



# ***Operator's Manual***

Serial Number Range

**Z<sup>®</sup>-51/30J**

from Z5130M-3501

AUS  
Australia

with  
Maintenance  
Information

Original Instructions  
Eighth Edition  
First Printing  
Part No. 1313420GT

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These machines comply with  
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# Introduction

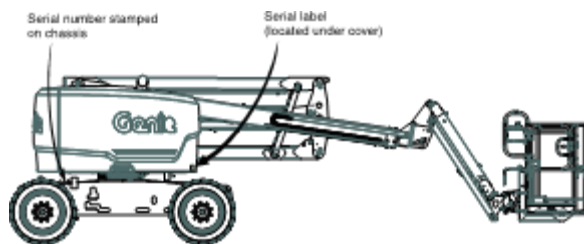
## About this manual

Genie appreciates your choice of our machine for your application. Our number one priority is user safety, which is best achieved by our joint efforts. This book is an operation and daily maintenance manual for the user or operator of a Genie machine.

This manual should be considered a permanent part of your machine and should remain with the machine at all times. If you have any questions, contact Genie.

## Product Identification

The machine serial number is located on the serial label.



## Intended Use and Familiarization Guide

The intended use of this machine is to lift personnel, including tools, and materials to an aerial work site. Before operating the machine, it's the operator's responsibility to read and understand this familiarization guide.

- ☑ Each person must be trained to operate a Mobile Elevating Work Platform (MEWP).
- ☑ Familiarization with the MEWP must be given to each person who is authorized, competent and trained.
- ☑ Only trained and authorized personnel should be permitted to operate the machine.
- ☑ The operator is responsible to read, understand, and obey the manufacturer's instructions and safety rules provided in the Operator's Manual.
- ☑ The Operator's Manual is located in the manual storage container, at the platform.
- ☑ For specific product applications, see **Contacting The Manufacturer**.

# Introduction

## Platform controls symbology and related machine movement:



Platform level



Platform rotate



Jib boom up/down



Primary boom up/down



Turntable rotate



Primary boom extend/retract



Secondary boom up/down



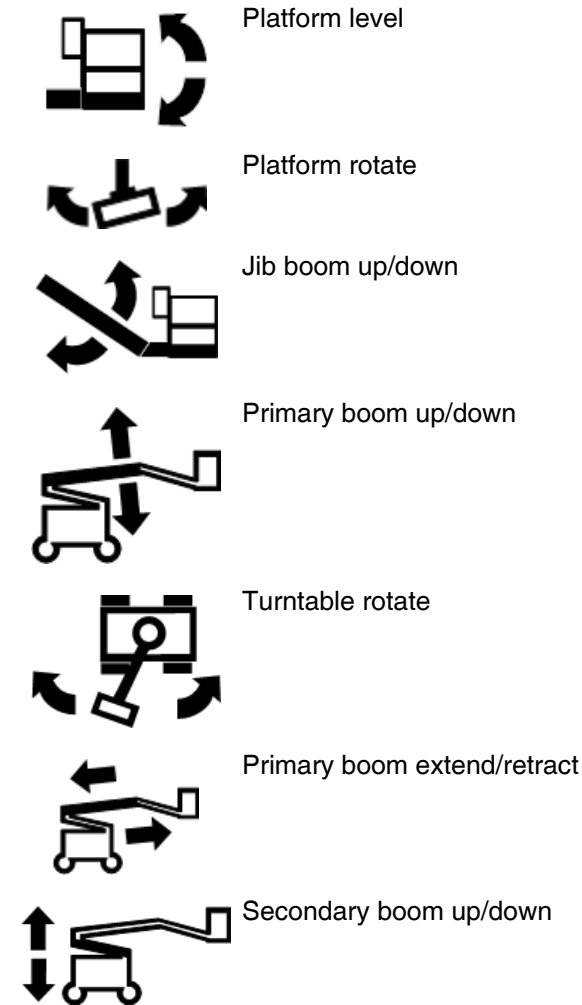
Drive forward/reverse



Steer right/left

# Introduction

## Ground controls symbology and related machine movement:



## Sequential functions and movement:

- Drive and steer.

## Interlocked functions:

- Elevated drive speed.
- Elevated drive in an off-level condition.
- Drive enable when the boom is rotated past the non-steer wheels.
- All platform and ground controls.

## Limitations of use:

- The intended use of this machine is to lift personnel, including tools, and materials to an aerial work site.
- Do not elevate the platform unless the machine is on firm level ground.

## Stability enhancing means:

- Foam filled tires

# Introduction

## Bulletin Distribution and Compliance

Safety of product users is of paramount importance to Genie. Various bulletins are used by Genie to communicate important safety and product information to dealers and machine owners.

The information contained in the bulletins is tied to specific machines using the machine model and serial number.

Distribution of bulletins is based on the most current owner on record along with their associated dealer, so it is important to register your machine and keep your contact information up to date.

To ensure safety of personnel and the reliable continued operation of your machine, be sure to comply with the action indicated in a respective bulletin.

To view any open bulletins for your machine, visit us on the web at [www.genielift.com](http://www.genielift.com).

## Contacting the Manufacturer

At times it may be necessary to contact Genie. When you do, be ready to supply the model number and serial number of your machine, along with your name and contact information. At minimum, Genie should be contacted for:

Accident reporting

Questions regarding product applications and safety

Standards and regulatory compliance information

Current owner updates, such as changes in machine ownership or changes in your contact information. See Transfer of Ownership, below.

## Transfer of Machine Ownership

Taking a few minutes to update owner information will ensure that you receive important safety, maintenance and operating information that applies to your machine.

Please register your machine by visiting us on the web at [www.genielift.com](http://www.genielift.com) or by calling us toll free at 1-800-536-1800.

# Introduction



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## Danger

Failure to obey the instructions and safety rules in this manual will result in death or serious injury.

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## Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.
  - 1 Avoid hazardous situations.**
    - Know and understand the safety rules before going on to the next section.**
    - 2 Always perform a pre-operation inspection.
    - 3 Always perform function tests prior to use.
    - 4 Inspect the workplace.
    - 5 Only use the machine as it was intended.
- ☒ You read, understand and obey the manufacturer's instructions and safety rules—safety and operator's manuals and machine decals.
- ☒ You read, understand and obey employer's safety rules and worksite regulations.
- ☒ You read, understand and obey all applicable governmental regulations.
- ☒ You are properly trained to safely operate the machine.

## Safety Sign Maintenance

Replace any missing or damaged safety signs. Keep operator safety in mind at all times. Use mild soap and water to clean safety signs. Do not use solvent-based cleaners because they may damage the safety sign material.

# Introduction

## Hazard Classification

Decals on this machine use symbols, color coding, and signal words to identify the following:



Safety alert symbol—used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.




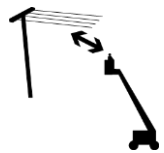




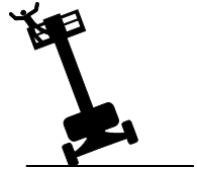


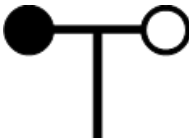





Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.






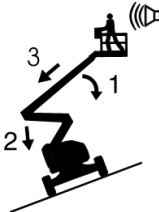
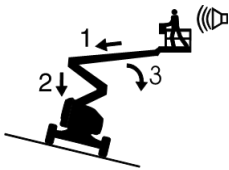








Indicates a property damage message.



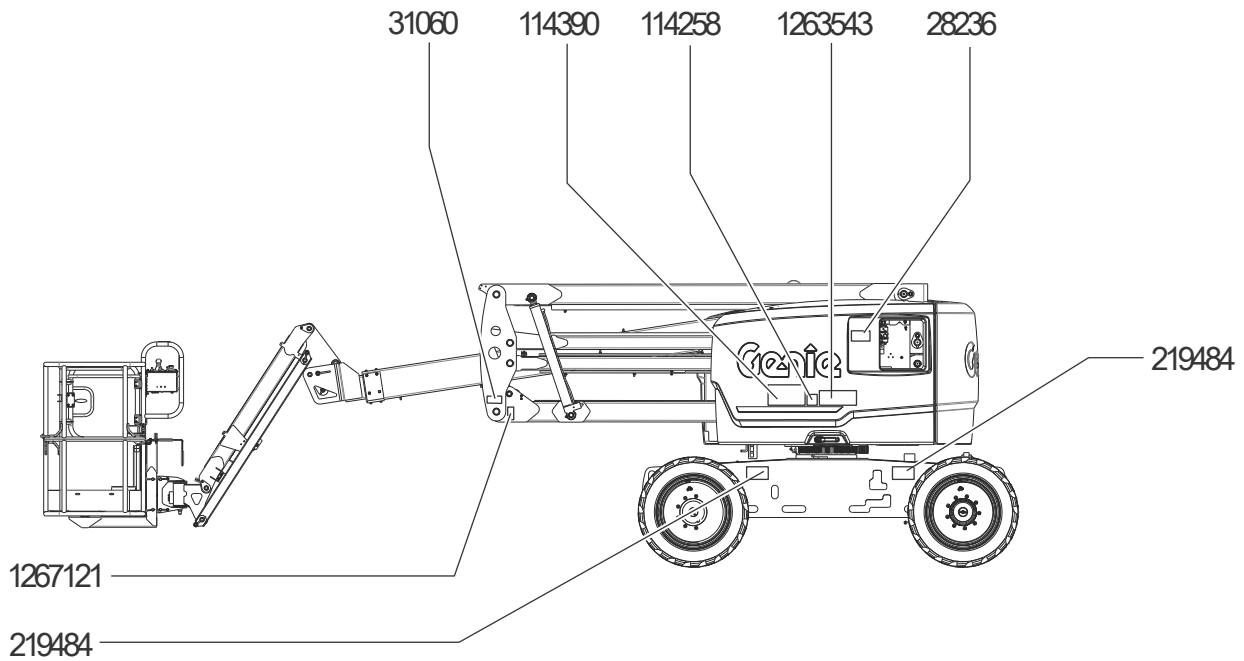
## Symbol and Hazard Pictorials Definitions

				
Electrocution hazard	Maintain required clearance	Explosion hazard	Explosion hazard	Collision hazard
				
Runaway hazard	Tip-over hazard	Crush hazard	Color coded direction arrows	Wind speed
				
Manual force	Maximum capacity	Voltage rating for power to platform	Pressure rating for air line to platform	Replace tires with tires of same specification.

## Symbol and Hazard Pictorials Definitions

 <p>Read the operator's manual</p>	 <p>No smoking No flame Stop engine</p>	 <p>Do not use ether or other high energy starting aids on machines equipped with glow plugs.</p>	<p>Recovery procedure if tilt alarm sounds while elevated.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Platform uphill: 1 Lower primary. 2 Lower secondary. 3 Retract primary.</p> </div> <div style="text-align: center;">  <p>Platform downhill: 1 Retract primary. 2 Lower secondary. 3 Lower primary.</p> </div> </div>	
 <p>Lanyard anchorage points</p>	 <p>Wheel load</p>	 <p>Access by trained and authorized personnel only</p>	<div style="display: flex; justify-content: space-around;">   </div> <p>Crush hazard      Support the platform or boom during maintenance</p>	
 <p>Auxiliary lowering</p>	 <p>Platform overloaded</p>	 <p>Machine not level</p>		

# General Safety



31060

**⚠ DANGER**

**Tip-over Hazard**  
Altering or disabling sensors or limit switches can result in machine tip-over. Machine tip-over will result in death or serious injury.

Do not alter or disable sensors and/or limit switches.

31060 D

114390

**⚠ DANGER**

**Electrocution Hazard**  
This machine is not electrically insulated. Death or injury can result from contacting electric power lines.

Always contact the electric power line owner! The electric power shall be disconnected or the power lines moved or insulated before machine operations begin.

Line Voltage	Required Clearance	
0 to 50kV	10 ft	3.0 m
50 to 200kV	15 ft	4.6 m
200 to 350kV	20 ft	6.1 m
350 to 500kV	25 ft	7.6 m
500 to 750kV	30 ft	9.1 m
750 to 1000kV	40 ft	12.2 m

114390 A

28236

**⚠ WARNING**

Read and understand Operator's Manual, Responsibilities Manual and Safety Manual and all safety signs before using or maintaining machine. If you do not understand the information in the manuals, consult your supervisor, the owner or the manufacturer.

28236 D

114258

**⚠ DANGER**

**Burn Hazard**  
Fuel and fumes can explode and burn.

No smoking. No flame. Stop engine.

114258 A

1263543

**⚠ WARNING**

Improper operation or maintenance of this equipment can result in death or serious injury.

Access by trained and authorized personnel only.

