

# Operator Manual

## SL-20D

SERIAL NO. 4300 TO CURRENT

### WARNING

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

## SAFETY RULES



**NEVER** operate the machine within ten feet of power lines. **THIS MACHINE IS NOT INSULATED.**



**NEVER** elevate the platform or drive the machine while elevated unless the machine is on firm level surface.



**NEVER** sit, stand or climb on guardrail or midrail.

**NEVER** operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps and debris before operating machine.

**NEVER** operate the machine if all guardrails are not properly in place and secured with all fasteners properly torqued.

**SECURE** chain or gate across entrance after mounting platform.

**NEVER** use ladders or scaffolding on the platform.

**NEVER** attach overhanging loads or increase platform size.

**LOOK** up, down and around for overhead obstructions and electrical conductors.

**DISTRIBUTE** all loads evenly on the platform. See the back cover for maximum platform load.

**NEVER** use damaged equipment. (Contact UpRight for instructions. See toll free number on back cover.)

**NEVER** change operating or safety systems.

**INSPECT** the machine thoroughly for cracked welds, loose hardware, hydraulic leaks, damaged control cable, loose wire connections and wheel bolts.

**NEVER** climb down elevating assembly with the platform elevated.

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

**NEVER** recharge batteries near sparks or open flame; batteries that are being charged emit highly explosive hydrogen gas.

**AFTER USE** secure the work platform against unauthorized use by turning key switch off and removing key.

**NEVER** replace any component or part with anything other than original UpRight replacement parts without the manufacturers consent.

## Introduction

This manual covers the SL-20D Series Work Platforms. Some options may not be addressed but are fully explained as to function on the appropriate label on the machine. **This manual must be stored on the machine at all times.**

## Pre-Operation and Safety Inspection

Read, understand and follow all safety rules and operating instructions and then perform the following steps each day before use.

1. Open module covers and inspect for damage, oil leaks or missing parts.
2. Check the level of the hydraulic oil with the platform fully lowered. Oil should be visible on the dipstick (Figure 1). Add ISO #46 hydraulic oil if necessary.
3. Check that fluid level in the batteries is correct (See Battery Maintenance, page 6).
4. Verify batteries are charged.
5. Check that A.C. extension cord has been disconnected from charger.
6. Check that all guardrails are in place, the slideout deck extension is properly secured and all fasteners are properly tightened.
7. Carefully inspect the entire work platform for damage such as cracked welds or structural members, loose or missing parts, oil leaks, damaged cables or hoses, loose connections and tire damage.
8. Move machine, if necessary, to unobstructed area to allow for full elevation.
9. Turn Chassis and Platform Emergency Stop Switches ON (Figure 1) by pulling the button out.
10. Turn the Chassis Key Switch (Figure 1) to **CHASSIS**.
11. Push Chassis Lift Switch (Figure 1) to **UP** position and fully elevate platform.
12. Visually inspect the elevating assembly, lift cylinder, cables and hoses for damage or erratic operation. Check for missing or loose parts.

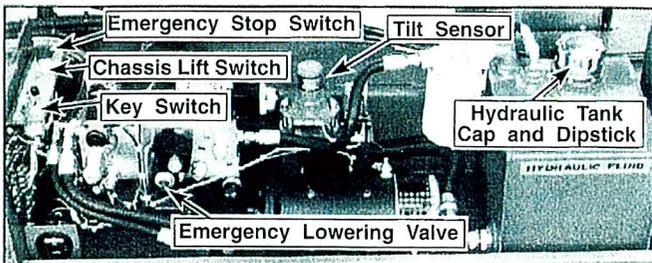


Figure 1: Chassis Control Module

13. Check Level Sensor (Figure 1) operation by pushing the Chassis Lift Switch to **LIFT** while another person pushes the sensor off of level, the alarm should sound.
14. Partially lower the platform by pushing Chassis Lift Switch to **DOWN**, and check operation of the audible lowering alarm.
15. Open the Chassis Emergency Lowering Valve (Figure 1) to check for proper operation by pushing in on the knob and turning ¼ turn counterclockwise. Once the platform is fully lowered, close the valve pushing in on the knob and turning ¼ turn clockwise until the detent engages.
16. Turn the Chassis Key Switch (Figure 2) to **DECK**.
17. Close and secure module covers.
18. Check that route is clear of persons, obstructions, holes and drop-offs, is level and capable of supporting the wheel loads.
19. Unhook Controller from guardrail. Firmly grasp Controller hanger and Foot Switch together, in such a manner that the Foot Switch can be depressed, while performing the following checks from the ground.

