

## **Slab Scissors**

**1930-ED** Serial # 2193001000 - Up **2632-ED** Serial # 2263201000 - Up **2646-ED** Serial # 2264601000 - Up **3346-ED** Serial # 2334601000 - Up **4046-ED** Serial # 2404601000 - Up **4646-ED** Serial # 2464601000 - Up

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GMG

Global Machinery Group, Inc.

# **Operator's Manual**

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## -Specifications—

	193	0-ED	2632	2-ED	2640	6-ED
HEIGHTS						
Working Height*	25'	7.8m	32' 2"	10m	32' 2"	10m
Platform Height	19'	5.8m	26' 2"	8m	26' 2"	8m
Stowed Height Rails Up	85"	2.16m	90.5"	2.29m	88.5"	2.25m
Rails Folded	70.4"	1.79m	71"	1.8m	66.5"	1.69m
Platform Floor	40.5"	1.03m	46"	1.17m	46.5"	1.04m
Guardrail Height	43.3"	1.1m	43.3"	1.1m	43.3"	1.1m
Toeboard Height	6"	15.5cm	6"	.15m	6"	.15m
DIMENSIONS						
Length Stowed	71.6"	1.82m	96.5"	2.45m	97"	2.46m
With Step Removed	65.3"	1.66m	89"	2.26m	91"	2.32m
Width	30"	.76m	31.6"	.80m	46"	1.17m
Wheelbase	52"	1.32m	73"	1.85m	72.8"	1.85m
Ground Clearance	2.1"	5.5cm	4"	10cm	4"	10cm
Pothole Bars Deployed	.78"	2cm	.7"	2cm	.75"	1.9cm
Platform Length, Stowed	64.5"	1.64m	88.5"	2.25m	90.9"	2.31m
Platform Width	29.3"	.74m	31.5"	.8m	45.2"	1.15m
Platform Length Extended	99.8"	2.55m	127.5"	3.24m	130.7"	3.32m
Platform Extension Deck Length	36"	.91m	39"	1m	39"	1m
Performance						
Platform Lift Capacity	507 lbs	230 kg	507 lbs	230 kg	992 lbs	450 kg
Extension Deck Capacity	253 lbs	115 kg	265 lbs	120 kg	265 lbs	120 kg
Turning Radius, Inside		0		0		0
Turning Radius, Outside	61.4"	1.56m	68.5"	1.74m	79"	2m
Power Source	24v, 2	224 Ah	24v, 2	25 Ah		25 Ah
Drive System	Direct Ele	ectric Drive	Direct Ele	ctric Drive	Direct Ele	ctric Drive
Drive Speed Stowed	2.5 mph	4.02 km/h	2.5 mph	4.02 km/h	2.5 mph	4.02 km/h
Elevated	.45 mph	.7 km/h	.45 mph	.7 km/h	.45 mph	.7 km/h
Platform Lift Speed		22	_	28	3	39
Platform Lower Speed		15		29	e	34
Tires		x 4.5		x 4.5		x 5
Gradeability		0%		5%		5%
Brakes		ple disc		ole disc	-	ole disc
Weight, CE**	3284 lbs	1490 kg	4409 lbs	2000 kg	5588 lbs	2535 kg
Weight, ANSI**	2700 lbs	1225 kg	4409 lbs	2000 kg	4530 lbs	2055 kg
Drive Height	F	ull	F	ull	F	ull

Meets applicable requirements of ANSI A92.6-2006. \*Working Height adds 6 feet (2 m) to platform height. \*\*Weight may increase with certain options.