1263543 A

219484

**⚠ DANGER**

**Tip-over Hazard**  
Do not use air-filled tires.

This machine is equipped with foam-filled tires. Wheel weight and proper counterweight configuration are critical to stability.

RT Tires  
Tire size: 315/55D20  
minimum 12 ply  
Foam-Filled Tire,  
Minimum New Weight:  
290 lbs / 131 kg  
Wheel Lug Torque  
Dry: 125 ft-lbs / 169 Nm  
Lubricated: 94 ft-lbs / 127 Nm

219484 A

1267121

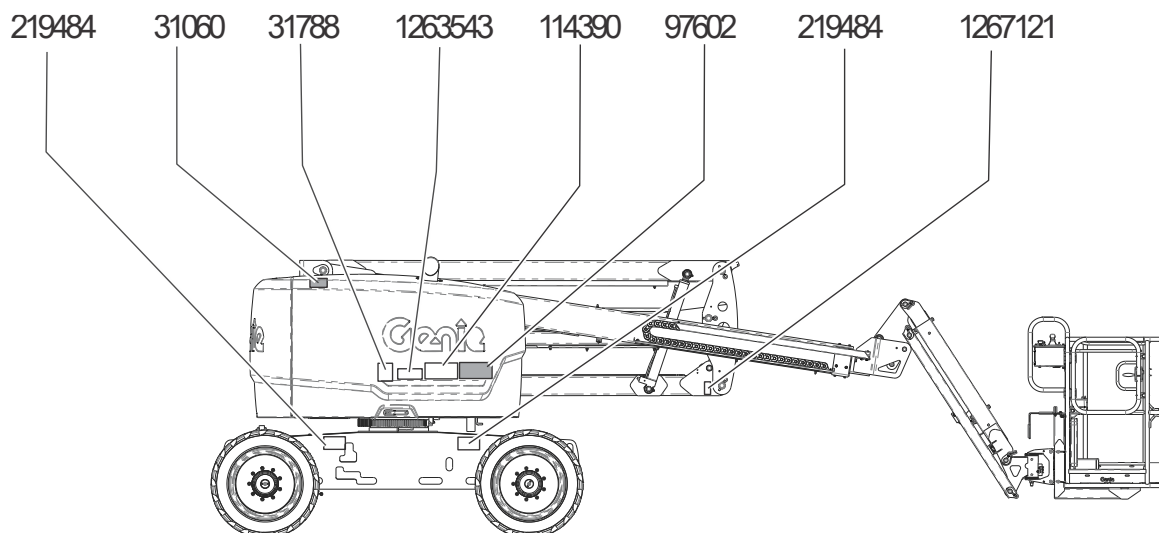
**⚠ WARNING**

**Crush Hazard**  
Contact with moving work platform or boom can result in death or serious injury.

Securely brace work platform or boom during maintenance.

1267121 A

# General Safety



114390

**⚠ DANGER**

**Electrocution Hazard**  
This machine is not electrically insulated. Death or injury can result from contacting electric power lines.

Always contact the electric power line owner. The electric power shall be disconnected or the power lines moved or insulated before machine operations begin.

Maintain required clearance.		
Line Voltage	Required Clearance	
0 to 50KV	10 ft	3.0 m
50 to 200KV	15 ft	4.6 m
200 to 350KV	20 ft	6.1 m
350 to 500KV	25 ft	7.6 m
500 to 750KV	35 ft	10.6 m
750 to 1000KV	45 ft	13.7 m

31060

**⚠ DANGER**

**Tip-over Hazard**  
Altering or disabling sensors or limit switches can result in machine tip-over. Machine tip-over will result in death or serious injury.

Do not alter or disable sensors and/or limit switches.

31060 D

219484

**⚠ DANGER**

**Tip-over Hazard**  
Do not use air-filled tires.

This machine is equipped with foam-filled tires. Wheel weight and proper counterweight configuration are critical to stability.

**RT Tires**  
Tire size: 315/55D20 minimum 12 ply

**Foam-Filled Tire:**  
Minimum New Weight: 290 lbs / 131 kg

**Wheel Lug Torque**  
Dry: 125 ft-lbs / 169 Nm  
Lubricated: 94 ft-lbs / 127 Nm

219484 A

97602

**⚠ WARNING**

**Explosion Hazard**  
Death or serious injury can result from the use of ether or other high energy starting aids.

Do not use ether or other high energy starting aids on machines equipped with glow plugs or grid heater.

97602 C

1267121

**⚠ WARNING**

**Crush Hazard**  
Contact with moving work platform or boom can result in death or serious injury.

Securely brace work platform or boom during maintenance.

1267121 A

31788

**⚠ DANGER**

**Explosion / Burn Hazard**  
Ignition of explosive gases or contact with corrosion will cause death, burns or blindness.

Keep all open flames and sparks away. Wear personal protective equipment, including face shield, gloves and long sleeve shirt.

**READ MANUALS**  
Read all manuals prior to operation. DO NOT OPERATE equipment if you do not understand the information in the manuals. Consult your supervisor, the owner or the manufacturer.

31788

1263543

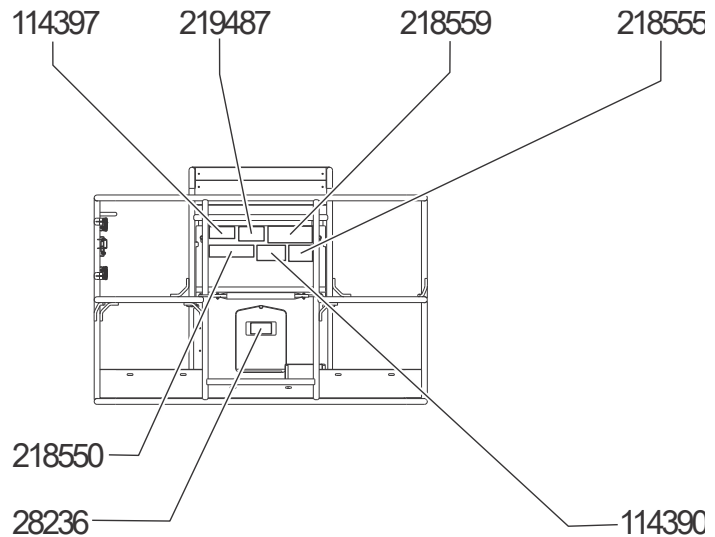
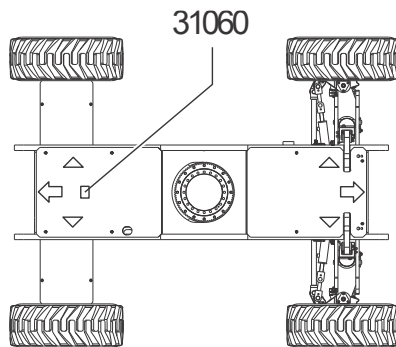
**⚠ WARNING**

**Improper operation or maintenance of this equipment can result in death or serious injury.**

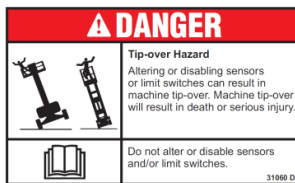
Access by trained and authorized personnel only.

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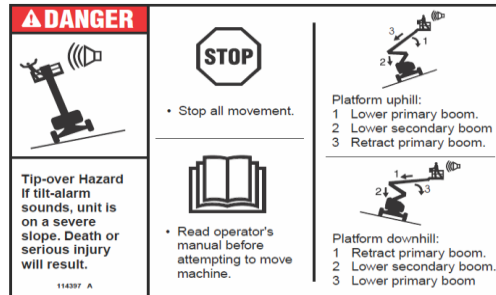
# General Safety



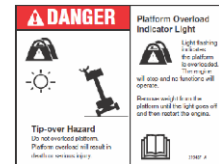
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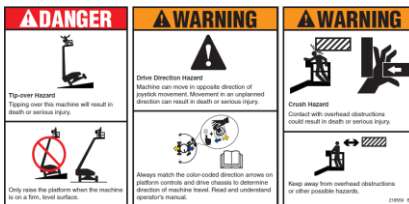
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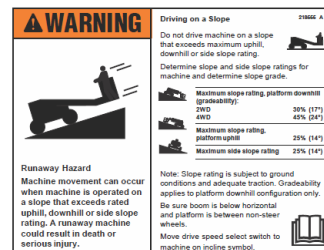
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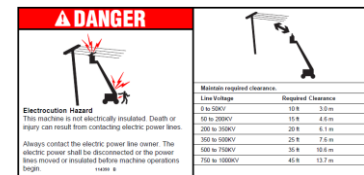
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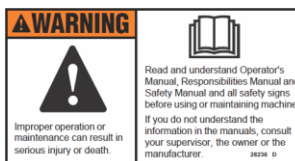
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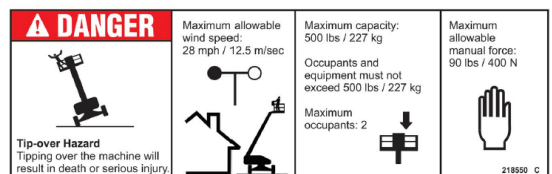
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28236



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# Personal Safety

## Personal Fall Protection

Personal fall protection equipment (PFPE) is required when operating this machine.

Occupants must wear a safety belt or harness in accordance with governmental regulations. Attach the lanyard to the anchor provided in the platform.

Operators must comply with employer, job site and governmental rules regarding the use of personal protective equipment.

All PFPE must comply with applicable governmental regulations, and must be inspected and used in accordance with the PFPE manufacturer's instructions.

## Work Area Safety

### ⚠ Electrocution Hazards

This machine is not electrically insulated and will not provide protection from contact with or proximity to electrical current.



Obey all local and governmental regulations regarding required clearance from electrical power lines. At a minimum, the required clearance contained in the chart below must be followed.

Line Voltage	Required Clearance
0 to 50KV	3.05 m
50 to 200KV	4.60 m
200 to 350KV	6.10 m
350 to 500KV	7.62 m
500 to 750KV	10.67 m
750 to 1000KV	13.72 m

Allow for platform movement, electrical line sway or sag, and beware of strong or gusty winds.



Keep away from the machine if it contacts energized power lines. Personnel on the ground or in the platform must not touch or operate the machine until energized power lines are shut off.

Do not operate the machine during lightning or storms.

Do not use the machine as a ground for welding.

### ⚠ Tip-over Hazards

Occupants, equipment and materials shall not exceed the maximum platform capacity or the maximum platform capacity of the platform extension.

<b>Maximum platform capacity</b>	227 kg
<b>Machine equipped with Aircraft Protection Package</b>	200 kg
<b>Maximum occupants</b>	2

The weight of options and accessories, such as pipe cradles, panel cradles and welders, will reduce the rated platform capacity and must be subtracted from the platform capacity. See the decals with the options and accessories.

If using accessories, read, understand and obey the decals, instructions and manuals with the accessory.

## Work Area Safety



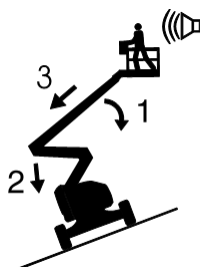
Do not raise or extend the boom unless the machine is on a firm, level surface.



Do not depend on the tilt alarm as a level indicator. The tilt alarm sounds in the platform only when the machine is on a severe slope.

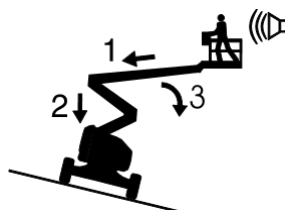
If the tilt alarm sounds while the boom is lowered: Do not extend, rotate or raise the boom above horizontal. Move the machine to a firm, level surface before raising the platform.

If the tilt alarm sounds when the platform is raised, use extreme caution. Identify the condition of the boom on the slope as shown below. Follow the steps to lower the boom before moving to a firm, level surface. Do not rotate the boom while lowering.



If the tilt alarm sounds with the platform uphill:

- 1 Lower the primary boom.
- 2 Lower the secondary boom.
- 3 Retract the primary boom.



If the tilt alarm sounds with the platform downhill:

- 1 Retract the primary boom.
- 2 Lower the secondary boom.
- 3 Lower the primary boom.



Do not raise the boom when wind speeds may exceed 12.5 m/s. If wind speeds exceed 12.5 m/s when the boom is raised, lower the boom and do not continue to operate the machine.

Do not operate the machine in strong or gusty winds. Do not increase the surface area of the platform or the load. Increasing the area exposed to the wind will decrease machine stability.



## Work Area Safety



Use extreme care and slow speeds while driving the machine in the stowed position across uneven terrain, debris, unstable or slippery surfaces and near holes and drop-offs.

