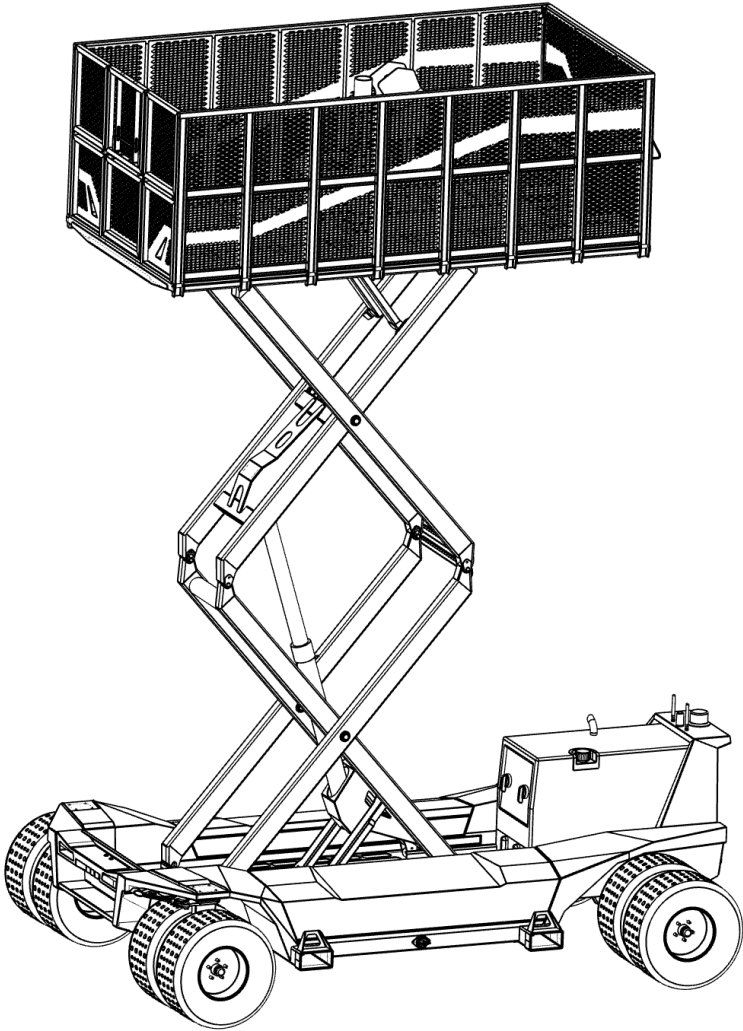


SkyLift 200

EQUIPMENT SAFETY, OPERATION, AND MAINTENANCE



SkyLift | SKL-200

INNOVATECH, LLC | HC 65 PO BOX 218 | KANARRAVILLE, UT 84742

Contents

Document Info	ii	<i>General Operating Procedures</i>	11
InnovaTech Beam Champ System	1	<i>Single Unit Keypad</i>	12
Overview	1	<i>Operation Alarms</i>	13
Safety	2	<i>System Alarm Diagram</i>	13
Operator Qualifications	2	<i>Unit Alarm Diagram</i>	14
Personal Protection Equipment (PPE)	2	Support Arm	15
Lockout	2	Synchronize	15
<i>Lockout Procedures</i>	2	Maintenance	16
Emergency Stop (E-Stop)	2	Access Panels	16
<i>E-Stop Light Patterns</i>	3	Lubrication Maintenance	16
<i>E-Stop Alarm</i>	3	<i>Grease Flange Bearings</i>	16
Supplementary Documents	3	<i>Hydraulic Cylinders</i>	16
Safety Markers	3	Hydraulic Maintenance	17
Hazards	4	<i>Daily Oil Check</i>	17
Job Hazard Analysis (JHA)	4	<i>Hydraulic Oil Filter Replacement</i>	18
Pre-Operation Inspection	4	<i>Hydraulic Oil Change</i>	18
Daily Checklist:	4	Chain Maintenance	19
Modifications	5	<i>Drive Chain Lubrication</i>	19
Job Hazard Analysis (JHA) Form	6	Replacement Parts	19
Nomenclature	7	Service Life	19
Specifications	8	Replacement Manuals, Decals	19
<i>Dimensions, Weight and Capacity</i>	8	Subsystem Equipment Manuals	20
<i>Power Supply</i>	8	Model/Serial	20
Setup	9	Contact Us	21
Hoisting & Relocating	9		
Powering On	9		
Powering Off	9		
Initialization	9		
Connection	9		
Disconnection	9		
Operation	10		
Controls	10		
<i>System Wireless Remote</i>	10		

Document Info

This document contains subject matter to which InnovaTech, LLC, has proprietary rights. Recipients of this document shall not duplicate, use, or disclose information contained herein, in whole or in part, for any use other than the purpose for which this manual was provided.

