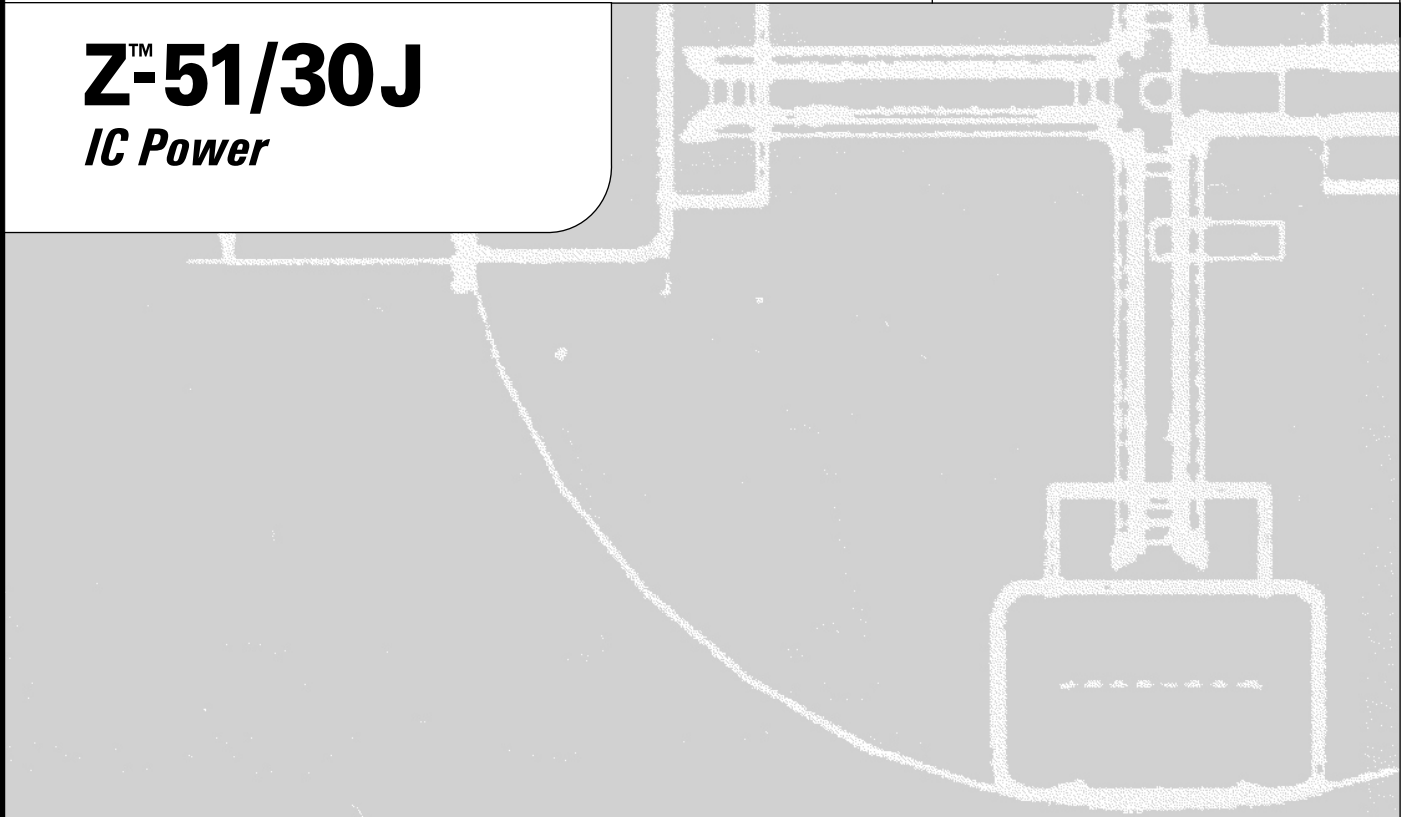


# Genie®

## **Operator's Manual** *with Maintenance Information*

First Edition  
Second Printing  
Part No. 97900

**Z™-51/30J**  
*IC Power*



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## Important

Read, understand and obey these safety rules and operating instructions before operating this machine. Only trained and authorized personnel shall be permitted to operate this 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, call Genie Industries.

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## Contents

	Page
Safety .....	1
Controls .....	7
Legend .....	10
Pre-operation Inspection .....	11
Maintenance .....	13
Function Tests .....	15
Workplace Inspection .....	21
Operating Instructions .....	22
Decals .....	28
Transport and Lifting Instructions .....	30
Specifications .....	33

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First Edition:    Second Printing, March 2006

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# Safety Rules



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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.

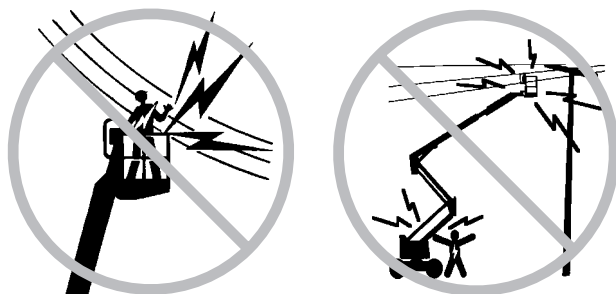
5 Only use the machine as it was intended.

- 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 RULES**

**Electrocution Hazards**

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



Maintain safe distances from electrical power lines and apparatus in accordance with applicable governmental regulations and the following chart.

<b>Voltage Phase to Phase</b>	<b>Minimum Safe Approach Distance Meters</b>
0 to 300V	Avoid Contact
300V to 50KV	3.1
50KV to 200KV	4.6
200KV to 350KV	6.1
350KV to 500KV	7.6
500KV to 750KV	10.7
750KV to 1000KV	13.7

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.

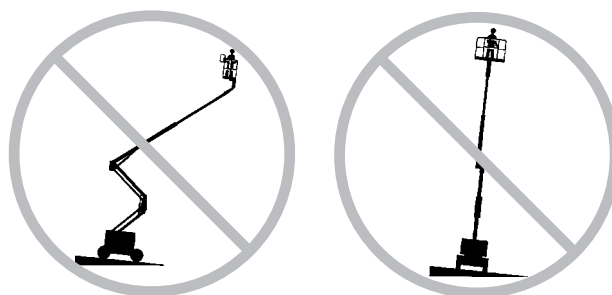
Do not use the machine as a ground for welding.

Do not operate the machine during lightning or storms.

**Tip-over Hazards**

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

<b>Maximum platform capacity</b>	227 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 factored into the total platform load. See the decals on the options.

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:

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 to retract the boom and lower the platform. Do not rotate the boom while lowering. Move the machine to a firm, level surface before raising the platform.

**SAFETY RULES**

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.

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.



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 alter or disable the limit switches.

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

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.

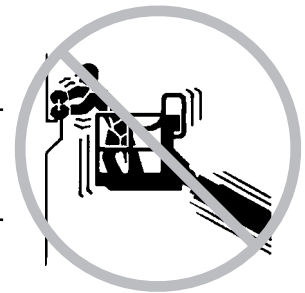
**Maximum slope rating, stowed position**

Counterweight uphill	45%	24°
Counterweight downhill	25%	14°
Side slope	25%	14°

Note: Slope rating is subject to ground conditions and adequate traction.

