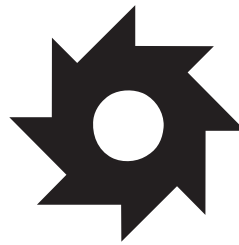


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SUNBELT[®]
RENTALS

AWP Safety Guidelines

ANSI A92 Standards

Straight Boom Lifts

Articulating Boom Lifts

Scissor Lifts

Push-type Personnel Lifts

Towable Manlifts





Sunbelt Rentals Safety Training

1-866-455-4106

www.sunbeltrentals.com/safety

This log belongs to: _____

Telephone: _____

Aerial Work Platform Safety Guidelines
Boom Lifts, Scissor Lifts,
Push-type Personnel Lifts and Towable Manlifts
In Compliance with
OSHA 1926.453 Subpart L Regulations
ANSI A92 Standards

www.sunbeltrentals.com/safety

Also Available:

AWP Safety Guidelines: OSHA 1910.178(l), en Español
Forklift Safety Guidelines: ANSI A92, English or en Español
Scaffold Competent Person Training, English or en Español
Earth Moving Safety Guidelines, English or en Español
Excavations, OSHA29 CFR, Part 1926, Subpart P



Gear Points

1. Introduction
2. Why Are We Here?
3. Types of Lifts
4. Familiarization and Delivery
5. Worksite Hazard Assessment
6. Pre-start Inspection
7. Equipment Operation
8. Shut Down
9. Effective Training



Introduction

Indemnity — The recipients of, and attendees to, this safety seminar shall indemnify and save Sunbelt Rentals from any and all claims, demands, actions and causes of action against Sunbelt Rentals whether groundless or not, in connection with any and all injuries, losses, damages or liability of any kind whatsoever arising, directly or indirectly, out of the use, distribution or sales of products or services by or through the Recipient or its affiliates whether or not the claims, demands, actions, or causes of action are alleged to have resulted in whole or in part from negligent acts or omissions of Sunbelt Rentals or from acts or omissions of such persons for which they or any of them would otherwise be strictly liable. This indemnification obligation shall include, without limiting the generality of the foregoing, reasonable attorney's fees and other costs or expenses incurred in connection with the defense of any and all such claims, demands, actions or causes of actions and shall extend to the trustees, officers, employees, and agents of Sunbelt Rentals.

Sunbelt Rentals hopes that this guide and the subsequent safety seminar will aid you in understanding how to use aerial work platform equipment. It is difficult to cover all areas and to foresee all variances. These aids should be used only as guidelines and in no way do we represent them to you as a complete list of safety rules.

There could be special job related safety requirements omitted from this guide and/or seminar. By not taking them into account, a serious accident, which could cause serious injury or death, could occur to you the employee. Refer to the Operating & Safety Handbook for the machinery you are operating, Occupational Safety & Health Act, ANSI/SIA A92.2, A92.3, A92.5, A92.6 and regulations for construction projects.

Note:

Each student must complete this classroom portion and the hands-on training in order to receive the wallet card of completion.

Introduction

What type(s) of accidents have you witnessed or been involved in? _____

Why are you here? _____

Name 3 of the ten things you need to know about AWP's?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Gear Points

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What Are the Real Costs of an Accident?

- For every \$1 of insured costs
- Uninsured costs \$6 to \$50
 - Property damage
 - Equipment & tool damage
 - Job delays
 - Overtime
 - Replacement workers
 - Hiring & training
 - Investigation time
 - Clerical
 - Litigation
 - OSHA fines

Accidents cost everyone!

Who is Responsible?

Who?

What?

Why?

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Team Name: _____

Workplace Hazards

Activity Part 1: Identify Hazards

Time: 5 minutes

Think about the job site you are currently working on (or most recently worked on). List as many real or potential hazards as you can.

Are You Competent?

Activity Part 2: Eliminate Hazards

Time: 5 minutes

Now, for each of your identified hazards, list the corrective action to be taken to eliminate the hazard.

Agenda

What are we going to cover in today's class?

What you need to know to be a safe operator of a:



Boom Lift



Scissor Lift



Push-type
Personnel Lift



Towable
Boom Lift

This includes:

1. _____
2. _____
3. _____

ANSI, SIA

- **ANSI — American National Standards Institute**
The Institute is a voluntary organization made up of users, union groups, manufacturers, rental companies, government officials, and industry representatives. ANSI writes standards for many areas. We will be addressing the ANSI standards as they apply to aerial work platforms. ANSI cannot fine you for not following their standards.
- **SIA — Scaffold Industry Association**
Works closely with ANSI in writing standards for both aerial work platforms and scaffold.



How do OSHA and ANSI interact?

OSHA references ANSI in several codes governing our industry namely CFR 1910 for industry and CFR 1926 for construction. OSHA references A92.2-1969 ANSI Standards for aerial lifts under CFR 1926.453 and CFR 1910. 67. A92.2-1969 has since been rewritten and is now A92.2, A92.3, A92.5, A92.6-2006.

Therefore OSHA can fine an employer for violation of ANSI standards. Please be advised that OSHA can write a citation referencing Section 5(a) of the Occupational Safety and Health Act of 1970, commonly known as "the general duty clause" as well.

This clause states, "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

OSHA 1926.454

Training Requirements:

(a) User training requires:

Five training areas

- Nature of electrical, fall and falling object hazards
- Correct procedures for protection of above
- Proper use of the scaffold/lift
- Load capacities of scaffold/lift
- Requirements of Subpart L

(c) Retraining as necessary to restore proficiency

- Change in worksite
- Change in equipment
- Or recognized deficiency

ANSI A92 Definitions

- **OWNERS** — who has possession of a lift by virtue of proof of purchase.
- **USERS** — person or entity that utilizes or puts into operation the lift.
- **OPERATORS** — a *qualified* person who controls the movement of the lift.
- **QUALIFIED PERSON** — one who by possession of a recognized degree, certificate, or professional standing, or by extensive knowledge, training, and experience has *successfully demonstrated* his/her ability to solve or resolve problems related to the subject matter, the work or the project.

ANSI A92 Responsibilities of the User & Operator

Operator Training:

- User directs or authorizes an individual to operate an aerial platform, shall ensure that the individual has been trained.
- User shall be responsible for the operator being trained on the model of the aerial platform that he will be operating... Only properly trained and authorized personnel shall be permitted to operate the aerial platform.
- Operator shall be trained on the same model of aerial platform or one having operating characteristics consistent with the one to be used during actual work site operation.

Five Most Serious & Common Lift Accidents

- Tip over
 - Pothole protection on scissors has reduced the number of tip-overs
- Caught between
- Ejection/fall
- Electrocution
- Struck by falling objects/machine



Course Objectives and Goals

To provide the student with:

- An understanding of your responsibilities
- An understanding of the various types of aerial equipment
- An understanding of how to conduct a workplace inspection
- An understanding of the hazards involved
- An understanding of a pre-start inspection
- Written exam
- Hands-on training and...
- **How to prevent accidents**

Why Are We Here?

- Only qualified personnel shall operate the equipment
 - Qualified through knowledge, skills and experience and has **demonstrated** their ability to operate the equipment and recognize hazards associated with the equipment
- Taking class will not make you an operator
 - Only hours in the operators seat will accomplish this
- Develop good habits
- Dispel bad habits
- Each machine is different
 - Read operator's manuals
 - Take time to get familiar with the controls



Why Are We Here?

1. Accidents cost _____

2. We will be addressing the _____ standards in this class.

3. Name two of the most common AWP accidents?



Gear Points

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OSHA 1926.453

Aerial Work Platforms

(a) General requirements

(1) Follow ANSI A92

- A92.2-2009 Vehicle-mounted elevated and rotating aerial devices
- A92.3-2006 Manually propelled elevating aerial platforms
- A92.5-2006 Boom supported elevating work platforms
- A92.6-2006 Self-propelled elevating work platforms
- A92.7-1990 Airline ground support vehicle-mounted vertical lift devices
- A92.8-1990 Vehicle-mounted bridge inspection and maintenance devices
- A92.9-1999 Mast climbing work platforms