## -Specifications—

	3340	5-ED	4046	5-ED	4646	5-ED
Неіднтя						
Working Height*	39'	12m	45'	13.9m	51.8'	15.9m
Platform Height	32' 9"	10m	39.5'	11.89m	45.8'	13.9m
Stowed Height Rails Up	96"	2.44m	100.5"	2.55m	106"	2.69m
Rails Folded	69.4"	1.76m	74"	1.88m	78.7"	2m
Platform Floor	51.5"	1.31m	53"	1.34m	63"	1.6m
Guardrail Height	43.3"	1.1m	43.3"	1.1m	43.3"	1.1m
Toeboard Height	6.7"	.17m	6.7"	.17m	6.7"	.17m
DIMENSIONS						
Length Stowed	97"	2.46m	97"	2.46m	97"	2.46m
With Step Removed	91.5"	2.32m	91.5"	2.32m	91.5"	2.32m
Width	46"	1.17m	46"	1.17m	46"	1.17m
Wheelbase	72.8"	1.85m	72.8"	1.85m	72.8"	1.85m
Ground Clearance	4"	10cm	4"	10cm	4"	10cm
Pothole Bars Deployed	.75"	1.9cm	.75"	1.9cm	.75"	1.9cm
Platform Length, Stowed	90.9"	2.31m	90.9"	2.31m	90.9"	2.31m
Platform Width	45.2"	1.15m	45.2"	1.15m	45.2"	1.15m
Platform Length Extended	130.7"	3.32m	130.7"	3.32m	130.7"	3.32m
Platform Extension Deck Length	39"	1m	39"	1m	39"	1m
Performance						
Platform Lift Capacity	771 lbs	350 kg	772 lbs	350 kg	507 lbs	230 kg
Extension Deck Capacity	265 lbs	120 kg	265 lbs	120 kg	253 lbs	115 kg
Turning Radius, Inside	(	0	(	0	(	0
Turning Radius, Outside	79"	2m	79"	2m	90.5"	2.3m
Power Source	Direct Ele	ctric Drive	Direct Ele	ctric Drive	Direct Ele	ctric Drive
Drive System	24v, 2	25 Ah	24v, 2	25 Ah	24v, 2	25 Ah
Drive Speed Stowed	2.4 mph	3.8 km/h	2.4 mph	3.8 km/h	2.1 mph	3.4 km/h
Elevated	.45 mph	.7 km/h	.45 mph	.7 km/h	.43 mph	.7 km/h
Platform Lift Speed		50		5		7
Platform Lower Speed		8		60		.6
Tires		x 5		x 5		x 5
Gradeability		5%		5%		5%
Brakes	-	ole disc		ole disc		ole disc
Weight, CE**	6505 lbs	2950 kg	7110 lbs	3225 kg	7495 lbs	3400 kg
Weight, ANSI**	5505 lbs	2497 kg	5930 lbs	2690 kg	7231 lbs 32' 9"	3280 kg
Drive Height		ull		ull		10m

Meets applicable requirements of ANSI A92.6-2006. \*Working Height adds 6 feet (2 m) to platform height.

\*\*Weight may increase with certain options.

## Introduction

This Operator's Manual has been designed to provide you, the owner, user or operator, with the instructions and operating procedures essential to properly and safely operate your GMG Aerial Work Platform for positioning personnel, along with their necessary tools and materials, to overhead work locations.

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The Operator's Manual must be read and understood prior to operating your GMG Aerial Work Platform. The user/operator should not accept operating responsibility until he/she has read and understands the operator's manual as well as having operated the GMG Aerial Work Platform under supervision of an authorized, trained and qualified operator.

It is essential that the operator of the aerial work platform is not alone on the workplace during operation.

Modifications of this machine from the original design and specifications without written permission from GMG are strictly forbidden. A modification may compromise the safety of the machine, subjecting operator(s) to serious injury or death.

Your GMG Aerial Work Platform has been designed, built, and tested to provide safe, dependable service. Only authorized, trained and qualified personnel shall be allowed to operate or service the machine.

GMG, as manufacturer, has no direct control over machine application and operation. Proper safety practices are the responsibility of the owner, user and operator.

If there is a question on application and/or operation contact:



#### **Global Machinery Group**

Global Machinery Group, Inc. 3428 Bullock Lane San Luis Obispo, CA 93401 USA Phone: +1.805.303.2066 Toll Free (USA/Canada): 800.303.0499 www.goGMG.com





DO NOT operate this machine until you have read and understood this manual, have performed the Workplace Inspection, Pre-Start Inspection and Routine Maintenance, and have completed all the test operations detailed in the Operating Instructions section.