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

**Maximum allowable manual force**  
400 N



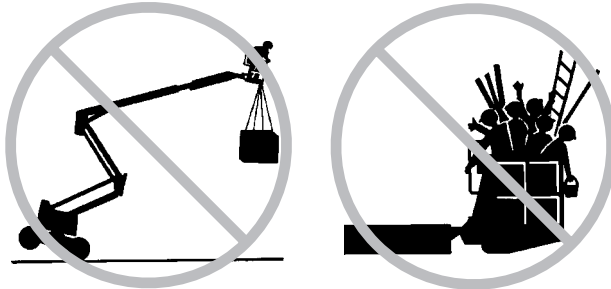
Do not alter or disable machine components that in any way affect safety and stability.

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

Do not modify or alter an aerial 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.

## SAFETY RULES

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

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

Be sure all tires are in good condition and lug nuts are properly tightened.

Do not use air-filled tires. These machines are equipped with foam-filled tires. Wheel weight is critical to stability.

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

Do not use the machine as a crane.

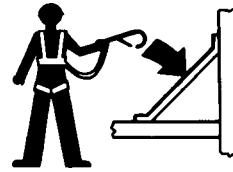
Do not push the machine or other objects with the boom.

Do not contact adjacent structures with the boom.

Do not tie the boom or platform to adjacent structures.

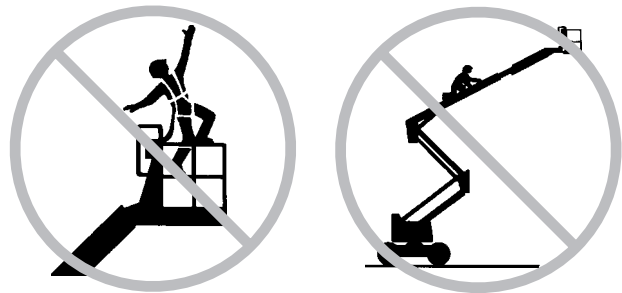
Do not place loads outside the platform perimeter.

## 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.

## Collision Hazards

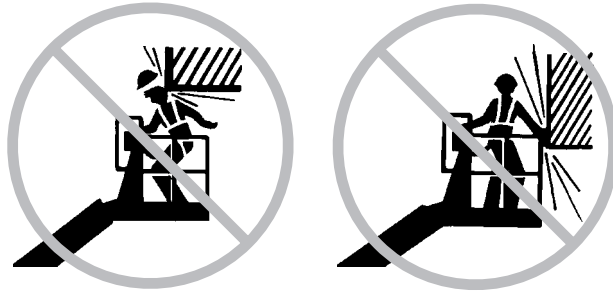


Be aware of limited sight distance and blind spots when driving or operating.

Be aware of the boom position when rotating the turntable.

**SAFETY RULES**

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

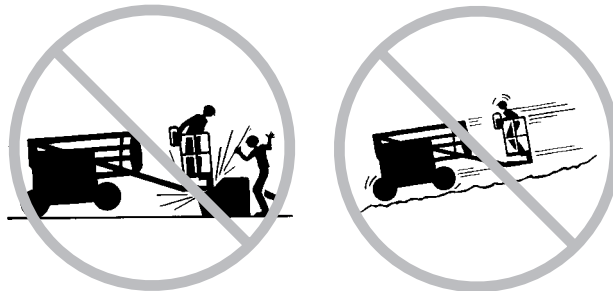


Be aware of crushing hazards when grasping the platform guard rail.

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

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.

**Explosion and Fire Hazards**

Do not start the engine if you smell or detect 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 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.

**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 service manual.

Be sure all decals are in place and legible.

Be sure the operator's, safety and responsibilities manuals are complete, legible and in the storage container located on the platform.

## SAFETY RULES

## Bodily Injury Hazard

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

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

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.

## Battery Safety

### Burn Hazards

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

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

### Explosion Hazard

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

### Electrocution Hazard

Avoid contact with electrical terminals.

### 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.

## Decal Legend

Genie product decals use symbols, color coding and signal words to identify the following:



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



Red—used to indicate the presence of an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Orange—used to indicate the presence of a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Yellow with safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.



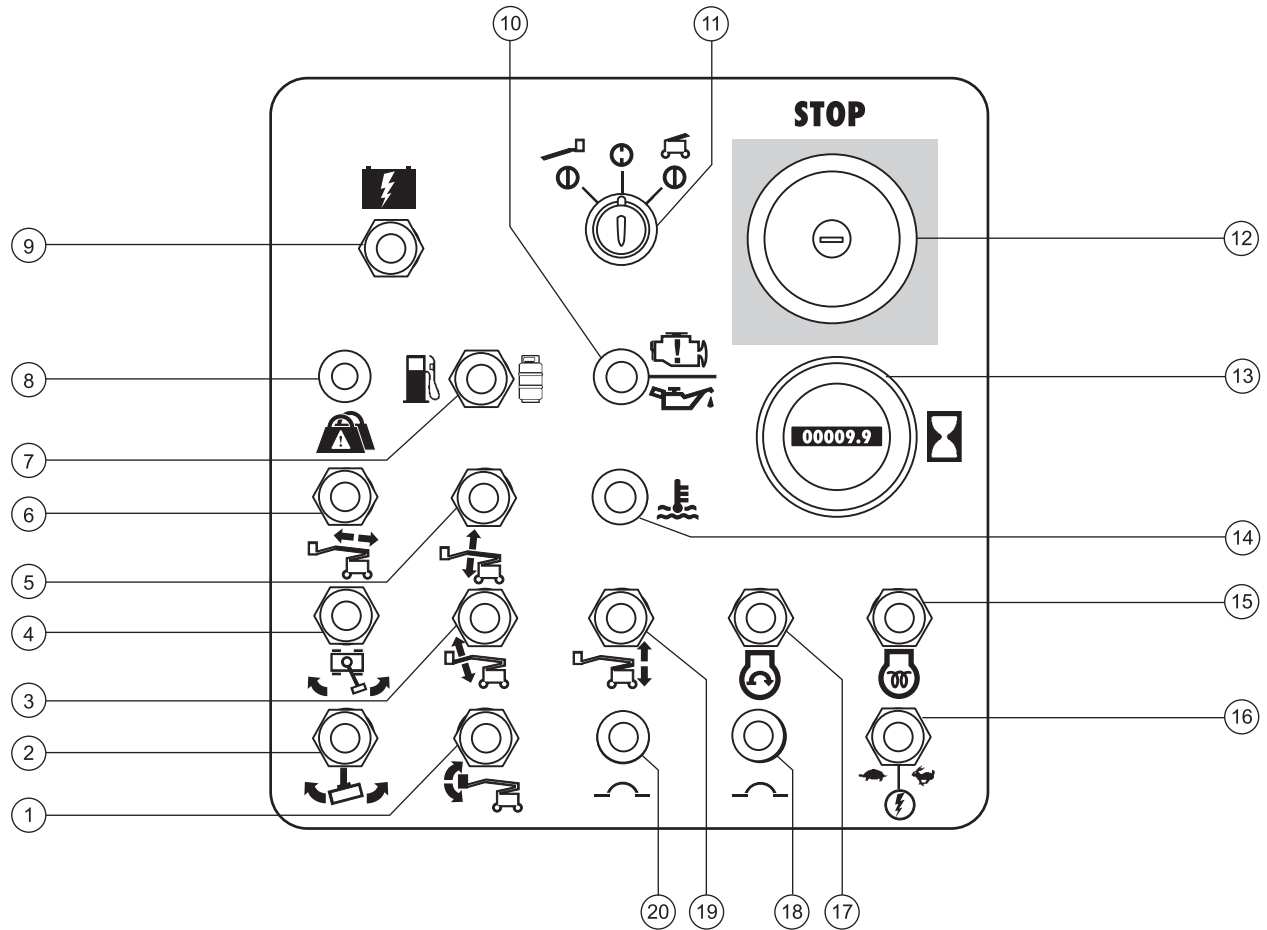
Yellow without safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.