### ⚠ WARNING ⚠

STAND CLEAR of work platform while performing checks.

Protect Controller cable from possible damage while performing checks.

20. Pull Emergency Stop Button out to the ON position.
21. Position Drive/Lift Switch to **DRIVE**.
22. While depressing Foot Switch, slowly push Control Lever to **FORWARD** then **REVERSE** to check for speed and directional control. The farther you push or pull on the Control Lever the faster the machine will travel.
23. Push Steering Switch **RIGHT** then **LEFT** to check for steering control.
24. Push the Emergency Stop Button.
25. Rehook Controller on front guardrail and place Foot Switch on deck.

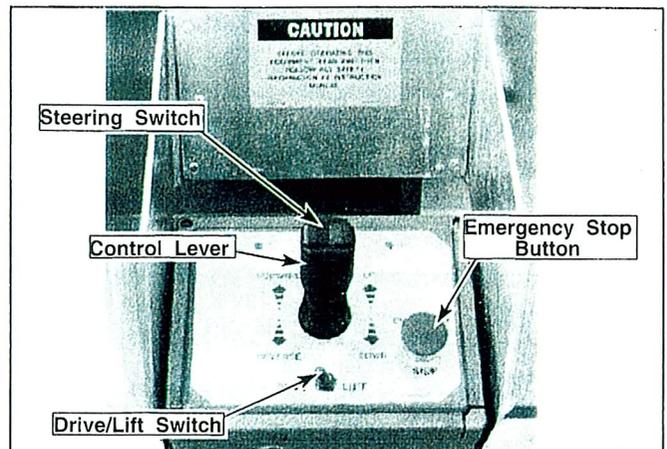


Figure 2: Proportional Controller

## Operation

Before operating work platform ensure that pre-operation and safety inspection has been completed and any deficiencies have been corrected.

### Travel With Platform Lowered

1. Check that route is clear of persons, obstructions, holes and drop-offs, is level and capable of supporting the wheel loads.
2. Verify Chassis Key Switch is turned to **DECK** and the Chassis Emergency Stop Switch is ON, pull button out.
3. After mounting platform latch chain or gate across entrance. Check that guardrails are properly assembled and in position with the Slideout Deck Extension secured with the pins. Hang Controller on front guardrail.
4. Check clearances above, below and to the sides of platform.
5. Pull Controller Emergency Stop Button out to ON position. When button is pushed down, Emergency Stop Switch will automatically go to OFF position.
6. Turn Drive/Lift Switch to **DRIVE**.
7. While depressing Foot Switch, slowly push Control Lever to **FORWARD** or **REVERSE** position to travel in the desired direction. The farther you push or pull on the Control Lever the faster the machine will travel.

### Steering

While depressing the Foot Switch, push the Steering Switch to RIGHT or LEFT to turn wheels in the desired direction. Observe the tires, through the platform grates while maneuvering the work platform, to ensure proper direction.

