

snorkel



S1930E

S1932E

S2632E

CE

OPERATOR **MANUAL**

Part Number 1360417
January 2012

Serial number 00000 and after

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EC DECLARATION OF CONFORMITY FOR MACHINERY

MACHINERY:

Powered Aerial Platform known as:

Type: Snorkel SXXXXXE

Serial Number: SXXXXE-04-XXXXXX

The machine specified above conforms to the following provisions:

Machinery directive 2006/42/EC (using document **EC Community Legislation on Machinery** and taking guidance from EN280:2001 + Amendment A2:2009)

Council Directive 2004/108/EC on Electromagnetic Compatibility

Type approval in accordance with
2006/42/EC performed by:

Powered Access Certification LTD
P. O. Box 98, Windermere
Cumbria, LA23 1WF, UK
Notified Body Identification Number: 0545

E. C. Type Examination Certificate No:



Authorized Representative in
European Union:

The Tanfield Group, PLC
Vigo Centre, Birtley Road
Washington, Tyne & Wear
NE38 9DA, UK

Note: Modification of the specified unit renders this declaration invalid.

SAFETY RULES

⚠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.

Electrocution Hazard



THIS MACHINE IS NOT INSULATED!

Tip Over Hazard



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

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.

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.). Uses or alterations to the aerial work platform must be approved by **Snorkel**.

THIS AERIAL WORK PLATFORM IS NOT INSULATED! Refer to applicable national standards for safe approach distances.

Exceeding the specified permissible maximum load **is prohibited!** See “Platform Capacity” on page 5 for details.

The use and operation of the aerial work platform as a lifting tool or a crane **is prohibited!**

NEVER exceed the manual force allowed for this machine. See “Manual Force” on page 5 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 wheel loads.

NEVER operate the machine when wind speeds exceed this machine’s wind rating. See “Beaufort Scale” on page 6 for details.

Do not operate the aerial platform in windy or gusty conditions. Do not add anything to or take anything into the aerial platform that will increase the wind loading such as billboards, banners, flags, etc.

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

IF ALARM SOUNDS while platform is elevated, STOP, carefully lower platform. Move machine to a firm, level surface.

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!

It is prohibited to keep the entry gate in an open position 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 the keyswitch off and removing key.

The driving of MEWP’s on the public highway is subject to national traffic regulations.

Certain inherent risks remain in the operation of this machine despite utilizing proper design practices and safeguarding.

Care must be taken to ensure that the machines meets the requirements of stability during use, transportation, assembly, dismantling when out of service, testing, or foreseeable breakdowns.

In the event of an accident or breakdown see “Emergency Lowering” on page 14, do not operate the aerial platform if it is damaged or not functioning properly. Qualified maintenance personnel must correct the problem before putting the aerial platform back into service.

Introduction

Introduction

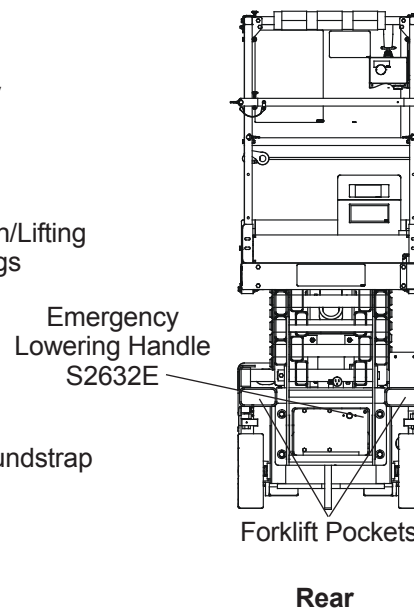
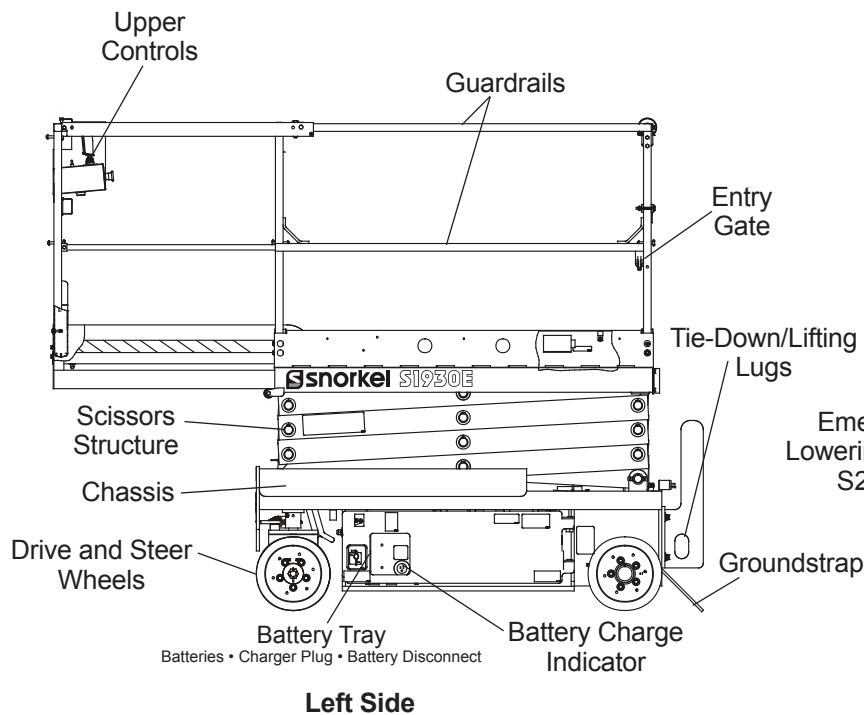
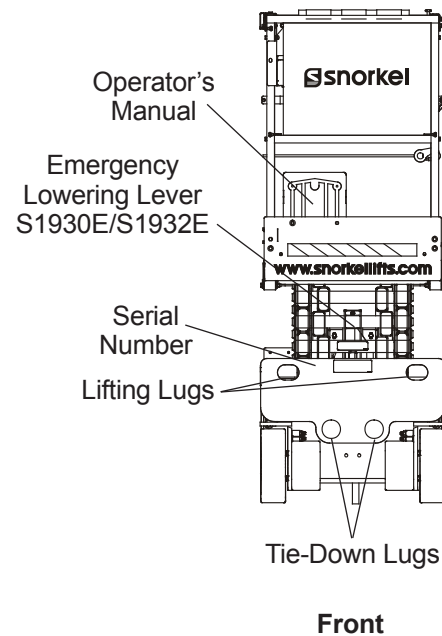
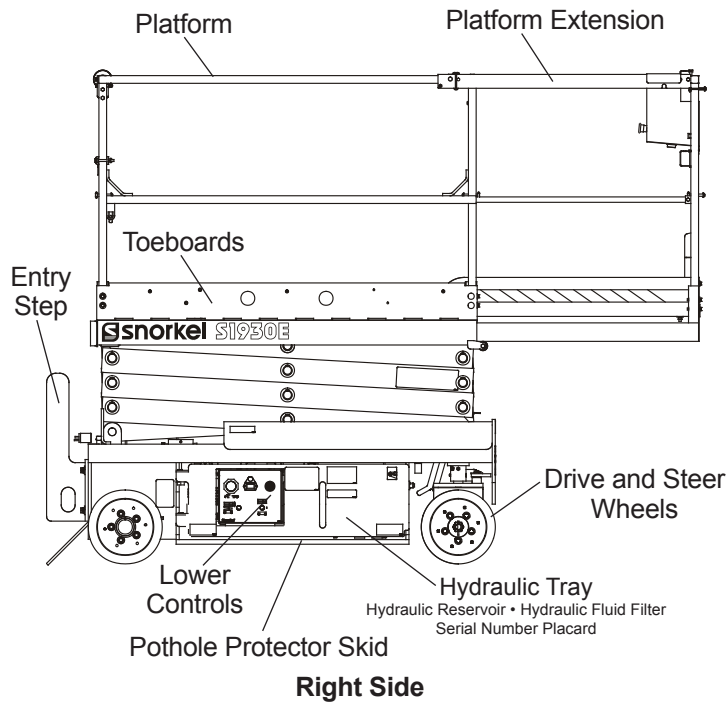
This manual covers the S1930E, S1932E, and S2632E Aerial Work Platforms.