InnovaTech, LLC, believes the information described in this manual is accurate and reliable. From time to time, design improvements will be made to the InnovaTech SkyLift 200. Photographs, text, and sketches within the body of this manual may not exactly represent your equipment. In general, this manual contains the most up-to-date information available. However, InnovaTech, LLC, cannot accept any responsibility, financial or otherwise, for any consequences arising out of the use of this material. The information contained herein is subject to change, and revisions may be issued to advise of such changes or additions.

InnovaTech, LLC, strives to continually improve their user documentation. If you have any questions or concerns about the content of this service and maintenance guide, we want to hear from you. Please e-mail us at support@innovatechservice.com or contact us by mail at:

INNOVATECH, LLC
TECHNICAL PUBLICATIONS
HC 65 PO BOX 218
KANARRAVILLE, UT, USA 84742

InnovaTech, LLC, is continually improving their equipment to bring you the latest in building system technology. For that reason, your InnovaTech SkyLift 200 may differ slightly from what is described in this document. If you have any questions, please contact us at support@innovatechservice.com.

The InnovaTech, LLC, SkyLift 200 is under US PATENT PENDING protection.

©2021 InnovaTech, LLC. All Rights Reserved.

SkyLift 200

Overview

InnovaTech Panelization System is an industrial equipment solution designed to work in conjunction with other common construction equipment to create a safe and efficient workplace for employees involved in the erection of steel structures.

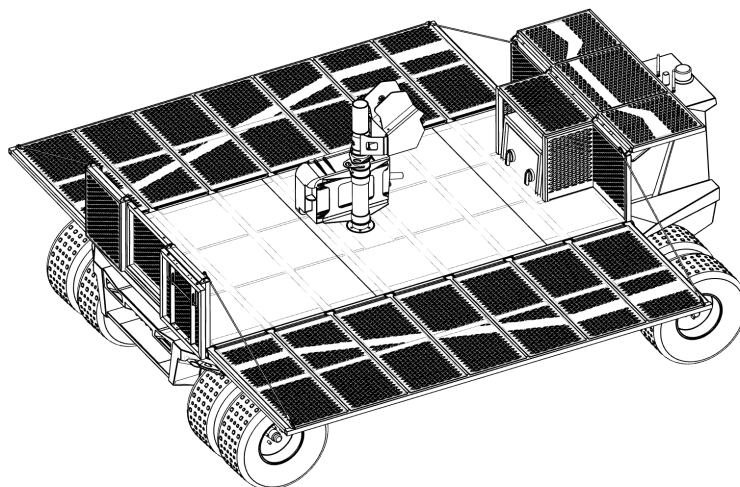
A key piece of equipment involved in the InnovaTech Panelization System is the InnovaTech SkyLift. This mobile elevated work platform equipment is paired with other steel construction equipment and is strategically positioned to streamline the assembly and installation of frameworks and other miscellaneous metal upfits which could not otherwise be installed during panelized module construction at ground level. The SkyLift SKH-200 is designed to increase and improve worker safety and efficiency.

InnovaTech SkyLift

The SKL-200 is to be utilized on unfinished mezzanine levels where standard forklifts, boom lifts, and other extendable or elevated platform equipment access is not possible. Often, as the building construction progresses, additional steel frames and other miscellaneous steel items and upfits must be installed for routing necessary HVAC or other automation equipment before the concrete floors can be poured. The SkyLift is best suited for use in these scenarios within the Controlled Decking Zone where heavy loads and other traffic from must be limited.

Unique Features

- The SKL-200 feature a high flotation all terrain tire system which allows for fully distributed loads on surfaces that limit the amount of weight that can be supported, such as corrugated steel decking material.
- All components above the main frame are constructed of lightweight aluminum material which keeps the center of gravity as low as possible.
- The tie-off points, power, air, and welding reels are located at the center aerial platform pedestal, which rotate around the post, allowing the worker 360° travel around the platform.
- Hydraulic controls are programmed to limit travel speed and height extension when surfaces are detected to be out of level, or if traction is lost.
- To help reduce need for frequent repositioning at heights, The SKL-200 platform rails can be tilted downward to covert to an extended platform floor space and allow safer access to workpieces and discouraging climbing upon and/or leaning over platform rails typical to traditional mobile elevated work platforms.
- LED lighting modules are strategically installed to illuminate work areas and direction of travel.



Safety

This equipment was specifically designed to enhance safety in the steel construction work environment. InnovaTech endeavors to maintain a positive reputation in the industry by preventing accidents and creating a safe, efficient, and productive work environment.

Operator Qualifications

All operators must be trained before operating the SkyLift. Training standards must be approved by InnovaTech. Operators must operate the SkyLift according to ALL appropriate safety regulations. Operator trainees must remain under constant observation and supervision of an experienced operator. Operators must be in good physical and mental condition, with appropriate reflexes, reaction time, vision, depth perception, and hearing.

Operators must read this operators manual completely and carefully to understand the safety instructions and the operation of controls. A brief description of controls, indicators, and instruments are provided as a convenience for the operator. These descriptions DO NOT provide complete operation instructions, and should not be substituted for proper operator training.

Operators must understand and comply with all DANGER, WARNING, and CAUTION notices. (Refer to the Safety Markers section for detailed information on safety marker definitions.)