Manually Propelled and Vehicle Mounted Lifts

- Towable A92.2
- Push-around A92.3

Some have outriggers



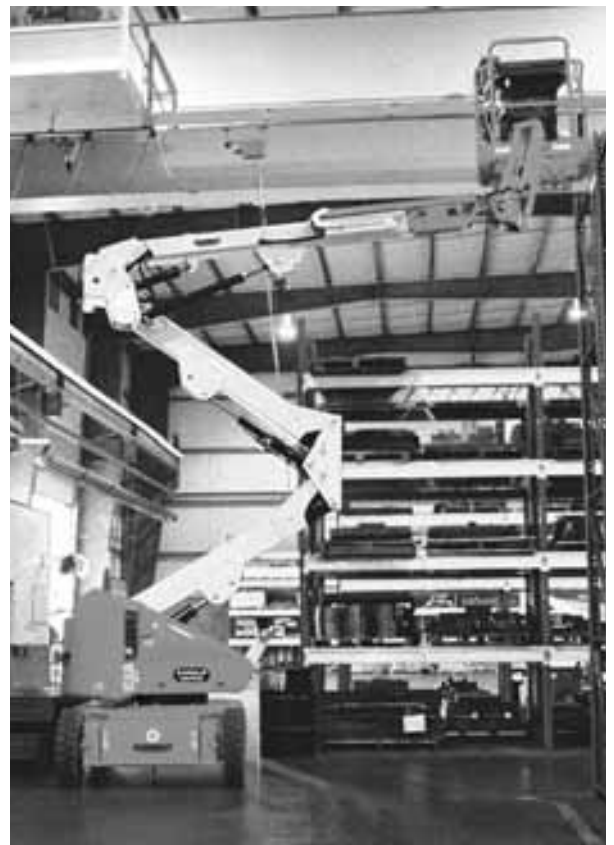
Straight (stick) Boom A92.5

- Available 40' to 135'
- 2 and 4 wheel drive
- Gas/LP, diesel, multi Fuel
- Jibs



Articulating or Knuckle Booms (up and over) A92.5

- Available 20' to 150', from 34" wide



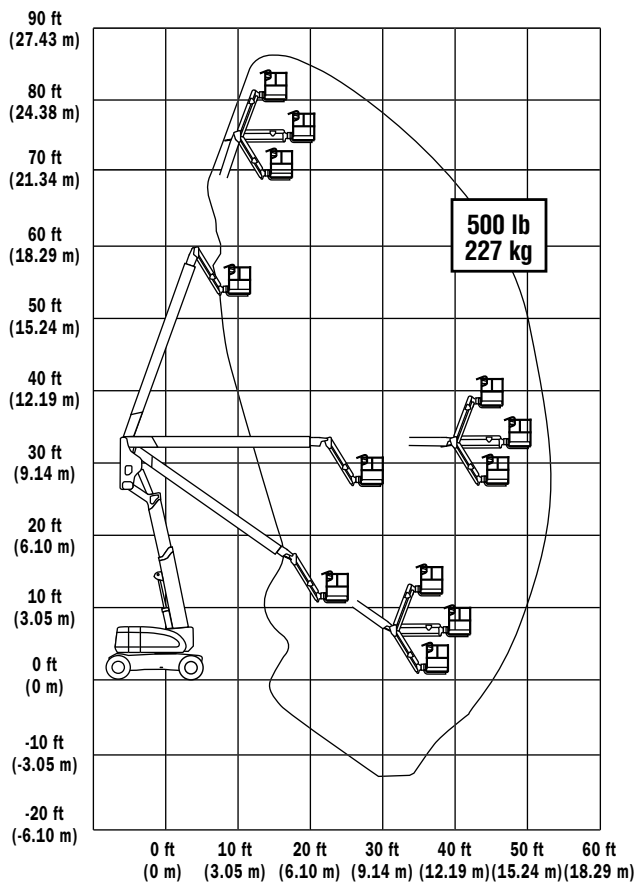
Scissor lifts A92.6

- Available 15' to 50'
- Gas/LP, electric, diesel
- Slab, rough terrain



AWP Working Height vs. Platform Height

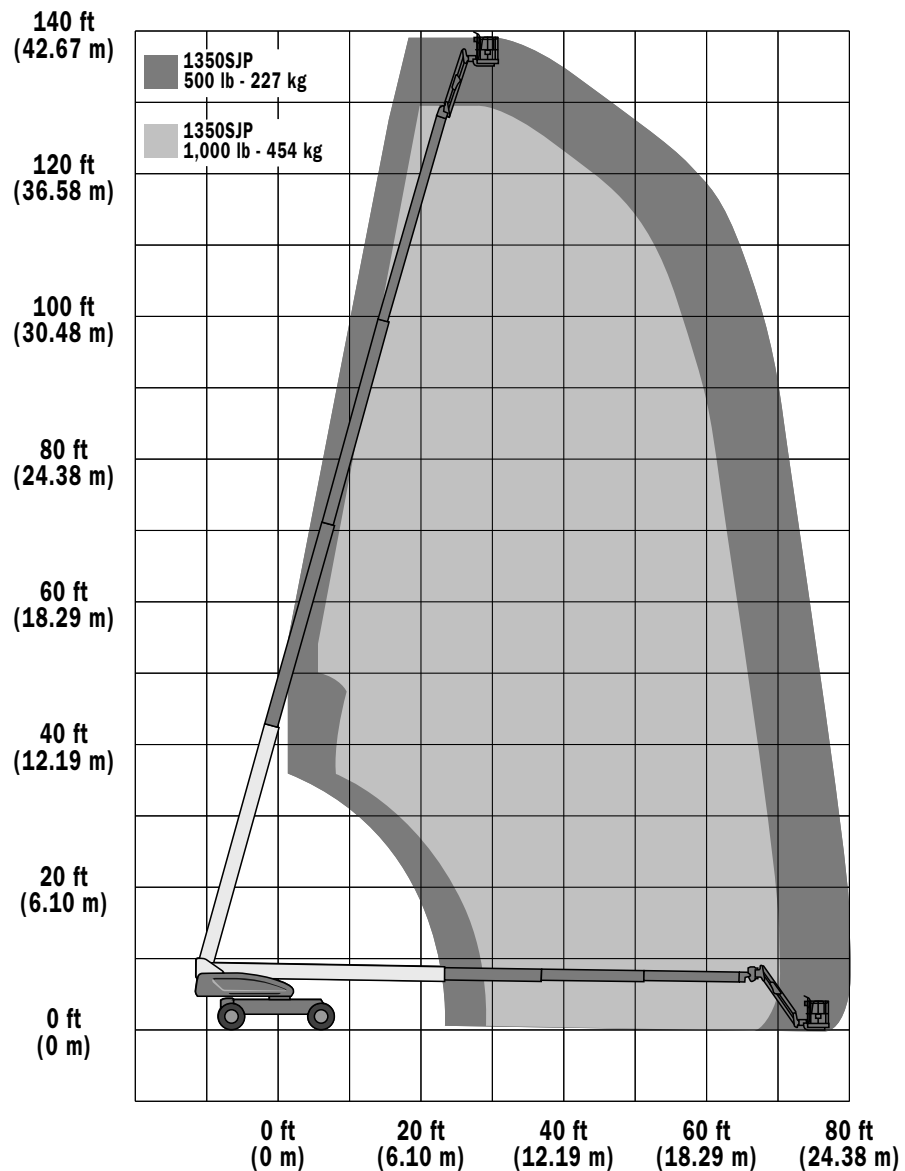
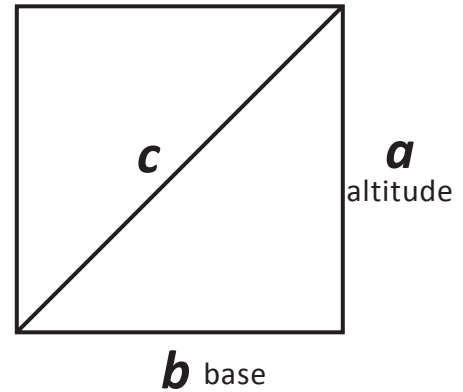
- Model numbers indicate platform height
- Working height is 6' above platform height
- JLG 800AJ = 80' platform height, articulating with a jib



Working Envelope

$$a^2 + b^2 = c^2$$

How close can I get to the work?



Types of AWP's

- How high? Where do your hands need to be?
- How close can you get the lift to the work?
- Inside or outside?
- Electric, gas/LP, diesel
- Path from drop off area to work area?
- What work are you doing?
- How many workers on lift?



Types of AWP's?

1. Name one question you need to ask when choosing an AWP _____
_____?
2. Platform height is where your _____,
are.
3. The second most important question when choosing an AWP is how _____ can you get the lift to the work.



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Familiarization and Delivery

Each machine is different. Our drivers are trained to show you all the features of each machine, which include:

- Where the operating manual and ANSI Manual of Responsibilities is located
- How to start the machine
- How to move the machine
- How to steer the machine
- How to activate the deck extensions
- Where the tie off points are
- Guardrail gates/chains
- Battery maintenance and charging
- Safety devices specific to the model
- Control functions, placards and warnings
- Fuel fill location and type of fuel
- Hydraulic oil fill location (*don't fill call service*)
- Pre-start inspection procedures
- Oscillating axles and how they operate (*boom lifts*)
- Pothole protection and how it operates (*scissor lifts*)
- Any other features on the lift

Familiarization and Delivery

Special considerations 80' boom or larger:

- Extendible axles, how they operate, 3 types
 - Jacks to raise axles
 - Booms to raise axles
 - or drive out
- Folding jibs, use and stowage for transport
- Other special considerations
 - Platform capacity limitations
 - Leveling, includes some larger scissors
 - Limited operating envelopes/range
 - Ground capacity per tire

Take your time during the delivery process.