**NOTE: Steering is not self-centering. Wheels must be returned to straight ahead position by operating Steering Switch.**

### Elevating Platform

1. Position Drive/Lift Switch to **LIFT**.
2. While depressing Foot Switch, push the Control Lever slowly forward to raise the platform, increasing the Control Lever angle increases the lift speed.
3. The Tilt Alarm will sound if the machine is not level when any function is activated. **If the Tilt Alarm does sound the machine must be moved to a level location before attempting to re-elevate the Platform.**

### Travel With Platform Elevated

**NOTE: Work platform will travel at reduced speed when platform is elevated.**

1. Check that route is clear of persons, obstructions, holes and drop-offs, is level and capable of supporting the wheel loads.
2. Check clearances above, below and to the sides of platform.
3. Position Drive/Lift Switch to **DRIVE** position.
4. While depressing Foot Switch, push Control Lever to **FORWARD** or **REVERSE** for desired direction of travel.
5. The Tilt Alarm will sound if the machine is not level when any function is activated. **If the Tilt Alarm does sound stop the machine and lower the Platform immediately.**

### Lowering Platform

1. Position Drive/Lift Switch to **LIFT**.
2. While depressing Foot Switch, pull back on the Control Lever.

### Emergency Lowering

#### **WARNING**

If the platform should fail to lower, **NEVER** climb down the elevating assembly.

Ask a person on the ground to open the Emergency Lowering Valve (See Figure 1) to lower the platform. This valve is located through the cutout in the Chassis Module cover on the left hand side of the chassis.

1. Open the Emergency Lowering Valve by pushing in on the knob and turning ¼ turn counterclockwise.
2. To close, push in on the knob and turn ¼ turn clockwise until the detent engages.

Once the platform is fully lowered, be certain that the Emergency Lowering Valve is closed again. The platform will not elevate if the Emergency Lowering Valve has not been closed.

### After Use Each Day

1. Ensure that the platform is fully lowered.
2. Park the machine on level ground, preferably under cover, secure against vandals, children or unauthorized operation.
3. Turn the Key Switch to **OFF** and remove the key to prevent unauthorized operation.

## Fold Down Guardrails (Figure 3)

This procedure is only for the purpose of passing through doorways. **Guardrails must be returned to proper position before using the work platform.**

### Fold Down Procedure

1. Remove Controller from front guardrail and lay it on the platform deck.
2. Secure Deck Extension with retaining pins.
3. Remove retaining pin at right side of top rear guardrail and rotate guardrail into position along top left guardrail and pin in place.
4. Remove retaining pin at left side of top front guardrail and rotate guardrail into position along top right guardrail and pin in place.
5. Lift up on top left deck extension guardrail until slots disengage from pins and fold guardrail in. Repeat for outer left guardrail.
6. Lift up on top right deck extension guardrail until slots disengage from pins and fold guardrail in. Repeat for outer right guardrail.

### Erection Procedure

1. Raise the top right guardrail and push down to engage pins with slots. Repeat for deck extension guardrail.
2. Raise the top left guardrail and push down to engage pins with slots. Repeat for deck extension guardrail.
3. Remove retaining pin securing top rear guardrail to top left guardrail and swing top rear guardrail into place across rear of work platform and pin to top right guardrail.
4. Remove retaining pin securing top front guardrail to top right guardrail and swing top front guardrail into place across front of work platform and pin to top left guardrail.
5. Rehook Controller over top front guardrail.

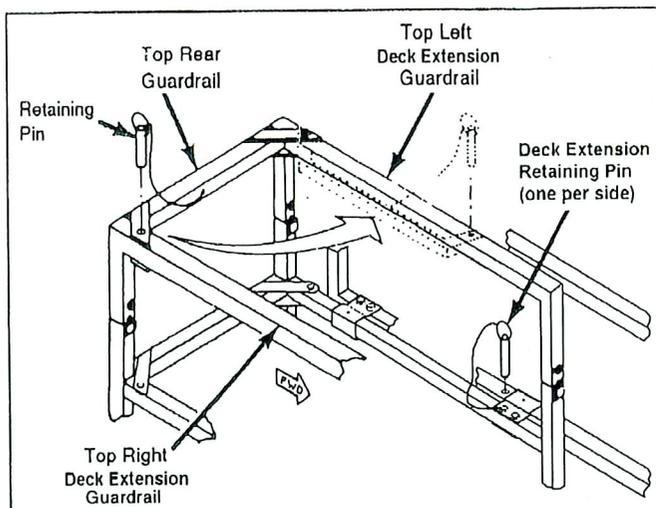


Figure 3: Fold Down Guardrails with Deck Extension

## Transporting Work Platform

### By Forklift

NOTE: Forklifting is for transporting only.