Operators must have the required training, skills, and tools to perform installation, operation, maintenance, or repair procedures properly and safely. The operator is responsible to operate and maintain the SkyLift (and attachments) according to manufacturer's instructions.

If any doubt or question arises about the correct or safe methods for operating the SkyLift, operators must not proceed until obtaining expert assistance from a qualified person.

Pre-Task Safety Analysis

Although the SkyLift enhances safety and efficiency, it remains important for workers to carefully analyze the work to be performed. Identifying work methods, planning actions, communicating clearly, maintaining a positive attitude, teamwork, and compliance to worksite authority, all contribute to a safe worksite.

Use of the SkyLift should be included in a steel erection pre-task safety analysis at the beginning of each shift. Some topics to consider during pre-task safety analysis may include weather conditions, and site-specific plans. This Equipment Operation and Maintenance Manual provides information needed to safely operate the SkyLift. This manual should be considered an appurtenant part of the SkyLift, and kept in the protective enclosure located with the SkyLift.

Improper operation of the SkyLift is potentially dangerous if safety procedures are not followed. Safety information provided in this manual is a basic guide to improve safety and prevent accidents. InnovaTech LLC cannot foresee every circumstance that might involve a potential hazard. The operator is responsible for safe operation of the SkyLift. Operators must evaluate and verify that the techniques, operating procedures, work methods, and systems are safe and will work for each situation.

The safety of everyone around the SkyLift depends significantly on the operator's knowledge and understanding of all correct and safe operating practices and procedures. Operators can help prevent accidents by recognizing potentially hazardous situations such as keeping fingers and feet away from moving parts or pinch points and ensuring that others working near the SkyLift are clear. Workers who operate the SkyLift or who work close to the SkyLift should remain alert to avoid someone being hit, crushed, or caught by the SkyLift or its parts which could result in death or serious injury.

WARNING

OCCUPANTS OF THE PLATFORM SHOULD NOT EXCEED THE CAPACITY OF THE MAIN PLATFORM AREA AND THE PLATFORM EXTENSION AREAS.

Personal Protection Equipment (PPE)

PPE should be utilized according to the type of work and environmental conditions a worker is exposed to. These items may include reflective vests, gloves, helmets, goggles, face shields, hearing protection, respiratory protection, and fall protection.

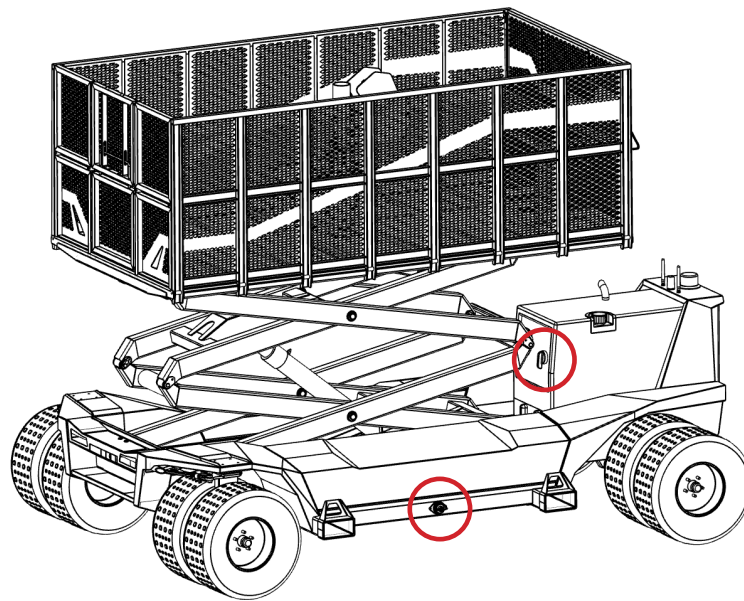
Fall Protection

It is recommended that Personal fall protection equipment be used in addition to the guardrails, and may be required by job site or employer rules. All PPE must comply with applicable governmental regulations and must be inspected and used according to the manufacturer's requirements. Operators must use 100% tie-off at all times while outside of a safety control line where fall protection is required. A personal fall arrest system includes a full body harness and a self-retracting lanyard of 10-ft or less (or 4-ft. shock absorbing lanyard) connected to a designated tie off point.

The SkyLift is designed for use while working/servicing joist or beam connections where the SKL-200 physically could not fall from an edge. There may be some rare instances where the SKL-200 may approach an unprotected leading edge. The SKL-200 DOES NOT feature optical sensors that will automatically stop the SKL-200 if it approaches too close to the edge. The operator should maintain a safe distance of at least 15 feet from an unprotected leading edge where perpendicular structural members are not installed.

Lockout

In accordance with safety protocol and Occupational Safety and Health Administration (OSHA) regulations, Lockout must be used in any cases where SkyLift is unsafe to operate or if it is being serviced or repaired. Lock should be placed at the lockout points on machine (see below), following OSHA standard Lockout procedures. Under no circumstances should operator use the SkyLift if deemed unsafe.