This manual must be stored on the machine at all times.

Read, understand and follow all safety rules and operating instructions before attempting to operate the machine.

When contacting Snorkel for service or parts information, be sure to include the MODEL and SERIAL NUMBERS from the equipment nameplate. Should the nameplate be missing, the SERIAL NUMBER is also stamped on the front of the chassis.

Component Identification



Special Limitations

Travel with the platform raised is limited to creep speed range. Elevating the platform is limited to firm, level surfaces only.

Danger

The elevating function shall ONLY be used when the work platform is level and on a firm surface.

The work platform is NOT intended to be driven over uneven, rough, or soft terrain.

Platform Capacity

The maximum platform capacity for the aerial platform is stated in the "Specifications" on pages 20-22.

Danger

DO NOT exceed the maximum platform capacity or the platform occupancy limits for this machine.

Manual Force

Manual force is the force applied by the occupants to objects such as walls or other structures outside the work platform.

The maximum allowable manual force is limited to 222 N (50 lbs) for S1932E machines. S1932E machines may be operated in windy conditions up to 12.5 m/s (28 mph).

The maximum allowable manual force is limited to 445 N (100 lbs) for S1930E and S2632E machines. S1930E and S2632E machines may be operated in zero wind conditions only.

Danger

DO NOT exceed the maximum amount of manual force for this machine.

Drive/Lift Pothole Protector Interlock

The aerial platform drive and lift functions are interlocked through a limit switch inside the chassis that senses whether or not the pothole protection linkage is locked into position. The drive/lift pothole interlock operates when the platform is elevated approximately 1.8 m (6').

If an obstruction under the skids, or some other impairment prevents the skids from locking into position, the drive and lift functions will not operate and an alarm will sound.

Lower the platform and remove the obstruction when the drive/lift pothole protector interlock alarm sounds.

Drive/Lift Level Sensor Interlock

The aerial platform drive and lift functions are interlocked through a level sensor system. The drive/lift level sensor interlock operates when the platform is elevated approximately 1.8 m (6').

If the chassis is tilted too far out of level, the drive and lift functions will not operate and an alarm will sound. Refer to the machine specifications for the level sensor factory setting.

Lower the platform and drive to a level surface when the drive/lift level sensor alarm sounds.

The drive/lift level sensor system is for added protection and does not justify operating on anything other than firm, flat, level surfaces.

Lowering Alarm

When the joystick is moved out of neutral to lower the platform, the alarm emits a loud beeping sound to warn personnel in the work area to stand clear.

Danger

Pinch points exist on the scissors structure. Death or serious injury will result if the scissors structure lowers onto personnel within the scissors arms or under the raised platform. Stand clear while raising and lowering the platform.

Be careful when lowering the platform. Keep hands and fingers away from the scissors structures components.

Lowering Interrupt

When the platform is lowered to about 1.5 m (5') lowering stops. The platform will not lower for five seconds regardless of the control position to allow personnel to clear the area of the scissors before the platform completely lowers.

Center the control in neutral to reset the lowering function, then continue to lower the platform.

Overload Protection

When the load in the platform is near or at rated capacity, an alarm will sound and the red light on the upper controls will flash.

The alarm and light warn the operator that the platform is close to becoming overloaded. All functions remain fully operational.

Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not exceed the capacity values indicated on the platform rating placard.

If the platform is fully lowered and is overloaded, when it is elevated just past 1.8 m (6'), a control module will stop the lift and drive functions and the alarm will sound and the warning light will flash. The platform can still be lowered to remove the excess load.

If the platform is elevated just past 1.8 m (6') and material is added to the platform overloading it, a control module will stop the lift, drive and lower functions and the alarm will sound and the warning light will flash. In this case, remove the load in excess of rated capacity and cycle the emergency stop button at the upper controls to return to normal operation.

Special Limitations

Beaufort Scale

Never operate an S1932E machine when wind speeds exceed 12.5 m/s (28 mph) [Beaufort scale 6]. Refer to Figure 1.

Never operate an S1930E or an S2632E machine outdoors, or indoors in any location where anything other than zero wind speeds exist.

BEAUFORT RATING	WIND SPEED				GROUND CONDITIONS
	m/s	km/h	ft/s	mph	
3	3,4~5,4	12,25~19,4	11.5~17.75	7.5~12.0	Papers and thin branches move, flags wave.
4	5,4~8,0	19,4~28,8	17.75~26.25	12.0~18	Dust is raised, paper whirls up, and small branches sway.
5	8,0~10,8	28,8~38,9	26.25~35.5	18~24.25	Shrubs with leaves start swaying. Wave crests are apparent in ponds or swamps.
6	10,8~13,9	38,9~50,0	35.5~45.5	24.5~31	Tree branches move. Power lines whistle. It is difficult to open an umbrella.
7	13,9~17,2	50,0~61,9	45.5~56.5	31.~38.5	Whole trees sway. It is difficult to walk against the wind.

Figure 1 – Beaufort Scale

Controls and Indicators

The operator shall know the location of each control and indicator and have a thorough knowledge of the function and operation of each before attempting to operate the machine.