ANSI Safety Symbols

Following are definitions of labeling you might encounter on aerial platforms:

Danger — Immediate hazards which **WILL** result in severe personal injury or death

Warning — Hazards or unsafe practices which **COULD** result in severe personal injury or death

Caution — Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage

Notice Decal — Indicates gas, diesel, hydraulic oil



Responsibilities of the User and Operator

- Manuals have to be on the machine
 - Operator's manual
 - ANSI Manual of Responsibilities

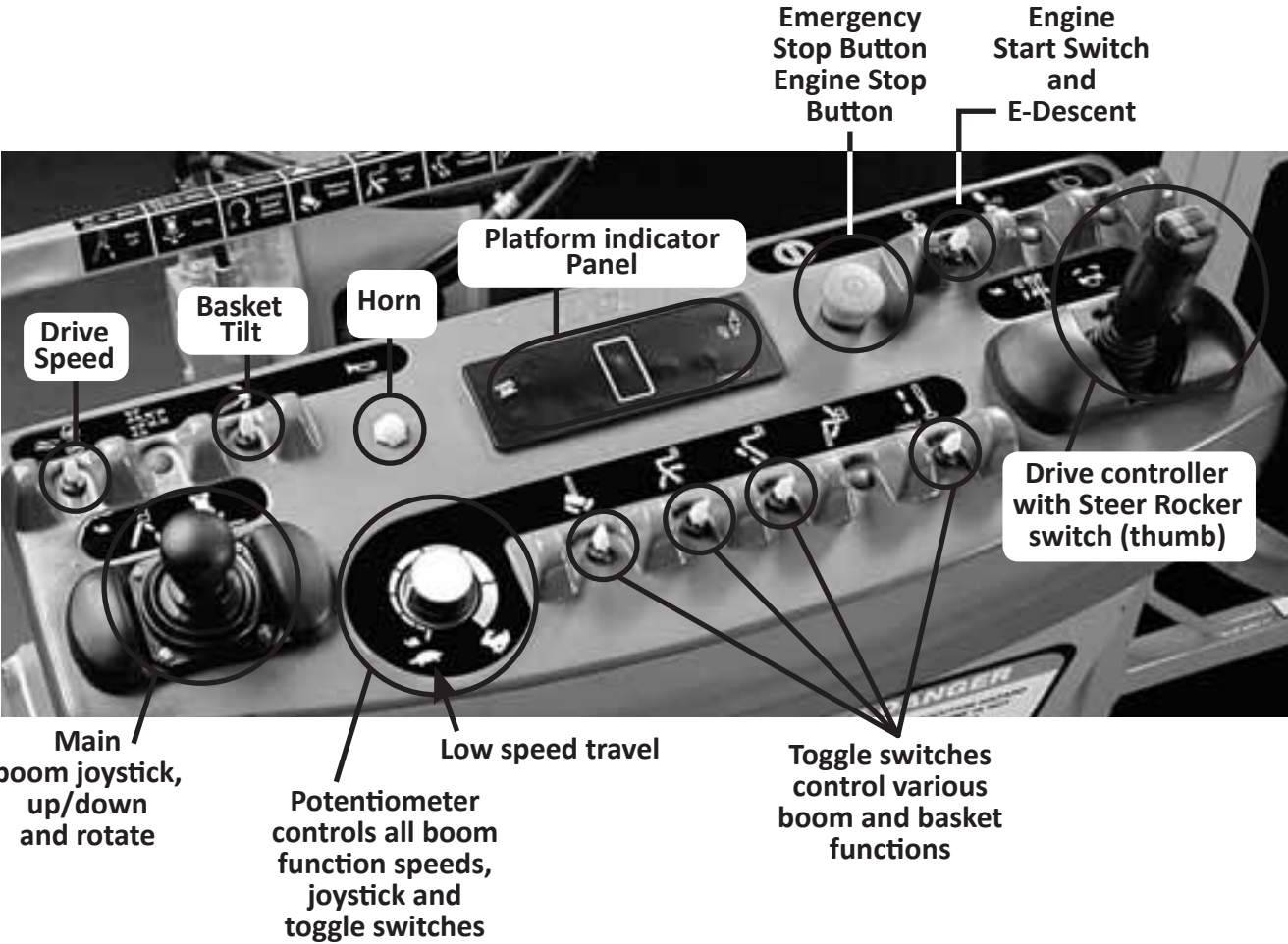


Familiarization and Delivery

- Fuel
 - Clear identification
 - Putting the wrong fuel in a machine is a very expensive (\$\$\$) mistake
- Hydraulic
 - Check but do not fill, call service if low
 - Locked or bolted



Familiarization and Delivery

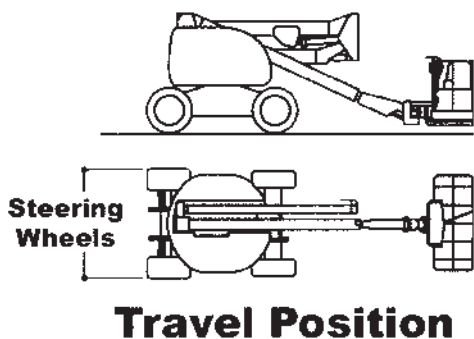


Oscillating Axles

- Axle floats with terrain
- Axle locks when the machine turret is turned
- Axle unlocks when turret is returned to travel position

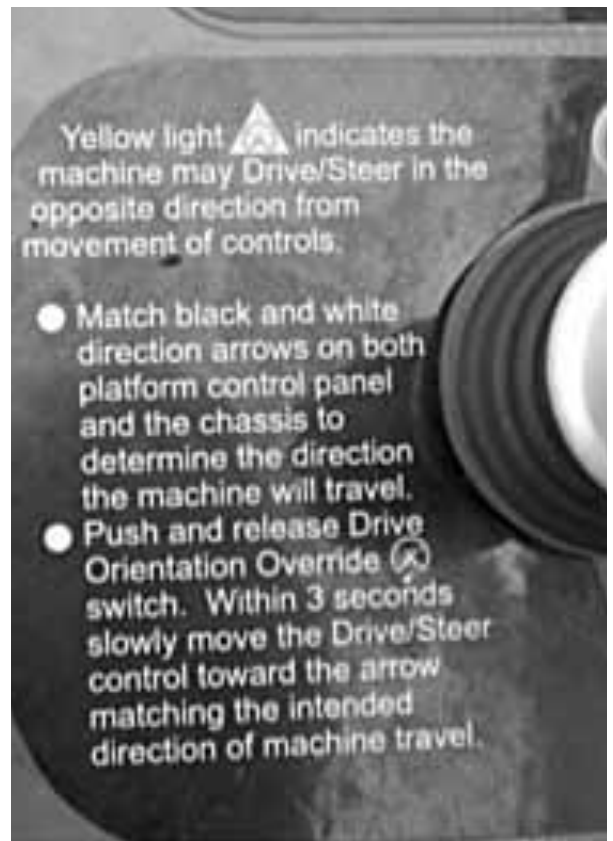
If a machine with oscillating axles gets stuck and one tire is spinning with no traction you should make sure:

- The machine is rotated into the travel position with the steer tires leading the machine
- The speed selector is in the climbing hill mode
- That the boom is retracted and lowered to below the horizontal position
- And try driving it out.



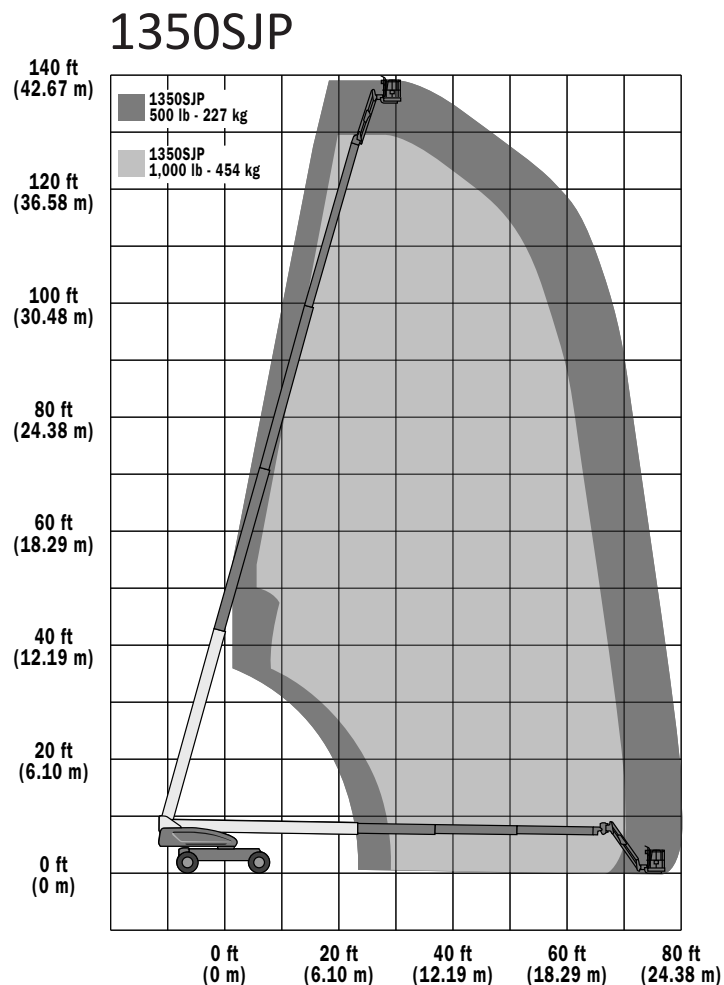
Drive Enable Switch

- Some booms are equipped with a drive enable switch.
- When the boom is rotated over one of the drive tires or out of the travel position some machines will not drive without operating a drive enable switch.
- This alerts the operator that the machine may not drive in the direction you move the drive joystick because you have rotated the boom.