Welder Generator

The SkyLift utilizes a welder generator for the source of power in addition to lowering the center of gravity. The welder generator should weigh no less than 620lbs and be able to provide at least 2400 W (120 V, 20 A) 60 Hz power. Refer to the SkyLift Nomenclature section in this manual for mounting position. This model SkyLift includes an/or equivalent to a MILLER TRAILBLAZER 325 Diesel CV/DC. Refer to the welder generators manufacturer documentation for safety, operation, and maintenance recommendations. Contact InnovaTech for acceptable substitutions.

Weld Wire Feeder

The SkyLift is designed to accommodate a weld wire feeder for efficient welding. Refer to the SkyLift Nomenclature section in this manual for mounting position. All model series SkyLift's include specifications for an/or equivalent to a LINCOLN LN-25 PRO. Refer to the weld wire feeder manufacturer documentation for safety, operation, and maintenance recommendations. Contact InnovaTech for acceptable substitutions.

Hazards

WARNING

Operators must read and understand all DANGER, WARNING, CAUTION, and operating instructions on the machine and in this manual. This equipment cannot be used for any purpose other than positioning personnel, their tools and equipment.

Pre-Operation Inspection Checklist

Perform a pre-operation inspection and functional tests at the beginning of each work shift. Perform the pre-operation inspection first. DO NOT perform the pre-operation inspection with the engine running or hot. Contact with moving or heated parts could cause death or serious injury.

- Perform the pre-operation inspection and functional tests in an open area and away from any other obstacles or equipment. Inspections and functional tests may require assistance. Keep the assistant visible and a safe distance from the SKL-200 to prevent death or serious injury.
- Become familiar with all safety and hazard labels, regulations, and procedures. Make sure all proper safety and hazard labels are attached to the SKL-200 and remain legible.
- A brief description of controls, indicators, and instruments is provided as a convenience for the operator. These descriptions DO NOT provide complete operation instructions.
- Read and understand the entire manual to prevent death, serious injury, or equipment damage.
- Keep fingers and feet away from moving parts or pinch points to prevent pinching or crushing. DO NOT allow anyone between the tires and the SKL-200 frame while operating the SKL-200. Doing so can result in death or serious injury.

Walk around the ENTIRE SKL-200 while visually performing the pre-operation inspection. Some items to check may be:

- Check that "Do Not Operate" tags (lock-out, tag-out) have not been placed on the SKL-200.
- Check that Operation and Safety Manual is in the protective case and legible.
- Check all hydraulic hoses and hose connections for wear or leaks.
- Check for loose or missing bolts and nuts.
- Check electrical connections.
- Check hydraulic reservoir sight gauge for proper fluid level. Add hydraulic fluid, if necessary.
- Check electrical wires and connectors.
- Check cylinders and hydraulic lines for leaks or any other damage.
- Check that all labels are present and legible. Replace any damaged or illegible labels.

Worksite Safety

WARNING

Use proper safety procedures and avoid hazardous situations while operating the SKL-200 to prevent death, serious injury, or property damage.

- Keep the work site clear of any hazards while operating the SKL-200.
- Check the work area for debris, drop-offs, loose soil conditions, and overhead power lines, and temporary bracing.
- Know about underground hazards.
- DO NOT allow bystanders in the work area.
- Follow established site-specific safety plans for erection paths on the work site.
- Follow work site signs and signals.
- Stop for poor visibility conditions, such as dust, smoke, fog, etc. Wait until visibility improves before continuing.
- Operate the SKL-200 in an enclosed area only if there is a ventilation system capable of routing hazardous fumes outside. Engine exhaust contains products of combustion that could cause death or serious injury.
- DO NOT operate the SKL-200 if you are using drugs, alcohol, or any medication that might impair your judgment or ability.
- You must be 18 years of age or older to operate the SKL-200.

WARNING

Check warning indicators and gauges frequently during operation. If a warning indicator is illuminated or a gauge shows abnormal readings, stop use of the SKL-200, follow proper shut down procedures. Follow proper lock-out/tag-out procedures before attempting repairs. Tag the SKL-200 with “Do Not Operate” tags, and have a qualified mechanic service or repair the SKL-200 before placing it into service again. Ignoring warning indicators can result in death, serious injury, or property damage.

Modifications

WARNING

Modifications to the SKL-200 or attachments could affect capacity and/or stability which could result in death or serious injury. DO NOT make modifications to the SKL-200 or attachments without prior written approval from InnovaTech, LLC. Where such authorization is granted, capacity, operation, and maintenance instruction plates, tags, or labels shall be changed accordingly.

- Unauthorized modifications or alterations will void the warranty.
- DO NOT modify, disable, or bypass any safety devices.
- DO NOT burn or drill holes in attachments.

Support Equipment

In conjunction with the SkyLift equipment, workers should adhere to the safety requirements and the proper operation and maintenance of support equipment such as welders, fastening tools, lifting equipment, material handling equipment, and maintaining a realistic understanding of their own physical strength and endurance.