Green—used to indicate operation or maintenance information.



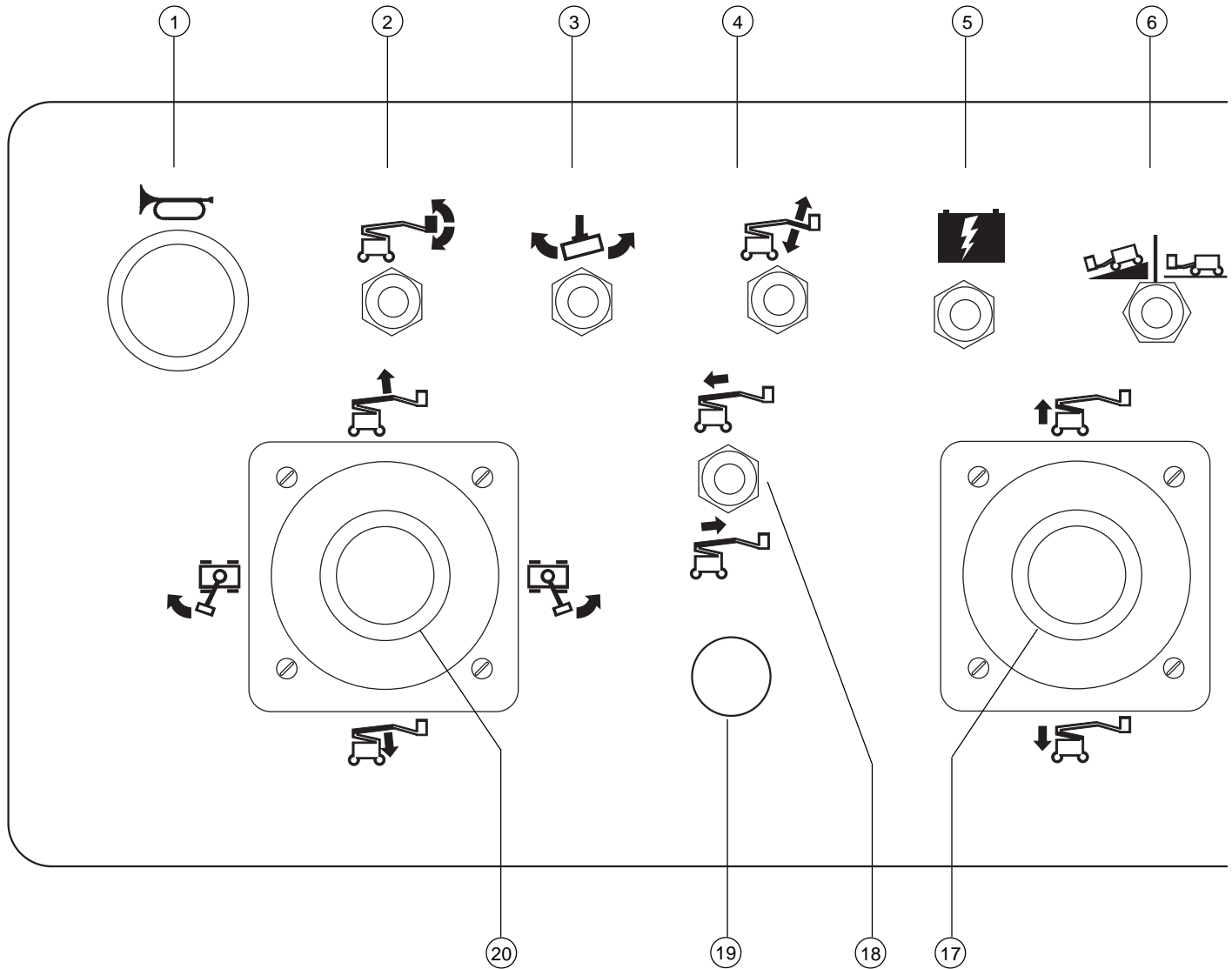
# Controls



## Ground Control Panel

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

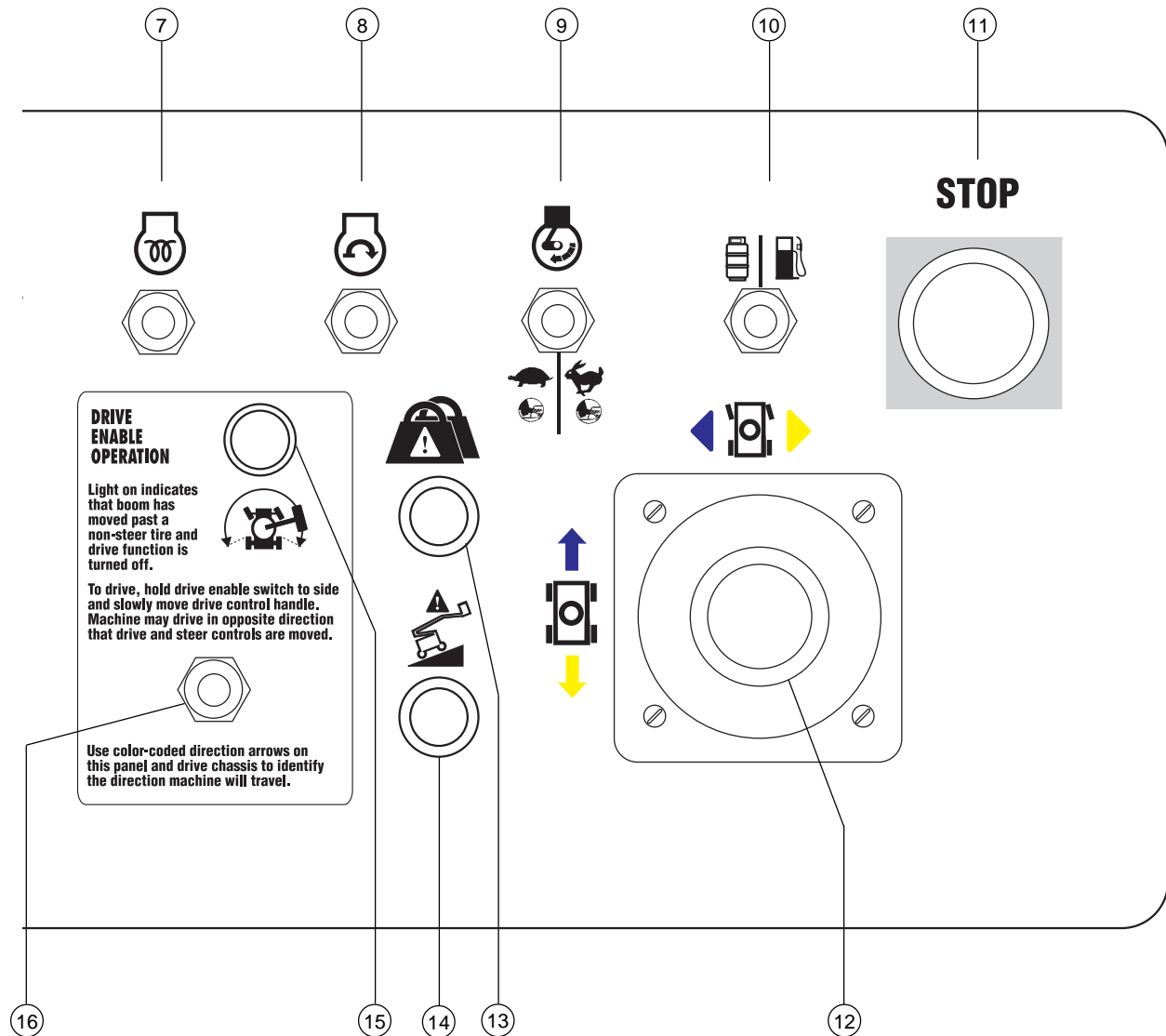
CONTROLS



**Platform Control Panel**

- 1 Horn button
- 2 Platform level switch
- 3 Platform rotate switch
- 4 Jib boom up/down switch
- 5 Auxiliary power switch
- 6 Drive speed select switch
- 7 Glow plug switch
- 8 Engine start switch
- 9 Engine idle (rpm) select switch
- 10 Not used
- 11 Red Emergency Stop button

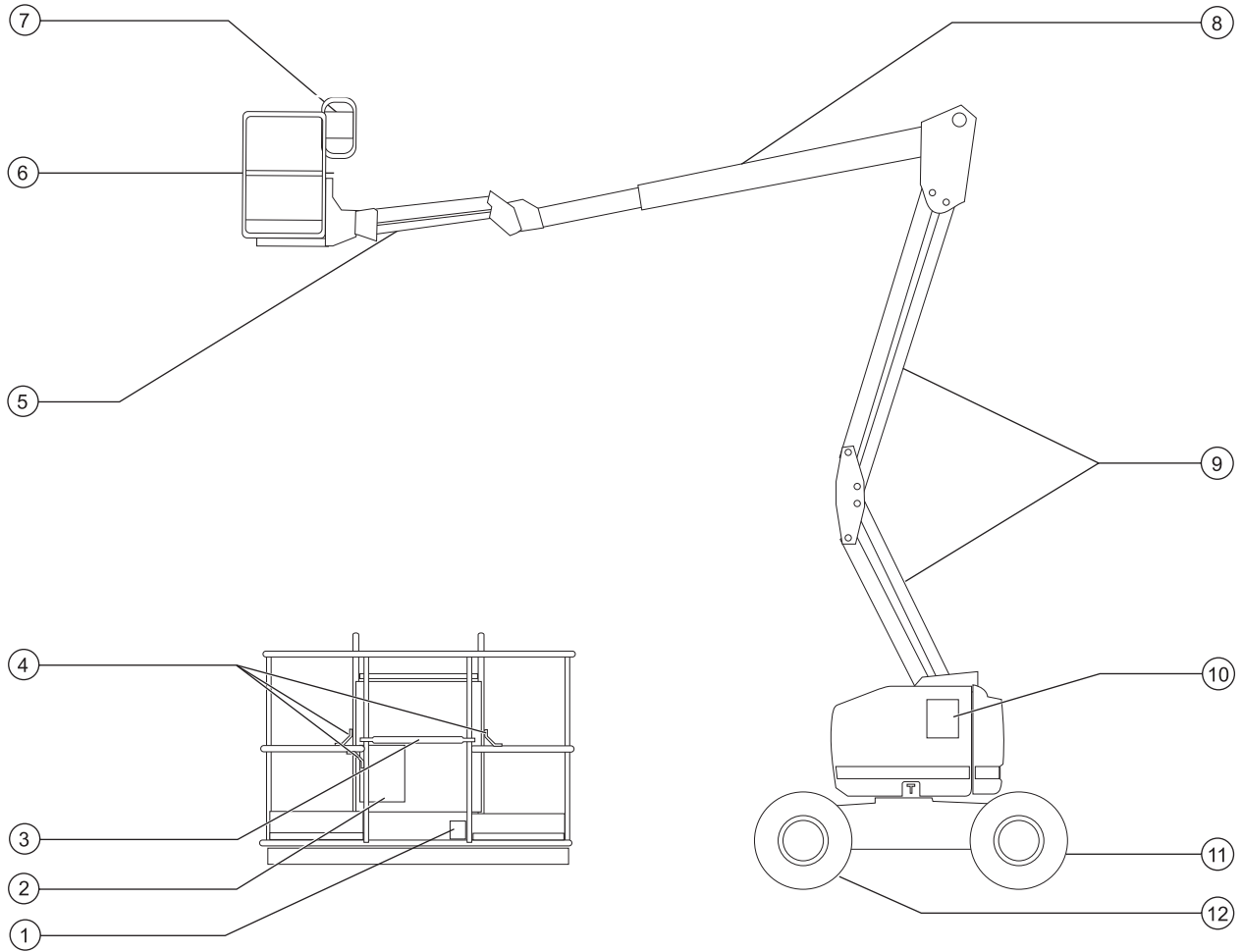
CONTROLS



- 12 Dual axis proportional control handle for drive and steer functions  
OR Proportional control handle for drive function and thumb rocker for steer function
- 13 Platform overload indicator light (if equipped)
- 14 Machine Not Level indicator light (if equipped)
- 15 Drive enable indicator light
- 16 Drive enable switch

- 17 Proportional control handle for secondary boom up/down function
- 18 Primary boom extend/retract switch
- 19 Used for optional equipment
- 20 Dual axis proportional control handle for primary boom up/down and turntable rotate left/right functions

# Legend



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

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

# Pre-operation Inspection



---

## 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.

## 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 and the requirements listed in the responsibilities manual.

## PRE-OPERATION INSPECTION

## Pre-operation Inspection

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- Be sure that the operator's, safety and responsibilities manuals are complete, legible and in the storage container located in the platform.
- Be sure that all decals are legible and in place. See Decals section.
- Check for engine oil leaks and proper oil level. Add oil if needed. See Maintenance 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 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
- Boom wear pads
- Tires and wheels
- Engine and related components
- Limit switches and horn

- Alarms and beacons (if equipped)
- Nuts, bolts and other fasteners
- Platform entry mid-rail or gate

Check entire machine for:

- Cracks in welds or structural components
- Dents or damage to machine
- Excessive rust, corrosion or oxidation
- Be sure 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.

# Maintenance



## Observe and Obey:

- ☑ Only routine maintenance items specified in this manual shall be performed by the operator.
- ☑ Scheduled maintenance inspections shall be completed by qualified service technicians, according to the manufacturer's specifications and the requirements specified in the responsibilities manual.

## 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.

**NOTICE** Check the oil level with the engine off.

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

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### Deutz F3L 2011F Engine (Tier II)

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Oil type	15W-40
Oil type - cold conditions	5W-30

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## Maintenance Symbols Legend

**NOTICE** 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.

## 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, then visually inspect the sight gauge located on the side of the hydraulic oil tank.
- ⦿ Result: The hydraulic oil level should be within the top 5 cm of the sight gauge.
- 2 Add oil as needed.