JLG Ultra Booms Capacity Selector

- 500 lb. capacity gives you full range, 1,000 or 750 lb. capacity gives you limited range
- With 500 lb. capacity selected Jib Plus rotates, with 750 lb. or 1,000 lb. selected jib will not rotate



Ground Control Start Switch, Enable Switch and Emergency Descent Switch

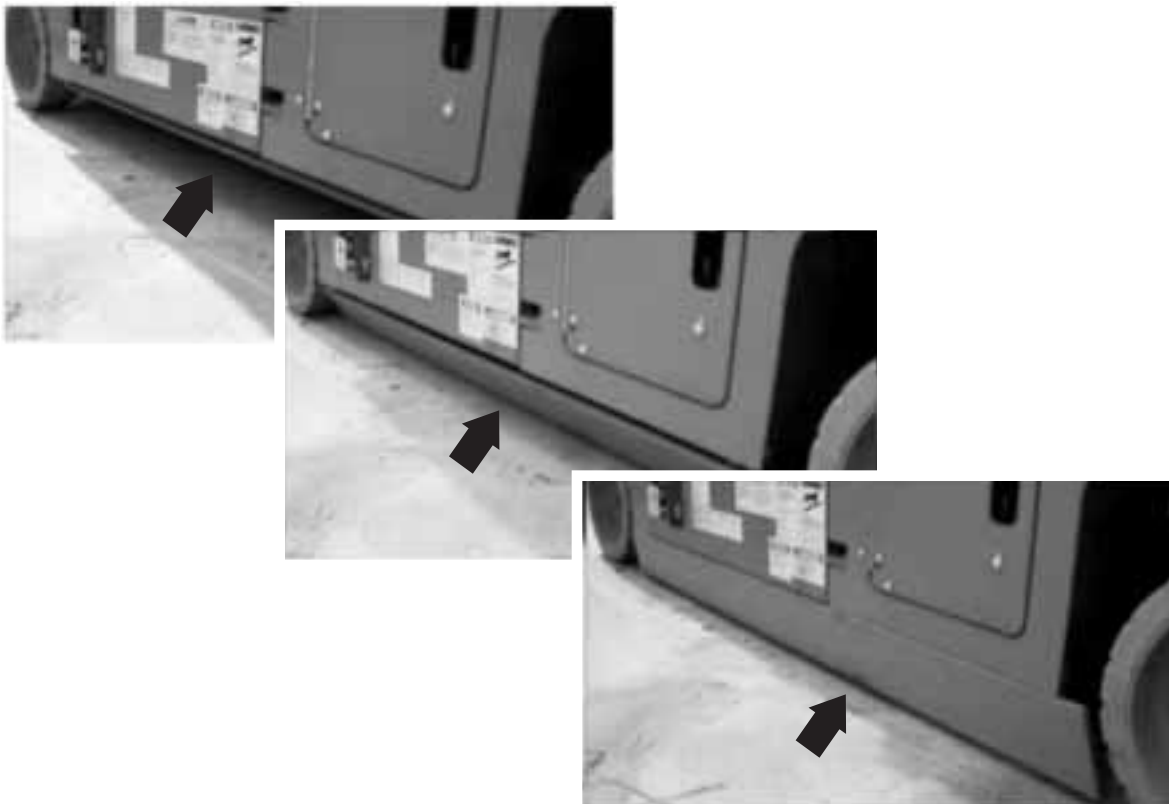
- Switch up to start engine
- Once engine is running, switch down to enable the ground controls
- Without the engine running, operator must depress the start switch downward to enable the emergency descent ground controls
- Ground control switches must now (ANSI 2006 requirement) have an enable switch, meaning none of the ground control switches should operate a function unless this enable switch is pressed
- Genie has always had an enable switch at the ground controls, but JLG has not
- JLG now has one and it is the same switch that starts the engine. Once the engine is running you have to depress the same switch to operate any of the ground control functions
- When the engine is not running the same switch, when depressed, operates the emergency descent motor and then you can operate any of the ground control switches to lower the boom in case of an emergency



Pothole Protection

Scissor Lifts

- Designed to keep the lift from tipping over when driven into a hole
- Troubleshooting tip: If scissor will not drive elevated, pothole protectors may not be fully deployed





Familiarization & Delivery

- 1) _____ on scissor lifts prevents the lift from tip-over when the operator accidentally drives a wheel into a hole.

- 2) If I rotate the boom 180 degrees from the travel position it may not drive until I activate the _____ switch.

- 3) Boom lifts have an _____ switch to get the platform down in case the engine stops working.



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Workplace Inspection Before and During Operation

- Drop-offs, holes
- Bumps, floor obstructions
- Slopes
- Debris
- Overhead obstructions, power lines
- Hazardous locations
- Inadequate surface to support
 - Walk the work area
 - Look for holes in floors, plywood covered holes
(Lifts will break through plywood covered holes)
- Wind, weather
- Presence of unauthorized persons
- Other possible conditions

Weights

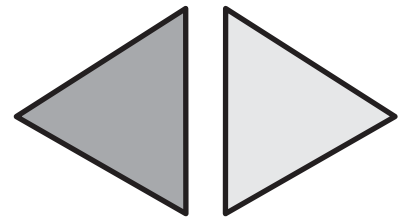
Average auto	3,000 lbs.
20' Narrow scissor	3,400 lbs.
33' Scissor	6,700 lbs.
40' Scissor	9,200 lbs.
40' Boom lift	12,000 lbs.
60' Boom lift	24,000 lbs.
80' Boom lift	30,000 lbs.
120' Boom lift	44,000 lbs.



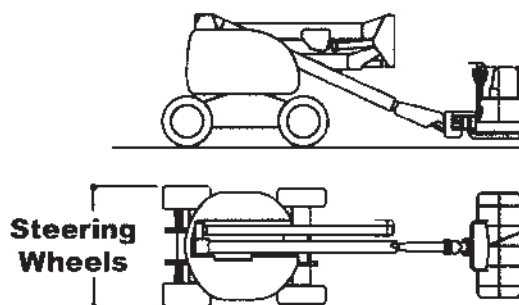
JLG1250AJP

Direction of Travel

Because you can rotate the boom 180 degrees from the travel position, moving the drive joystick forward (away from you) could move the machine backwards or the opposite direction that you think the lift will go.



1. Look at the chasis arrows
2. What direction do I want to move?
3. Move controller in the desired direction.
Black or White arrow direction,
Blue or Yellow on Genie Lifts



Travel Position





Worksite Hazard Assessment

- 1) Stay _____ feet away from all power lines.

- 2) Can the _____ support the machine?

- 3) Before driving look at the chassis _____
and match those up with the _____ on
the drive controller.



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OSHA 1926.451

Safety Gear & Procedures

- Starts with **YOU**, are you protected?
 - (h) Falling object protection
 - In addition to wearing hard hats...

STEEL TOE BOOTS



HARDHAT



SAFETY GLASSES



SAFETY HARNESS

AWP Harness/Lanyard Kit

- Adjustable Lanyard from 4' to 6'
- New ANSI Z359 3.6M, 3,600 lb. gate snap-hook
- Carrying bag



Pre-start Inspection

Before the start of the day or before the start of the work shift

- Operating & emergency controls
- Safety devices
- Personal protective devices
- Air, hydraulic & fuel system leaks
- Cables, wiring
- Loose, missing parts
- Tire, wheels
- Placards, warnings, control markings, manuals
- Outriggers, stabilizers, other structures
- Guardrail systems
- Items specified by manufacturer

DANGER — Hydraulic Leaks

- Do not put your hands around hydraulic lines, especially if you suspect a leak
- High pressure injection injuries can be fatal
- If injured by high pressure injection, seek professional medical attention IMMEDIATELY!!!

