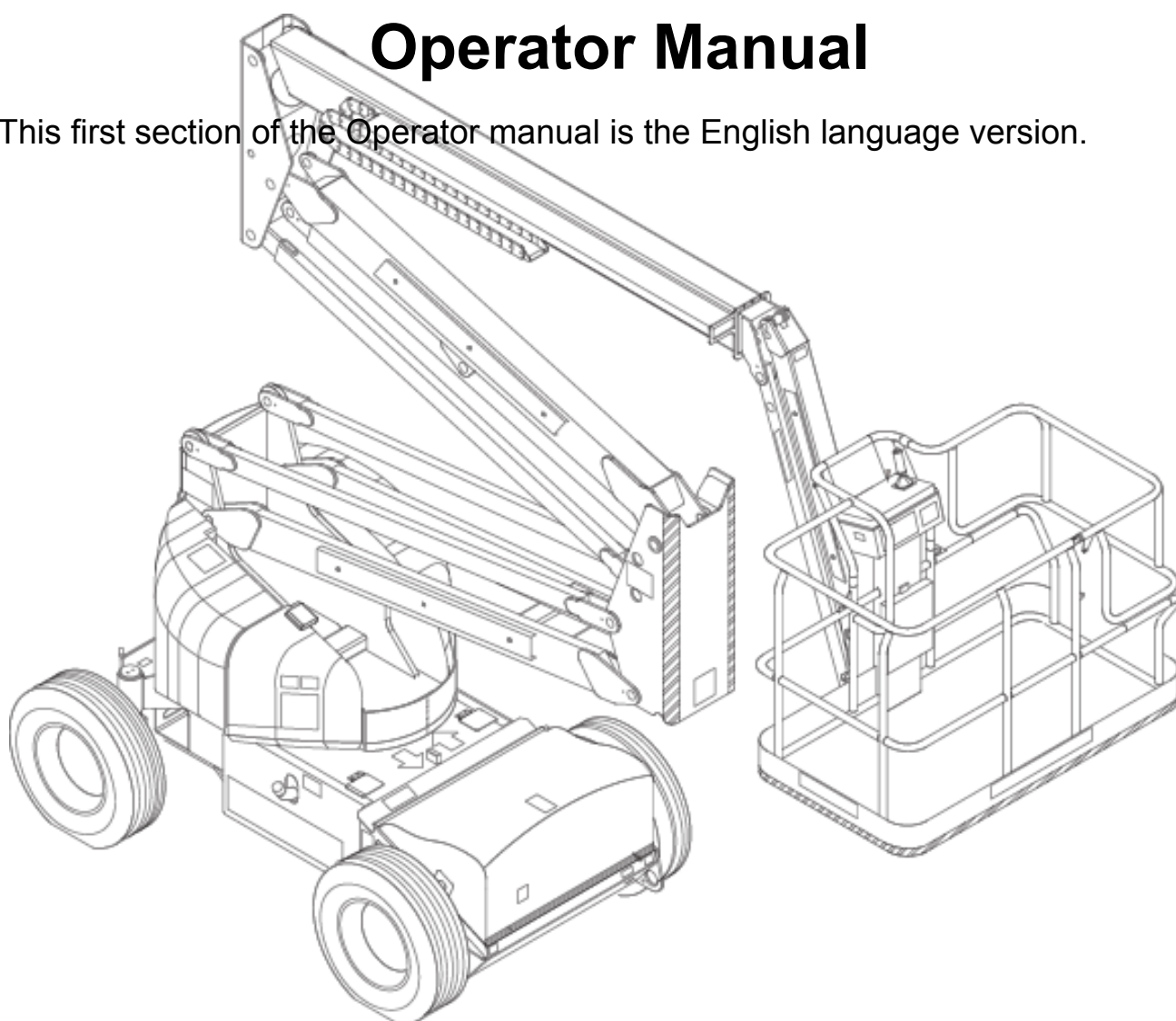


Operator Manual

This first section of the Operator manual is the English language version.



(EN) Manual part number 509648-000 for serial numbers 20000 to current.

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EC DECLARATION OF CONFORMITY FOR MACHINERY

MACHINERY:

Powered Aerial Platform known as:

Type: Upright AB46E

Serial Number:

The machine specified above conforms to the following provisions:

Machinery directive 98/37/EC (using document **EC Community Legislation on Machinery** and taking guidance from EN280:2001 + Amendment A1:2004)

Council Directive 89/336/EEC on Electromagnetic Compatibility as amended by 93/68/EEC and 92/31/EC

Council Directive 73/23/EEC on Low Voltage Equipment Safety as amended by 93/68/EE

Council Directive 2000/14/EC on Noise Emission in the Environment by Equipment for use Outdoors

E. C. Type Examination Certificate No:



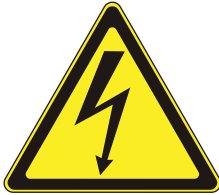
Note: Modification of the specified unit renders this declaration invalid

SAFETY RULES

⚠ Warning

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

THIS AERIAL WORK PLATFORM IS NOT INSULATED! For this reason it is imperative to keep a safe distance from live parts of electrical equipment!