### CAUTION

See specifications for weight of work platform and be certain that forklift is of adequate capacity to lift platform.

Forklift from the side by lifting under Chassis Modules (Figure 4).

### By Truck

1. Maneuver the work platform into transport position and chock wheels.
2. Secure the work platform to the transport vehicle with chains or straps of adequate load capacity attached to the chassis tie down lugs (Figure 4).

### CAUTION

Tie down lugs are not to be used to lift work platform.  
Over-tightening of chains or straps through tie down lugs may result in damage to work platform.

3. Open Chassis Emergency Lowering Valve.

### By Crane

1. Install straps through guardrails under the midrail.
2. Secure straps to Chassis Lifting Lugs only (Figure 4).

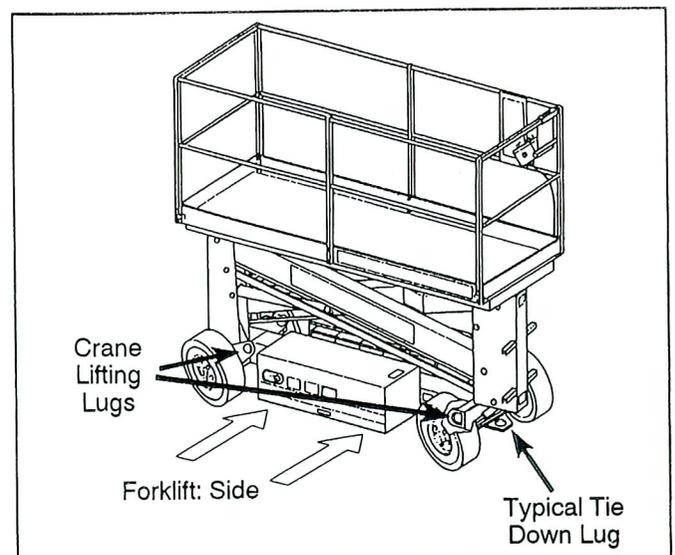


Figure 4: Transporting Work Platform

# Maintenance



**DANGER**



Never perform service on the work platform while platform is elevated without first blocking the Elevating Assembly.

DO NOT stand in Elevating Assembly area while installing or removing jack stand.

## Blocking Elevating Assembly (Figure 5)

Use a minimum one ton capacity jack stand to block Elevating Assembly.

### Installation

1. Park the work platform on firm, level ground.
2. Open Control Panel cover on the Control Module.
3. Position Chassis Lift Switch to **UP** and elevate platform approximately four feet (1.2 m).
4. Place the jack stand between the lower boom and Chassis just behind the front crossmember. Be careful not to place it on a hydraulic hose.
5. Push Chassis Lift Switch to **DOWN** position and gradually lower platform until lower boom is supported by the jack stand.

### Removal

1. Push Chassis Lift Switch to **UP** position and gradually raise platform until jack stand can be removed.
2. Remove jack stand.
3. Push Chassis Lift Switch to **DOWN** position and completely lower platform.
4. Close Control Module cover.

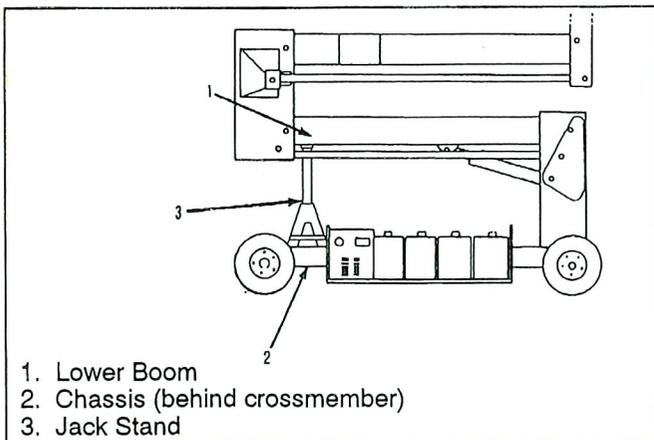


Figure 5: Blocking Elevating Assembly

## Routine Service

Use the following table as a guide for routine maintenance, refer to the Service Manual for complete service instructions.