Safety Markers



This is the safety alert symbol. It is used to alert you to the potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

CAUTION

Indicates a potentially hazardous situation. If not avoided, may result in minor or moderate injury. It may also alert against unsafe practices. This decal will have a yellow background.

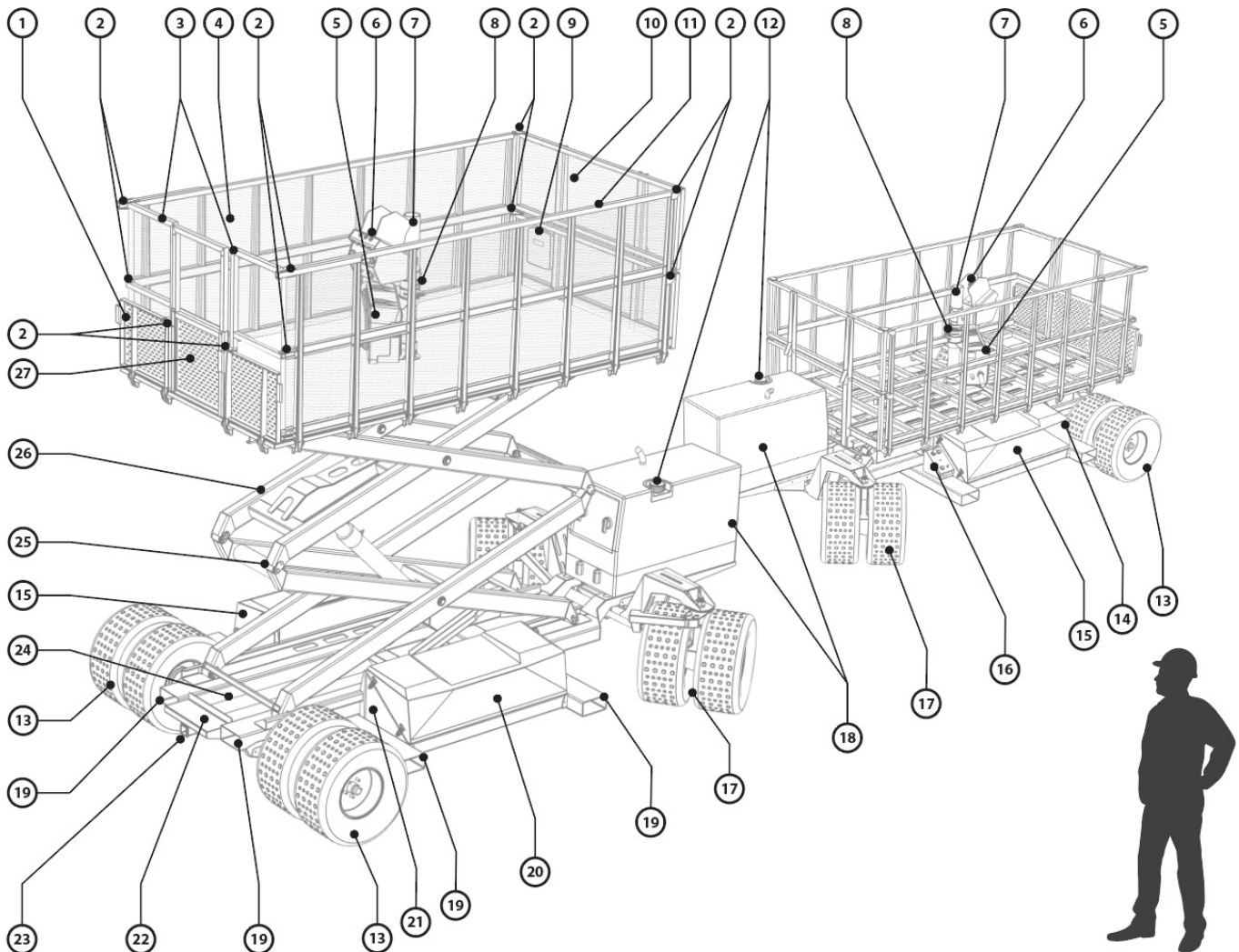
WARNING

Indicates a potentially hazardous situation. If not avoided could result in serious injury or death. This decal will have an orange background.

DANGER

Indicates an imminently hazardous situation. If not avoided, will result in serious injury or death. This decal will have a red background.

Nomenclature

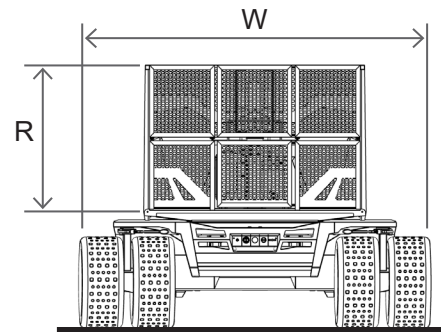
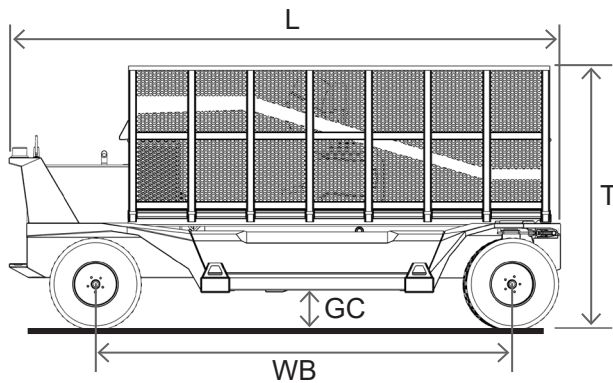