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 5 for details.

Do not operate the aerial platform in windy or gusty conditions. Do not add anything to 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 UpRight.

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.

Harness attachment points are provided in the platform and the manufacturer recommends the usage of a fall restraint harness, especially where required by national safety regulations.

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 12, 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

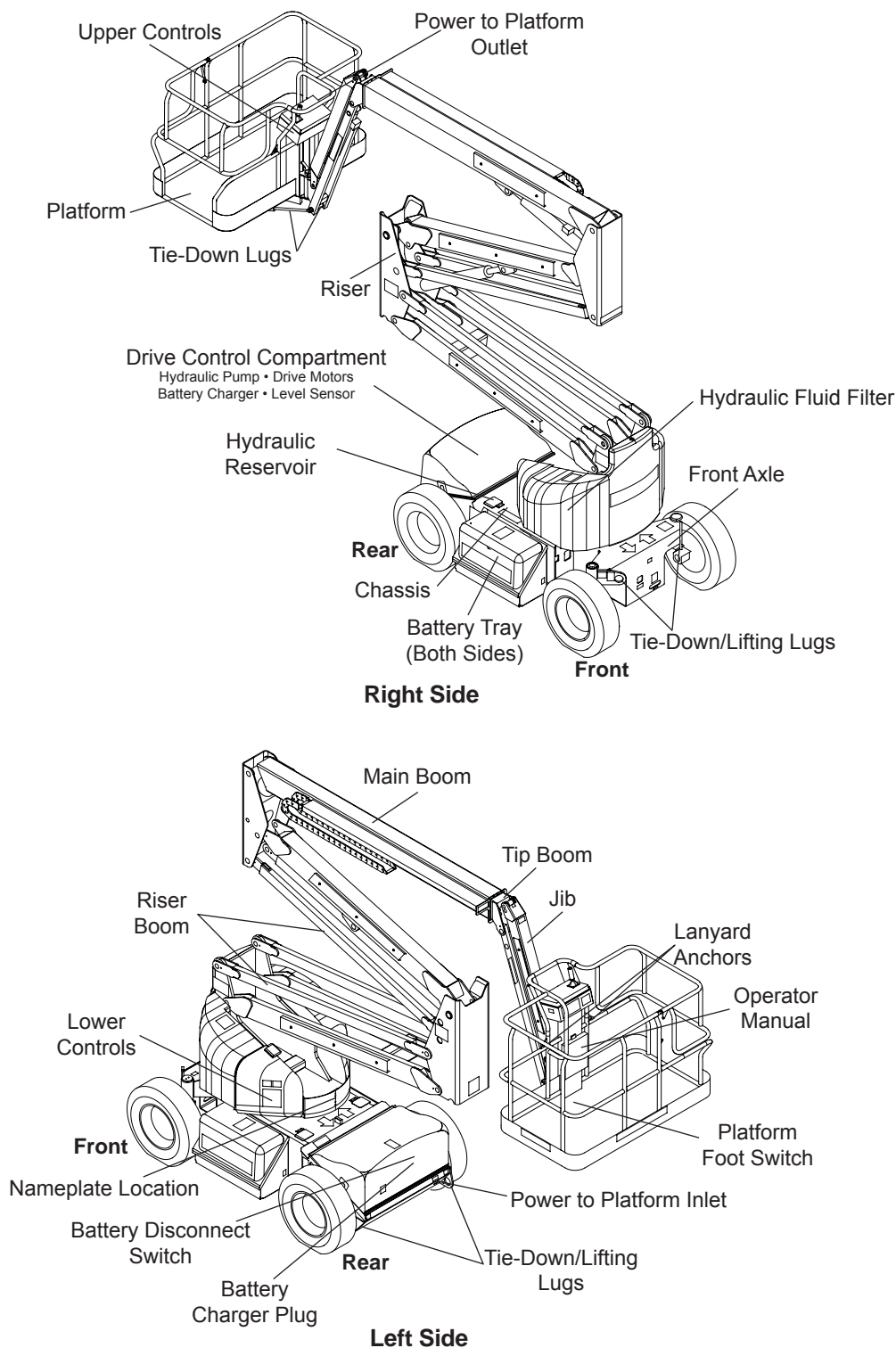
This manual covers the AB46E Aerial Work Platform.