Do not drive the machine on or near uneven terrain, unstable surfaces or other hazardous conditions with the boom raised or extended.

Do not use the machine as a crane.

Do not push the machine or other objects with the boom.

Do not contact adjacent structures with the boom.

Do not tie the boom or platform to adjacent structures.

Do not place loads outside the platform perimeter.



Do not push off or pull toward any object outside of the platform.

**Maximum allowable  
manual force – 400 N**

Do not alter or disable machine components that in any way affect safety and stability.

Do not replace items critical to machine stability with items of different weight or specification.

Do not replace factory-installed tires with tires of different specification or ply rating.

Do not use air-filled tires. These machines are equipped with foam-filled tires. Wheel weight and proper counterweight configuration are critical to stability.

Do not modify or alter a mobile elevating work platform without prior written permission from the manufacturer. Mounting attachments for holding tools or other materials onto the platform, toeboards, or guard rail system can increase the weight in the platform and the surface area of the platform or the load.

## Work Area Safety



Do not place or attach fixed or overhanging loads to any part of this machine.



Do not place ladders or scaffolds in the platform or against any part of this machine.

Do not transport tools and materials unless they are evenly distributed and can be safely handled by person(s) in the platform.

Do not use the machine on a moving or mobile surface or vehicle.

Be sure all tires are in good condition, air-filled tires are properly inflated and lug nuts are properly tightened.

Do not use the platform controls to free a platform that is caught, snagged, or otherwise prevented from normal motion by an adjacent structure. All personnel must be removed from the platform before attempting to free the platform using the ground controls.

### ⚠ Operation on Slopes Hazards

Do not drive the machine on a slope that exceeds the maximum uphill, downhill or side slope rating of the machine. Slope rating applies only to machines in the stowed position.

#### Maximum slope rating, stowed position, 2WD

Platform downhill	30%	(17°)
Platform uphill	25%	(14°)
Side slope	25%	(14°)

#### Maximum slope rating, stowed position, 4WD

Platform downhill	45%	(24°)
Platform uphill	25%	(14°)
Side slope	25%	(14°)

Note: Slope rating is subject to ground conditions with one person in the platform and adequate traction. Additional platform weight may reduce slope rating. See Driving on a Slope in the Operating Instructions section.

## Work Area Safety

### ⚠ Fall Hazards



Occupants must wear a safety belt or harness in accordance with governmental regulations. Attach the lanyard to the anchor provided in the platform.



Do not sit, stand, or climb on the platform guard rails. Maintain a firm footing on the platform floor at all times.



Do not climb down from the platform when raised.

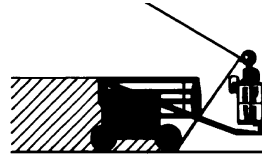
Keep the platform floor clear of debris.

Lower the platform entry mid-rail or close the entry gate before operating.

Do not enter or exit the platform unless the machine is in the stowed position and the platform is at ground level.

Hazards related with the specific product application of exiting at height have been considered in the design of the machine, for further information contact Genie (see section Contacting the Manufacturer).

### ⚠ Collision Hazards



Be aware of limited sight distance and blind spots when driving or operating.

Be aware of the boom position and tailswing when rotating the turntable.



Check the work area for overhead obstructions or other possible hazards.



Be aware of crushing hazards when grasping the platform guard rail.

Operators must comply with employer, job site, and governmental rules regarding use of personal protective equipment.

## Work Area Safety

Observe and use the color-coded direction arrows on the platform controls and drive chassis for drive and steer functions.



Do not lower the boom unless the area below is clear of personnel and obstructions.



Limit travel speed according to the condition of the ground surface, congestion, slope, location of personnel, and any other factors which may cause collision.

Do not operate a boom in the path of any crane unless the controls of the crane have been locked out and/or precautions have been taken to prevent any potential collision.

No stunt driving or horseplay while operating a machine.

### ▲ Bodily Injury Hazard

Always operate the machine in a well-ventilated area to avoid carbon monoxide poisoning.

Do not operate the machine with a hydraulic oil or air leak. An air leak or hydraulic leak can penetrate and/or burn skin.

Improper contact with components under any cover will cause serious injury. Only trained maintenance personnel should access compartments. Access by the operator is only advised when performing a pre-operation inspection. All compartments must remain closed and secured during operation.

### ▲ Explosion and Fire Hazards

Do not start the engine if you smell or detect liquid petroleum gas (LPG), gasoline, diesel fuel or other explosive substances.

Do not refuel the machine with the engine running.

Refuel the machine and charge the battery only in an open, well-ventilated area away from sparks, flames and lighted tobacco.

Do not operate the machine or charge the battery in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.

Do not spray ether into engines equipped with glow plugs.

## Work Area Safety

### ⚠ Damaged Machine Hazards

Do not use a damaged or malfunctioning machine.

Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift. Immediately tag and remove from service a damaged or malfunctioning machine.

Be sure all maintenance has been performed as specified in this manual and the appropriate Genie service manual.

Be sure all decals are in place and legible.

Be sure the operator's manual is complete, legible, and in the storage container located on the machine.

### ⚠ Component Damage Hazards

Do not use any battery or charger greater than 12V to jump-start the engine.

Do not use the machine as a ground for welding.

Do not operate the machine in locations where extremely high magnetic fields may be present.

### ⚠ Battery Safety

#### Burn Hazards



Batteries contain acid. Always wear protective clothing and eye wear when working with batteries.

Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.

#### Explosion Hazards



Keep sparks, flames, and lighted tobacco away from batteries. Batteries emit explosive gas.

### ⚠ Electrocuting Hazard

Avoid contact with electrical terminals.

## Work Area Safety

### **▲ Contact Alarm Safety**

Read, understand and obey all warnings and instructions provided with the contact alarm.

Do not exceed the rated platform capacity. The weight of the contact alarm assembly will reduce the rated platform capacity and must be subtracted from the total platform load.

The contact alarm assembly weighs 10 lbs/4.5 kg.

Be sure the contact alarm is securely installed.

### **▲ Panel Cradle Safety**

Read, understand and obey all warnings and instructions provided with the panel cradles.

Do not exceed the rated platform capacity. The combined weight of the cradles, panels, occupants, tools and any other equipment must not exceed rated capacity.

The panel cradle assembly weighs 30 lbs/13.6 kg.

The maximum capacity of the panel cradles is 250 lbs/113 kg.

The weight of the panel cradles and the load in the panel cradles may limit the maximum number of occupants in platform to one person.

Secure the cradles to the platform. Secure the panel (s) to the platform railing using the straps provided.

Do not operate unless you are adequately instructed and are aware of all hazards associated with lifting panels.

Do not cause a horizontal force or side load to machine by raising or lowering a fixed or overhanging load.

Maximum vertical height of panels: 4 ft/1.2 m.

Maximum wind speed: 15 mph/6.7 m/sec.

Maximum panel area: 32 sq ft/3 m<sup>2</sup>.

## Work Area Safety

### ▲ Pipe Cradle Safety

Read, understand, and obey all warnings and instructions provided with the pipe cradles.

Do not exceed the rated platform capacity. The pipe cradle assembly and the weight in the pipe cradles will reduce rated platform capacity and must be factored into total platform load.

The pipe cradle assembly weighs 21 lbs/9.5 kg.

The maximum capacity of the pipe cradle assembly is 200 lbs/91 kg.

The weight of the pipe cradle assembly and the load in the pipe cradles may limit the maximum number of occupants in platform.

Center the load within the perimeter of the platform.

Secure the load to the platform.

Do not obstruct the entrance or the exit of the platform.

Do not obstruct the ability to operate the platform controls or the red Emergency Stop button.

Do not operate unless you are adequately instructed and are aware of all of the hazards associated with movement of the platform with an overhanging load.

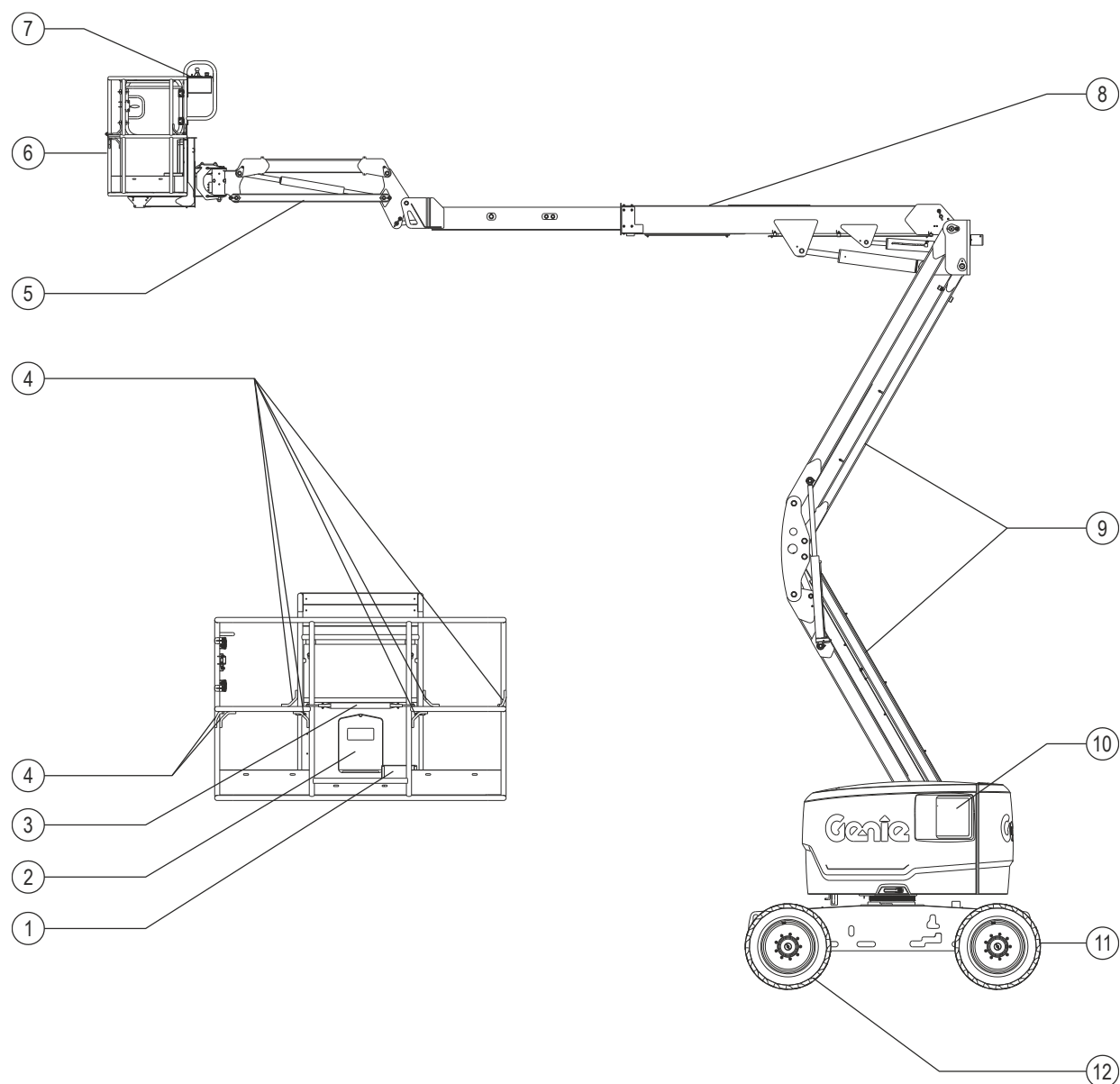
Do not cause a horizontal force or side load to machine by raising or lowering a fixed or overhanging load.

**Electrocution Hazard:** Keep pipes away from all energized electrical conductors.

### Lockout After Each Use

- 1 Select a safe parking location—firm level surface, clear of obstruction and traffic.
- 2 Retract and lower the boom to the stowed position.
- 3 Rotate the turntable so that the boom is between the non-steer wheels.
- 4 Turn the key switch to the off position and remove the key to secure from unauthorized use.