### Hydraulic oil specifications

Hydraulic oil type	Chevron Rykon Premium MV equivalent
--------------------	--

## Check the Battery



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

**⚠ WARNING** Electrocutation hazard. Contact with hot or live circuits may result in death or serious injury. Remove all rings, watches and other jewelry.

**⚠ WARNING** 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 bracket is secure.
- 4 Remove the battery vent caps.
- 5 Check the battery acid level. If needed, replenish with distilled water to the bottom of the battery fill tube. Do not overfill.
- 6 Install the vent caps.

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

## 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.



# Function Tests



---

## 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.

## 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.

## FUNCTION TESTS

- 1 Select a test area that is firm, level and free of obstruction.


**At the Ground Controls**

- 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.

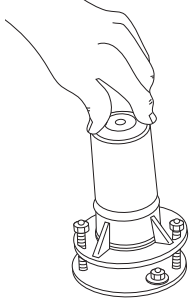
**Test Emergency Stop**

- 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 the Machine Functions**

- 7 Do not hold the function enable switch to either side. Attempt to activate each boom and platform function toggle switch. 
- ⦿ Result: All boom and platform functions should not operate.
- 8 Hold the function enable switch to either side and activate each boom and platform function toggle switch.
- ⦿ Result: All boom and platform functions should operate through a full cycle. The descent alarm (if equipped) 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 Controls**

- 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.

## FUNCTION TESTS

## 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 or 3 seconds.

17 Pull out the red Emergency Stop button and restart the engine.

### Test the Horn

18 Push 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 but 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: The machine functions should not operate.

### Test Machine Functions

24 Press down the foot switch.

25 Activate each machine function control handle or toggle switch.

⦿ Result: All boom/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 drive/steer 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 on top of the drive control handle in the direction indicated by the yellow triangle on the control panel OR slowly move the drive/steer 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.


## FUNCTION TESTS

**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 drive 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.

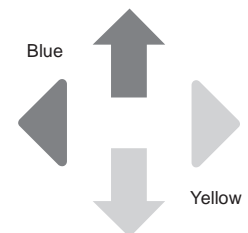
Note: The brakes must be able to hold the machine on any slope it is able to climb.

**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.



## FUNCTION TESTS

**Test Limited Drive Speed**

- 36 Press down the foot switch.
- 37 Raise the primary boom approximately 60 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 30 cm per second.
- 39 Lower the primary boom to the stowed position.
- 40 Raise the secondary boom approximately 60 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 30 cm per second.
- 42 Lower the secondary boom to the stowed position.
- 43 Extend the primary boom approximately 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 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 30 cm per second, immediately tag and remove the machine from service.

**Test the Oscillate Axle**

- 46 Start the engine from the platform controls.
- 47 Drive the right steer tire up onto a 15 cm block or curb.
  - ⦿ Result: The three remaining tires should stay in firm contact with the ground.
- 48 Drive the left steer tire up onto a 15 cm block or curb.
  - ⦿ Result: The three remaining tires should stay in firm contact with the ground.
- 49 Drive both steer tires up onto a 15 cm block or curb.
  - ⦿ Result: The non-steer tires should stay in firm contact with the ground.

**Test Auxiliary Controls**

- 50 Shut the engine off.
- 51 Pull out the red Emergency Stop button to the on position.
- 52 Press down the foot switch.
- 53 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.

## FUNCTION TESTS

**Test the Lift/Drive Select Function (if equipped)**

- 54 Press down the foot switch.
- 55 Move the drive control handle off center and activate a boom function toggle switch.
- ⦿ **Result:** No boom functions should operate. The machine will move in the direction indicated on the control panel.
- 56 Repair any malfunctions before operating the machine.

# Workplace Inspection



## 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

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

## 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.

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# 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, safety and responsibilities manuals.

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, safety and responsibilities manuals. That means every new operator should perform a pre-operation inspection, function tests, and a workplace inspection before using the machine.



## 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.
- 3 Move the glow plug switch to either side and hold for 3 to 5 seconds.
- 4 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.

If 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, -6°C and below, warm the engine for 5 minutes before operating to prevent hydraulic system damage.

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

## Emergency Stop

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

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

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

## Auxiliary Controls

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 operating the auxiliary controls from the platform.
- 4 Simultaneously hold auxiliary power switch on and activate the desired function.



The drive and steer functions 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.

## OPERATING INSTRUCTIONS

**To Position Platform**

- 1 Hold the function enable switch to either side.
- 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.

**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 according to the markings on the control panel.

**To Steer**

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

Use the color-coded direction triangles 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 drive control handle off center.

Decrease speed: Slowly move the drive control handle toward center.

Stop: Return the drive control handle to center or release the foot switch.

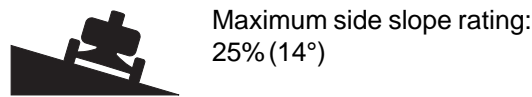
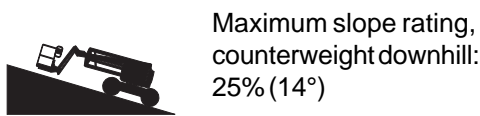
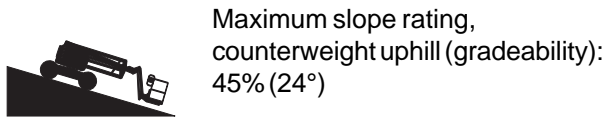
Use the color-coded direction arrows on the platform controls and the drive chassis to identify the direction the machine will travel.

Machine travel speed is restricted when the booms are raised.

OPERATING INSTRUCTIONS

**Driving on a slope**

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



Note: Slope rating is subject to ground conditions and adequate traction.

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 1 m long
- tape measure

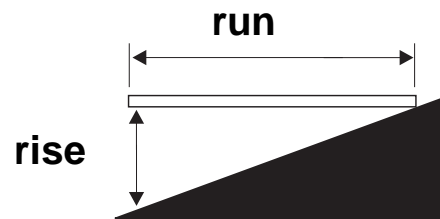
Lay the piece of wood on the slope.

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 = 3.6 m

Run = 3.6 m

Rise = 0.3 m

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

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

OPERATING INSTRUCTIONS

**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

**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



**Generator**

To operate the generator, move the generator toggle switch to the on position. The engine will continue to run but no drive or platform functions will operate.

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

To resume machine functions, move the generator toggle switch to the off position. All functions will operate.

**Platform Overload Indicator Light (if equipped)**

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



Remove weight from the platform until the light goes off.