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 UpRight 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 top of the chassis at the front of the machine.

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

Two people and tools may occupy the platform. The maximum platform capacity for the aerial platform is stated in the "Specifications" on page 17.

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 200N (45 lbs) of force per occupant, with a maximum of 400 N (90 lbs) for two occupants.

Danger

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

Platform Overload Sensing System

All functions are stopped from the upper and lower controls, when the platform overload limit is exceeded. The horn will sound intermittently and the platform overload light will blink until the excess load is removed from the platform. At that time, the machine functions are again operational.

Caution

The emergency power system is for emergency lowering and stowing only. The length of time the pump can be operated depends on the capacity of the battery. Do not use this system for normal operation.

If the platform overload sensing system is tripped while operating the machine the emergency power system may still be used for emergency machine operation.

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.

The overload sensing system is not active when the machine is being driven with the booms in the stowed position. This allows the machine to be driven without the system sensing an overload due to rough ground conditions.

Beaufort Scale

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

| 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.

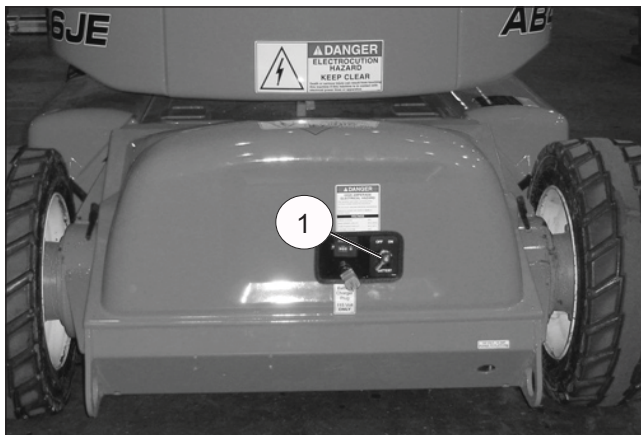


Figure 2 – Battery Disconnect Switch

1. Battery disconnect switch

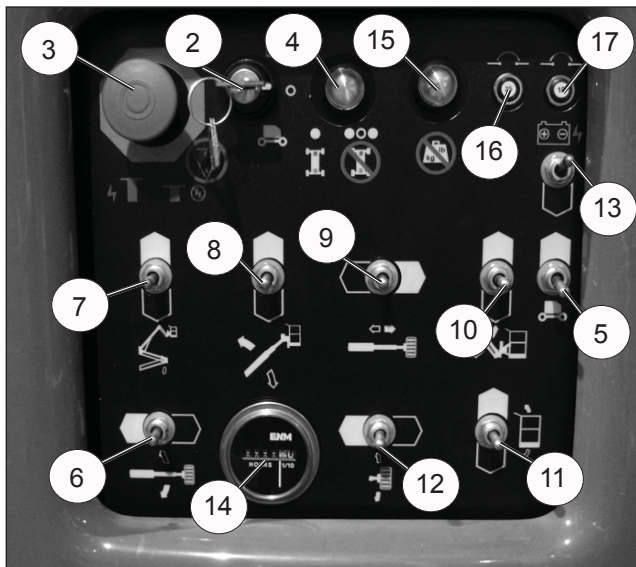


Figure 3 – Lower Controls and Indicators

2. Control selector switch
3. Emergency stop button
4. Drive fault light
5. Ground operation switch
6. Rotation switch
7. Riser switch
8. Boom elevation switch
9. Boom extension switch
10. Jib articulation switch
11. Platform level switch
12. Platform rotation switch
13. Emergency power switch
14. Hour meter
15. Platform overload light
16. Main control circuit breaker
17. Relays/switches circuit breaker

