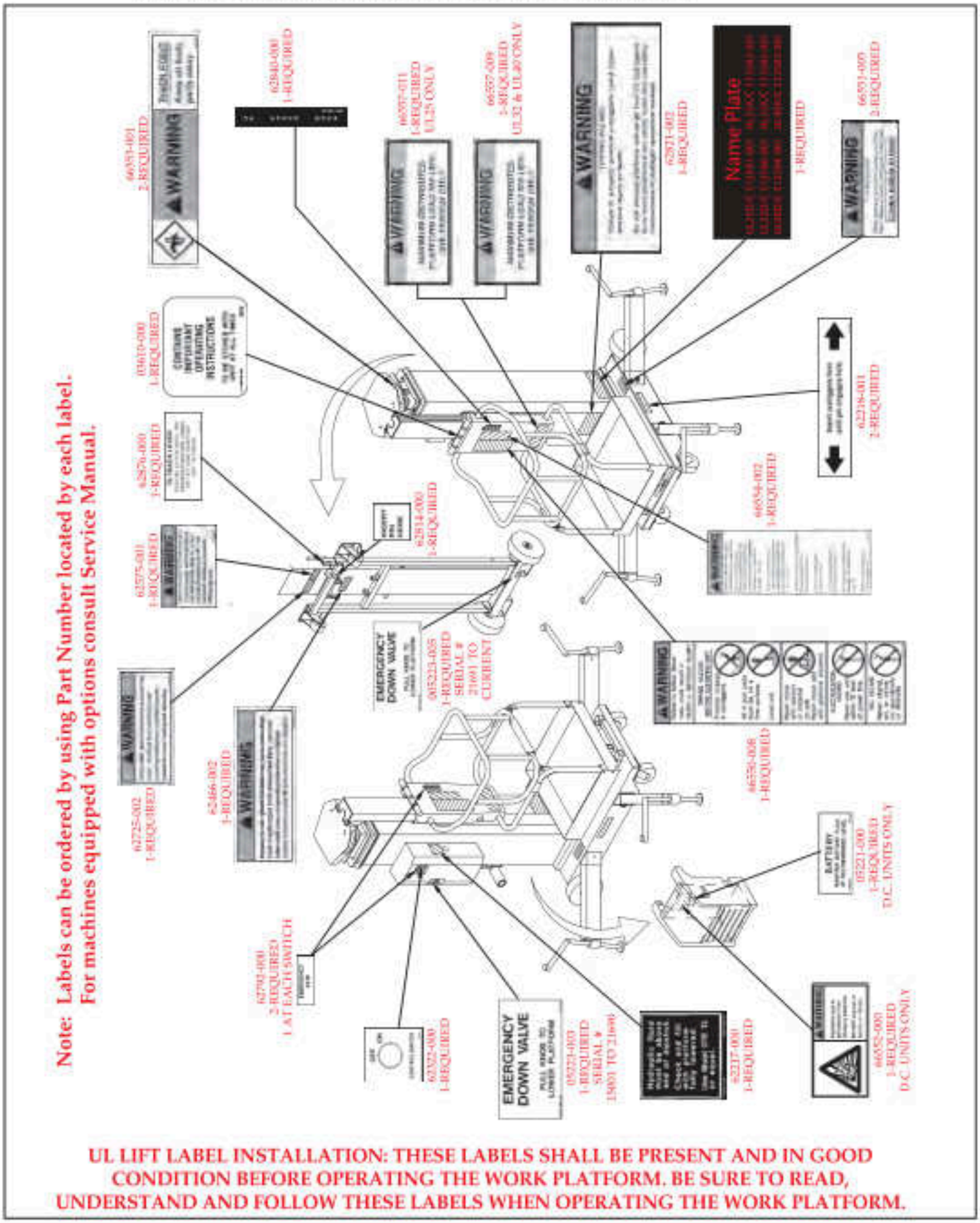
Modifications to the aerial work platform **are prohibited** or permissible only at the approval by Snorkel.

AFTER USE, secure the work platform from unauthorized use by turning keyswitches off and removing key.

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LABELS

These labels shall be present and in good condition before operating the work platform. Be sure to read, understand and follow these labels when operating the work platform.



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