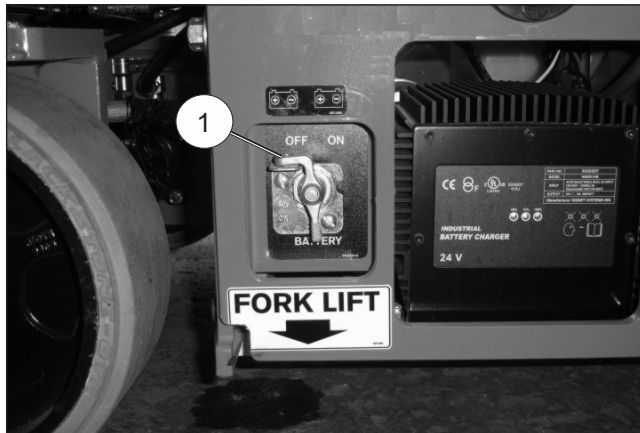


Figure 2 – Battery Disconnect Switch

1. Battery disconnect switch

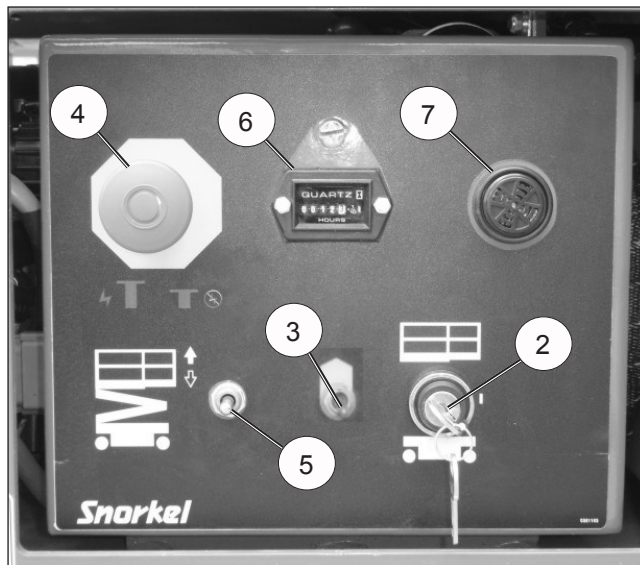


Figure 3 – Lower Controls and Indicators

2. Control selector switch
3. Ground operation switch
4. Emergency stop button
5. Platform raise/lower switch
6. Hour meter
7. Tilt/lowering alarm

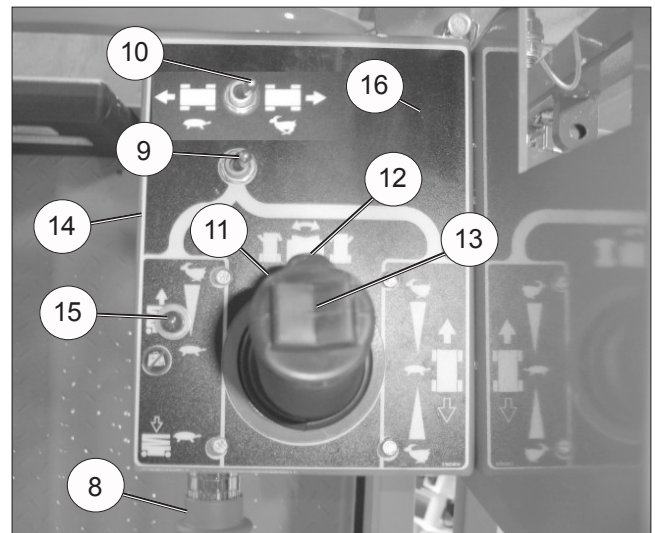


Figure 4 – Upper Controls and Indicators

8. Emergency stop button
9. Drive/lift selector switch
10. Drive range switch – S2632E Only
11. Joystick
12. Interlock switch
13. Steer switch
14. Horn button
15. Platform overload protection light
16. Battery condition indicator – option

⚠ Danger

Pinch points may exist between moving components. Death or serious injury will result from becoming trapped between components, buildings, structures, or other obstacles. Make sure all personnel stand clear while operating the aerial platform.

- Controls to position the platform are located on the lower control panel on the chassis and on the upper control panel in the platform.
- Controls to drive the aerial platform are located on the upper control panel only.

Battery Disconnect Switch

The battery disconnect switch is located at the rear of the chassis (refer to Figure 2).

The battery disconnect removes electrical power from all electrically controlled functions when in the off position.

- Place the switch in the on position to electrically connect the battery to the electrical system.

⚠ Caution

Only authorized personnel should operate the aerial platform. Unqualified personnel may cause injury to coworkers or property damage. Lock the battery disconnect switch in the off position before leaving the aerial platform unattended.

Controls and Indicators

- Lock the battery disconnect switch in the off position to prevent unauthorized use of the aerial platform.

Lower Controls

The lower controls (refer to Figure 3) are located on the right side of the chassis. Only platform functions can be operated from the lower controls.

The following are located on the lower control panel:

- Emergency stop button
- Control selector switch
- Ground operation switch
- Platform raise/lower switch

Emergency Stop Button

The emergency stop is a two-position red push button.

- Push the button inward to disconnect power to all control circuits.
- Pull the button outward to restore power.

Control Selector Switch

Insert the key into the control selector switch.

- Turn the switch to the lower controls position to operate aerial platform functions from the lower controls. The upper controls will not operate while the control selector is in the lower position.
- Turn the switch to the upper controls position to operate the aerial platform functions from the upper controls.
- In the center position, aerial platform functions will not operate from the lower or upper controls.

Ground Operation Switch

The ground operation switch prevents platform movement if the platform raise/lower switch is accidentally moved. This switch is spring returned to the off position.

Hold the ground operation switch upward continually to operate the machine from the lower controls.

Platform Raise/Lower Switch

The platform raise/lower switch is used to raise or lower the platform. The switch is spring returned to the center off position.

- Hold the switch upward to raise the platform.
- Hold the switch downward to lower the platform.
- An alarm will sound as the platform lowers.

Upper Controls

The upper controls (refer to Figure 4) are located on the control panel at the platform. Platform and drive functions can be operated from the upper controls.

Warning

The potential for an accident increases from improperly driving or steering the aerial platform. Death or serious injury could result from such accidents. Make sure the upper control panel is at the front of the platform, hooked on the guardrail, and hanging inside the platform.

Avoid driving the platform with the upper controls facing the rear or side of the machine. In this position the machine is difficult to control because the drive and steer control movements and their resulting machine movements will not correspond.

Only operate the upper controls when the panel is at the front of the platform, hooked on the guardrail inside the platform, and facing the front of the machine.

The following controls are located on the upper control panel:

- Emergency stop button
- Drive/lift selector switch
- Joystick to control platform lift, drive, and steer

The horn button and battery condition indicator gauge may also be located at the upper control station.

Emergency Stop Button

The emergency stop is a two-position, red push button on the front of the upper control panel.

- Push the button inward to disconnect power from all control circuits at the upper controls.
- Pull the button outward to restore power.

Push the button in when the upper controls are not in use to help protect against unintentional platform operation.

Drive/Lift Selector Switch

The drive/lift selector switch is used to select either machine drive or lift functions. Both functions can not be operated at the same time.

- Place the drive/lift selector switch in the drive position to drive the aerial platform using the joystick. The platform will not raise or lower while driving.
- Place the drive/lift selector switch in the lift position to raise and lower the platform using the joystick.

Joystick

Use the joystick to operate the following functions:

- Aerial platform steering
- Aerial platform drive and speed
- Platform raise/lower and speed

Movement of the joystick in a given direction produces a corresponding movement of the aerial platform. The steering and drive functions may be operated separately or simultaneously.

Interlock Switch

The joystick has an interlock switch in the handle.

- Engage the interlock by grasping the joystick and pulling the switch toward the handle.
- Engage the interlock to activate the steering, drive, or lift functions.

Steer Switch

The steer switch is a momentary contact, rocker switch on top of the drive joystick. This switch controls the two front wheels to steer the aerial platform.