# Legend



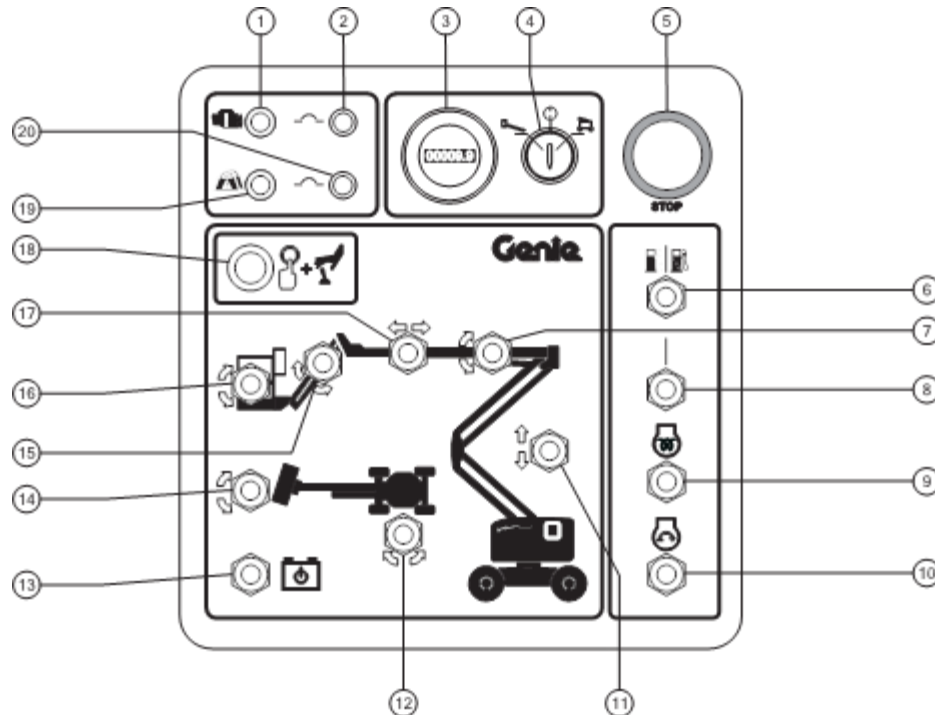
- 1 Foot switch
- 2 Manual storage container
- 3 Sliding mid-rail
- 4 Lanyard anchorage points
- 5 Jib boom
- 6 Platform

- 7 Platform controls
- 8 Primary boom
- 9 Secondary boom
- 10 Ground controls
- 11 Steer tire
- 12 Non-steer tire



## Controls

The ground control station is to be used as a means to raise the platform for storage purposes and for function tests. The ground control station can be used in the event of an emergency to rescue an incapacitated person in the platform. When the ground control station is selected, the platform controls are inoperable, including the E-stop switch.



### Ground Control Panel

- |  |  |
|--|--|
| 1 Oil pressure light                           | 11 Secondary boom up/down switch               |
| 2 15A breaker for engine electrical circuits   | 12 Turntable rotate switch                     |
| 3 Hour meter                                   | 13 Auxiliary power switch                      |
| 4 Key switch for platform/off/ground selection | 14 Platform rotate switch                      |
| 5 Red Emergency Stop button                    | 15 Jib boom up/down switch                     |
| 6 Not used                                     | 16 Platform level switch                       |
| 7 Primary boom up/down switch                  | 17 Primary boom extend/retract switch          |
| 8 Engine idle (rpm) select switch              | 18 Function enable button                      |
| 9 Diesel models: Glow plug switch              | 19 Platform overload indicator light           |
| 10 Engine start switch                         | 20 15A breaker for control electrical circuits |

# Controls

## Ground Control Panel

- 1 Oil pressure light  
Light on and engine stopped: Tag the machine and remove from service.  
Light on and engine still running: Contact service personnel within 24 hours.
- 2 15A breaker for engine electrical circuits
- 3 Hour meter  
The hour meter displays the number of hours the machine has operated.
- 4 Key switch for platform/off/ground selection  
Turn the key switch to the platform position and the platform controls will operate. Turn the key switch to the off position and the machine will be off. Turn the key switch to the ground position and the ground controls will operate.
- 5 Red Emergency Stop button  
Push in the red Emergency Stop button to the off position to stop all functions and turn the engine off. Pull out the red Emergency Stop button to the on position to operate the machine.
- 6 Not used
- 7 Primary boom up/down switch  
Move the primary boom up/down switch up and the boom will raise. Move the primary boom up/down switch down and the boom will lower.
- 8 Engine idle (rpm) select switch  
Move the engine idle select switch to the turtle position for foot switch activated low idle.  
Move the engine idle select switch to the rabbit position for foot switch activated high idle.
- 9 Diesel models: Glow plug switch (if equipped)  
Move the glow plug switch to either side and hold for 3 to 5 seconds.
- 10 Engine start switch  
Move the engine start switch to either side to start the engine.
- 11 Secondary boom up/down switch  
Move the secondary boom up/down switch up and the secondary boom will raise. Move secondary boom up/down switch down and the secondary boom will lower.
- 12 Turntable rotate switch  
Move the turntable rotate switch to the right and the turntable will rotate to the right. Move the turntable rotate switch to the left and the turntable will rotate to the left.
- 13 Auxiliary power switch  
Use auxiliary power if the primary power source (engine) is not available.  
Simultaneously hold the auxiliary power switch to either side and activate the desired function.
- 14 Platform rotate switch  
Move the platform rotate switch to the right and the platform will rotate to the right. Move the platform rotate switch to the left and the platform will rotate to the left.

## Controls

### 15 Jib boom up/down switch

Move the jib boom switch up and the jib boom will raise. Move the jib boom switch down and the jib boom will lower.

### 16 Platform level switch

Move the platform level switch up and the level of the platform will raise. Move the platform level switch down and the level of the platform will lower.

### 17 Primary boom extend/retract switch

Move the primary boom extend/retract switch to the right and the primary boom will retract. Move the boom extend/retract switch to the left and the primary boom will extend.

### 18 Function enable button

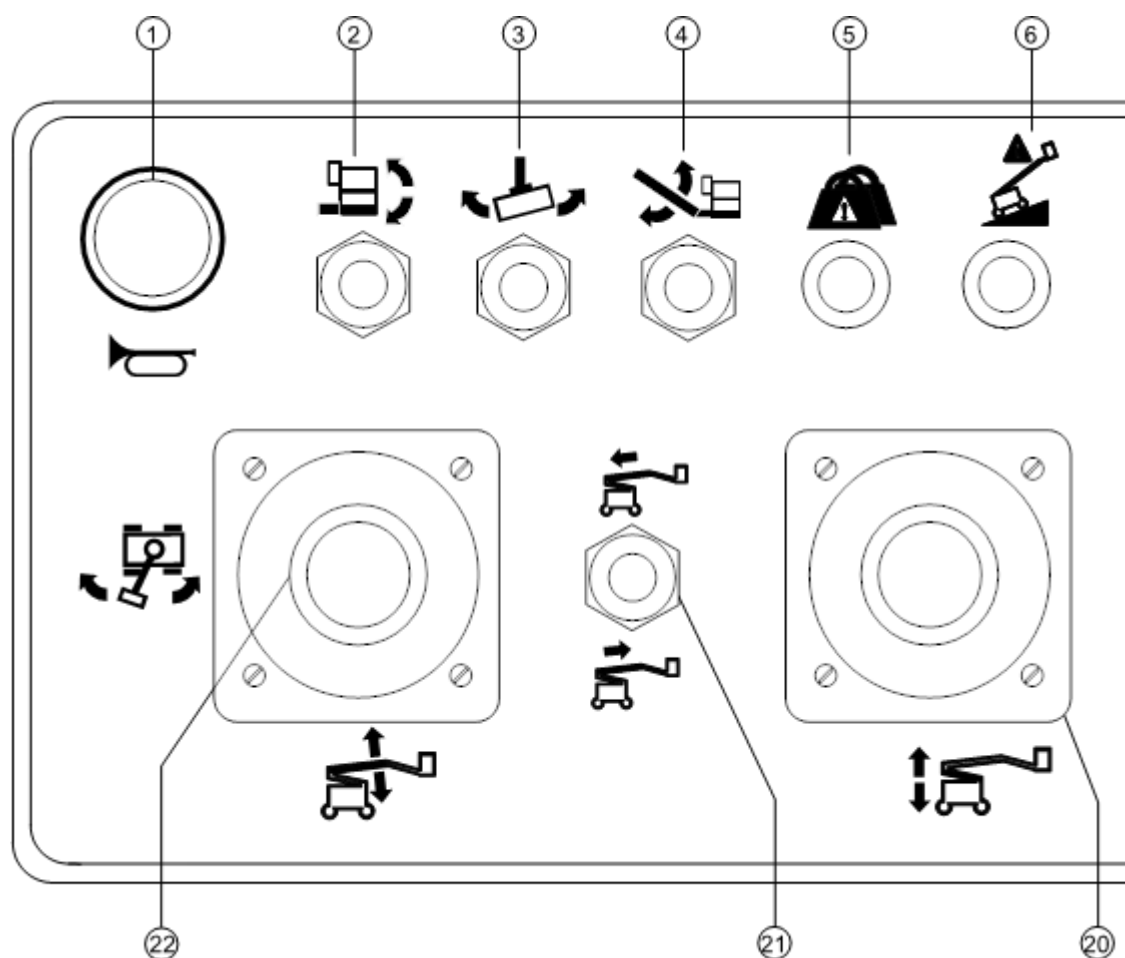
Press and hold the function enable button to enable the functions on the ground control panel to operate.

### 19 Platform overload indicator light

Light flashing indicates the platform is overloaded. The engine will stop and no functions will operate. Remove weight until the light goes off and then restart the engine.

### 20 15A breaker for control electrical circuits

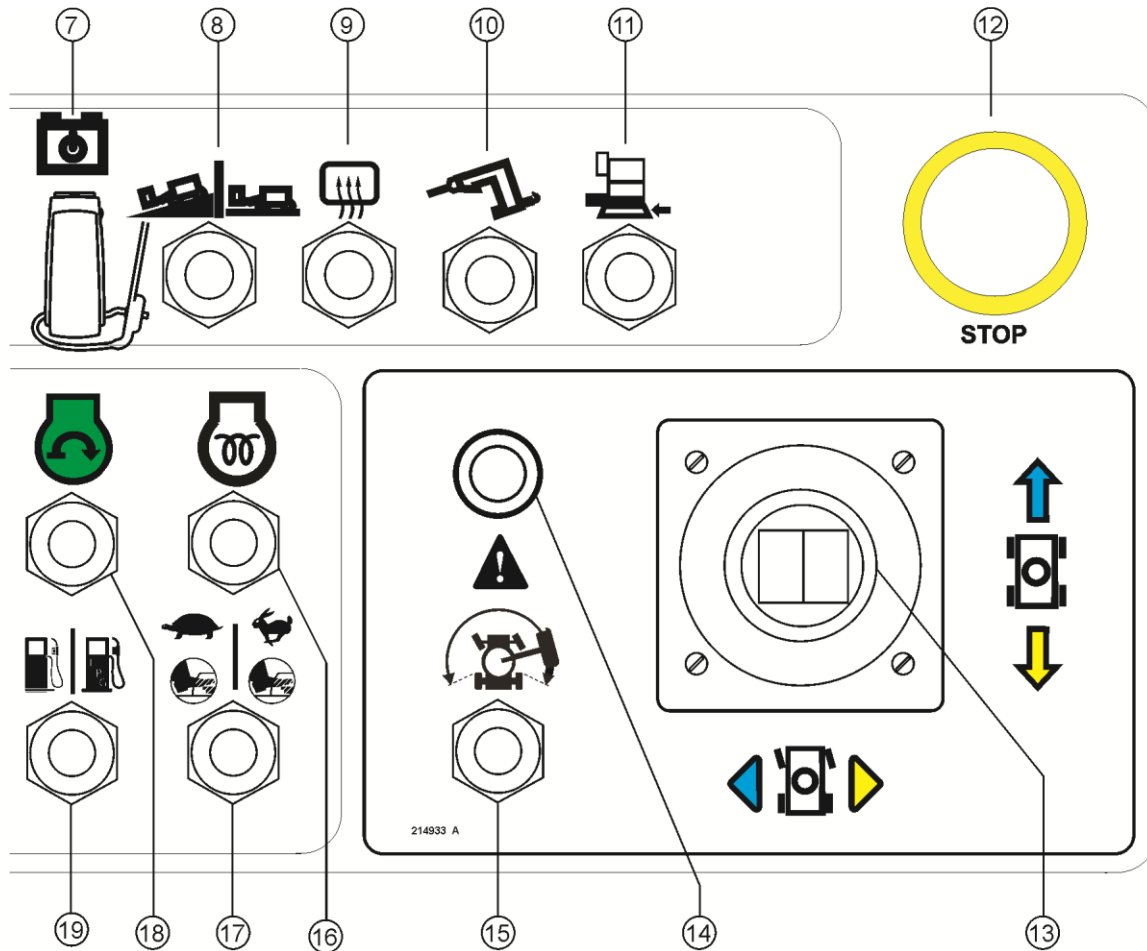
## Controls



### Platform Control Panel

- |   |                                       |    |  |
|---|---------------------------------------|----|--|
| 1 | Horn button                           | 9  | Platform control box heater (if equipped)  |
| 2 | Platform level switch                 | 10 | Generator switch (if equipped)   |
| 3 | Platform rotate switch                | 11 | Aircraft protection override switch (if equipped)                                  |
| 4 | Jib boom up/down switch (if equipped) | 12 | Red Emergency Stop button  |
| 5 | Platform overload indicator light     | 13 | Dual axis proportional control handle for drive and steer functions.               |
| 6 | Machine not level indicator light     |    | OR   |
| 7 | Auxiliary power switch                |    | Proportional control handle for drive function and thumb rocker for steer function |
| 8 | Drive speed select switch             |    |  |

# Controls



14 Drive enable indicator light

15 Drive enable switch

16 Diesel models: Glow plug switch

17 Engine idle (rpm) select switch

Turtle: foot switch activated low idle

Rabbit: foot switch activated high idle

18 Engine start switch

19 Not used

20 Proportional control handle for secondary boom up/down function

21 Primary boom extend/retract switch

22 Dual axis proportional control handle for primary boom up/down and turntable rotate left/right functions

# Controls

## Platform Control Panel

### 1 Horn button

Press this button and the horn will sound. Release the button and the horn will stop.