Your life or limb may depend on immediate action



Manuals

- Operator's manual
- ANSI Manual of Responsibilities
- Both have to be on the lift!



Emergency Descent Controls

- Electric pump and switch will operate hydraulics to lower you to ground if engine will not run
- Scissors have emergency descent handle at base of lift
- Newer scissors may lower with scissor lower switch on panel



Tilt Sensors

Check Tilt Sensors

- Make sure light and/or horn sounds when out of level
- Some models may require you to drive the machine to unlevel area to check



Refueling

Do NOT run out of fuel!!!

- Shut off lift
- DO NOT SMOKE near lift
- Keep sparks and flame away
- Do not cut or weld
- Know the type of fuel
- Attend fuel nozzle
- Do not overfill
- Report spills
- Refuel at end of day to reduce the amount of condensation that forms overnight inside the tank
- Make SURE you put the right fuel in the fuel tank
- Putting the wrong fuel in the tank is a MAJOR, EXPENSIVE (\$\$\$) mistake

Do NOT run out of fuel!!!

Refueling Liquid Petroleum (LP)

- Wear proper PPE, gloves, safety glasses/goggles
- Close LP tank valve
- Start and run lift until engine stops
- Turn lift key switch off
- Disconnect LP tank hose
- Inspect connections, hose, valve
- Reconnect new tank hose and latches
- Open valve slowly and observe for leaks, if leak is observed, close valve
- Do not put bare hands near or around hoses or couplings
- Do not use damaged tanks, hoses or couplings

WARNING—Some states require certification training to refill LP tanks.



Pre-start Inspection

- 1) _____ manuals are required on the AWP and they are the _____ manual and the _____ Manual of Responsibilities.

- 2) A pre-start inspection starts with _____.

- 3) There is an _____ descent on AWP's to get you down if you get stuck in the air.



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OSHA 1926.451

Aerial Work Platforms

(b) Specific Requirements

- Field modification
- Written certification from manufacturer or equivalent
 - 2 Extensible and articulating boom platforms
 - OSHA definition where the basket can be positioned completely outside the wheel base of the machine
 - Only authorized persons shall operate
 - Belting off to adjacent structure not permitted
 - Employees shall stand firmly on the floor of basket and not stand on planks, guardrails, ladders, etc.
 - Body belt and lanyard shall be worn
 - Boom lift ONLY (OSHA) unless manufacturer requires on scissor
 - Fall restraint, not fall arrest, guardrails are fall protection
 - Boom and basket load limits shall not be exceeded

OSHA 1926.451

Aerial Work Platforms

(g) Ensure all personnel in the platform are wearing fall protection devices and other safety gear as required at all times.

- Anchorage point in the basket, do not tie to guardrail
- Fall restraint, guardrails are fall protection
- Designed to keep you in the basket because of Catapulting effect of boom lift
- OSHA forbids tying to an adjacent structure while in the basket
- Required on scissors when the manufacturer requires it
- Employer's ***competent person*** must first determine the fall protection required, specifically Fall Arrest or Fall Restraint then determine lanyard length and proper usage

Transferring Out of a Basket at Elevation

It is *not recommended*, it is not an elevator

- Double lanyard system
- Position the basket within 12" of surface
- Shut off lift
- Snap your second snap hook to elevated surface anchor point, leaving yourself hooked to lift
- Disconnect your lift hook off
- Carefully step to elevated surface
- Close guardrail gate
- Always remain fall protected when elevated



During Operation

The aerial platform shall be used in accordance with this ANSI A92 Standard. The user shall ensure that before each movement of the aerial platform, if repositioning of the platform, that the operator shall ensure:

- The aerial platform is operated on a surface within the limits specified by the manufacturer.
- The outriggers, stabilizers, extendible axles or other stability enhancing means, are used as required by the manufacturer.
- Guardrails are installed and access gates or openings are closed per manufacturer's instructions.
- The load and its distribution on the platform and any platform extension are in accordance with the manufacturer's rated capacity for that specific configuration.

- There is adequate clearance from overhead obstructions.
- Stay 10 feet minimum away from overhead power lines.

Boom Lifts

- Ensure all personnel in the platform are wearing fall protection devices and other safety gear as required at all times.



Tip Over Accidents

- Operate only on flat, firm level ground!!!
 - Refer to operator’s manual
 - Most tested to 5 degrees, may be less as you elevate
 - Alarm will sound if out of level
- Slope vs. Degrees

Percent Slope to Degrees Conversion

Percent Slope	0	10	20	30	40	50	60	70	80	90	100	120	140	170	200
Degrees	0°	6°	11°	17°	22°	27°	31°	35°	39°	42°	45°	50°	55°	60°	64°



Minimum Safe Approach Distance

- Voltage range
 - 0 to 300v Avoid contact
 - 300v to 50kv 10 feet
 - 50kv to 200kv 15 feet
 - 200kv to 350kv 20 feet
 - 350kv to 500kv 25 feet
 - 500kv to 750kv 35 feet
 - 750kv to 1000kv 45 feet
- Lifts are not insulated
 - Contact will almost certainly cause death
 - Delays in rescue until power is cut off often contributes to fatality
 - Notify power company if you have to work closer than chart, then have them
 - Cut off power
 - Relocate power
 - Insulate lines, **WARNING:** You must still remain 10 feet away from insulated lines

Warning and Instructions

Altering safety devices — Altering or disabling of interlocks or other safety devices shall be prohibited.

Battery charging — Batteries shall be charged in a well ventilated area free of flame, sparks or other hazards which may cause fire or explosion.

Capacity limitation — Rated capacities shall not be exceeded when loads are transferred to the platform at any height.

Driving on slopes — The aerial platform shall not be driven on grades, side slopes or ramps exceeding those for which the aerial platform is rated by the manufacturer.

Elevated driving requirements — Before and during driving while the platform is elevated, the operator shall:

- (a) Maintain a clear view of the path of travel.
- (b) Maintain a safe distance from obstacles, debris, drop-offs, holes, depressions, ramps and other hazards to ensure safe elevated travel.
- (c) Maintain a safe distance from overhead obstacles.

Entanglement — Care shall be taken to prevent rope, electric cords and hoses from becoming entangled in the aerial platform.

Fall protection — guardrail systems provide fall protection. If other types of fall protection or restraint are required consult the manufacturer of the lift.

Fueling — The engine shall be shut down while fuel tanks are filled. Fueling shall be done in a well ventilated area free of flame, sparks, or other hazards which may cause fire or explosion.

Improper stabilization — The aerial platform shall not be positioned against another object to steady the platform.

Misuse as a crane — The aerial platform shall not be used as a crane.

Misuse as a jack — The boom and platform of the aerial platform shall not be used to jack the wheels off the ground unless the machine is designed for that purpose by the manufacturer.

Personnel footing — Personnel shall maintain a firm footing on the platform floor while working therein. Use of planks, ladders, or any other devices on the aerial platform for achieving additional height or reach shall be prohibited.

Personal Protective Equipment (PPE) — Ensure all personnel on the platform wear personal protective equipment as required.

Precaution for other moving equipment — When other equipment and vehicles are present, special precautions shall be taken to comply with local ordinances or safety standards established for the workplace. Warnings such as, but not limited to, flags, roped-off areas, flashing lights and barricades shall be used.

Rated horizontal force — Do not exceed the manufacturer's rated horizontal force.

Reporting potentially hazardous locations — The operator shall immediately report to his supervisor any potential hazardous location(s) (environment) which become evident during operation.

Reporting problems or malfunctions — The operator shall immediately report to his supervisor any problems or malfunctions of the aerial platform which become evident during operation. Any problems or malfunctions that affect the safety of operation shall be repaired prior to continued use.

Securing the aerial platform — Implement means provided to protect against unauthorized use including instruction to not rent, lease or provide the aerial platform for any form of beneficial use unless authorized.

Snagged platform — If the platform or elevating assembly become caught, snagged, or otherwise prevented from normal motion by adjacent structure or other obstacles such that control reversal does not free the platform,

all personnel shall be removed from the platform before attempts are made to free the platform using ground controls.

Stunt driving — Stunt driving and horseplay shall not be permitted.

Travel speed — Under all travel conditions, the operator shall limit travel speed according to conditions of ground surface, congestion, visibility, slope, location of personnel, and other factors causing hazards of collision or injury to personnel.

Unauthorized use — The operator shall implement means provided to protect against use by unauthorized person(s).

Unusual operating support conditions — The aerial platform shall not be operated from a position on truck, trailers, railway cars, floating vessels, scaffolds or similar equipment unless the application is approved in writing by the manufacturer.

Work area — The operator shall ensure that the area surrounding the aerial platform is clear of personnel and equipment before lowering the platform.