- To steer to the right, engage the interlock switch on the joystick and hold down the right side of the steer switch.
- To steer to the left, engage the interlock switch on the joystick and hold down the left side of the steer switch.

Note

The steering wheels are not self-centering. Set the steering wheels straight ahead after completing a turn.

Drive Range Switch – S2632E Only

The drive range switch has two positions to select drive wheel operation:

- High (Rabbit) – for normal driving conditions
- Low (Turtle) – for driving on grades up to 25 percent that require low speed and high torque operation, where high range is not sufficient to climb the grade.

Horn Button

The horn button is on the left side of the upper control panel.

Press the button to sound the horn.

Battery Condition Indicator

The optional battery condition indicator gauge is on the top of the upper control box. It indicates the level of available battery power to operate the aerial platform.

Pre-Operation Safety Inspection

Note

Carefully read, understand and follow all safety rules, operating instructions, labels and National Safety Instructions/Requirements. Perform the following steps each day before use.

1. Open the trays and inspect for damage, fluid leaks or missing parts.
2. Check the level of the hydraulic fluid with the platform fully lowered. The fluid level must be between the full and add marks. Add recommended hydraulic fluid if necessary. See “Specifications” on pages 20-22.
3. Check that the fluid level in the batteries is correct. See “Battery Maintenance” on page 17.
4. Verify that the batteries are charged.
5. Check that the AC extension cord has been disconnected from the outlet on the side of the chassis.
6. Check that all guardrails are in place and all fasteners are properly tightened.
7. Inspect the machine thoroughly for cracked welds and structural damage, loose or missing hardware, hydraulic leaks, damaged control cable and loose wire connections.

System Function Inspection

Refer to “Controls and Indicators” on page 7 for the locations of various controls and indicators.

Warning

STAND CLEAR of the work platform while performing the following checks.

Before operating the machine, survey the work area for surface hazards such as holes, drop-offs, bumps and debris.

Check in ALL directions, including above the work platform, for obstructions and electrical conductors.

1. Move the machine, if necessary, to an unobstructed area to allow for full elevation.
2. Pull the Lower Control Emergency Stop Switch to the ON position.
3. Pull the Upper Control Emergency Stop Switch to the ON position.
4. Visually inspect the elevating assembly, lift cylinder, and hoses for cracked welds and structural damage, loose hardware, hydraulic leaks, loose wire connections, and erratic operation. Check for missing or loose parts.
5. Hold the ground operation switch upward. Test each machine function from the lower control station (refer to Figure 3).
6. Test the emergency lowering system for proper operation.
7. Push the Lower Control Emergency Stop Button to check for proper operation. All machine functions should be disabled. Pull the Lower Control Emergency Stop Button outward to resume.
8. Enter the platform and close the gate.
9. Check that the route is clear of obstacles (persons, obstructions, debris), is level, and is capable of supporting the wheel loads.
10. Test each machine function from the upper control station by engaging the interlock and operating the function controls (refer to Figure 4).
11. Push the Upper Control Emergency Stop Button to check for proper operation. All machine functions should be disabled. Pull the Upper Control Emergency Stop Button outward to resume.

Operation

The aerial platform may be operated from either the lower or upper controls.

Danger

The aerial platform is not electrically insulated. Death or serious injury will result from contact with, or inadequate clearance from, an energized conductor. Do not go closer than the minimum safe approach distance as defined by ANSI or national safety regulations.

Pinch points may exist between moving components. Death or serious injury will result from becoming trapped between components, buildings, structures, or other obstacles. Make sure there is sufficient clearance around the machine before moving the chassis or platform. Allow sufficient room and time to stop movement to avoid contact with structures or other hazards.

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Operate the aerial platform on a firm, flat, level surface. Avoid travel speeds and/or rough terrain that could cause sudden changes in platform position. Do not drive or position the aerial platform for elevated use near any drop-off, hole, slope, soft or uneven ground, or other tip-over hazard. Do not operate the aerial platform in unapproved locations or wind conditions.

The platform rated work load is the total weight of the personnel and equipment that may be lifted in the platform.

The work loads are stated on the platform rating placard at the entrance to the platform.

Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not exceed the capacity values indicated on the platform rating placard.

Capacity values indicate the rated lifting capacity and do not indicate aerial platform stability.

The operator bears ultimate responsibility for ensuring that the aerial platform is properly set up for the particular conditions encountered.

Preparing for Operation

Use the following procedure to prepare the aerial platform for operation:

1. Perform a pre-operation safety and system function inspection.
2. Close and latch the battery and hydraulic trays.
3. Place the battery disconnect switch in the on position.

Lower Controls

Only the platform raise and lower functions may be operated from the lower controls. The lower controls may be used for initial set up of the aerial platform, and for testing and inspection.

Use the following procedure to raise or lower the platform using the lower controls.

1. Pull the emergency stop button outward (refer to Figure 3).
2. Insert the key into the control selector switch and turn the switch to the lower controls position.
3. Hold the ground operation switch upward. Hold the platform raise/lower toggle switch up to raise the platform and down to lower it.
4. Release the toggle switch to stop movement.

Upper Controls

The upper controls may be used for driving and positioning the aerial platform while on the job.

Before operating the upper controls, properly set up the aerial platform as described under Preparing for Operation.

Warning

The potential for an accident increases from improperly driving or steering the aerial platform. Death or serious injury could result from such accidents. Make sure the upper control panel is at the front of the platform, hooked on the guardrail, and hanging inside the platform.

Avoid driving the platform with the upper controls facing the rear or side of the machine. In this position the machine is difficult to control because the drive and steer control movements and their resulting machine movements will not correspond.

Only operate the upper controls when the panel is at the front of the platform, hooked on the guardrail inside the platform, and facing the front of the machine (refer to Figure 4).

Use the following procedure to operate the aerial platform from the upper controls:

1. From the lower controls, pull the emergency stop button outward (refer to Figure 3).
2. Insert the key into the control selector switch and turn the switch to the upper controls position.

Note

The upper controls will not operate while the control selector is in the lower position.

Operation

3. Enter the platform and secure the gate.
4. From the upper controls, pull the emergency stop button outward (refer to Figure 4).
5. The aerial platform may be driven and the platform may be raised and lowered from the upper controls.

Platform

Use care when entering and exiting the platform to avoid slipping and/or falling. Securely close the safety gate when the platform is occupied.

Danger

The potential for an accident increases when the fold down rails are lowered. Death or serious injury can result in such accidents. Do not elevate the platform with the fold down rails lowered. Use extreme care when moving the aerial platform while the fold down rails are lowered.

Be sure the fold down guardrails are up and the hardware is securely tightened, anytime the machine is not being transported.

Raising and Lowering

The raise speed is proportional to the joystick position. The farther the joystick is moved, the faster the platform raises. There is only one lowering speed.

1. Place the drive/lift selector switch (refer to Figure 4) in the lift position.
2. Squeeze and hold the interlock switch against the joystick.
 - To raise the platform, slowly push the joystick forward until the desired height is reached.
 - To lower the platform, pull the joystick backward.

Lowering Interrupt

When the platform is lowered to about 1.5 m (5') lowering stops. The platform will not lower for five seconds regardless of the joystick position.

Center the joystick in neutral to reset the lowering function, then continue to lower the platform.