**Machine Not Level Indicator Light (if equipped)**



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

## 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.

## Fall Protection

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

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

## 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.

# Decals

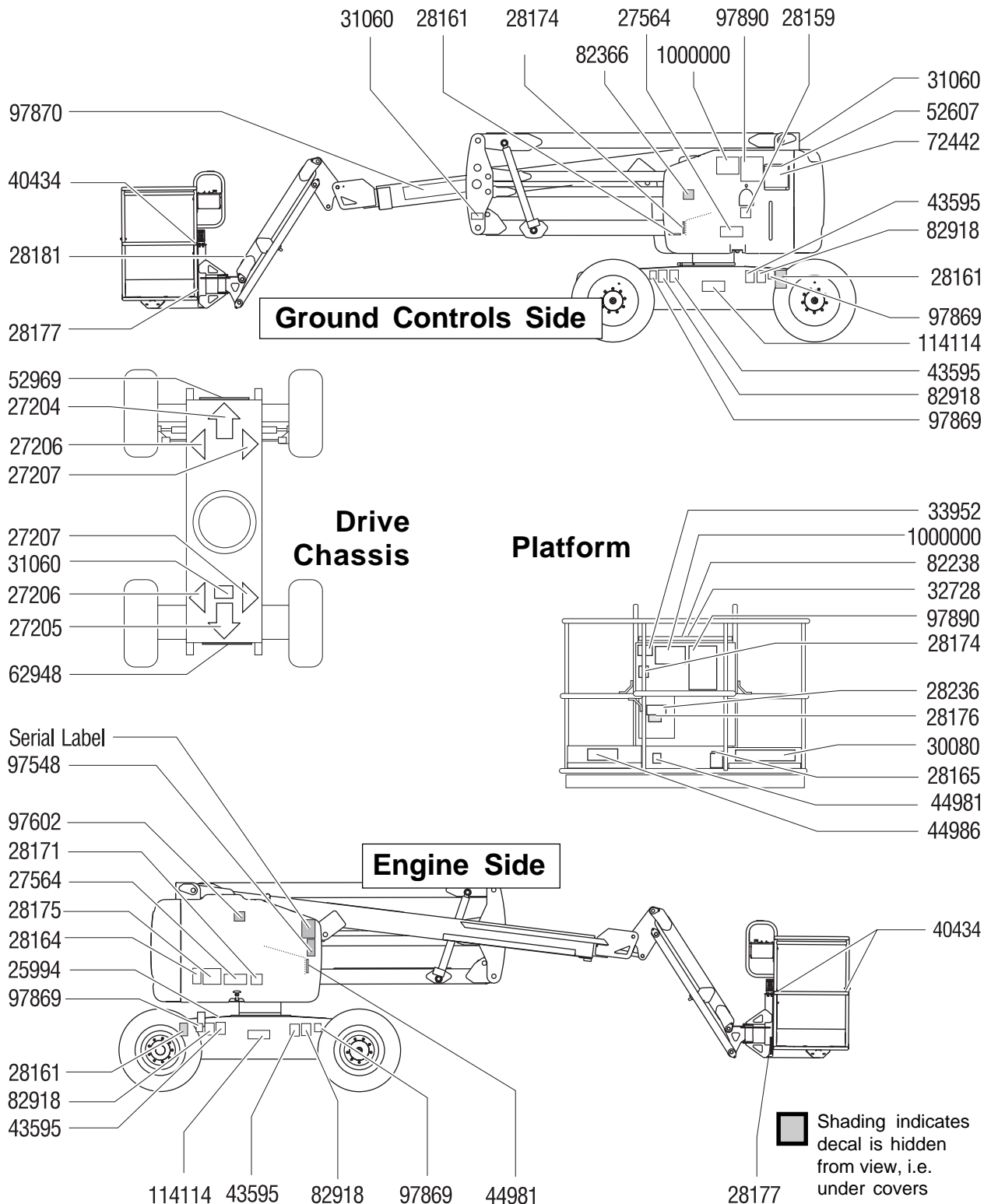
## Inspection for Decals with Words

Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place.

Part No.	Decal Description	Quantity
25994	Caution - Component Damage Hazard	1
27204	Arrow - Blue	1
27205	Arrow - Yellow	1
27206	Triangle - Blue	2
27207	Triangle - Yellow	2
27564	Danger - Electrocutation Hazard	2
28159	Label - Diesel	1
28161	Warning - Crushing Hazard	3
28164	Notice - Hazardous Materials	1
28165	Notice - Foot Switch	1
28171	Label - No Smoking	1
28174	Label - Power to Platform, 230V	2
28175	Caution - Compartment Access	1
28176	Notice - Missing Manuals	1
28177	Warning - Platform Rotate	2
28181	Warning - No Step or Ride	1
28236	Warning - Failure To Read . . .	1
30080	Notice - Maximum Load, 500 lbs / 227 kg	1
31060	Danger - Tip-over Hazard, Interlock	3
32728	Label - Generator (option)	1
33952	Danger - Tilt-Alarm	1
40434	Label - Lanyard Anchorage Point	3

Part No.	Decal Description	Quantity
43595	Danger - Tip-over Hazard, Tires	4
44981	Label - Air Line to Platform	2
44986	Notice - Max Manual Force, 90 lbs / 400N	1
52607	Label - Test Switch	1
52969	Cosmetic - Genie Boom	1
62948	Cosmetic - IC Power 4 x 4	1
72442	Ground Control Panel	1
82238	Platform Control Panel	1
82366	Label - Chevron Rykon	1
82918	Notice - Tire Specifications	4
97548	Notice - Deutz Engine Specifications	1
97602	Warning - Explosion Hazard	1
97869	Label - Wheel Load	4
97870	Cosmetic - Genie Z-51/30J	1
97890	Danger - Safety Rules	2
114114	Label, Transport Diagram	2
1000000	Notice - Operating Instructions	2

DECALS



# Decals

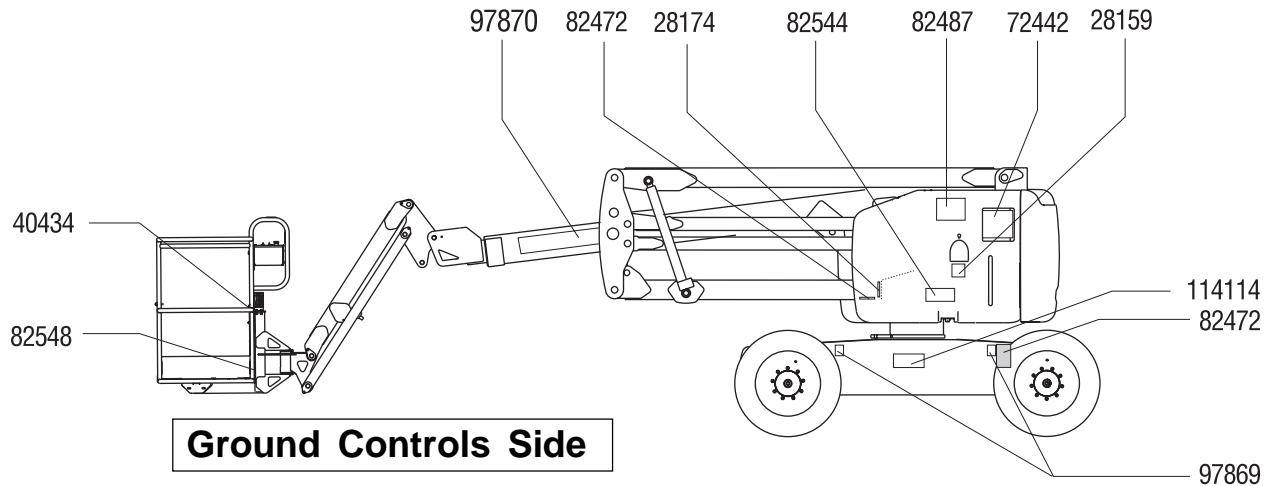
## Inspection for Decals with Symbols

Determine whether the decals on your machine have words or symbols. Use the appropriate inspection to verify that all decals are legible and in place.