### 2 Platform level switch

Move the platform level switch up and the level of the platform will raise. Move the platform level switch down and the level of the platform will lower.



### 3 Platform rotate switch

Move the platform rotate switch to the right and the platform will rotate to the right. Move the platform rotate switch to the left and the platform will rotate to the left.



### 4 Jib boom up/down switch

Move the jib boom switch up and the jib boom will raise. Move the jib boom switch down and the jib boom will lower.



### 5 Platform overload indicator light

Light flashing indicates the platform is overloaded. The engine will stop and no functions will operate. Remove weight until the light goes off and then restart the engine.

### 6 Machine not level indicator light

The machine not level indicator light will come on when the tilt alarm sounds.

### 7 Auxiliary power switch

Use auxiliary power if the primary power source (engine) is not available. Simultaneously hold the auxiliary power switch to either side and activate the desired function.

### 8 Drive speed select switch

Machine on incline symbol: Low range operation for inclines.  
Machine on level surface symbol: High range operation for maximum drive speed.

### 9 Platform control box heater (if equipped)

Move the heater switch up to turn on the platform control box heater. Move the heater switch down to turn off the platform control box heater.

## Controls

### 10 Generator switch (if equipped)

Move the generator switch up to activate the generator. Move the switch down to turn off the generator.

### 11 Aircraft protection override switch (if equipped)

Move and hold the aircraft protection override switch to operate the machine when the platform bumper is against an object.

### 12 Red Emergency Stop button

Push in the red Emergency Stop button to the off position to stop all functions and turn the engine off. Pull out the red Emergency Stop button to the on position to operate the machine.

### 13 Dual axis proportional control handle for drive and steer functions.

OR

Proportional control handle for drive function and thumb rocker for steer function.

Move the control handle in the direction indicated by the blue arrow on the control panel and the machine will drive forward. Move the control handle in the direction indicated by the yellow arrow and the machine will drive backwards. Move the control handle in the direction indicated by the blue triangle and the machine will steer to the left. Move the control handle in the direction indicated by the yellow triangle and the machine will steer to the right.

OR

Move the control handle in the direction indicated by the blue arrow on the control panel and the machine will drive forward. Move the control handle in the direction indicated by the yellow arrow and the machine will drive backwards. Press the left side of the thumb rocker and the machine will steer to the left. Press the right side of the thumb rocker and the machine will steer to the right.

## Controls

### 14 Drive enable indicator light

Light on indicates that the boom has moved just past either non-steer wheel and drive function has been interrupted.

### 15 Drive enable switch

To drive when the drive enable light is on, hold the drive enable switch to either side and slowly move the drive control handle off center. Be aware that the machine may move in the opposite direction that the drive and steer controls are moved.

### 16 Diesel models: Glow plug switch

Move the glow plug switch to either side and hold for 3 to 5 seconds.

### 17 Engine idle (rpm) select switch

Move the engine idle select switch to the turtle position for foot switch activated low idle. Move the engine idle select switch to the rabbit position for foot switch activated high idle.

### 18 Engine start switch

Move the engine start switch to either side to start the engine.

### 19 Not used

### 20 Proportional control handle for secondary boom up/down function

Move the control handle up and the secondary boom will raise. Move the control handle down and the secondary boom will lower.



### 21 Primary boom extend/retract switch

Move the primary boom extend/retract switch up and the primary boom will retract. Move the boom extend/retract switch down and the primary boom will extend.



### 22 Dual axis proportional control handle for primary boom up/down and turntable rotate left/right functions

Move the control handle up and the primary boom will raise. Move the control handle down and the primary boom will lower.



Move the control handle to the right and the turntable will rotate to the right. Move the control handle to the left and the turntable will rotate to the left.





# Inspections



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## Do Not Operate Unless:

- ☑ You learn and practice the principles of safe machine operation contained in this operator's manual.
  - 1 Avoid hazardous situations.
  - 2 **Always perform a pre-operation inspection.**  
**Know and understand the pre-operation inspection before going on to the next section.**
  - 3 Always perform function tests prior to use.
  - 4 Inspect the workplace.
  - 5 Only use the machine as it was intended.

## Pre-operation Inspection Fundamentals

It is the responsibility of the operator to perform a pre-operation inspection and routine maintenance.

The pre-operation inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

The pre-operation inspection also serves to determine if routine maintenance procedures are required. Only routine maintenance items specified in this manual may be performed by the operator.

Refer to the list on the next page and check each of the items.

If damage or any unauthorized variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications. After repairs are completed, the operator must perform a pre-operation inspection again before going on to the function tests.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications.

# Inspections

## Pre-operation Inspection

- ☐ Be sure that the operator's manual is complete, legible and in the storage container located in the platform.
- ☐ Be sure that all decals are legible and in place. See Inspections section.
- ☐ Check for hydraulic oil leaks and proper oil level. Add oil if needed. See Maintenance section.
- ☐ Check for battery fluid leaks and proper fluid level. Add distilled water if needed. See Maintenance section.
- ☐ Check for engine oil leaks and proper oil level. Add oil if needed. See Maintenance section.
- ☐ Check for engine coolant leaks and proper level of coolant. Add coolant if needed. See Maintenance section.

Check the following components or areas for damage, improperly installed, or missing parts and unauthorized modifications:

- ☐ Electrical components, wiring, and electrical cables
- ☐ Hydraulic hoses, fittings, cylinders, and manifolds
- ☐ Fuel and hydraulic tanks
- ☐ Drive and turntable motors and drive hubs
- ☐ Wear pads
- ☐ Tires and wheels
- ☐ Engine and related components

- ☐ Limit switches and horn
- ☐ Alarms and beacons (if equipped)
- ☐ Contact alarm
- ☐ Nuts, bolts and other fasteners
- ☐ Platform entry mid-rail or gate
- ☐ Lanyard anchorage points

Check entire machine for:

- ☐ Cracks in welds or structural components
- ☐ Dents or damage to machine
- ☐ Excessive rust, corrosion or oxidation
- ☐ Verify that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.
- ☐ After you complete your inspection, be sure that all compartment covers are in place and latched.

# Inspections



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## Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.
- 3 Always perform function tests prior to use.**

**Know and understand the function tests before going on to the next section.**

- 4 Inspect the workplace.
- 5 Only use the machine as it was intended.

## Function Test Fundamentals

The function tests are designed to discover any malfunctions before the machine is put into service. The operator must follow the step-by-step instructions to test all machine functions.

A malfunctioning machine must never be used. If malfunctions are discovered, the machine must be tagged and removed from service. Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

After repairs are completed, the operator must perform a pre-operation inspection and function tests again before putting the machine into service.

# Inspections

## At the Ground Controls

- 1 Select a test area that is firm, level and free of hazards.
- 2 Turn the key switch to ground control.
- 3 Pull out the red Emergency Stop button to the on position.
- ⦿ Result: The beacon (if equipped) should flash.
- 4 Start the engine. See Operating Instructions section.

## Test Emergency Stop

- 5 Push in the red Emergency Stop button to the off position.
- ⦿ Result: The engine will shut off after 2 to 3 seconds.
- 6 Pull out the red Emergency Stop button to the on position and restart the engine.

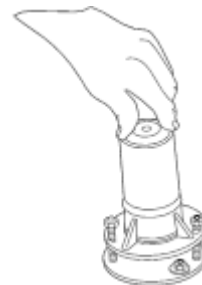
## Test Machine Functions

- 7 Do not push and hold the function enable button. Attempt to activate each boom and platform function toggle switch.
- ⦿ Result: No boom and platform functions should operate.
- 8 Press and hold the function enable button and activate each boom and platform function toggle switch.
- ⦿ Result: All boom and platform functions should operate through a full cycle. The descent alarm should sound while the boom is lowering.



## Test the Tilt Sensor

- 9 Turn the key switch to platform control. Pull out the platform red Emergency Stop button to the on position.
- 10 Open the engine side turntable cover and locate the tilt sensor to the right of the hydraulic pump.
- 11 Press down one side of the tilt sensor.
- ⦿ Result: The alarm, located in the platform, should sound.



## Test Auxiliary Power

- 12 Turn the key switch to ground control and shut the engine off.
- 13 Pull out the red Emergency Stop button to the on position.
- 14 Simultaneously hold the auxiliary power switch on and activate each boom function toggle switch.



Note: To conserve battery power, test each function through a partial cycle.

- ⦿ Result: All boom functions should operate.

# Inspections

## At the Platform Controls

### Test Emergency Stop

- 15 Turn the key switch to platform control and restart the engine.
- 16 Push in the platform red Emergency Stop button to the off position.
- ⦿ Result: The engine will shut off after 2 to 3 seconds.
- 17 Pull out the red Emergency Stop button and restart the engine.

### Test the Horn

- 18 Press the horn button.
- ⦿ Result: The horn should sound.

### Test the Foot Switch

- 19 Push in the platform red Emergency Stop button to the off position.
- 20 Pull out the red Emergency Stop button to the on position and do not start the engine.
- 21 Press down the foot switch and attempt to start the engine by moving the start toggle switch to either side.
- ⦿ Result: The engine should not start.
- 22 Do not press down the foot switch and restart the engine.
- ⦿ Result: The engine should start.
- 23 Do not press down the foot switch and test each machine function.
- ⦿ Result: No functions should operate.

## Test Machine Functions

- 24 Press down the foot switch.
- 25 Activate each machine function control handle or toggle switch.
- ⦿ Result: All boom and platform functions should operate through a full cycle.

### Test the Steering

- 26 Press down the foot switch.
- 27 Press the thumb rocker switch on top of the drive control handle in the direction indicated by the blue triangle on the control panel OR slowly move the control handle in the direction indicated by the blue triangle.
- ⦿ Result: The steer wheels should turn in the direction that the blue triangles point on the drive chassis.
- 28 Press the thumb rocker switch in the direction indicated by the yellow triangle on the control panel OR slowly move the control handle in the direction indicated by the yellow triangle.
- ⦿ Result: The steer wheels should turn in the direction that the yellow triangles point on the drive chassis.

# Inspections

## Test Drive and Braking

- 29 Press down the foot switch.
- 30 Slowly move the drive control handle in the direction indicated by the blue arrow on the control panel until the machine begins to move, then return the handle to the center position.
- ⊙ Result: The machine should move in the direction that the blue arrow points on the drive chassis, then come to an abrupt stop.
- 31 Slowly move the control handle in the direction indicated by the yellow arrow on the control panel until the machine begins to move, then return the handle to the center position.
- ⊙ Result: The machine should move in the direction that the yellow arrow points on the drive chassis, then come to an abrupt stop.

Note: The brakes must be able to hold the machine on any slope it is able to climb.

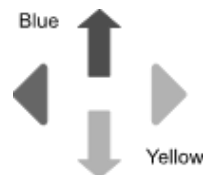
## Test the Drive Enable System

- 32 Press down the foot switch and lower the boom to the stowed position.
- 33 Rotate the turntable until the primary boom moves past one of the non-steer wheels.
- ⊙ Result: The drive enable indicator light should come on and remain on while the boom is anywhere in the range shown.
- 34 Move the drive control handle off center.
- ⊙ Result: The drive function should not operate.
- 35 Move and hold the drive enable toggle switch to either side and slowly move the drive control handle off center.
- ⊙ Result: The drive function should operate.



Note: When the drive enable system is in use, the machine may drive in the opposite direction that the drive and steer control handle is moved.

Use the color-coded direction arrows on the platform controls and the drive chassis to identify the direction of travel.