Overload Protection

When the load in the platform is near or at rated capacity, an alarm will sound and the red light on the upper controls will flash.

The alarm and light warn the operator that the platform is close to becoming overloaded. All functions remain fully operational.

Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not exceed the capacity values indicated on the platform rating placard.

If the platform is fully lowered and is overloaded, when it is elevated just past 1.8 m (6'), a control module will stop the lift and drive functions and the alarm will sound and the warning light will flash. The platform can still be lowered to remove the excess load.

If the platform is elevated just past 1.8 m (6') and material is added to the platform overloading it, a control module will stop the lift, drive and lower functions and the alarm will sound and the warning light will flash. In this case, remove the load in excess of rated capacity and cycle the emergency stop button at the upper controls to return to normal operation.

Extending

The platform can be extended and securely locked into position.

Use the following procedure to extend the platform:

1. Enter the platform and close the gate.

Caution

The extension deck is free to move when the foot lever is depressed. Personal injury may result from accidentally extending or retracting the deck. Make certain the pin is engaged when the deck is extended in the working position and when it is stowed. Do not attempt to extend or retract the platform unless the aerial platform is on a level surface.

2. While facing the front of the platform, step down on the foot lever and push the top rail of the extension deck forward to extend the deck until the pin engages the mid or front stop.
3. Try to move the rails back and forth to make sure the platform extension deck is locked in position.

Use the following procedure to retract the platform:

1. Enter the platform and close the gate.

Caution

The extension deck is free to move when the foot lever is depressed. Personal injury may result from accidentally extending or retracting the deck. Make certain the pin is engaged when the deck is extended in the working position and when it is stowed. Do not attempt to extend or retract the platform unless the aerial platform is on a level surface.

2. While facing the front of the platform, step down on the foot lever and pull the top rail of the extension deck backward until the pin engages the mid or rear stop.

3. Try to move the rails back and forth to make sure the platform extension deck is locked in position.

Driving and Steering

Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not drive an elevated aerial platform on soft, uneven, or sloping surfaces. Do not drive on grades that exceed 25 percent.

A fully stowed machine may be operated on grades up to 25 percent. A grade of 25 percent is a 0.76 m (30") vertical rise in 3.05 m (10') horizontal length.

Warning

Death or serious injury could result from improperly driving or steering the aerial platform. Read and understand the information in this manual and on the placards and decals on the machine before operating the aerial platform on the job.

Use the following procedure to operate the drive and steer functions.

1. Place the drive/lift selector switch (refer to Figure 4) in the drive position.
2. Push the drive joystick forward to move the chassis forward. Pull the joystick backward to move the chassis backward. The drive speed is proportional to the joystick position.
3. To stop drive motion, return the joystick to neutral.

Note

To make an emergency stop push the emergency stop button inward to apply the parking brakes.

4. The steer switch is a momentary contact, rocker switch on top of the drive joystick. This switch controls the two front wheels to steer the aerial platform.
 - To steer to the right, hold down the right side of the steer switch.
 - To steer to the left, hold down the left side of the steer switch.

Note

Holding the steer switch down too long may result in a sharp turn. This is especially true when driving and steering at the same time. It may be easier to turn the wheels in small increments using a series of quick taps on the steer switch.

5. Set the steer wheels straight ahead after completing a turn. The steering wheels are not self-centering.

Drive Range Switch – S2632E Only

The drive range switch has two positions to select drive wheel operation:

- High (Rabbit) – for normal driving conditions.
- Low (Turtle) – for driving on grades up to 25 percent that require low speed and high torque operation, where high range is not sufficient to climb the grade.

In high the machine will travel up to 3.2 km/h (2 mph) when the platform is raised less than 2.4 m (8') and up to 0.6 km/h (0.5 mph) when the platform is raised above 2.4 m (8'). Place the drive range switch in high for normal machine operation.

Caution

The extension deck is free to move when the pin is disengaged. Make certain the pin is engaged when the deck is extended in the working position and when it is stowed.

Place the drive range switch in low, with the platform fully lowered and the extension deck securely pinned, before driving up a ramp to load the machine for transport.

Drive Speeds

The drive speed is proportional to the joystick position. The farther the joystick is moved, the faster the travel speed.

Always slow down before traveling over rough terrain or any sloped surface.

Drive speed ranges are interlocked through limit switches that sense the platform position.

- When the platform is elevated below approximately 1.8 m (6') the aerial platform may be driven with the full range of drive speeds.
- When the platform is elevated above 1.8 m (6') only the slowest drive speed will work.

Warning

The potential for an accident increases when safety devices do not function properly. Death or serious injury could result from such accidents. Do not alter, disable, or override any safety device.

Do not use the aerial platform if it drives faster than 0.6 km/h (0.4 mph), which is 5.3 m (7' 7") in 30 seconds, when elevated above 1.8 m (6').

Drive/Lift Level Sensor Interlock

When the platform is elevated above 1.8 m (6'), lift and drive functions are interlocked through a level sensor system. If the chassis is tilted more than two degrees side-to-side or front-to-rear, platform raise and drive functions are disabled and an alarm sounds when those controls are activated.

Operation

If the drive/lift level sensor interlock shuts off the platform raise and drive functions, lower the platform and drive to a level surface.

Fold Down Guardrails

The platform guardrails may be folded down to pass the machine under low height obstructions.

Danger

The potential for an accident increases when the fold down rails are lowered. Death or serious injury can result in such accidents. Do not elevate the platform with the fold down rails lowered. Use extreme care when moving the aerial platform while the fold down rails are lowered.

Use the following procedure to lower the platform guardrails.

1. Remove all materials from the platform floor and retract the extension deck.
2. Remove the upper control panel from the side guardrail and place it on the floor of the platform.
3. Remove the pin from the hinged top rail on the extension deck. Fold the hinged rail in as far as it will go.
4. Lift the left hand extension deck rail up and fold it down inwards.
5. Remove the pin from the hinged top rail on the main deck. Fold the hinged rail in as far as it will go.
6. Lift the left hand main deck rail up and fold it inwards.
7. Lift the right hand extension deck rail up and fold it down inwards.
8. Lift the right hand main deck rail up and fold it inwards.
9. Reverse this procedure to reposition the rails.

Swing-Out Trays

Batteries and hydraulic components are enclosed in swing-out trays on each side of the chassis.

- The battery tray on the left side of the chassis contains the battery disconnect, batteries and the battery charger.
- The hydraulic tray on the right side of the chassis contains the lower controls, the hydraulic reservoir, and the hydraulic fluid filter.

Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury can result from a tip-over accident. Do not open the trays when the platform is elevated.

To open the swing-out tray, push down on the latch and swing the tray open.

Emergency Lowering

Use the following procedure to operate the emergency lowering system.

Warning

The potential for an accident increases when safety devices do not function properly. Death or serious injury can result from such accidents. Immediately push the emergency stop button inward to disable the control system before using the emergency lowering system in the event of an emergency.

1. Immediately push the emergency stop button inward to disable the control system in the event of an emergency.
2. Retract the platform extension deck if possible.
3. Make sure there is nothing in the way to obstruct the platform when it lowers.
 - S1930E and S1932E machines – push downward on the lever to lower the platform.
 - S2632E machines – pull outward on the handle to lower the platform.
4. Make certain the lever/handle is fully released and the emergency lowering valve is fully closed before operating the aerial platform.