SERVICE OPERATION	INTERVAL					
	Daily	Weekly	Monthly or 50 Hrs.	6 Months or 250 Hrs.	Yearly or 500 Hrs.	2 Years or 1000 Hrs.
Clean entire work platform	X					
Check battery fluid level	X					
Charge batteries	X					
Check tires for damage	X					
Check lug nuts/bolts	X					
Check Hydraulic Fluid Level	X					
Check for peeling, faded or missing labels & replace	X					
Check deck and guardrail fasteners for proper torque	X					
Inspect elevating assembly for bends or cracking	X					
Check for & repair collision damage	X					
Check emergency lowering valve operation	X					
Lubricate entire work platform		X				
Check electric motor brushes			X			
Check pivot pin snap rings			X			
Change hydraulic filter				X		
Check all fasteners for proper torque				X		
Grease wheel bearings					X	
Change hydraulic fluid						X

## Battery Maintenance

### **WARNING**

Hazard of explosive gas mixture. Keep sparks, flame and smoking materials away from batteries.

Always wear safety glasses when working with batteries.

Battery fluid is highly corrosive. Rinse away any spilled fluid thoroughly with clean water.

Always replace batteries with UpRight batteries or manufacturer approved replacements weighing 62 lbs. each.

Check battery fluid level daily (Figure 6), especially if work platform is being used in a warm, dry climate.

If electrolyte level is lower than  $\frac{3}{8}$  in. (10 mm) above plates add distilled water only. DO NOT use tap water with high mineral content it will shorten battery life.

Keep terminals and tops of batteries clean.

Refer to the Service Manual to extend battery life and for complete service instructions.

## Battery Charging

Charge batteries at end of each work shift or sooner if batteries have been discharged.

### **WARNING**

Charge batteries in a well ventilated area.

Do not charge batteries when the work platform is in an area containing sparks or flames.

Permanent damage to batteries will result if batteries are not immediately recharged after discharging.

Never leave charger operating unattended for more than two days.

Never disconnect cables from batteries when charger is operating.

Keep charger dry.

1. Check battery fluid level (Figure 6). If electrolyte level is lower than  $\frac{3}{8}$  in. (10 mm) above plates add distilled water only.
2. Connect plug to properly grounded outlet of proper voltage and frequency.
3. Charger turns on automatically after a short delay.
4. Charger turns off automatically when batteries are fully charged.

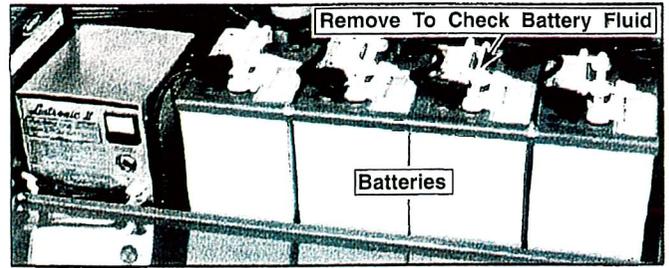


Figure 6: Chassis Power Module, Left Side

## Lubrication (Figure 7)

### Linkage Gears

1. Raise platform fully.
2. Using another work platform or a free standing ladder get up high enough to comfortably reach gears.
3. Use a long handled brush to apply multi-purpose grease to the face of the gears.

### **WARNING**

DO NOT use hands to apply grease or allow any body part to enter the elevating assembly.

4. Lower the platform after greasing.

### King Pins

Apply one or two drops of motor oil to each king pin bearing.