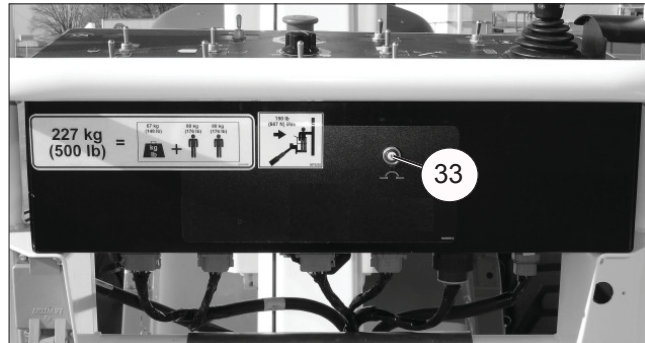
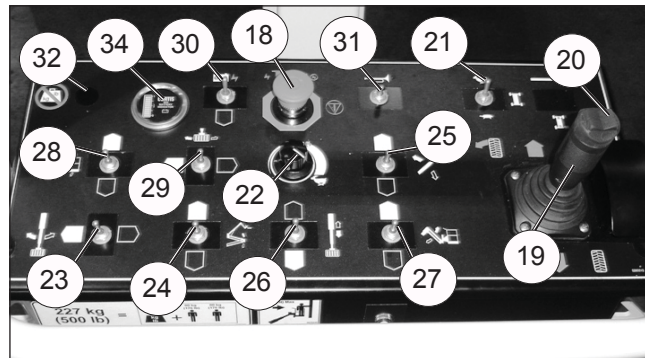


Figure 4 – Upper Controls and Indicators

18. Emergency stop button
19. Drive joystick
20. Steer switch
21. Drive range switch
22. Boom speed knob
23. Rotation switch
24. Riser switch
25. Boom elevation switch
26. Boom extension switch
27. Jib articulation switch
28. Platform level switch
29. Platform rotation switch
30. Emergency power switch
31. Horn switch
32. Platform overload light
33. Upper control circuit breaker
34. Battery condition indicator

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 turntable covers 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 visible in the sight glass. Add recommended hydraulic fluid if necessary. See "Specifications" on page 17.
3. Check that the fluid level in the batteries is correct. See "Battery Maintenance" on page 14.
4. Verify that the batteries are charged.
5. Check that the AC extension cord has been disconnected from the outlet at the rear 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 6 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. Test each machine function (Jib, Riser, Platform Level, Platform Rotate, Lift, Slew, Telescope) from the lower control station by holding the ground operation switch up while operating the control toggle switches (ref: Figure 3 on page 6).
6. Test the engine/emergency power switch 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 (Drive, Lift, Jib, Riser, Slew, Telescope, Platform Rotate, Platform Level) from the upper control station by stepping on the platform foot switch and operating the function controls (ref: Figure 4 on page 6).
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 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, booms, 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.

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:

- rear of the platform
- lower controls
- upper controls

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.

Cold Weather Start-Up

If the ambient temperature is 0°C (32°F) or below, the hydraulic system oil may need to be warmed before operation.

Cold, thick hydraulic oil does not flow well and may cause delay in response to control movement. Cold hydraulic oil may also cause cavitation and pump damage.

Manually Warming the Hydraulic System

The hydraulic oil may be warmed by bottoming out the boom extension cylinder. Raise the main boom so it is horizontal and operate the boom retract function while the machine is stowed. With the cylinder bottomed out the oil flow will produce heat to warm the hydraulic oil.

Caution

Not all hydraulic fluid is suitable to use in the hydraulic system. Some have poor lubricating characteristics and may increase component wear. Only use hydraulic fluid as recommended.

Use cold weather hydraulic oil as recommended in the machine General Specifications in temperatures of -12°C (10°F) or below.

Preparing for Operation

Before operating the aerial platform, make certain the batteries are charged and the charger is unplugged.

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

1. Perform a prestart inspection as described in the "Daily Preventative Maintenance Checklist" on page 16.
2. Place the battery disconnect switch in the on position.
3. Close and latch the battery trays and cowling doors.

Lower Controls

The lower controls override the upper controls. This means that the lower controls can always be used to operate the platform regardless of the position of the upper control emergency stop button.

Boom, turntable, and platform 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 operate boom, turntable, or platform functions using the lower controls (ref: Figure 3 on page 6).

1. Insert the key into the control selector switch and turn the switch to the ground position.
2. Place the emergency stop switch in the on position.
3. Hold the ground operation switch upward while operating the boom and turntable control toggle switches.
4. Visually check to make sure the drive fault light is lit.

Operation

- If the drive fault light is flashing or not lit, repeat the previous steps to ensure the controls are set up properly.
 - After repeating the previous steps, if needed, and the drive fault light is still not a solid light remove the aerial platform from service until qualified maintenance personnel can make repairs.
5. Hold the appropriate toggle switch in the desired direction.
 6. Release the function toggle switch to stop movement.
 7. Release the ground operation switch to the center in off position when no functions are being operated.

Upper Controls

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

Use the following procedure to operate machine functions using the upper controls (ref: Figure 4 on page 6).