- | | |
|---|--------------------------------------|
| 1. Entrance Platform | 15. Hydraulic System Cover |
| 2. Dropdown Platform/Rail Retention Pins | 16. Ground Controls |
| 3. Folding Entrance Rails | 17. Drive/Steer Wheels |
| 4. Side Dropdown Platform Extension | 18. Welder/Generator |
| 5. Welding Reel | 19. Forklift Pockets |
| 6. Controls (Incl. Power, Air) | 20. Electrical Automation Cover |
| 7. Rotation Pedestal/Accessory Mounting Point | 21. L.O.T.O. Power Disconnect Switch |
| 8. 360° Tie-Off Point (2) | 22. Platform Step |
| 9. Document Storage | 23. Class III Receiver Hitch |
| 10. Bench Platform/Rail Extension | 24. Pneumatic Air Cylinders |
| 11. Platform Guardrail | 25. Safety Arm |
| 12. Welder/Generator Fuel Cap | 26. Scissor Lift Assembly |
| 13. Flotation Axle Wheels | 27. Platform Entry Gate |
| 14. Hydraulic Oil Level Indicator | |

Specifications

Dimensions, weights, and capacities are listed below.

DESCRIPTION	BASE (RAILS UP)	RAILS LOWERED (PLATFORM EXPANDED)
Net Weight	4600 lbs	
System	Electro-Hydraulic, Diesel Generator Power	
Platform Capacity	1000lbs (inside rail area)	250lbs (outside rail area)
Overall Length (L)	173.6in	193.68in
Overall Width (W)	99.79in	144.75in
Overall Height (T)	75in	73in
Platform Raised	Top of Rail 250in (20ft 10in)	
Platform Dimensions	119in X 63in (10ft X 5.3ft) (53 SF)	142in X 145in (11.8ft X 12ft) (142 SF)
Rail Height (R)	50in	
Ground Clearance (GC)	11in	
Wheelbase (WB)	118in	