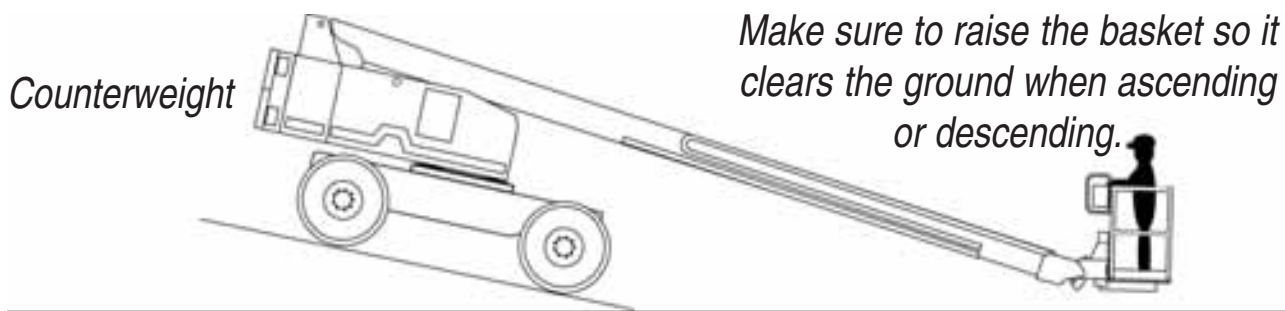
Ramping

- Ramping is the “cushion” built into boom controls that allow the boom and drive functions to come to a slow stop or a slow start.
- For example: If you are operating the boom-up joystick, and you push the joystick all the way up so the boom rises as fast as it can and then you let go of that joystick the boom will continue to go up.
- The distance it goes up is dependent on how long of boom you are operating and how much stick you have extended out.
- If you are on a 40' it may travel 2-3 feet. On an 80' it may be as much a 5-6 feet. This is normal operation
- SLOW DOWN.

Driving on Slopes

The Correct Procedure

Keep the counterweight uphill from you. Be sure and raise the basket enough to clear the ground.

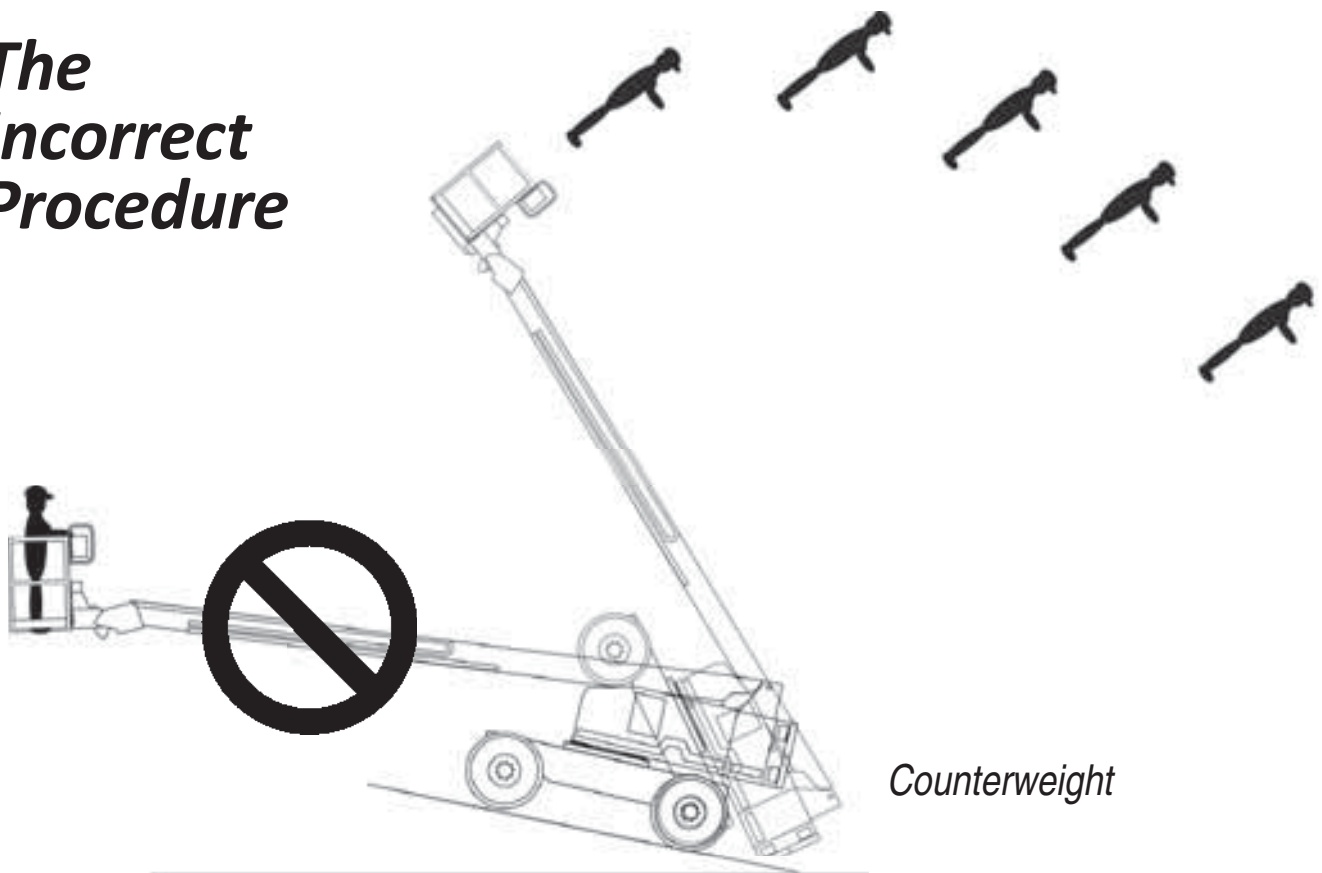


Be sure and put travel speed in “Climbing Hill” mode.



Driving on Slopes

The Incorrect Procedure



Snagged Platform

- If, when operating a control function, nothing seems to be happening, STOP!
- Look around and make sure the machine, boom, basket is not caught on something.

Troubleshooting

Machine Will Not Start

- Both **Red Emergency** stop buttons must be pulled in order for machine to start in the platform.
- Make sure key switch is switched to basket controls.
 - Never run out of fuel, EVER!!!

OSHA Requirements

- Only authorized persons shall operate.
 - Take the key with you.
- Boom and basket load limits shall not be exceeded.



OSHA 1926.451

Aerial Work Platforms

(c) Criteria for Supported Scaffolds

- (iv) Front-end loaders shall not be used
- (v) Forklifts only if platform is attached to forks and not moved horizontally while occupied

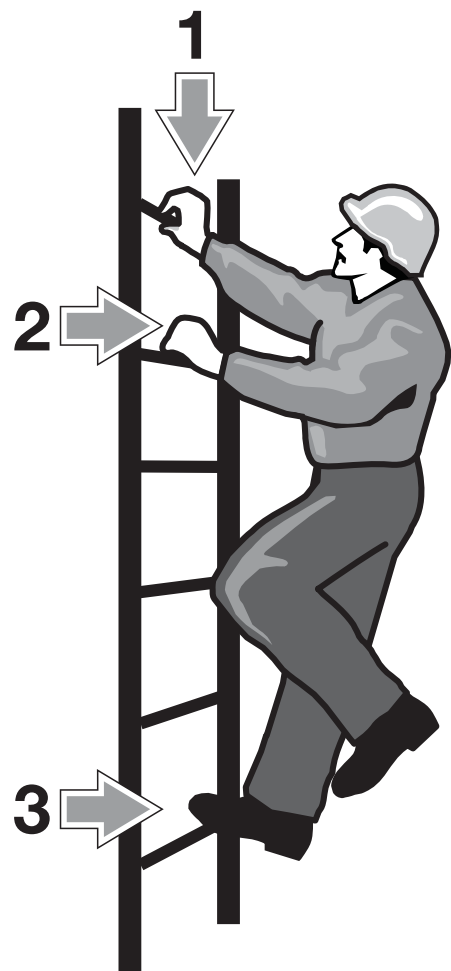
Most rough terrain forklift manufacturers will not allow this practice; Lull, JCB, Skytrak, Gradall, Square Shooter, Teledyne, Case

There may be some warehouse forklifts that will allow this practice, usually the platform is equipped with some controls



Mounting and Dismounting

- Three-point contact
 - Clean shoes off
 - Two feet and one hand
or
Two hands and one foot always on the machine or ground
 - Face the machine
 - Sit in the seat, adjust the seat, fasten seat belt
 - Do not get off unless machine is properly shut down
 - Do not swing off, slide out, etc.
 - Exit facing the machine, maintaining the “three-point contact”