1. At the lower controls, insert the key into the control selector switch and turn the switch to the platform position.
2. Place the emergency stop switch in the on position.
3. Enter the platform and securely close the gate.
4. Attach the fall restraint lanyard to one of the anchor points.
5. Pull the emergency stop outward.
6. Step down on the platform foot switch.
7. Visually check to make sure the drive fault light at the lower controls is lit.
 - If the drive fault light is flashing or not lit, repeat the previous steps to ensure the controls are set up properly.
 - After repeating the previous steps, if needed, and the drive fault light is still not a solid light remove the aerial platform from service until qualified maintenance personnel can make repairs.

Boom Operation

Use the following procedure to operate the turntable, boom, or platform functions.

1. Step down on the platform foot switch. The platform foot switch must be held down to operate the upper controls.
2. Hold the appropriate control in the desired direction. Always look in the direction of movement.

3. To stop movement release the control to its neutral position or release the foot switch.

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 the machine on grades that exceed 25 percent.

For operation on grades up to 25 percent, it is recommended that the main boom be near horizontal and the jib be elevated just enough to provide adequate ground clearance.

A 25 percent grade is a 0.76 m (30") vertical rise in 3.05 m (10') horizontal length.

Avoid driving with the platform over the front end of the chassis. In this position the machine is difficult to control because:

- drive and steer control movements and their resulting machine movements are reversed.
- when driving fast, sudden turns or stops produce more severe reactions to platform occupants.
- more turning space is required to prevent the platform from colliding with obstacles several feet beyond the path of the tires.

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.

The blue and yellow arrows on the chassis indicate the direction the chassis will move when the drive or steer control is moved toward the corresponding color.

When the machine is in the stowed position, with the booms centered between the rear wheels, the direction of drive and steer control movement corresponds with the direction of chassis movement.

When the turntable is rotated from the stowed position, with the booms to either side of or in front of the chassis, the direction of control movement does not correspond with the direction of chassis movement.

- To avoid confusion, always drive to the work area or move between work areas with the turntable and booms in the stowed position.
- After arriving at the work area, the booms may be positioned to the side or the front of the chassis for final positioning.

- Always look in the direction of movement as indicated by the directional arrows on the chassis.

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

1. Determine the desired drive range for the specific driving conditions. Place the switch in the appropriate position to achieve the desired drive wheel operation.
 - Use high range (rabbit) when traveling across firm, flat, level surfaces. High range can only be activated when the booms are stowed. High range is for high speed, low torque operation.
 - Use low range (turtle) for driving on loading ramps or other steep grades and when safety considerations demand slow deliberate machine movement. Low range is for low speed, high torque operation.
2. Step down on the platform foot switch.
3. Push the drive joystick forward to move the chassis forward, the direction of the blue arrow. Pull the joystick backward to move the chassis backward, the direction of the yellow arrow. The drive speed is proportional to the joystick position.
4. To stop drive motion, return the joystick to neutral.
5. The steer switch is a momentary contact, rocker switch on top of the drive joystick. The 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

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

6. After driving to the desired location, release the foot switch, or push the emergency stop button to apply the parking brakes.

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 and shift the drive system to low range before traveling over any sloped surface.

Drive speed ranges are interlocked through limit switches that sense the main and riser boom position.

- When either boom is elevated or extended, only the slowest drive speed will work regardless of the drive range switch position.

- To avoid a sudden speed change from high to low elevated boom speed, always bring the machine to a stop before raising the booms from the stowed position.

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 1.3 km/h (.8 miles per hour) [15.24 m (50 feet) in 42.5 seconds] when any of the booms are out of the stowed position.

All Motion Alarm

The optional all motion alarm sounds loud intermittent beeps anytime the machine functions are being operated.

Electrical Power Outlet

The electrical outlet at the platform has two, 3-prong, 110 volt AC electrical connectors. Their combined output is limited by a 15 amp circuit breaker.

To use the outlet, plug a source of power into the power-input connector on the right side of the chassis. Unplug the source of power before moving the aerial platform.

Air Line

The optional air line may be used to conduct air for tool operation at the platform.

- The input connector is at the rear of the chassis and the output connector is at the platform on the rotator guard.
- The maximum working pressure of the line is 1,723 kPa (250 psi).

The air line may be used to conduct fluids such as water or antifreeze. Contact UpRight for compatibility information before using the air line to conduct other fluids.

Caution

Fluid in the air line may damage some air tools or freeze and damage the line. Drain and blow out the air line after using it to conduct fluids.

Use the following procedure to drain the air line.

1. Close the input connector on the chassis.
2. Open the output connector at the platform.
3. Raise the riser and main booms slightly above horizontal.
4. Open the input connector on the chassis.

Operation

5. Allow the fluid to drain from the line.
6. Lower the boom and close both connections.

Emergency Lowering

Warning

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

Stand clear of the elevating assembly while operating the Emergency Power System.