# Inspections

## Test Limited Drive Speed

- 36 Press down the foot switch.
- 37 Raise the primary boom approximately 2 ft / 61 cm.
- 38 Slowly move the drive control handle to the full drive position.
- ⊙ Result: The maximum achievable drive speed with the primary boom raised should not exceed 1 ft / 30 cm per second.
- 39 Lower the primary boom to the stowed position.
- 40 Raise the secondary boom approximately 2 ft / 61 cm.
- 41 Slowly move the drive control handle to the full drive position.
- ⊙ Result: The maximum achievable drive speed with the secondary boom raised should not exceed 1 ft / 30 cm per second.
- 42 Lower the secondary boom to the stowed position.
- 43 Extend the primary boom approximately 1 ft / 30 cm.
- 44 Slowly move the drive control handle to the full drive position.
- ⊙ Result: The maximum achievable drive speed with the primary boom extended should not exceed 1 ft / 30 cm per second.
- 45 Retract the boom to the stowed position.

If the drive speed with the primary boom raised, the secondary boom raised or the primary boom extended exceeds 1 ft / 30 cm per second, immediately tag and remove the machine from service.

## Test Drive Tilt Cutout

- 46 Press down the foot switch.
- 47 With the boom fully stowed, drive the machine onto a slope where the chassis pitch angle is greater than 4.5°.
- ⊙ Result: The machine should continue to drive.
- 48 Return to level ground and raise the primary boom to an out of stowed position (approximately 10° above horizontal).
- 49 Drive the machine onto a slope where the chassis pitch angle is greater than 4.5°.
- ⊙ Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.
- 50 Lower the primary boom to the stowed position or drive in the opposite direction.
- ⊙ Result: The machine should drive.
- 51 Return to level ground and extend the primary boom approximately 0.5 m.
- 52 Drive the machine onto a slope where the chassis pitch angle is greater than 4.5°.
- ⊙ Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.
- 53 Retract the primary boom to the stowed position or drive in the opposite direction.
- ⊙ Result: The machine should drive.

## Inspections

- 54 Return to level ground and stow the boom.
- 55 With the boom fully stowed, drive the machine onto a slope where the chassis pitch angle is greater than 4.5°.
- ⦿ Result: The machine should continue to drive.
- 56 Return to level ground and raise the secondary boom to an out of stowed position (approximately 15° above horizontal).
- 57 Drive the machine onto a slope where the chassis pitch angle is greater than 4.5°.
- ⦿ Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.
- 58 Lower the secondary boom to the stowed position or drive in the opposite direction.
- ⦿ Result: The machine should drive.
- 59 With the boom fully stowed, drive the machine onto a slope where the chassis pitch angle is greater than 4.5°.
- ⦿ Result: The machine should continue to drive.
- 60 Return to level ground and raise the primary boom to an out of stowed position (approximately 10° above horizontal).
- 61 Drive the machine onto a slope where the chassis roll angle is greater than 4.5°.
- ⦿ Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.
- 62 Lower the primary boom to the stowed position or drive in the opposite direction.
- ⦿ Result: The machine should drive.
- 63 Return to level ground and extend the primary boom approximately 0.5 m.
- 64 Drive the machine onto a slope where the chassis roll angle is greater than 4.5°.
- ⦿ Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.
- 65 Retract the primary boom to the stowed position or drive in the opposite direction.
- ⦿ Result: The machine should drive.
- 66 Return to level ground and stow the boom.
- 67 With the boom fully stowed, drive the machine onto a slope where the chassis roll angle is greater than 4.5°.
- ⦿ Result: The machine should continue to drive.
- 68 Return to level ground and raise the secondary boom to an out of stowed position (approximately 15° above horizontal).
- 69 Drive the machine onto a slope where the chassis roll angle is greater than 4.5°.
- ⦿ Result: The machine should stop once the machine reaches 4.5° of chassis tilt and the alarm should sound at the platform controls.
- 70 Lower the secondary boom to the stowed position or drive in the opposite direction.
- ⦿ Result: The machine should drive.



# Inspections

## Test the Oscillating Axle (if equipped)

- 71 Start the engine from the platform controls.
- 72 Drive the right steer tire up onto a 6 in/15 cm block or curb.
  - ⦿ Result: The three remaining tires should stay in firm contact with the ground.
- 73 Drive the left steer tire up onto a 6 in/15 cm block or curb.
  - ⦿ Result: The three remaining tires should stay in firm contact with the ground.
- 74 Drive both steer tires up onto a 6 in/15 cm block or curb.
  - ⦿ Result: The non-steer tires should stay in firm contact with the ground.

## Test Auxiliary Power

- 75 Shut the engine off.
- 76 Pull out the red Emergency Stop button to the on position.
- 77 Press down the foot switch.
- 78 Simultaneously hold the auxiliary power switch on and activate each function control handle or toggle switch.

Note: To conserve battery power, test each function through a partial cycle.

- ⦿ Result: All boom and steer functions should operate. Drive functions should not operate with auxiliary power.

## Test the Contact Alarm (if equipped)

- 79 Do not activate the foot switch and press on the contact alarm cable to release the actuator from the switch socket.
  - ⦿ Result: The contact alarm lights will not flash and the machine horn will not sound.
- 80 Activate the foot switch by pressing the foot switch down.
  - ⦿ Result: The contact alarm lights will flash and the machine horn will sound.
- 81 Insert the actuator into the switch socket.
  - ⦿ Result: The lights and horn will turn off.
- 82 Activate the foot switch by pressing the foot switch down and press on the contact alarm cable to release the actuator from the switch socket.
  - ⦿ Result: The contact alarm lights will flash and the machine horn will sound.

# Inspections

83 Operate each machine function.

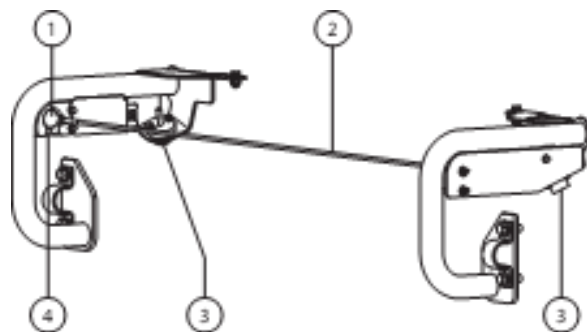
- ⦿ Result: All machine functions should not operate.

84 Insert the actuator into the switch socket.

- ⦿ Result: The lights and horn will turn off.

85 Operate each machine function.

- ⦿ Result: All machine functions should operate.



- 1 actuator
- 2 contact alarm cable
- 3 flashing alarm
- 4 switch socket

## Test Aircraft Protection Package (if equipped)

86 Extend the primary boom approximately 1 ft / 30 cm.

87 Move the yellow bumper at the bottom of the platform 4 inches/10 cm in any direction.

88 Activate each function control handle or toggle switch.

- ⦿ Result: No boom and steer functions should operate.

89 Move and hold the aircraft protection override switch.



90

91 Activate each function control handle or toggle switch.

- ⦿ Result: All boom and steer functions should operate.

# Inspections



## Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.

- 1 Avoid hazardous situations.
- 2 Always perform a pre-operation inspection.
- 3 Always perform function tests prior to use.

### 4 Inspect the workplace.

**Know and understand the workplace inspection before going on to the next section.**

- 5 Only use the machine as it was intended.

## Workplace Inspection Checklist

Be aware of and avoid the following hazardous situations:

- ☐ drop-offs or holes
- ☐ bumps, floor obstructions, or debris
- ☐ sloped surfaces
- ☐ unstable or slippery surfaces
- ☐ overhead obstructions and high voltage conductors
- ☐ hazardous locations
- ☐ inadequate surface support to withstand all load forces imposed by the machine
- ☐ wind and weather conditions
- ☐ the presence of unauthorized personnel
- ☐ other possible unsafe conditions

## Workplace Inspection Fundamentals

The workplace inspection helps the operator determine if the workplace is suitable for safe machine operation. It should be performed by the operator prior to moving the machine to the workplace.

It is the operator's responsibility to read and remember the workplace hazards, then watch for and avoid them while moving, setting up, and operating the machine.

# Inspections

## Decal Inspection

Use the pictures on the next page to verify that all decals are legible and in place.

Below is a numerical list with quantities and descriptions.

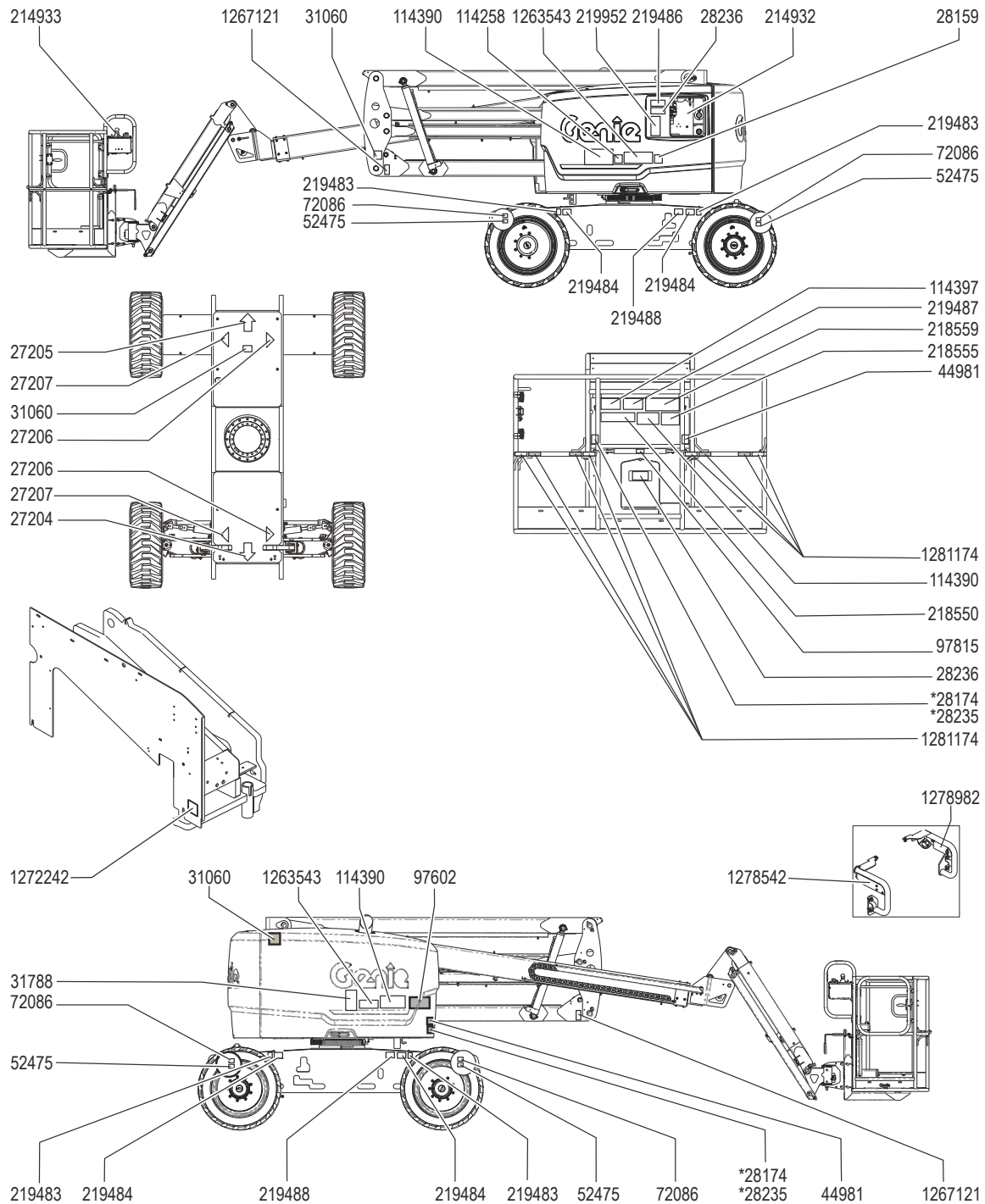
Part No.	Decal Description	Qty
27204	Arrow – Blue	1
27205	Arrow – Yellow	1
27206	Triangle – Blue	2
27207	Triangle – Yellow	2
28159	Label – Diesel	1
28174	Label – Power to Platform, 230V	2
28235	Label – Power to Platform, 115V	2
28236	Warning – Improper Operation	1
31060	Danger – Tip-over Hazard, Limit Switch	3
31788	Danger – Explosion/Burn Hazard	1
44981	Label – Air Line to Platform (option)	2
52475	Label – Transport Tie-down	4
72086	Label – Lifting Point	4
97602	Warning – Explosion Hazard	1
97815	Label – Lower Mid-rail	1
114258	Danger – Explosion Hazard	1
114390	Danger – Electrocution Hazard	3

Part No.	Decal Description	Qty
114397	Danger – Tilt-Alarm	1
214932	Ground Control Panel	1
214933	Platform Control Panel	1
218550	Danger – Tip-over Hazard, 500 lbs / 227 kg	1
218555	Label – Runaway Hazard, Slope	1
218559	Danger, Warning – Tip-over, Crush Hazard	1
219483	Label – Wheel Load, Z-51/30	4
219484	Danger – Tire Specification	4
219486	Instructions – Operating Instructions	1
219487	Label – Platform Overload	1
219488	Label – Transport Diagram	2
219952	Label – Emergency Lowering	1
1263543	Label – Improper Operation	2
1267121	Label – Boom support	2
1272242	Label – Machine Registration	1
1278542	Instructions – Contact Alarm	1
1278982	Label – Actuator Switch Socket	1
1281174	Label – Lanyard Anchorage Point	8

 Shading indicates decal is hidden from view, i.e. under covers

\* These decals are model, option or configuration specific.