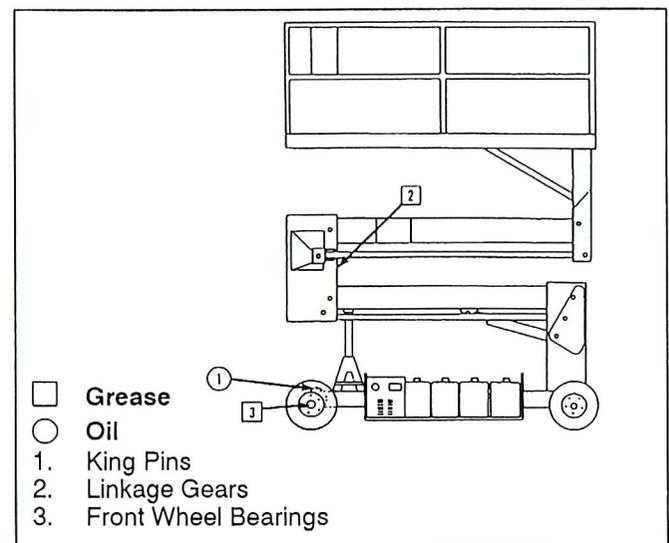
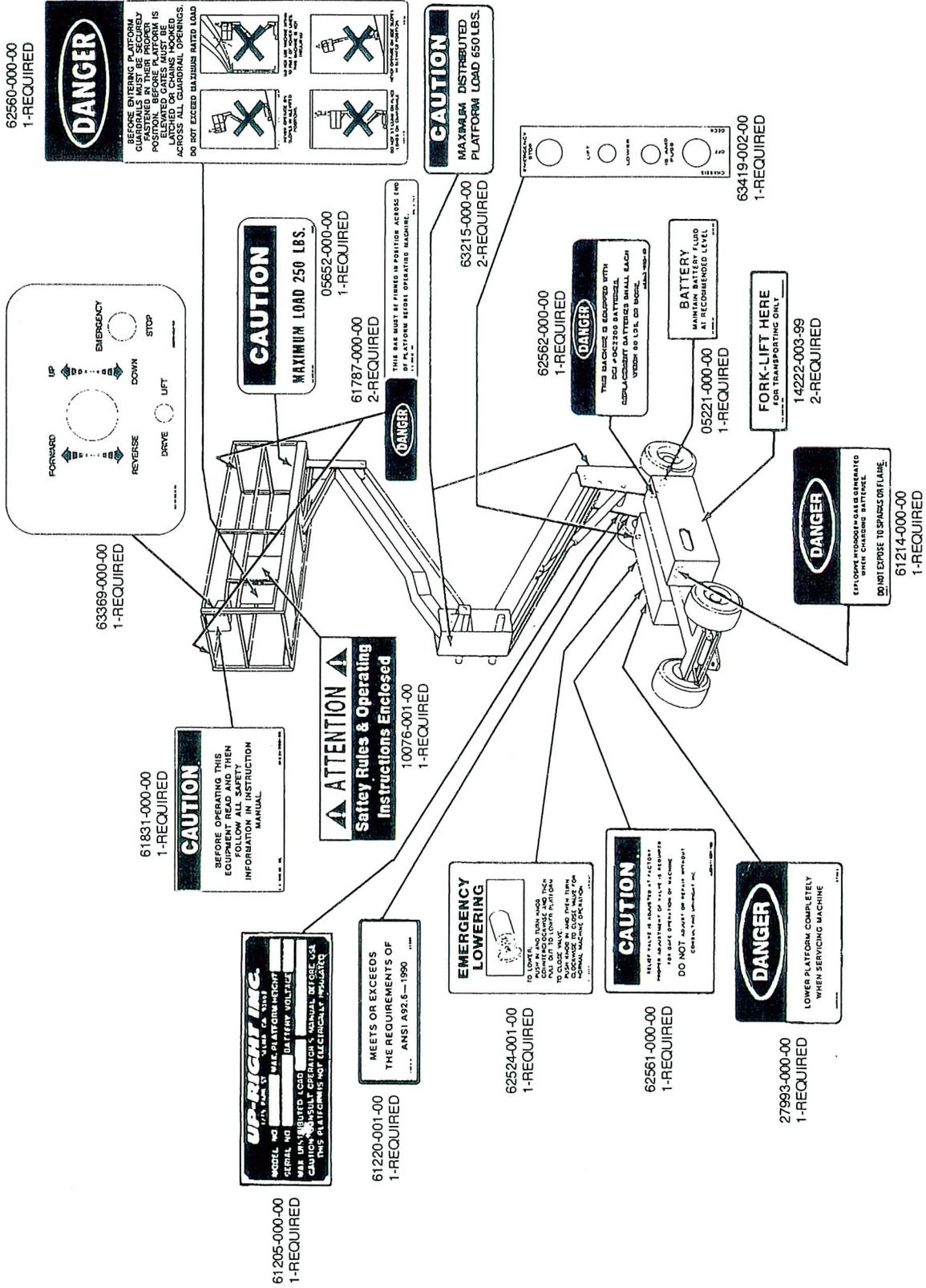