The emergency power system can be used to operate the machine from the lower or upper controls.

Caution

The emergency power system is for emergency lowering and stowing only. The length of time the pump can be operated depends on the capacity of the batteries. Do not use this system for normal operation.

Only use the emergency power system if the main power system fails.

Lower Controls

Use the following procedure to operate the machine using the emergency power system from the lower controls.

1. Place the battery disconnect switch in the on position.
2. Place the key in the control selector switch and turn it to the ground position.
3. Pull the emergency stop button outward.
4. Hold the ground operation switch in the on position while holding the emergency power switch in the emergency power position.
5. Hold the appropriate function toggle switch in the desired direction.

Upper Controls

For the upper controls to be operational:

- The battery disconnect switch must be in the on position.
- The control selector switch at the lower controls must be turned to the platform position.
- The emergency stop button at the lower controls must be in the on position.

Use the following procedure to operate the machine using the emergency power system from the upper controls.

1. Pull the emergency stop button outward.
2. Step down on the platform foot switch.

3. Hold the emergency power switch in the emergency power position.
4. Hold the appropriate function toggle switch in the desired direction.

After Use Each Day

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

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.

By Crane

⚠ Danger

Lifting by Crane is for transport purposes only. Stand clear of the machine when lifting.

See Specifications for weight of machine and be certain that the crane is of adequate capacity to lift the machine.

1. Insure that the boom is fully lowered.
2. Attach straps to the chassis lifting lugs only. Insure that the straps are adjusted properly to keep the unit level when lifting.

By Transport Vehicle

Use the following procedure to secure the aerial platform on the transport vehicle.

1. Chock the wheels.
2. Remove all personnel, tools, materials, or other loose objects from the platform.
3. Raise the main boom about 0.3m (1').
4. Place a large wood block under the platform support braces (refer to Figure 5). Lower the platform so it rests on the wood block.
5. Place the lower controls emergency stop switch in the off position. Turn the start switch off and remove the key.

6. Turn the battery disconnect switch off and close and latch the battery trays and cowling doors.
7. Use wire-ties to fasten the gravity gates to the guardrails to prevent the them from bouncing. Also, use wire-ties to fasten the platform foot switch to the platform floor.

⚠ Caution

Ratchets, winches, and come-alongs may produce enough force to damage machine components. Do not over tighten the straps or chains when securing the aerial platform to the transport vehicle.

8. Use a nylon strap to securely fasten the platform against the wood block. Thread the strap through the tie-down lugs at the front of the platform.
9. Use chains or straps to securely fasten the aerial platform to the transport vehicle using the tie-down lugs as attachment points. Proper tie-down and hauling are the responsibility of the carrier.

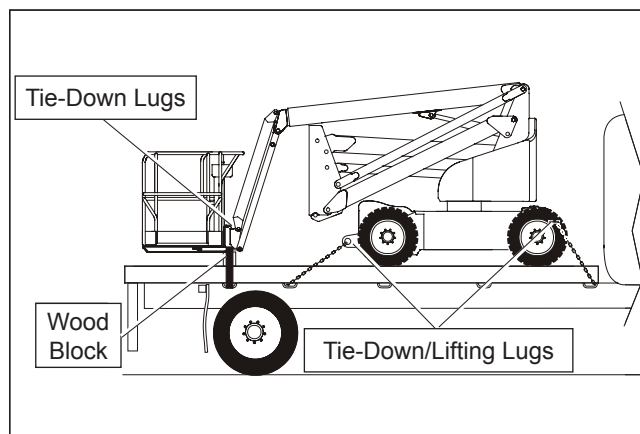


Figure 5 – Platform

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 drive control compartment. Refer to Figure 6.

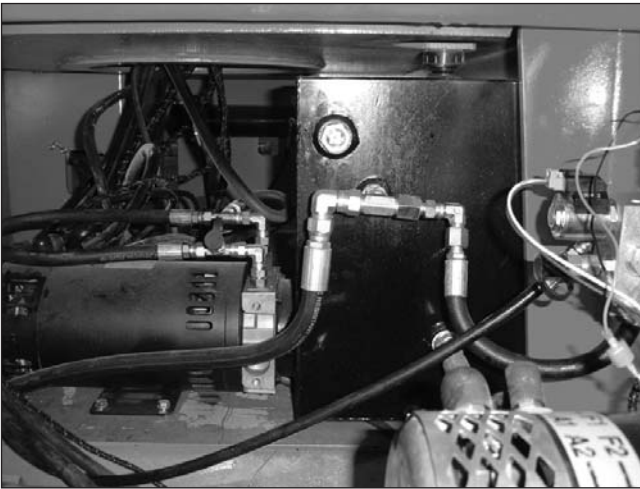


Figure 6 – Hydraulic Fluid Reservoir

Note

Never add fluid if the platform is elevated.