Transporting the Machine

Preparing for Transportation

Use the following procedure to prepare the aerial platform for transportation.

1. Remove any unnecessary tools, materials, or other loose objects from the platform.
2. Close and latch the battery trays and cowling doors.

Transporting

The aerial platform may be moved on a transport vehicle. Depending on the particular situation, the aerial platform may be lifted with a forklift, driven, winched, or hoisted onto a vehicle such as a truck or trailer. Lifting with a forklift is the preferred method.

The equipment used to load, unload, and transport the aerial platform must have adequate capacity. The empty vehicle weight is listed in "Specifications" on pages 20-22 and is stamped on the serial number placard.

The user assumes all responsibility for:

- Choosing the proper method of transportation.
- Choosing the proper selection and use of transportation and tie-down devices.
- Making sure the equipment used is capable of supporting the weight of the aerial platform.
- Making sure all manufacturer's instructions and warnings, regulations and safety rules of their employer, the DOT, and/or any other state or federal law are followed.

Lifting With a Forklift

Use the following procedure to lift the aerial platform with a forklift.

1. Properly stow the aerial platform.
2. Remove all personnel, tools, materials, or other loose objects from the platform.
3. If lifting from the rear of the machine, insert the forklift forks into the pockets.

Caution

Lifting the aerial platform with the forklift forks positioned improperly can produce enough force to damage machine components. When lifting the machine from the side, place the forklift forks directly under the designated lift points.

4. If lifting from either side of the machine, place the forklift forks directly under the designated points under the pothole protector skid.

5. Do not raise the aerial platform higher than necessary to transport it. Drive the forklift slowly and carefully when transporting the aerial platform.

Winching

Use a winch to load and unload the aerial platform on ramps that exceed the gradeability specification for the machine. Refer to "Specifications" pages 20-22. A winch may also be used when poor traction, uneven surfaces, or stepped ramp transition make driving hazardous.

Use the following procedure to winch the aerial platform onto the transport vehicle.

1. Position the transport vehicle so the aerial platform will not roll forward after it is loaded.
2. Remove any unnecessary tools, materials, or other loose objects from the platform.
3. Drive the machine to the foot of the loading ramp with the front wheels nearest the ramp. Make sure the machine is centered with the ramps and that the steering wheels are straight.
4. Properly stow the aerial platform.

Warning

The aerial platform is free to move when the brakes are released. Death or serious injury can result. Re-enable the brakes before operating the aerial platform.

5. Chock the wheels to prevent uncontrolled motion of the aerial platform.
6. Unlatch and swing out the hydraulic tray on the right side of the chassis. The brake release valve, pump, and free-wheeling valves are located on the hydraulic manifold. Press downward on the brake release valve to the fully open position.
7. Turn the free-wheeling valve counterclockwise to the fully open position. Push and release the brake release pump knob several times to release the brakes.
8. Attach the winch line to the tie-down lugs on the front of the chassis.
9. Remove the wheel chocks and use the winch to position the aerial platform on the transport vehicle.
10. Pull upward on the brake release valve and close the free-wheeling valve.
11. Drive the aerial platform forward or reverse and then stop to reset the parking brakes.
12. Verify that the drive system and brakes operate properly before operating the aerial platform.

Driving

Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not drive on ramps that exceed 25 percent grade, or where conditions of the ramp could cause driving to be hazardous.

Use a winch to load and unload the aerial platform on ramps that exceed the gradeability specification for the machine. Refer to “Specifications” pages 20-22. A winch may also be used when poor traction, uneven surfaces, or stepped ramp transitions make driving hazardous.

Drive the aerial platform onto the transport vehicle if a winch is not available and the ramp incline is within the grade capability of the aerial platform.

Use the following procedure to drive the aerial platform onto the transport vehicle.

1. Position the transport vehicle so the aerial platform will not roll forward after it is loaded.
2. Chock the vehicle wheels so it cannot roll away from the ramp while the aerial platform is loaded.
3. Remove any unnecessary tools, materials, or other loose objects from the platform.

Caution

The extension deck is free to move when the pin is removed. Make certain the pin is in place when the deck is extended in the working position and when it is stowed.

4. Retract the platform extension deck and ensure the pin is in place. Fully lower the platform.
5. Drive the aerial platform to the foot of the loading ramp with the front wheels nearest the ramp. Make sure the aerial platform is centered with the ramps and that the steering wheels are straight.
6. On S2632E machines, place the drive range switch in low (turtle) for climbing or descending a ramp.
7. Drive the aerial platform on or off the transport vehicle in a straight line through the grade transitions with minimal turning.

Hoisting

Use a four point sling arrangement attached to the lifting lugs when hoisting the aerial platform. Machine damage can occur if the sling is attached anywhere else.

Warning

The potential for an accident increases when the aerial platform is lifted using improper equipment and/or lifting techniques. Death or serious injury could result

from such accidents. Use proper equipment and lifting techniques when lifting the aerial platform.

Know the weight of the aerial platform and the capacity of the lifting devices before hoisting.

- Lifting devices include the hoist or crane, chains, straps, cables, hooks, sheaves, shackles, slings, and other hardware used to support the machine.
- The empty vehicle weight is stamped on the serial number placard and is listed in the machine specifications.

The user assumes all responsibility for:

- Making sure the equipment used is capable of supporting the weight of the aerial platform.
- Making sure all manufacturer's instructions and warnings, regulations and safety rules of their employer and/or any state or federal law are followed.

Use the following procedure to hoist the aerial platform onto the transport vehicle:

1. Properly stow the aerial platform.
2. Inspect the front lifting lugs and the rear lifting lugs to make sure they are free of cracks and are in good condition. There are two lugs on the rear of the chassis and two on the front. Have any damage repaired by a qualified service technician before attempting to hoist the machine.
3. Remove all personnel, tools, materials, or other loose objects from the platform.
4. Connect the chains or straps to the lifting lugs using bolted shackles. Hooks that fit properly in the lugs and that have latching mechanisms to prevent them from falling out under a slack line condition may also be used.

Do not run the sling cable through the lifting lugs.

- Cable damage and/or failure can result from the cable contacting the sharp corners of the lug.
- There is no effective way of putting a corner protector in the hole of the lug.

Storage

No service is required when storing, or removing the machine from service, for less than one week.

If the machine functions are not cycled for longer than one week:

- Grease exposed cylinder rods with a light, white lithium grease.
- Periodically charge the batteries.

Maintenance

Warning

Always block the elevating assembly whenever it is necessary to perform maintenance while the platform is elevated.

Hydraulic Fluid

The hydraulic fluid reservoir is located in the hydraulic tray. Refer to Figure 5.



Figure 5 – Hydraulic Fluid Reservoir

Note

Never add fluid if the platform is elevated.

Check Hydraulic Fluid

1. Make sure that the platform is fully lowered.
2. Visually check to make sure the fluid is between the full and add marks.
3. If necessary, remove the filler cap and add fluid of the proper type. Replace the cap making sure it is tightly in place. Refer to the machine specifications.