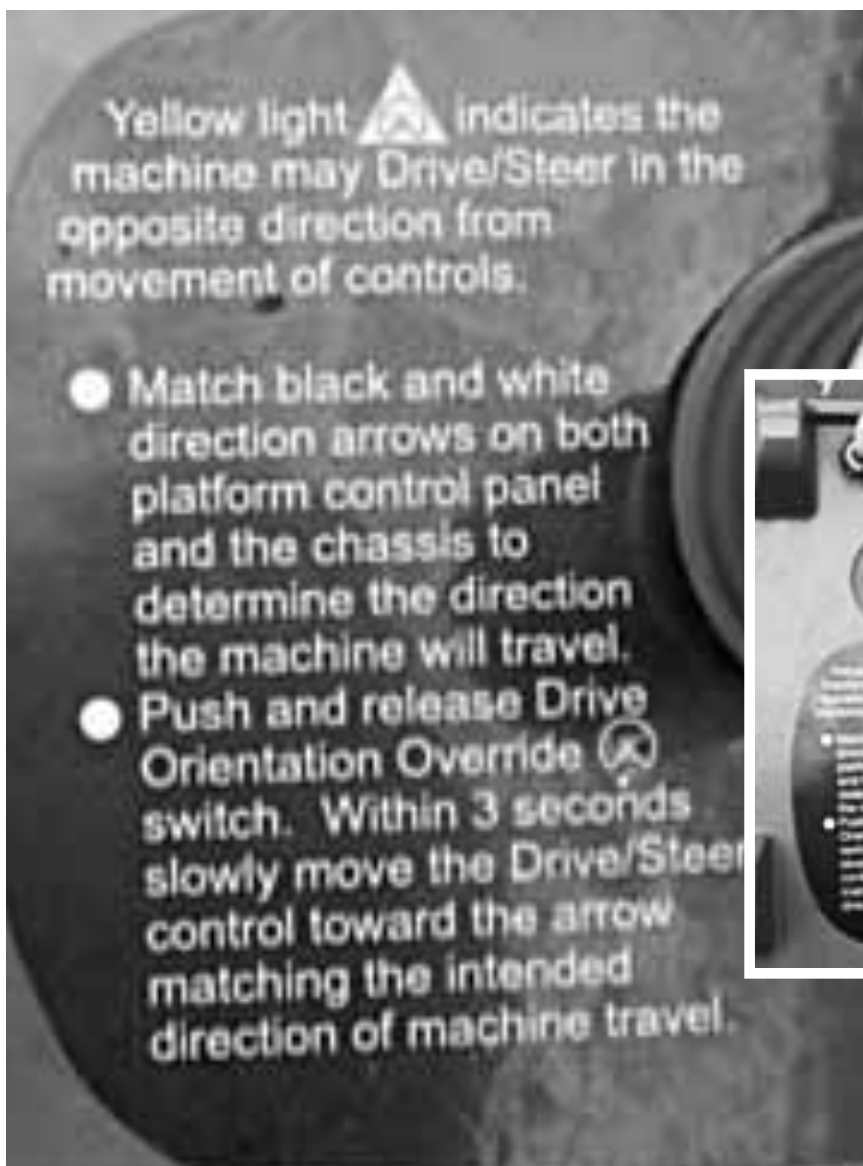


JLG Ultra Boom Controls and Limitations

- Drive enable switch
- Platform capacity limitations
- Control panels
- Automatic telescope in when booming down or manual
- Potentiometer dial
- Steer modes



Drive Enable Switch JLG Ultra Booms

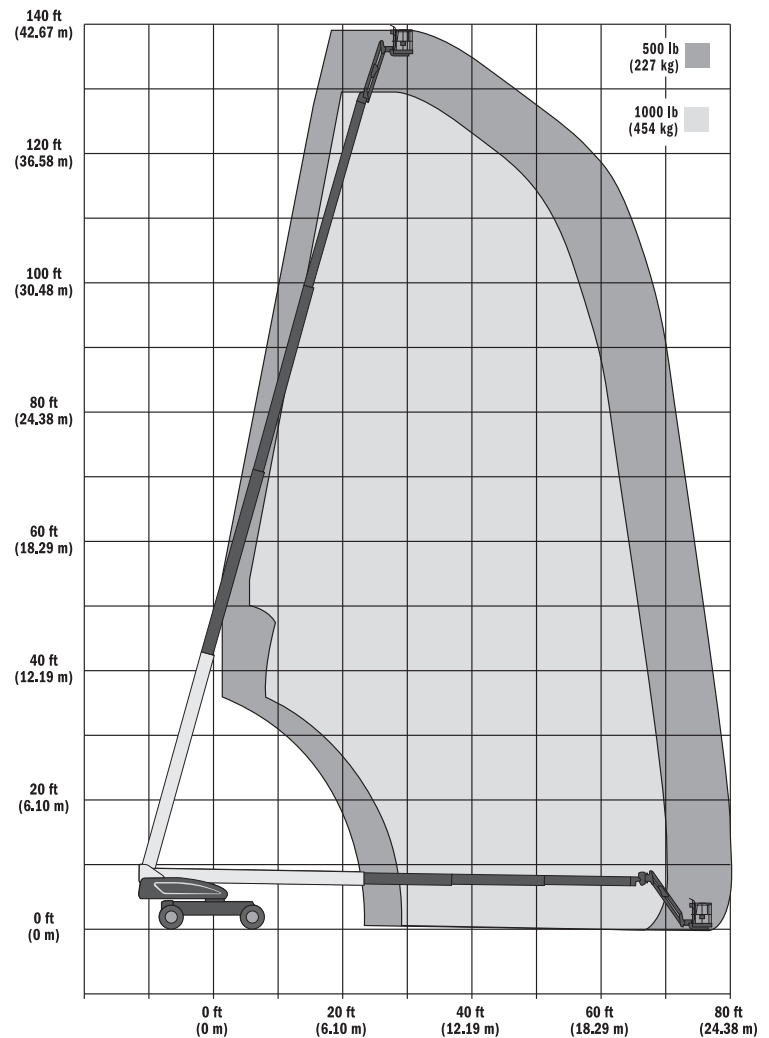


JLG Ultra Booms Capacity Selector

500 lb. capacity gives you full range,
1,000 or 750 lb. capacity gives you limited range.



1350SJP



JLG Ultra Boom 1250AJP

**2,4 or
crab steer**

**Axle extend and retract,
must drive while doing this**



**Press and hold to fold jib
under for transport, all Ultra
Boom models, this must be
done for transport or the
machine will be over height.**

**Toggle switch raising and
extending for tower boom,
1250AJP model**

JLG Ultra Boom

1200SJP, 1350SJP

- When booming up to or down from full height you can either let the machine telescope out/in automatically (up position) to stay inside the operating envelope or telescope in yourself (down position)



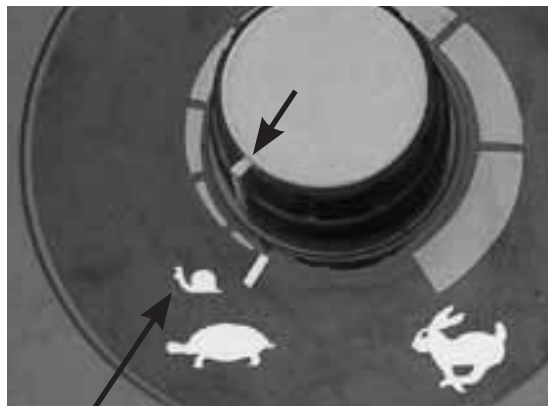
JLG Potentiometer



Boom and travel/
speed controls
SLOW (Turtle)



Boom controls
full speed
(Rabbit)



Boom controls
slow speed
(Snail)

JLG Ultra Boom Steer Modes

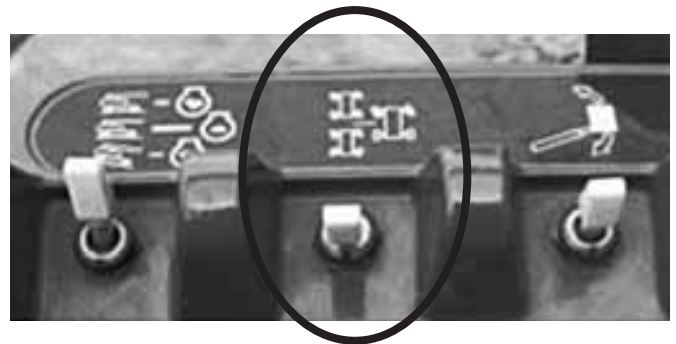
2 Wheel Steer



4 Wheel Steer



Crab Steer





Equipment Operation

1. Always maintain _____ points of contact on the machine or ground when getting on and off of equipment.
2. Ground controls have an _____ switch for operating the ground controls when the engine is running.
3. Personnel shall maintain a _____ on the platform floor while working therein. Use of planks, ladders, or any other devices on the arial plaform for achieving additional height or reach shall be prohibited.