Check Hydraulic Fluid

1. Make sure that the platform is fully lowered.
2. Remove the drive control compartment cover to access the hydraulic fluid reservoir.
3. Visually check to make sure the fluid is visible in the sight glass.
4. If necessary, remove the filler cap and add fluid of the proper type. Replace the cap making sure it is tightly in place. See "Specifications" on page 17.

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 Snorkel batteries or manufacturer approved replacements weighing 26.3 kg (58 lbs) each.

- 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.

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 leave the battery charger operating for more than two days.

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. Turn the battery disconnect switch on.
3. Release the latch on each side of the battery trays and remove the cover to access the batteries. Remove the caps from each battery.
4. 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.
5. Tightly replace the caps on each battery and replace and latch the battery tray doors.
6. 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.

7. Visually inspect the battery charge indicator for proper charging rate.
 - The charger will turn on three to five seconds after a complete electrical connection is made.
 - As the batteries become charged, the indicator light for each level of charge will blink until its level is reached and then it will remain lit.
 - When the batteries are fully charged, all three lights on the battery charge indicator will be lit.
8. 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.

9. After the battery charger turns itself off, unplug the extension cord from the battery charger and allow the batteries to cool.
10. Release the latch on each side of the battery trays and remove the cover to access the batteries. Remove the caps from each battery.
11. 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.
12. Tightly replace the caps on each battery and replace and latch the battery tray doors.

Inspection and Maintenance Schedule

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

Daily Preventative Maintenance Checklist

Preventative Maintenance Report

Date: _____

Serial No: _____

Owner: _____

Serviced By: _____

Model No: _____

| ITEM | INSPECTION OR SERVICES | Y | N | R |
|---|---|---|---|---|
| Operator's Manual | In place, all pages readable and intact | | | |
| Electrical System | | | | |
| Batteries | Condition and charged for proper operation | | | |
| Battery fluid level and terminals | Proper level/clean, connectors tight | | | |
| Battery charger and condition indicator | Proper operation | | | |
| Cables and wiring harness | No wear or physical damage | | | |
| Hydraulic System | | | | |
| Fluid level | Between full and add marks | | | |
| Fluid filter | Verify operation in the green zone | | | |
| Hoses, tubes and fittings | No leaks | | | |
| Tires | | | | |
| Air filled | Good condition, proper inflation | | | |
| Foam filled | Good condition | | | |
| Wheels | All wheel lug nuts present and properly torqued | | | |
| Lower Control Station | | | | |
| Operating controls | Proper operation | | | |
| Emergency stop and emergency power | Shuts off lower controls/proper operation | | | |
| Level Sensor | Sounds tilt alarm | | | |
| Flashing Light | Proper operation | | | |
| All Motion Alarm | Sounds when machine is operated and/or driven | | | |
| Structures | | | | |
| Weldments – Chassis, turntable, booms, platform, etc. | Welds intact, no damage or deformation | | | |
| Slide pads | In place, no damage or deformation | | | |
| Fasteners | In place and tight | | | |
| Upper Control Station | | | | |
| Guardrail system and lanyard anchors | Welds intact, no damage or deformation | | | |
| Operating controls | Proper operation | | | |
| Emergency stop and emergency power | Shuts off upper controls/proper operation | | | |
| Horn | Sounds when activated | | | |
| Electrical power outlet – GFCI | Proper operation | | | |
| Placards and Decals | In place and readable | | | |

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

Specifications

Aerial Platform

| | |
|--------------------------|------------------------------------|
| Working height | 52' 4" (15.9 m) |
| Maximum platform height | 46' 4" (14.1 m) |
| Up and over height | 25' 2" (7.6 m) |
| Maximum horizontal reach | 24' 6" (7.47 m) |
| Main boom | |
| Articulation | 0° to +72° |
| Extension | 80" (2 m) |
| Jib | |
| Articulation | -70° to +70° |
| Extension | 5' (1.5 m) |
| Tail swing | 0 |
| Turntable rotation | 360° non-continuous |
| Turning radius | |
| Inside | 24" (0.6 m) |
| Outside | 9' 10" (3 m) |
| Wheelbase | 73" (1.8 m) |
| Ground clearance | 6" (15.2 cm) |
| Maximum wheel load | 7,150 lbs (3,243 kg) |
| Maximum ground pressure | 151 psi (10.6 kg/cm ²) |
| Weight, EVW | |
| Approximate | 14,300 lbs (6,486 kg) |
| Width | 5' 9" (1.7 m) |
| Stowed length | 18' 4" (5.6 m) |
| Stowed height | 6' 7" (2.1 m) |