Battery Maintenance

Warning

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

Always wear safety glasses when working near batteries.

Battery fluid is highly corrosive. Thoroughly rinse away any spilled fluid with clean water.

Always replace batteries with manufacturer approved replacements.

- Check the battery fluid level daily, especially if the machine is being used in a warm, dry climate.
- If electrolyte level is lower than 6 mm ($\frac{1}{4}$ ") above the plates add distilled water only. DO NOT use tap

water with high mineral content, as it will shorten battery life.

- Keep the terminals and tops of the batteries clean.
- Refer to the Service Manual to extend battery life and for complete service instructions.

Warning

Always use manufacturer approved replacement parts.

Battery Charging

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

Warning

Charge the batteries in a well ventilated area.

Do not charge the batteries when the machine is near a source of sparks or flames.

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

Never disconnect the cables from the batteries when the charger is operating.

Keep the charger dry.

1. At the lower controls, turn the start switch to the off position.
2. Open the battery tray to access the batteries. Remove the caps from each battery.
3. Visually check the battery fluid level making sure the level is within 6 mm ($\frac{1}{4}$ ") of the bottom of the filler neck inside each hole. If needed, add distilled water.
4. Tightly replace the caps on each battery and replace and latch the battery tray covers.
5. Plug the battery charger into a properly grounded outlet (100-240 volt AC, 50/60 Hz) using a 3 conductor, 1.5 mm (12 gauge) or larger extension cord. The extension cord must be as short as possible and in good electrical condition.

Note

The aerial platform will not operate while the battery charger is plugged in.

6. Visually inspect the battery charge indicator for proper charging rate. The LED's are visible on the battery tray.
 - AC Power On (Blue) – indicates that AC power is applied to the charger.

Inspection and Maintenance Schedule

- Charge Status (Yellow) – blinks until the batteries are 80% charged and then remains solid from 80% to 100% charge.
 - Complete Charge (Green) – lights solid when the batteries are fully charged.
 - Fault (Red) – lights solid when there is a battery fault and blinks when there is a charger fault.
7. Leave the battery charger plugged in until it shuts itself off.

Note

If the charging cycle exceeds 16 hours without the batteries being fully recharged, unplug the charger and have the batteries checked.

8. After the battery charger turns itself off, it is not necessary to immediately unplug the extension cord from the battery charger. The charger will monitor the charge state of the batteries and recharge them if the voltage drops off.
9. Release the latch on each side of the battery trays and remove the cover to access the batteries. Remove the caps from each battery.
10. Visually check the battery fluid level making sure the level is within 6 mm ($\frac{1}{4}$ ") of the bottom of the filler neck inside each hole. If needed, add distilled water.
11. Tightly replace the caps on each battery and replace and latch the battery tray doors.

Inspection and Maintenance Schedule

Caution

Frequency and extent of periodic examinations may depend on national regulations.

The Complete Inspection consists of periodic visual and operational checks, along with periodic minor adjustments that assure proper performance. Daily inspection will prevent abnormal wear and prolong the life of all systems. The inspection and maintenance schedule should be performed at the specified intervals and after prolonged periods of storage before returning the machine to service. Inspection and maintenance shall be performed by personnel who are trained and familiar with mechanical and electrical procedures.

Warning

Before performing preventative maintenance, familiarize yourself with the operation of the machine. Always block the elevating assembly whenever it is necessary to perform maintenance while the platform is elevated.

The daily preventative maintenance checklist has been designed for machine service and maintenance. Please photocopy the Daily Preventative Maintenance Checklist and use the checklist when inspecting the machine.

Daily Preventative Maintenance Checklist

Preventative Maintenance Report

Date: _____

Serial No: _____

Owner: _____

Serviced By: _____

Model No: _____

Item	Inspect For	Y	N	R
Operator's Manual	In manual holder, all pages readable and intact			
Electrical System				
Battery fluid level	Proper level			
Battery terminals	Clean, connectors tight			
Battery charger	Proper operation			
Cables and wiring harness	No wear or physical damage			
Hydraulic System				
Fluid level	Between full and add marks with platform stowed			
Hoses, tubes and fittings	No leaks, all fittings tight			
Free-wheeling valve	Fully closed			
Tires and Wheels	Good condition			
Ground Strap	In place and securely fastened			
Lower Control Station				
Operating controls	Proper operation			
Emergency stop	Shuts off lower controls/proper operation			
Lowering alarm and interrupt	Sounds when platform lowers/proper operation			
Pothole Protection Interlock	Proper operation			
Emergency Lowering	Proper operation			
Safety Prop	No damage or deformation			
Flashing Light	Proper operation			
Structures				
Weldments – Chassis, platform, etc.	Welds intact, no damage or deformation			
Slide blocks	In place, no damage or deformation			
Fasteners	In place, tight, and no damage			
Upper Control Station				
Guardrail system	Welds intact, no damage or deformation All fasteners in place, no loose or missing parts			
Platform extension	Proper operation, no damage or deformation			
Fold down rails	Fasteners in place, proper operation			
Brakes	Proper operation			
Operating controls	Proper operation			
Emergency stop	Shuts off upper controls			
Lowering alarm and interrupt	Sounds when platform lowers/proper operation			
Drive motion alarm	Sounds when aerial platform drive function is operated			
Battery condition indicator	Proper operation			
Horn	Sounds when activated			
Placards and Decals	In place and readable			

Maintenance Table Key: Y = Yes/Acceptable, N = No/Not Acceptable, R = Repaired/Acceptable

Specifications

Specifications – S1930E

Aerial Platform

Working height	7.6 m (25')
Maximum platform height	5.8 m (19')
Turning radius	
Inside	12.7 cm (5")
Outside	1.64 m (64.5")
Wheelbase	1.37 m (4' 6")
Ground clearance	
Pothole protector raised	6.3 cm (2.5")
Pothole protector lowered	1.9 cm (0.75")
Maximum wheel load	755 kg (1,664 lbs)
Maximum ground pressure	12.3 kg/cm ² (175 psi)
Weight, EVW	
Approximate	1,600 kg (3,527 lbs)
Stowed width	76.2 cm (30")
Stowed length	1.9 m (6' 2")
With step removed	1.7 m (5' 6")
Stowed height	2.17 m (6' 7")
Rails up	216.5 cm (85.25")
Rails down	164 cm (64.5")

Platform

Dimensions	
Main	74 cm x 156 cm (29" x 61.5")
Extension	61 cm x 91.4 cm (24" x 36")
Total length with extension	247.5 cm (97.5")
Guardrail height	
Rails up	111.8 cm (44")
Rails down	62.2 cm (24.5")
Toeboard height	15.2 cm (6")

Rated work load

Total	227 kg (500 lb)
Extension	113.3 kg (250 lb)
Maximum number of occupants	2 indoors only

Function Speed

Platform raise	12 to 20 seconds
Platform lower	20 to 26 seconds
High Drive	
Platform lower than 1.8 m (6 feet)	0 to 3.2 km/h (0 to 2 mph)
Low Drive	
Platform higher than 1.8 m (6 feet)	0 to 0.6 km/h (0 to 0.4 mph)