# Inspections



# Operating Instructions



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## Do Not Operate Unless:

- ☒ You learn and practice the principles of safe machine operation contained in this operator's manual.
  - 1 Avoid hazardous situations.
  - 2 Always perform a pre-operation inspection.
  - 3 Always perform function tests prior to use.
  - 4 Inspect the workplace.
  - 5 **Only use the machine as it was intended.**

## Fundamentals

The Operating Instructions section provides instructions for each aspect of machine operation. It is the operator's responsibility to follow all the safety rules and instructions in the operator's manual.

Using the machine for anything other than lifting personnel, along with their tools and materials, to an aerial work site is unsafe and dangerous.

Only trained and authorized personnel should be permitted to operate a machine. If more than one operator is expected to use a machine at different times in the same work shift, they must all be qualified operators and are all expected to follow all safety rules and instructions in the operator's manual. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.

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# Operating Instructions

## Starting the Engine

- 1 At the ground controls, turn the key switch to the desired position.
- 2 Be sure both ground and platform control red Emergency Stop buttons are pulled out to the on position.

### Diesel models

- 1 Move the glow plug switch to either side and hold for 3 to 5 seconds.
- 2 Move the engine start toggle switch to either side. If the engine fails to start or dies, the restart delay will disable the start switch for 3 seconds.

### All models

If the engine fails to start after 15 seconds of cranking, determine the cause and repair any malfunction. Wait 60 seconds before trying to start again.

In cold conditions, 20°F/-6°C and below, warm the engine for 5 minutes before operating to prevent hydraulic system damage.

In extreme cold conditions, 0°F/-18°C and below, machines should be equipped with optional cold start kits. Attempting to start the engine when temperatures are below 0°F/-18°C may require the use of a booster battery.

# Operating Instructions

## Emergency Stop

Push in the red Emergency Stop button to the off position at the ground controls or the platform controls to stop all machine functions and turn the engine off.

Repair any function that operates when either red Emergency Stop button is pushed in.

Selecting and operating the ground controls will override the platform red Emergency Stop button.

## Auxiliary Power

Use auxiliary power if the primary power source (engine) fails.

- 1 Turn the key switch to ground or platform control.
- 2 Pull out the red Emergency Stop button to the on position.
- 3 Press down the foot switch when using the controls from the platform.
- 4 Simultaneously hold the auxiliary power switch on and activate the desired function.



The drive function will not operate with auxiliary power.

## Operation from Ground

- 1 Turn the key switch to ground control.
- 2 Pull out the red Emergency Stop button to the on position.
- 3 Start the engine.

### To Position Platform

- 1 Push and hold the function enable button.



- 2 Move the appropriate toggle switch according to the markings on the control panel.

Drive and steer functions are not available from the ground controls.



# Operating Instructions

## Operation from Platform

- 1 Turn the key switch to platform control.
- 2 Pull out both ground and platform red Emergency Stop buttons to the on position.
- 3 Start the engine. Do not press down the foot switch when starting the engine.

## To Position Platform

- 1 Press down the foot switch.
- 2 Slowly move the appropriate function control handle or toggle switch or press the appropriate button according to the markings on the control panel.

## To Steer

- 1 Press down the foot switch.
- 2 Slowly move the drive control handle in the direction indicated by blue or yellow triangles OR press the thumb rocker switch located on top of the drive control handle.

Use the color-coded direction arrows on the platform controls and the drive chassis to identify the direction the wheels will turn.

## To Drive

- 1 Press down the foot switch.
- 2 Increase speed: Slowly move the control handle off center.

Decrease speed: Slowly move the control handle toward center.

Stop: Return the control handle to center or release the function enable switch.

Use the color-coded direction arrows on the platform controls and the drive chassis to identify the direction the machine will travel.

Machine travel speed is restricted when the boom is raised.

# Operating Instructions

## ▲ Driving on a slope

Determine the uphill, downhill and side slope ratings for the machine and determine the slope grade.



### Maximum slope rating, platform downhill (gradeability):

2WD: 30% (17°)

4WD: 45% (24°)



### Maximum slope rating, platform uphill:

25% (14°)



### Maximum side slope rating:

25% (14°)

Note: Slope rating is subject to ground conditions with one person in the platform and adequate traction. Additional platform weight may reduce slope rating.

The term gradeability applies to the counterweight uphill configuration only.

Be sure the boom is below horizontal and the platform is between the circle-end wheels.

Move the drive speed select switch to machine on incline symbol.

## To determine the slope grade:

Measure the slope with a digital inclinometer OR use the following procedure.

You will need:

- carpenter's level
- straight piece of wood, at least 3 feet/1 m long
- tape measure

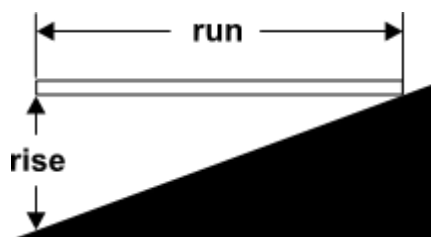
Lay the piece of wood on the slope.

At the downhill end, lay the level on the top edge of the piece of wood and lift the end until the piece of wood is level.

While holding the piece of wood level, measure the vertical distance from the bottom of the piece of wood to the ground.

Divide the tape measure distance (rise) by the length of the piece of wood (run) and multiply by 100.

Example:



Piece of wood = 144 inches (3.6 m)

Run = 144 inches (3.6 m)

Rise = 12 inches (0.3 m)

$12 \text{ in} \div 144 \text{ in} = 0.083 \times 100 = 8.3\% \text{ grade}$

$0.3 \text{ m} \div 3.6 \text{ m} = 0.083 \times 100 = 8.3\% \text{ grade}$

If the slope exceeds the maximum slope or side slope rating, then the machine must be winched or transported up or down the slope. See Transport and Lifting section.

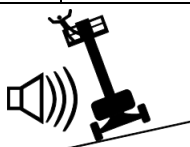
# Operating Instructions

## Tilt Sensor Activation Settings

### Z-51/30J

Platform Load: 500 lbs/227 kg			
Chassis Angle (front to back)	Chassis Angle (side to side)	Max Height	Max Reach
4.5°	4.5°	51 ft 2 in 15.59 m	30 ft 9 in 9.37 m

When the Machine On Incline indicator light is on and the tilt alarm sounds, the following functions are affected; drive functions are disabled.



Follow the Boom lowering procedure (see Operating Instructions) to restore drive function.

When the machine is stowed, on a slope, and the tilt alarm sounds, the following functions are affected; lift functions are disabled.



Return the machine to level ground to restore lift functions.

## Drive Enable

Light on indicates that the boom has moved just past either non-steer wheel and the drive function has been interrupted.



To drive, hold the drive enable switch to either side and slowly move the drive control handle off center.

Be aware that the machine may move in the opposite direction that the drive and steer controls are moved.

Always use the color-coded direction arrows on the platform controls and the drive chassis to identify the direction the machine will travel.

## Drive Speed Select



- Machine on incline symbol: Low range operation for inclines
- Machine on level surface symbol: High range operation for maximum drive speed.

# Operating Instructions

## Engine Idle Select (rpm)

When the foot switch is not pressed, the engine will idle at the lowest rpm.

- Turtle symbol: Foot switch activated low idle
- Rabbit symbol: Foot switch activated high idle



## Check Engine Light



Light on and engine stopped: Tag the machine and remove from service.

Light on and engine still running: Contact service personnel within 24 hours.

## Generator (if equipped)

To start the generator, move the generator toggle switch to the on position.

Plug a power tool into the power to platform GFCI outlet.

To turn off the generator, move the generator toggle switch to the off position.

**Note:** Machine functions will not operate while the generator is running and the foot switch is not pressed down. When the foot switch is pressed down, the generator will turn off and the machine functions will operate.



## Platform Overload Indicator Light



Light flashing indicates the platform is overloaded and no functions will operate.

Remove weight from the platform until the light goes off.

## Aircraft Protection Package (if equipped)



If the platform bumper comes into contact with an object, the machine will shut down and no functions will operate.

- 1 Start the engine.
- 2 Press down the foot switch.
- 3 Move and hold the aircraft protection override switch.
- 4 Move the appropriate function control handle or toggle switch to move the machine away from aircraft components.

## Machine Not Level Indicator Light



Light on indicates machine is not level. The tilt alarm will be sounding when this light is on. Move the machine to a firm level surface.

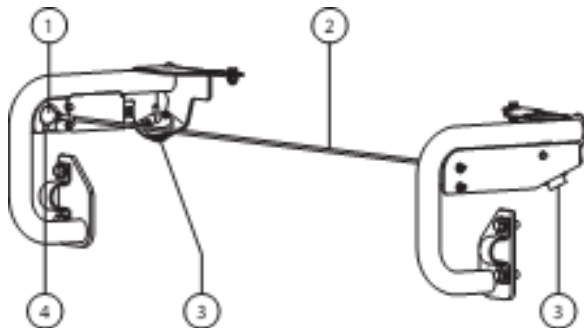
## Operating Instructions

### Contact Alarm (if equipped)

The contact alarm is designed to alert ground personnel when an operator makes contact with the platform control panel, interrupting boom movement, sounding an alarm and flashing warning lights.

When the contact alarm cable is tripped, the lift and drive functions are disabled at the platform. The audio and visual warnings will activate alerting others that assistance may be needed. These notifications will continue until the system is reset.

- 1 The contact alarm cable is tripped, releasing the actuator from the switch socket.
- 2 Insert the actuator into the switch socket to turn off flashing lights and audio alarm.



- 1 actuator
- 2 contact alarm cable
- 3 flashing alarm
- 4 switch socket

### Control Box Heater (if equipped)



Move the control box heater switch up to activate the heater.

### After Each Use

- 1 Select a safe parking location—firm level surface, clear of obstruction and traffic.
- 2 Retract and lower the boom to the stowed position.
- 3 Rotate the turntable so that the boom is between the non-steer wheels.
- 4 Turn the key switch to the off position and remove the key to secure from unauthorized use.
- 5 Chock the wheels.

## Transport and Lifting Instructions



### Observe and Obey:

- ☑ Genie provides this securement information as a recommendation. Drivers are solely responsible for making sure machines are properly secured and the correct trailer is selected.
- ☑ Genie customers needing to containerize any lift or Genie product should source a qualified freight forwarder with expertise in preparing, loading and securing construction and lifting equipment for international shipment.
- ☑ Only qualified mobile elevating work platform operators should move the machine on or off the truck.
- ☑ The transport vehicle must be parked on a level surface.
- ☑ The transport vehicle must be secured to prevent rolling while the machine is being loaded.
- ☑ Be sure the vehicle capacity, loading surfaces and chains or straps are sufficient to withstand the machine weight. Genie lifts are very heavy relative to their size. See the serial label for the machine weight. See the inspections section for the serial label location.

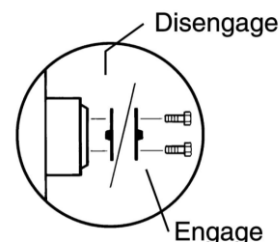
- ☑ Be sure the turntable is secured with the turntable rotation lock before transporting. Be sure to unlock the turntable for operation.
- ☑ Do not drive the machine on a slope that exceeds the uphill, downhill or side slope rating. See Driving on a Slope in the Operating Instructions section.
- ☑ If the slope of the transport vehicle bed exceeds the uphill or downhill maximum slope rating, the machine must be loaded and unloaded using a winch as described in the brake release operation. See the Specifications section for the slope ratings.

### Free-wheel Configuration for Winching

Chock the wheels to prevent the machine from rolling.

Release the non-steer wheel brakes by turning over the drive hub disconnect caps.