Platform

| | |
|-----------------------------|----------------------------|
| Dimensions | 39" x 72" (99 cm x 178 cm) |
| Toeboard height | 6" (15.2 cm) |
| Rated work load | 500 lb (227 kg) |
| Rotation | 80° CW to 80° CCW |
| Maximum number of occupants | 2 people |

Function Speed

| | |
|----------------------------|--------------------|
| Turntable rotation | 65 to 85 seconds |
| Riser | |
| Up | 25 to 30 seconds |
| Down | 15 to 20 seconds |
| Main boom | |
| Up | 25 to 30 seconds |
| Down | 18 to 23 seconds |
| Extend | 12 to 16 seconds |
| Retract | 26 to 30 seconds |
| Platform rotation | 16 to 20 seconds |
| Jib | |
| Up | 14 to 18 seconds |
| Down | 14 to 18 seconds |
| Drive | |
| High, booms stowed | 3.2 mph (5.1 km/h) |
| Low, booms raised/extended | 0.8 mph (1.3 km/h) |

Drive System

| | |
|----------------------------|-----------------|
| Standard | Two wheel drive |
| Gradeability – theoretical | 30% |

Tires

| | |
|-------------|----------------|
| Non-marking | IN240/55D 17.5 |
|-------------|----------------|

Electrical System

| | |
|-------------------|-------------------------------|
| Voltage | 48 V DC |
| Source | Eight - 6 V 360 amp batteries |
| Fluid recommended | distilled water |
| Charger | 40 amp |

Hydraulic System

| | |
|-------------------------------|--------------------------|
| Maximum pressure | 2,800 psi (19,305 kPa) |
| Reservoir capacity | 5 US gal (18.9 l) |
| System capacity | 9 US gal (34 l) |
| Maximum operating temperature | 200°F (93°C) |
| Hydraulic fluid recommended | |
| Above 10°F (-12°C) | Mobil DTE-13M (ISO VG32) |
| Below 10°F (-12°C) | Mobil DTE-11M (ISO VG15) |

Ambient Air Temperature Operating Range

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

Maximum Wind Speed

| | |
|----------------|------------------|
| Gust or steady | 28 mph (45 km/h) |
|----------------|------------------|

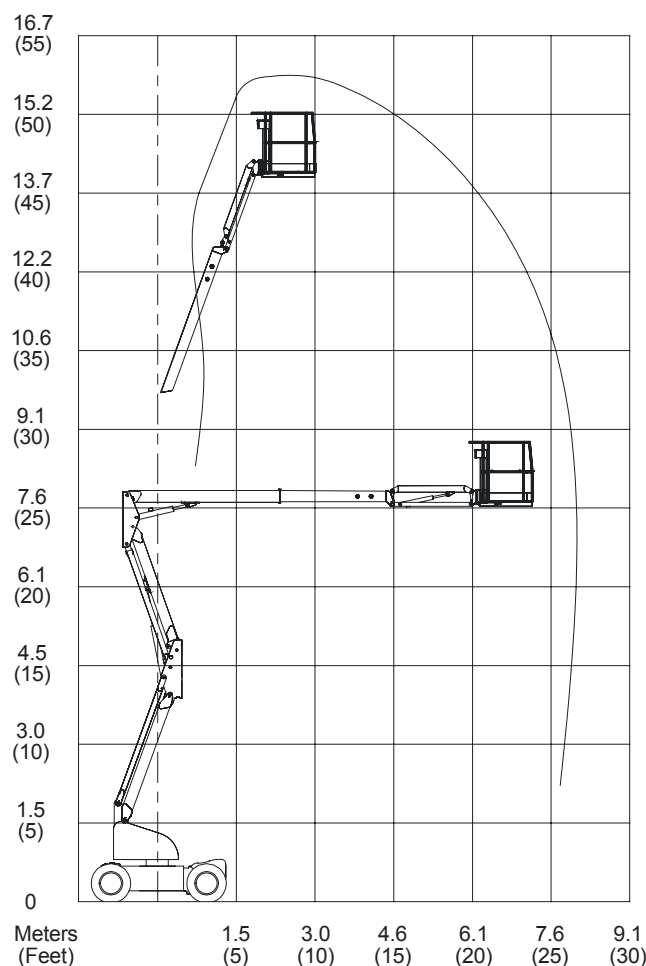
Vibration

less than 2.5 m/sec²

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