Drive System

Standard	Two-wheel drive
Gradeability	25%
Maximum drive height	5.8 m (19')

Drive/Lift Level Sensor Interlock

Side-to-side	2 degrees
Front-to-rear	4 degrees

Tires

Nonmarking solid rubber	30.5 cm x 10.2 cm (12" x 4")
-------------------------	------------------------------

Electrical System

Voltage	24 V DC negative chassis ground
Source	Four - 6 V 220 amp hour batteries
Fluid recommended	distilled water
Charger	25 amp

Hydraulic System

Maximum pressure	20,684 kPa (3,000 psi)
Reservoir capacity	11.35 l (3 US gal)
System capacity	13.2 l (3.5 US gal)
Maximum operating temperature	71°C (160°F)
Hydraulic fluid recommended	
Above -13°C (10°F)	ISO VG32 (Mobil DTE-13M)
Below -13°C (10°F)	ISO VG15 (Mobil DTE-11M)

Ambient Air Temperature Operating Range

Celsius	-18°C to 43°C
Fahrenheit	0°F to 110°F

Maximum Wind Speed

zero

Vibration

less than 2.5 m/sec²

Sound Pressure Level

At work station	below 70 dB(A)
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Group Classification

Heavy Duty – intended life	100,000 load cycles
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General Specifications – S1932E

Aerial Platform

Working height	7.6 m (25')
Maximum platform height	5.8 m (19')
Turning radius	
Inside	12.7 cm (5")
Outside	1.64 m (64.5")
Wheelbase	1.37 m (4' 6")
Ground clearance	
Pothole protector raised	6.3 cm (2.5")
Pothole protector lowered	1.9 cm (0.75")
Maximum wheel load	755 kg (1,664 lbs)
Maximum ground pressure	12.3 kg/cm ² (175 psi)
Weight, EVW	
Approximate	1,570 kg (3,461 lbs)
Stowed width	81.3 cm (32")
Stowed length	1.9 m (6' 2")
With step removed	1.7 m (5' 6")
Stowed height	2.17 m (6' 7")
Rails up	216.5 cm (85.25")
Rails down	164 cm (64.5")

Platform

Dimensions	
Main	74 cm x 156 cm (29" x 61.5")
Extension	61 cm x 91.4 cm (24" x 36")
Total length with extension	247.5 cm (97.5")
Guardrail height	
Rails up	111.8 cm (44")
Rails down	62.2 cm (24.5")
Toeboard height	15.2 cm (6")

Rated work load

Total	227 kg (500 lb)
Extension	113.3 kg (250 lb)
Maximum number of occupants	1 outdoors 2 indoors

Function Speed

Platform raise	12 to 20 seconds
Platform lower	20 to 26 seconds
High Drive	
Platform lower than 1.8 m (6 feet)	0 to 3.2 km/h (0 to 2 mph)
Low Drive	
Platform higher than 1.8 m (6 feet)	0 to 0.6 km/h (0 to 0.4 mph)

Drive System

Standard	Two-wheel drive
Gradeability	25%
Maximum drive height	5.8 m (19')

Drive/Lift Level Sensor Interlock

Side-to-side	2 degrees
Front-to-rear	4 degrees

Tires

Nonmarking solid rubber 30.5 cm x 10.2 cm (12" x 4")

Electrical System

Voltage	24 V DC negative chassis ground
Source	Four - 6 V 220 amp hour batteries
Fluid recommended	distilled water
Charger	25 amp

Hydraulic System

Maximum pressure	20,684 kPa (3,000 psi)
Reservoir capacity	11.35 l (3 US gal)
System capacity	13.2 l (3.5 US gal)
Maximum operating temperature	71°C (160°F)
Hydraulic fluid recommended	
Above -13°C (10°F)	ISO VG32 (Mobil DTE-13M)
Below -13°C (10°F)	ISO VG15 (Mobil DTE-11M)

Ambient Air Temperature Operating Range

Celsius	-18°C to 43°C
Fahrenheit	0°F to 110°F

Maximum Wind Speed

Gust or steady	12.5 m/s (28 mph)
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Vibration

less than 2.5 m/sec²

Sound Pressure Level

At work station	below 70 dB(A)
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Group Classification

Heavy Duty – intended life	100,000 load cycles
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Specifications

General Specifications – S2632E

Aerial Platform

Working height	9.8 m (32' 3")
Maximum platform height	8 m (26' 3")
Turning radius	
Inside	25.4 cm (10")
Outside	234 cm (92")
Wheelbase	1.92 m (6' 4")
Ground clearance	
Pothole protector raised	6.3 cm (2.5")
Pothole protector lowered	1.9 cm (0.75")
Maximum wheel load	1,112 kg (2,450 lbs)
Maximum ground pressure	430 kg/cm ² (190 psi)
Weight, EVW	
Approximate	2,240 kg (4,938 lbs)
Stowed width	81.3 cm (32")
Stowed length	2.37 m (93.25")
With step removed	2.37 m (93.25")
Stowed height	
Rails up	2.33 m (91.63")
Rails down	1.93 m (76")

Platform

Dimensions	
Main	74 cm x 231 cm (29" x 91")
Extension	61 cm x 91.4 cm (24" x 36")
Total length with extension	322.6 cm (127")
Guardrail height	
Rails up	111.8 cm (44")
Rails down	62.2 cm (24.5")
Toeboard height	15.2 cm (6")

Rated work load

Total	227 kg (500 lb)
Extension	113.3 kg (250 lb)
Maximum number of occupants	2 indoors only

Function Speed

Platform raise	12 to 20 seconds
Platform lower	20 to 26 seconds
High Drive	
Platform lower than 1.8 m (6 feet)	0 to 3.2 km/h (0 to 2 mph)
Low Drive	
Platform higher than 1.8 m (6 feet)	0 to 0.6 km/h (0 to 0.4 mph)

Drive System

Standard	Two-wheel drive
Gradeability	25%
Maximum drive height	8.0 m (26' 3")

Drive/Lift Level Sensor Interlock

Side-to-side	1.5 degrees
Front-to-rear	4 degrees

Tires

Nonmarking solid rubber	38.1 cm x 12.7 cm (15" x 5")
-------------------------	------------------------------

Electrical System

Voltage	24 V DC negative chassis ground
Source	Four - 6 V 220 amp hour batteries
Fluid recommended	distilled water
Charger	25 amp

Hydraulic System

Maximum pressure	20,684 kPa (3,000 psi)
Reservoir capacity	25.7 l (6.8 US gal)
System capacity	27.6 l (7.3 US gal)
Maximum operating temperature	71°C (160°F)
Hydraulic fluid recommended	
Above -13°C (10°F)	ISO VG32 (Mobil DTE 10 XL32)
Below -13°C (10°F)	ISO VG15 (Mobil DTE 10 XL15)

Ambient Air Temperature Operating Range

Celsius	-18°C to 43°C
Fahrenheit	0°F to 110°F

Maximum Wind Speed

zero

Vibration

less than 2.5 m/sec²

Sound Pressure Level

At work station	below 70 dB(A)
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Group Classification

Heavy Duty – intended life	100,000 load cycles
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El Distribuidor local / Il Distributore locale**

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