Gear Points

1. Introduction
2. Why Are We Here?
3. Types of Lifts
4. Familiarization and Delivery
5. Worksite Hazard Assessment
6. Pre-start Inspection
7. Equipment Operation
8. Shut Down
9. Effective Training

Shut Down

- Always park on level surface or chock wheels
- Lower platform to the ground
- Neutralize controls
- Push emergency stop button to shut off machine, disabling the controls
- Unfasten lanyard
- Dismount properly
- Shut off key switch at ground controls
- Remove key
- Refuel at end of day



Summary

- Why Are We Here?
- Types of AWP
- Familiarization and Delivery
- Worksite Hazard Assessment
- Pre-start Inspection
- AWP Operation
- Shut Down



Gear Points

1. Introduction
2. Why Are We Here?
3. Types of Lifts
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TEST

Circle the correct answer

1. A “DANGER” warning label means

- A. Hazards or unsafe practices which COULD result in minor personal injury or product or property damage
- B. Immediate hazards which WILL result in severe personal injury or death
- C. Hazards or unsafe practices which COULD result in severe personal injury or death
- D. Be careful

2. A qualified person is one who

- A. Has attended this seminar
- B. Has a college degree
- C. Has worked in an industry for many years
- D. One who by possession of a recognized degree, certificate, or professional standing, or by extensive knowledge, training, and experience and has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.

3. If an operating manual is missing from an aerial work platform

- A. You can operate the lift only if you know what your doing
- B. The lift is red tagged DOWN and cannot be operated until the manual is replaced on the machine
- C. You can operate the machine only under the supervision of a supervisor
- D. You can operate the machine only if your supervisor says so

4. A pre-start inspection is done

- A. Before the start of the day
- B. Before the start of the work shift
- C. Every time I get on the lift
- D. Either A or B

5. A pre-start inspection does not include

- A. Personal protective devices
- B. Drop-offs and holes
- C. Operating manuals
- D. Guardrail system

6. If the guardrail gate is not operating properly

- A. Operate the machine staying away from the opening
- B. Tie yourself off to the machine and stay away from the opening
- C. Red tag and down the machine until it is repaired
- D. Take the day off with pay

7. Workplace inspections are required

- A. Only before work starts
- B. Only after work starts
- C. Only during work
- D. Before the aerial platform is used and during use

8. Workplace inspections include

- A. Drop-offs and holes
- B. Debris
- C. Electrical wires
- D. All of the above and more

9. Inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations means

- A. Air pressure in the tires and wheels
- B. The surface the machine is riding on
- C. Bumps and floor obstructions
- D. All the above and more

10. You are required to stay at least

- A. 5 feet away from overhead power lines
- B. 8 feet away from overhead power lines
- C. 10 feet away from overhead power lines
- D. 20 feet away from overhead power lines

11. Personal fall protection devices are required by OSHA

- A. Boom lifts only
- B. Scissor lifts only
- C. Boom lifts all the time and scissor lifts when the manufacturer requires it to be used
- D. Only when the boom platform is 6 feet or more off the ground

- 12. Use of planks, ladders, or any other devices on the aerial platform for achieving additional height or reach**
- A. Shall be prohibited
 - B. Is allowed as long as you are tied off to the platform
 - C. Is allowed
 - D. None of the above
- 13. It is OK to use a lift as a crane as long as you do not exceed the lifts limitations as set forth by the manufacturer.**
- True False
- 14. It is OK to operate an aerial work platform from a floating vessel**
- A. If you can get the insurance
 - B. If the manufacturer approves it in writing
 - C. If the vessel is docked
 - D. None of the above

15. While driving in the elevated position the operator shall

- A. Maintain a clear view of the path of travel
- B. Maintain a safe distance from obstacles, debris, drop-offs, holes, depressions, ramps, and other hazards to ensure safe elevated travel
- C. Maintain a safe distance from overhead obstacles
- D. All of the above

16. Records of

- A. Operator training and annual inspections shall be retained for at least four years
- B. Operator training and repairs shall be retained for at least four years
- C. Operator training, annual inspections and repairs shall be retained for at least three years
- D. Operator training, annual inspections and repairs shall be retained for at least four years

17. The weight of a lift on all the tires is always distributed equally.

True False

18. When a scissor lift with pothole protection will not drive when elevated,

- A. Call the service department
- B. Check the pothole protection and make sure it is going down into place
- C. It's just another junk piece of equipment
- D. Lower the unit and drive to where you need to go and then elevate

19. When driving a boomlift up or down a hill or ramp always keep the counterweight uphill from you the operator.

True False

20. If I notice that the boomlift is not lowering when I am activating the boom lower function I should

- A. Stop immediately and raise the boom slightly, then look around and see if the boom is in contact with something
- B. Keep lowering and wiggle the function switch/stick to make sure the boom is lowering
- C. Jump up and down in the basket to get the boom to go down
- D. Call the service department

- 21. If the boomlift becomes stuck in the mud I should**
- A. Call a tow truck
 - B. Have a backhoe push me out
 - C. Stick the basket into the mud and extend the boom out to push it out
 - D. Make sure the boom is lowered and retracted and the basket is rotated to the travel position, straighten out the steer tires, make sure the drive speed switch is in low speed/high torque setting for climbing hills and try driving it out
- 22. Given the choice of walking up 5 flights of stairs or riding a boomlift to the roof which is recommended**
- A. Ride the boomlift
 - B. Walk the stairs
- 23. To start a diesel or gas boomlift from the basket**
- A. Only the emergency stop button on the platform has to be pulled
 - B. The foot switch needs to be depressed
 - C. The ground control selector switch needs to be switched to ground controls
 - D. Both the emergency stop buttons must be pulled, the ground control selector switch needs to be switched to basket controls and do not step on foot switch

24. The part of the boom that extends out from the main boom section is called the

- A. Fly boom
- B. Knuckle boom
- C. Tower boom
- D That thingy that extends out

25. When conducting the pre-start inspection I should check the fuel level in the tank and the type of fuel every time.

True False

26. A typical 60' foot boomlift weighs

- A. 12,000 lbs.
- B. 10,000 lbs.
- C. 5,000 lbs.
- D. 24,000 lbs.

27. If the scissor lift I am operating has pothole protection then holes in the floor I am traveling on are not a concern.

True False

28. When driving a boom lift first check the _____ on the chassis for direction of travel and match that up with the drive control joystick _____ on the control panel.

- A. Steer tires
- B. Arrows, Black and White on JLG or Blue and Yellow on Genie lifts
- C. Drive tires
- D. None of the above

29. Since travel speed is slow when elevated it is best to lower the platform, then drive to where you have to go, instead of traveling when elevated.

True False

30. On boomlifts there is an emergency descent device in the basket to lower the boom in case of an emergency.

True False

31. Once I complete my workplace inspection I do not need to do an inspection while operating the lift.

True False

32. Motion alarms, flashing beacons, etc.

- A. Must be working if required by the job site
- B. Must be working if the lift has them installed
- C. Do not need to be working
- D. Do not need to be working if the job site does not require them

Additional Resources

www.sunbeltrentals.com

www.jlg.com

www.genieindustries.com

www.skyjack.com

www.scaffold.org

www.osha.gov

Name: _____

Company: _____

Lift to be operated, Make: _____ Model: _____

Date: _____ Evaluator: _____

Pre-Shift Inspections	Completed	NA
Workplace Inspection		
Operating & Emergency Controls		
Safety & Personal Protective Devices		
Leaks - Hydraulic, Air, Fuel		
Cables and Wiring Harness		
Loose and Missing Parts		
Tires and Wheels		
Warning Decals & Op. Manual		
Stabilizers, Outriggers & Ext. Axles		
Guardrail Systems		
Manufacturers Specified Items		
Operating Skills		
Smooth Starts		
Hits or Bumps a Fixed Object		
Correct Direction Selection		
Good Grip on the Controls		
Maintains Firm Footing		
Looks in the Direction of Movement		

Operating Skills (cont.)	Completed	NA
Cautious at Corners & Intersections		
Observes Traffic Regs. & Signs		
Warns Other of Approach (Horn)		
Starts Turn in Proper Position		
Allows for Rear End Swing		
Platform Loading Within Limits		
Check Rear Before Backing		
Machine is Level Before Raising		
Parking		
Unit Parked in a Safe Area		
Lowered to Stowed Position		
Power off and Key Removed		
Fuel Valve Turned Off		
General Safety		
Aware of Overhead Clearances		
Slope & Grade Driving Technique		
Recognizes Worksite Hazards		
Uses Personal Protective Devices		

NOTES

Special thanks to the entire Sunbelt Rentals Safety Department
and to those who provided the constructive input
from all the safety training classes conducted within Sunbelt,
without which the production of this booklet and seminar
would never have been possible.

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