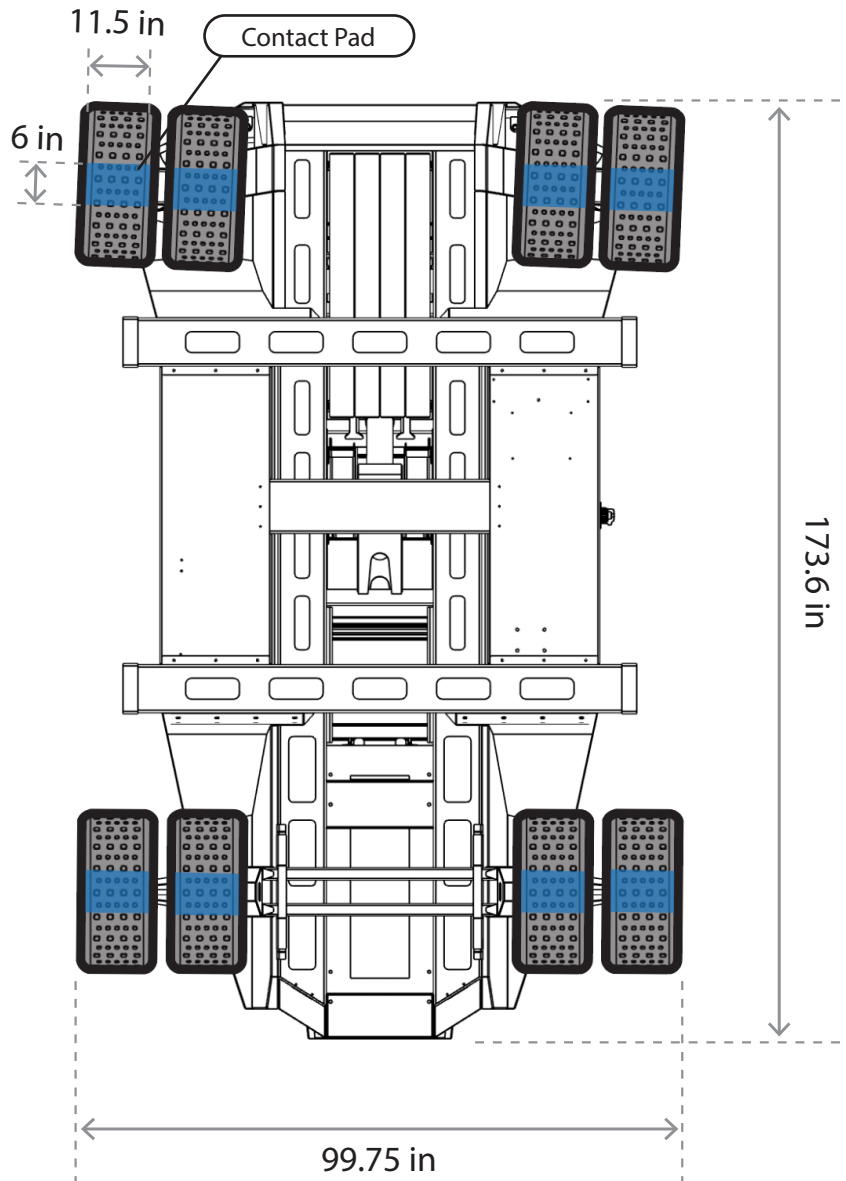
Weight Distribution

The SKYLIFT is intentionally designed with eight 26" diameter pneumatic tires, which are positioned on a wide wheelbase to give it a large weight distribution of 47 lbs/sq ft. This large weight distribution is specifically designed for driving on mezzanine.

The SKYLIFT has a contact weight distribution of 10 lbs per square inch, which is considerably less than the rating of mezzanine concrete and decking floors.

Deck Loading	
Net Weight	4,600 lbs
Max Capacity	1,000 lbs
Total Weight	5,600 lbs
Total Footprint Area	120.25 sq ft
Total Weight/sq ft	46.57 lbs/sq ft

Tire Contact Pad PSI Specifications	
Tire Contact Pad	6 in x 11.5 in
Pad Area	69 sq in
Number of Wheels	8
Total Tire Contact Area	552 sq in
Total Tire Pressure on Deck	10.14 PSI



Operation

Ground Controls

The Ground Controls panel is located on the front, below the second step platform.

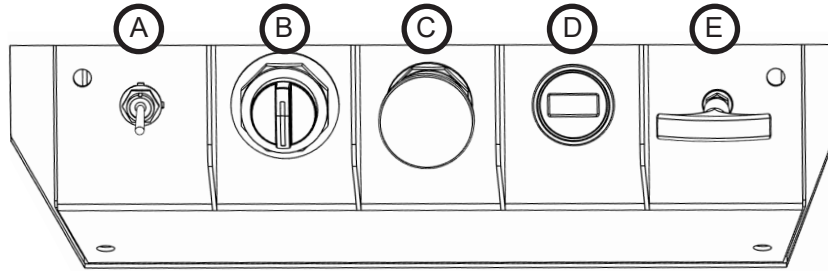


Fig. 1: Ground Control Panel

⚠ WARNING

Observe platform position when raising and lowering the platform at this location. Head injury could occur.

- A. UP/DN Toggle Switch** - Press and hold in the desired direction while the ON/OFF switch is held in the counter-clockwise position to perform the raise/lower functions.

⚠ DANGER

SCISSOR LIFT MECHANISM WILL RETRACT IF LEFT IN RAISED POSITION! ENGAGE SAFETY ARM BEFORE USE!

Re-install the release handle to restore the ability to rebuild hydraulic pressure.

- B. ON/OFF Switch** - Switch to ON position to activate Basket Control. Rotate and HOLD switch counter-clockwise past the OFF position to activate the ground control UP/DN switch to perform raise/lower function.
- C. Emergency Stop** - When pushed down, all control functions will be disabled. Pull out to restore the control functions.
- D. Voltage Meter** - Digital display to assist in monitoring the battery health.
- E. Manual Hydraulic Pressure Release Handle** - When removed, the handle relieves all residual hydraulic fluid pressure.

Platform Controls

The Platform Controls panel is located at the center of the aerial platform on the Rotation Pedestal.