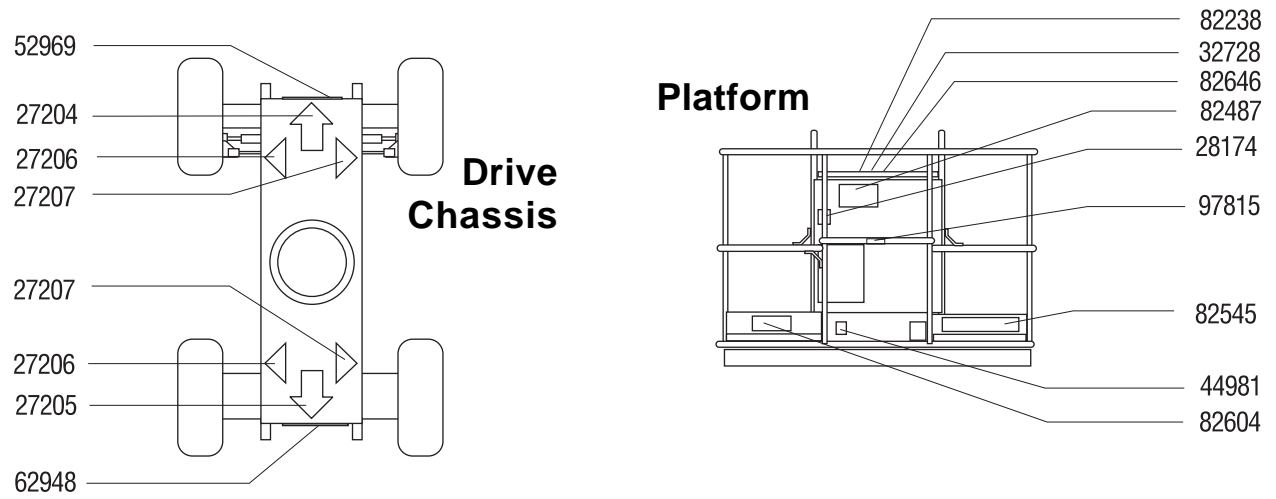
Part No.	Decal Description	Quantity	Part No.	Decal Description	Quantity
27204	Arrow - Blue	1	82472	Warning - Crushing Hazard	3
27205	Arrow - Yellow	1	82473	Caution - Compartment Access	1
27206	Triangle - Blue	2	82487	Label - Read the Manual	2
27207	Triangle - Yellow	2	82544	Danger - Electrocutation Hazard	2
28159	Label - Diesel	2	82545	Danger - Maximum Load, 227 kg	1
28171	Label - No Smoking	2	82548	Warning - Platform Rotate	2
28174	Label - Power to Platform, 230V	2	82604	Danger - Max Manual Force, 400 N	1
32728	Label - Generator (option)	1	82646	Label - Drive Enable Patch	1
40434	Label - Lanyard Anchorage	3	82924	Caution - Component Damage Hazard	1
44981	Label - Air Line to Platform	2	97815	Label - Lower Mid-rail	1
52969	Cosmetic - Genie Boom	1	97869	Label - Wheel Load	4
62948	Cosmetic - IC Power 4 x 4	1	97870	Cosmetic - Genie Z-51/30J	1
72442	Ground Control Panel	1	114114	Label, Transport Diagram	2
82238	Platform Control Panel	1			



DECALS

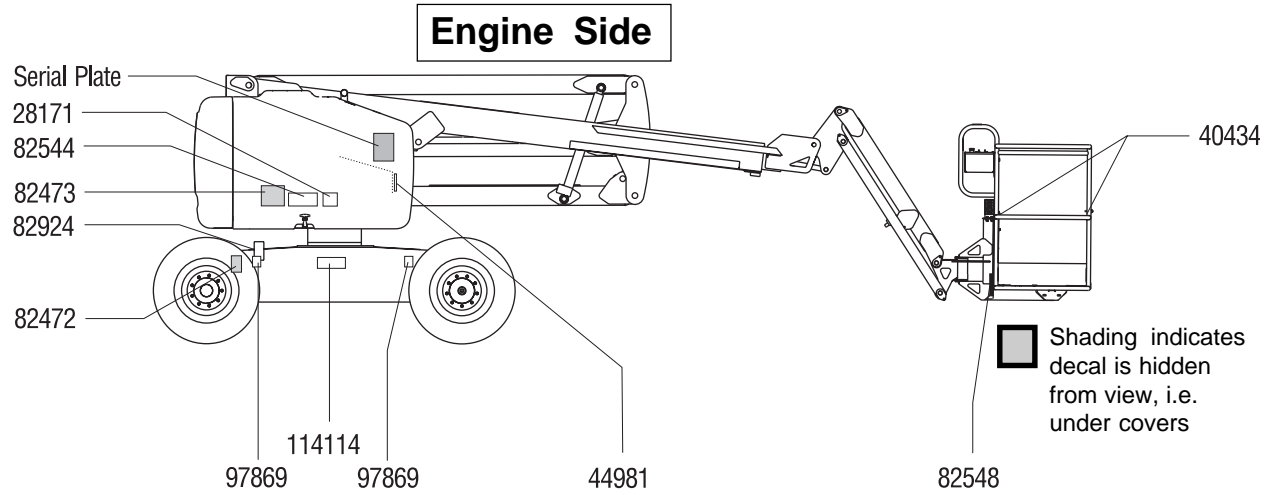


**Ground Controls Side**



**Drive Chassis**

**Platform**



**Engine Side**

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

# Transport and Lifting Instructions



## Observe and Obey:

- ☑ Genie Industries provides this securement information as a recommendation. Drivers are solely responsible for making sure machines are properly secured and the correct trailer is selected pursuant to US Department of Transportation regulations, other localized regulations, and their company policy.
- ☑ 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 aerial lift 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 plate for the machine weight. See the Decals section for the serial plate 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. See the Specifications section for the slope ratings.

## Free-wheel Configuration for Winching

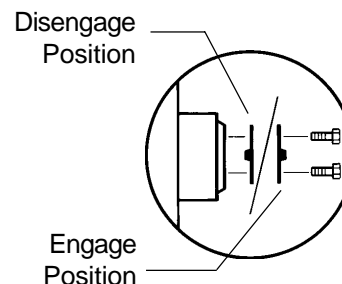
Chock the wheels to prevent the machine from rolling.

Release the non-steer wheel brakes by turning over the drive hub disconnect caps (see below).

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.

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

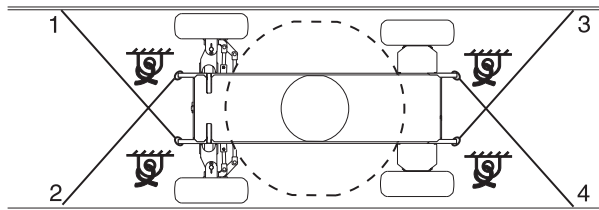
Inspect the entire machine for loose or unsecured items.

**Securing the Chassis**

Use chains of ample load capacity.

Use a minimum of 4 chains.

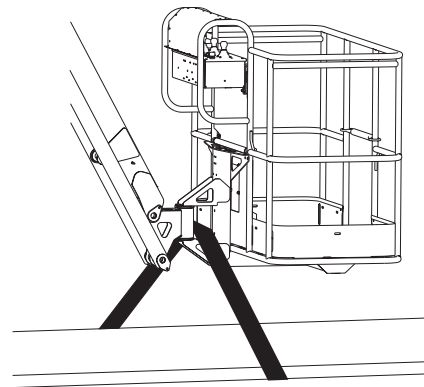
Adjust the rigging to prevent damage to the chains.