Be sure the winch line is properly secured to the drive chassis tie points and the path is clear of all obstructions.



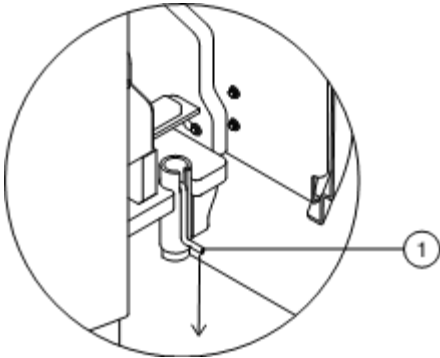
Reverse the procedures described to re-engage the brakes.

Note: Towing the Genie Z-51/30J is not recommended. If the machine must be towed, do not exceed 3.2 km/h.

## Transport and Lifting Instructions

### Securing to Truck or Trailer for Transit

Always use the turntable rotation lock pin each time the machine is transported.



1 Turntable rotation lock pin

Turn the key switch to the off position and remove the key before transporting.

Inspect the entire machine for loose or unsecured items.

### Securing the Chassis

Use chains of ample load capacity.

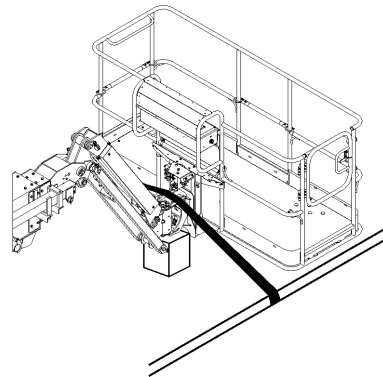
Use a minimum of 4 chains or straps.

Adjust the rigging to prevent damage to the chains.

### Securing the Platform – Z-51/30

Make sure the jib and platform are in the stowed position.

Secure the platform with a nylon strap placed over the platform mount near the platform rotator (see below). Do not use excessive downward force when securing the boom section.



# Transport and Lifting Instructions



## Observe and Obey:

- ☑ Only qualified riggers should rig the machine.
- ☑ Only certified crane operators should lift the machine and only in accordance with the applicable crane regulations.
- ☑ Be sure the crane capacity, loading surfaces and straps or lines are sufficient to withstand the machine weight. See the serial label for the machine weight.

## Lifting Instructions

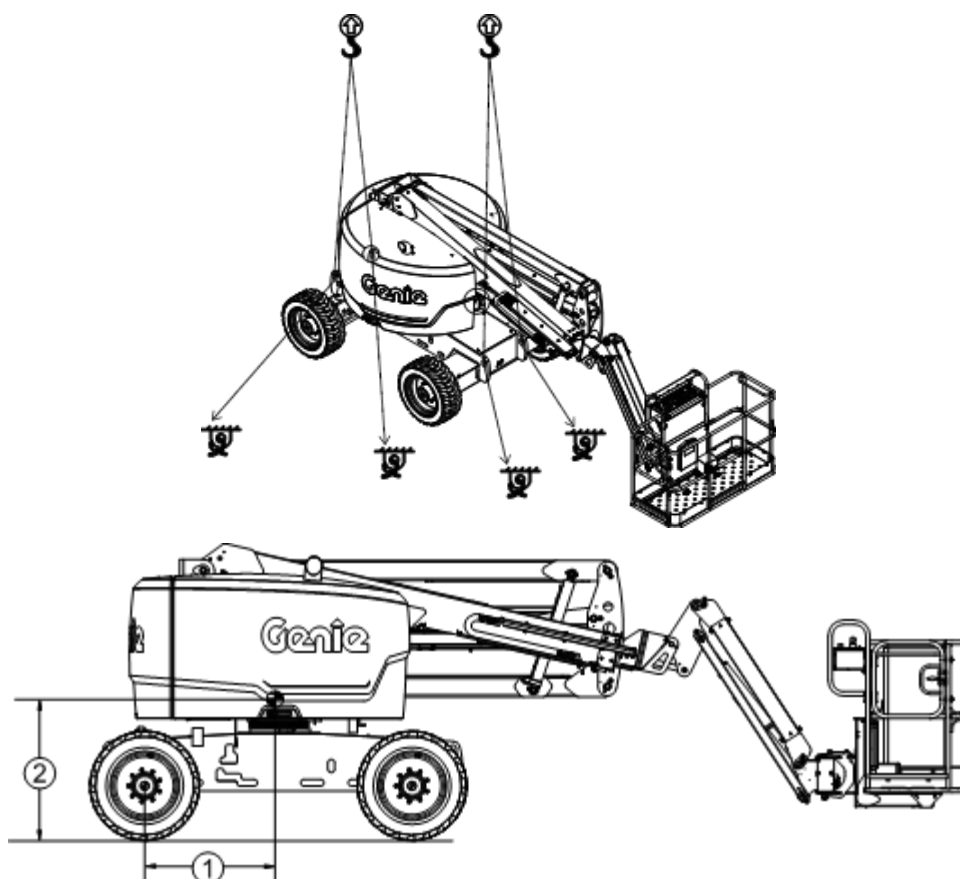
Fully lower and retract the boom. Fully lower the jib (if equipped). Remove all loose items on the machine.

Determine the center of gravity of your machine using the table and the picture on this page.

Attach the rigging only to the designated lifting points on the machine.

Adjust the rigging to prevent damage to the machine and to keep the machine level.

Center of gravity	X Axis (1)	Y Axis (2)
Z-51/30J	120 cm	112 cm





# Maintenance



## Observe and Obey:

- ☑ Only routine maintenance items specified in this manual shall be performed by the operator.
- ☑ Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications.
- ☑ Dispose of material in accordance with governmental regulations.
- ☑ Use only Genie approved replacement parts.

## Maintenance Symbols Legend

The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below.



Indicates that tools will be required to perform this procedure.



Indicates that new parts will be required to perform this procedure.



Indicates that a cold engine is required before performing this procedure.

## Check the Engine Oil Level



Maintaining the proper engine oil level is essential to good engine performance and service life. Operating the machine with an improper oil level can damage engine components.

Note: Check the oil level with the engine off.

- 1 Check the oil level dipstick. Add oil as needed.

### Deutz D2011 L03i Engine

Oil type	15W-40
Oil type - cold conditions	5W-40

# Maintenance

## Check the Hydraulic Oil Level



Maintaining the hydraulic oil at the proper level is essential to machine operation. Improper hydraulic oil levels can damage hydraulic components. Daily checks allow the inspector to identify changes in oil level that might indicate the presence of hydraulic system problems.

- 1 Be sure that the boom is in the stowed position.
- 2 Visually inspect the sight gauge located on the side of the hydraulic oil tank.
- ⦿ Result: The hydraulic oil level should be within the top 2 inches / 5 cm of the sight gauge.
- 3 Add oil as needed. Do not overfill.

### Hydraulic oil specifications

Hydraulic oil type	Chevron Rando HD equivalent
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## Check the Engine Coolant Level



Maintaining the engine coolant at the proper level is essential to engine service life. Improper coolant level will affect the engine's cooling capability and damage engine components. Daily checks will allow the inspector to identify changes in coolant level that might indicate cooling system problems.

- ⚠ Burn hazard. Beware of hot engine parts and coolant. Contact with hot engine parts and/or coolant may cause severe burns.
- 1 Check the fluid level in the coolant recovery tank. Add fluid as needed.
- ⦿ Result: The fluid level should be at the FULL mark.

Note: Do not remove the radiator cap.

## Maintenance

### Check the Batteries



Proper battery condition is essential to good machine performance and operational safety. Improper fluid levels or damaged cables and connections can result in component damage and hazardous conditions.

- ⚠ **Electrocution hazard.** Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.
  - ⚠ **Bodily injury hazard.** Batteries contain acid. Avoid spilling or contacting battery acid. Neutralize battery acid spills with baking soda and water.
- 1 Put on protective clothing and eye wear.
  - 2 Be sure that the battery cable connections are tight and free of corrosion.
  - 3 Be sure that the battery hold-down brackets are in place and secure.

**Note:** Adding terminal protectors and a corrosion preventative sealant will help eliminate the corrosion on the battery terminals and cables.

### Check the Tire Pressure



- ⚠ **Tip-over hazard.** An over-inflated tire can explode which may compromise machine stability and cause the machine to tip over.
- ⚠ **Tip-over hazard.** The use of temporary flat tire repair products may lead to tire failure which could compromise machine stability and cause the machine to tip over.
- ⚠ **Bodily injury hazard.** An over-inflated tire can explode and may cause death or serious injury.

**Note:** This procedure does not need to be performed on machines equipped with foam-filled tires.

- 1 Check each tire with an air pressure gauge. Add air as needed.

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#### Tire specifications

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Models with Aircraft Protection Package	Foam-filled Only
Rough terrain tire	60 psi /
Tire size: 315/55 D20	3.5 bar

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# Maintenance

## Scheduled Maintenance

Maintenance performed quarterly, annually and every two years must be completed by a person trained and qualified to perform maintenance on this machine according to the procedures found in the service manual for this machine.

Machines that have been out of service for more than three months must receive the quarterly inspection before they are put back into service.

## Specifications

### Z-51/30J

Height, working maximum	17.42 m
Height, platform maximum	15.59 m
Height, stowed maximum	2.13 m
Horizontal reach, maximum	9.37 m
Width, standard tires	2.29 m
Length, stowed	7.58 m
Maximum load capacity	227 kg
Maximum wind speed	12.5 m/s
Wheelbase	2.03 m
Turning radius (outside)	4.5 m
Turning radius (inside)	1.68 m
Turntable rotation	355°
Turntable tailswing	0 cm
Drive speed, stowed	7.2 km/h
Drive speed, booms raised	0.3 m/s
Ground clearance, center	37.5 cm
Ground clearance, axle	26.7 cm
Controls	12V DC proportional
Weight	7394 kg
Machine weights vary with option configurations.	
Platform dimensions, 6 foot	183 cm x 76 cm
Platform leveling	self-leveling
Platform rotation	160°
Ambient operating temperature	-20° F to 120° F -29° C to 49° C

AC outlet in platform	standard
Hydraulic pressure, maximum (boom functions)	221 bar
System voltage	12V
Tire size, 4WD RT	315/55 D20 foam filled

### Maximum slope rating, stowed position

Platform downhill	45% (24°)
Platform uphill	25% (14°)
Side slope	25% (14°)

Note: Slope rating is subject to ground conditions with one person in the platform and adequate traction. Additional platform weight may reduce slope rating.

<b>Maximum allowable chassis inclination</b>	Refer to "Tilt Sensor Activation Settings" section
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Fuel tank capacity	64.4 liters
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### Floor loading information

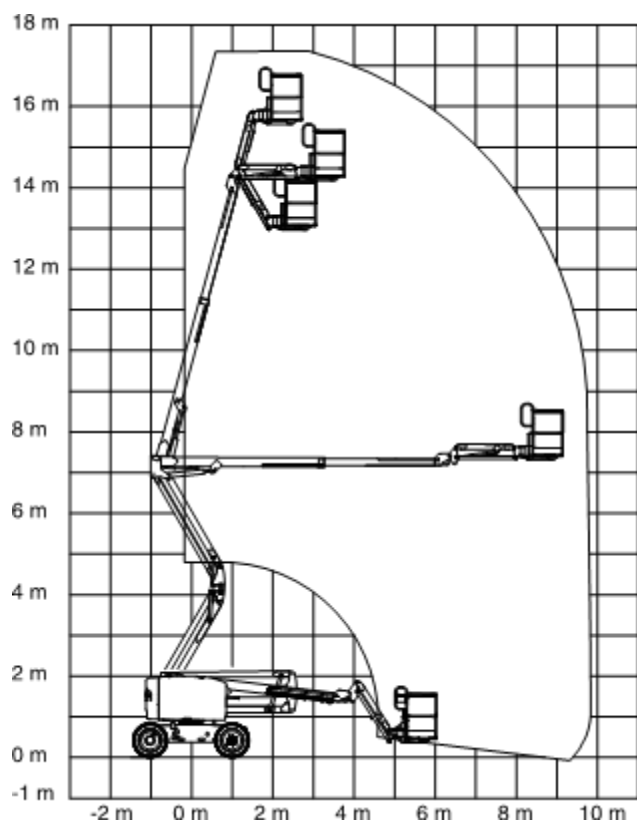
Tire load maximum	4286 kg
Tire contact pressure	552 kPa
Occupied floor pressure	1123 kg/m <sup>2</sup> 11.01 kPa

Note: Floor loading information is approximate and does not incorporate different option configurations. It should be used only with adequate safety factors.

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice or obligation.

# Specifications

## Z-51/30J Range of Motion Chart



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