Figure 7: Lubrication Points

**NOTE: Labels can be ordered by using Part Number located by each label. For machines equipped with options consult the Service Manual.**



**SL-20 LABEL INSTALLATION: 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.**

# Specifications\*

ITEM	SL-20
<b>Platform Size</b> Standard w/ Deck Extension Optional w/o Deck Extension	30" x 98 [762 mm x 3.21 m] Inside Toeboards 30" x 94 1/2" [762 mm x 2.4 m] Inside Toeboards
<b>Max. Platform Capacity</b> Standard w/ Deck Extension w/o Deck Extension w/ Cantilever Cage on Cage/Extension	650 lbs. [295 kg] 750 lbs. [340 kg] 550 lbs. [250 kg] 250 lbs. [110 kg]
<b>Max. No. of occupants</b> w/ Cantilever Cage or Deck Ext. on Cage/Extension w/o Deck Extension	2 People 1 Person 3 People
<b>Height</b> Working Height Max. Platform Height Min. Platform Height	26 ft. [7.92 m] 20 ft. [6.09 m] 47 in. [1.19 m]
<b>Dimensions</b> Weight Overall Width Overall Height Overall Length	3,205 lbs. [1454 kg] 32 1/2 in. [83 m] 93 3/4 in. [2.38 m] 98 1/2 in. [2.5 m]
<b>Driveable Height</b>	20 ft. [6.1 m] Standard
<b>Surface Speed</b> Platform Lowered Platform Raised	0 to 2 mph [0 to 3.22 kph] 0 to .6 mph [0 to .97 kph]
<b>Energy Source</b>	24 Volt Battery Pack (4-220 Amp Hour, 6 Volt Batteries, Min. Wt. 62 lbs. [28 kg] each), 4 HP DC Electric Motor
<b>System Voltage</b>	24 Volt DC
<b>Battery Charger</b>	25 AMP
<b>Battery Duty Cycle</b>	25% for 8 Hours
<b>Hydraulic Tank Capacity</b>	4 Gallons [15.2 l]
<b>Max. Hydraulic System Pressure</b>	2000 psi [183 bar]
<b>Lift System</b>	Single Lift Cylinder
<b>Drive Control</b>	Proportional
<b>Control System</b> Proportional	Proportional Controller, Toggle Selector Switch, Red Mushroom Emergency Stop, Foot Operated Interlock Switch
<b>Horizontal Drive</b>	Dual Rear Wheel Hydraulic Motors
<b>Tires</b>	16 in. [410 mm] Diameter Solid Rubber
<b>Parking Brake</b>	Spring Applied, Hydraulic Release
<b>Turning Radius</b>	88 in. [2.24 m] Inside
<b>Maximum Gradeability</b>	25%
<b>Wheel Base</b>	73 in. [1.85 m]
<b>Guardrails</b>	43 1/2 in. [1.11 m]
<b>Toeboard</b>	6 in. [152 mm] High

\* Specifications subject to change without notice.

Meets or exceeds all applicable requirements of OSHA and ANSI A92.6-1990

Refer to Service Manual for complete parts and service information.

## FOR MORE INFORMATION

**UpRight**  
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