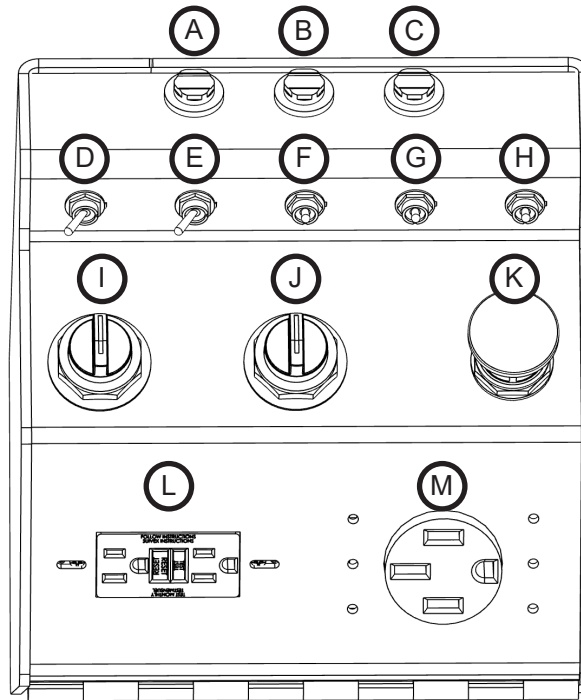


Fig. 2: Platform Control Panel

- A. Low Battery** - When light is active, indicates a low battery or other supporting function at fault.
- B. Deck** - When light is active, it indicates that a sensor has failed or is at fault status.
- C. Temp** - When light is active, indicates that the hydraulic oil is over regular temperature and requires user attention.
- D. Basket/Drive** - Toggle between Drive mode and Raise/Lower mode.
- E. Drive Speed** - Toggle between Fast and Slow Drive Speeds.
- F. Air Auto** - Activates the on-board air-compressor and sets to power on/off automatically to maintain the desired system air pressure.
- G. Base Lights** - Powers on the lower level lighting for illuminating the direction of travel.
- H. Basket Lights** - Powers on the platform level lighting for illuminating the work area.
- I. Horn** - Activates an audible signal to help gain the attention of/or warn others nearby.
- J. Override** - Allows slow temporary movement of functions in case of a fault.
- K. Emergency Stop** - When pushed down, all control functions will be disabled. Pull out to restore the control functions.
- L. 125 V** - Standard Voltage Receptacle to charge or power hand tools.
- M. 125/250** - High Voltage receptacle to power heavy duty equipment.

Drive Controls

The drive controls are located above the platform control panel, at the center of the platform, on the rotation pedestal.

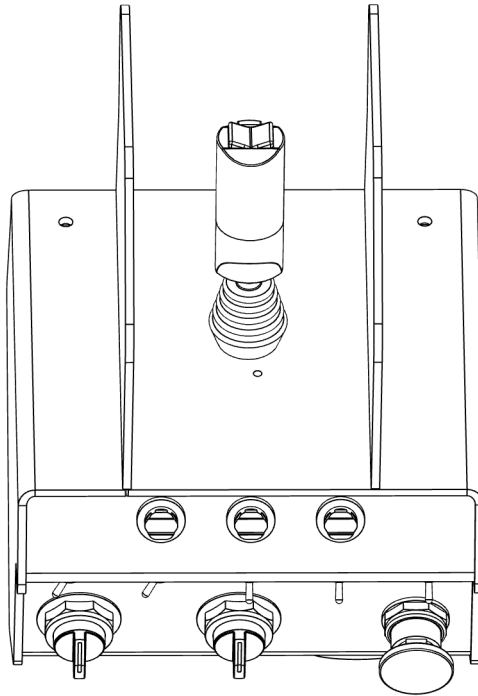


Fig. 3: Joystick Drive Control

1. **Raise/Lower** - To raise or lower the platform, make sure the toggle switch located on the platform control panel is set to the correct position, and push the joystick forward to raise, and backward to lower. Pushing the joystick fully forward/reverse will allow full speed movement.
2. **Forward/Reverse** - To drive in the forward direction or the reverse direction, make sure the toggle switch located on the platform control panel set to the correct position, and push the joystick forward to drive forward, and backward to reverse. Pushing the joystick fully forward/reverse will allow full speed movement.
3. **Steering** - While in drive mode, utilize the toggle switch atop the joystick to steer in the desired direction.

Maintenance

In order to maintain the highest level of safety and operation efficiency, InnovaTech recommends an established service interval. Contact your service representative for recommendations.

Maintenance

Follow the manufacturer's instructions for proper maintenance to make sure the SKL-200 continues to meet manufacturer's specifications. Failure to properly maintain the SKL-200 can result in improper performance, which could cause death, serious injury, or property damage.

- Follow Lock-Out/Tag-Out procedures which include locking out power, relieving energy potential, and attaching "Do Not Operate" tag to the power disconnect switch and controls before beginning any service or maintenance.
- The "Do Not Operate" tags indicate the SKL-200 should not be operated until all service or maintenance is completed.
- **DO NOT** operate the SKL-200 attachment if it requires repair.
- Make sure basic maintenance is completed and service problems are corrected.
- Death or serious injury can result from operating the SKL-200 before all repairs have been made and all proper maintenance is completed.

Service Life

InnovaTech Products and Services are constantly being improved for serviceability and durability. If any portion of the equipment is deemed unsafe, or in poor repair, appropriate procedures should be initiated for repair or replacement. If onsite repairs are necessary, appropriate Lock-Out/Tag-Out procedures must be initiated. SkyLift 200 should not be operated for any length of time if deemed unsafe.

Replacement Manuals, Decals

Replacement manuals and decals for the SkyLift 200 can be obtained by contacting us by phone, mail, or email. Please note the manual part number located on the bottom of each page, or decal number located on the decal, when making requests.

Subsystem Equipment Manuals

The manuals to each of the subsystem equipment specified in this document can be found on our website or from a link to the manufacturers website. Manufacturer documentation may be available for download via these websites. This list may be incomplete. Contact an InnovaTech representative for information on compatible subsystem equipment.

Model/Serial

When contacting our service representatives, please have the SkyLift 200 serial number available. The serial tags are located below the emergency stops opposite the Vertical Jaw Arm.

Contact Us

INNOVATECH, LLC

HC 65 PO BOX 218 | KANARRAVILLE, UT 84742

Email support@innovatechservice.com