**Securing the Platform - Z-51/30J**

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 and lift the machine.
- Be sure the crane capacity, loading surfaces and straps or lines are sufficient to withstand the machine weight. See the serial plate for the machine weight.

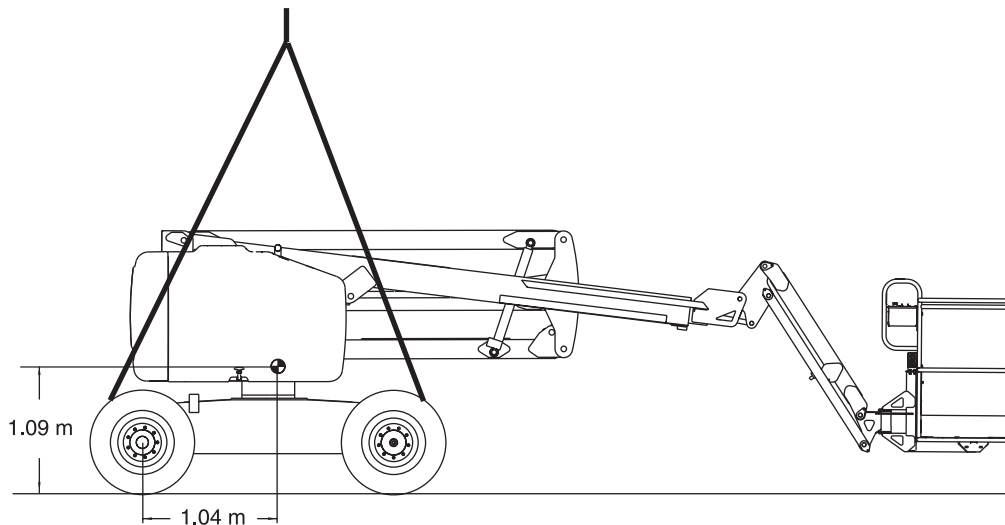
**Lifting Instructions**

Fully lower and retract the boom. Fully lower the jib. Remove all loose items on the machine.

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

Attach the rigging only to the designated lifting points on the machine. There are four lifting points on the chassis.

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



# Specifications

## Z-51/30J

Height, working maximum	17.6 m
Height, platform maximum	15.6 m
Height, stowed maximum	2.16 m
Horizontal reach maximum	9.25 m
Width	2.29 m
Length, stowed	7.5 m
Maximum load capacity	227 kg
Maximum wind speed	12.5 m/s
Wheelbase	2.03 m
Turning radius (outside)	4.50 m
Turning radius (inside)	1.68 m
Turntable rotation (degrees)	355°
Turntable tailswing	0 cm
Drive speed, stowed	8 km/h 12.2 m/5.5 sec
Drive speed, booms raised	1 km/h 12.2 m/45 sec
Airborne noise emissions Maximum sound level at normal operating workstations (A-weighted)	73 dB
Ground clearance, center	39.4 cm
Ground clearance, minimum	29.2 cm
Controls	12V DC proportional
Weight (Machine weights vary with option configurations)	See Serial Plate
Platform dimensions, 6 foot (length x width)	1.8 m x 76 cm
Platform leveling	self-leveling
Platform rotation	160 degrees

AC outlet in platform	standard
Hydraulic pressure, maximum (boom functions)	221 bar
System voltage	12V
Tire size, 4WD	355/55 D625, foam-filled

### Maximum slope rating, stowed position

Counterweight uphill	45% / 24°
Counterweight downhill	25% / 14°
Side slope	25% / 14°

Note: Slope rating is subject to ground conditions and adequate traction.

Fuel tank capacity	64.3 liters
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### Floor Loading Information

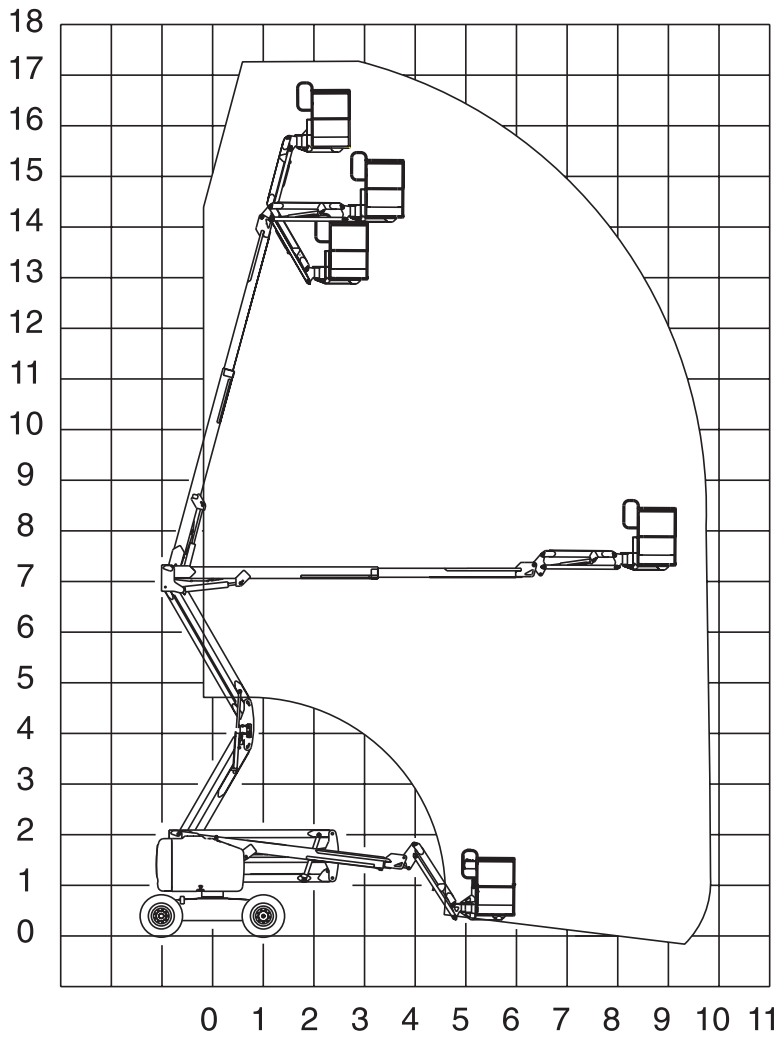
Tire load, maximum	4218 kg
Tire contact pressure	4.45 kg/cm <sup>2</sup> 436 kPa
Occupied floor pressure	11.06 kPa 1130 kg/m <sup>2</sup>

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

Range of Motion chart (in meters)



# California Proposition 65

# WARNING

The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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800.536.1800**Fax** 425.883.3475**Genie Australia Pty Ltd.****Phone** +61 7 3375 1660**Fax** +61 7 3375 1002**Genie China****Phone** +86 21 53852570**Fax** +86 21 53852569**Genie Malaysia****Phone** +65 98 480 775**Fax** +65 67 533 544**Genie Japan****Phone** +81 3 3453 6082**Fax** +81 3 3453 6083**Genie Korea****Phone** +82 25 587 267**Fax** +82 25 583 910**Genie Brasil****Phone** +55 11 41 665 755**Fax** +55 11 41 665 754**Genie Holland****Phone** +31 183 581 102**Fax** +31 183 581 566

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