Failure to read, understand and follow all safety rules, warnings, and instructions could result in serious injury or death. For your safety and the safety of those around you, you must operate your machine as instructed in this manual.

GMG designs aerial work platforms to safely and reliably position personnel, along with their necessary tools and materials, at overhead work locations. The owner/user/operator of the machine should not accept responsibility for the operation of the machine unless properly trained.

ANSI and other applicable standards identify requirements of all parties who may be involved with self-propelled elevating work platforms. The ANSI/SIA A92.5-2006 Manual of Responsibilities is considered a part of this machine and can be found in the manual compartment, located at the platform control station. To ensure safe use of machine, inspections and training specified in ANSI/SIA A92.5-2006 must be performed at designated intervals as prescribed.

#### **California Proposition 65 Warning**

This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

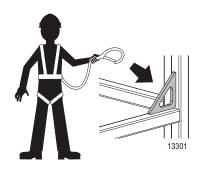
## **Safety Alert Symbols**

GMG manuals and decals use symbols and colors to help you recognize important safety, operation and maintenance information.

	RED – Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	]
	ORANGE – Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	]
	YELLOW with alert symbol – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	]
	YELLOW without alert symbol – Indicates a potentially hazardous situation which, if not avoided, may result in property damage.
NOTICE	
NUTICE	GREEN – Indicates operation or maintenance information.



#### **Fall Protection**



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

If required by your employer or job site, use personal fall protection equipment (PFPE) 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.

Fall restraint must be properly attached to a designated anchorage point when driving or operating the machine. Attach only one fall restraint to each anchorage point.

## **Electrocution Hazard**

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#### ELECTROCUTION HAZARD! THIS MACHINE IS NOT INSULATED!

DEATH OR SERIOUS INJURY will result from contact with or inadequate clearance from any electrically charged conductor.

You must maintain a CLEARANCE OF AT LEAST 10 FEET (3.05 m) between any part of the machine, or its load, and any electrical line or apparatus carrying over 300 Volts up to 50,000 Volts. One foot (30.5 cm) additional clearance is required for every additional 30,000 Volts.

Observe Minimum Safe Approach Distance.

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 government regulations and the following chart:



#### **Minimum Save Approach Distance**

Voltage	Minimum Safe App	roach Distance
Phase to Phase	Feet	Meters
0 to 300 Volts	Avoid	Contact
Over 300V to 50kv	10	3.1
Over 50KV to 200KV	15	4.6
Over 200KV to 350KV	20	6.1
Over 350KV to 500KV	25	7.6
Over 500KV to 750KV	35	10.7
Over 750KV to 1000KV	45	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.

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#### Tip-over Hazards





DO NOT DRIVE ON IRREGULAR OR UNSTABLE SURFACE





DO NOT ELEVATE IN WINDY CONDITIONS



DO NOT USE AS CRANE

DO NOT exceed the maximum platform capacity. The weight of options and accessories will reduce the rated platform capacity and must be factored into the total platform load. Refer to the decals on the options.

DO NOT elevate the platform when the machine is on a surface that is soft and / or on a slope.

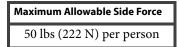
DO NOT depend on the tilt alarm as a level indicator. STOP if the tilt alarm sounds and the red light illuminates when the platform is raised. Use extreme caution to lower the platform. Move the machine to a rm, level surface.

**Driving:** DO NOT drive the machine on a slope that exceeds the maximum uphill or downhill slope rating. Slope rating applies to machines in the stowed position.

**Driving in stowed position:** use extreme care and reduce speed when driving across uneven terrain, debris, unstable or slippery surfaces, and near holes or drop-offs.

**Driving with the platform elevated:** DO NOT drive on or near uneven terrain, unstable surfaces, curbs, drop-offs or other hazardous conditions.

DO NOT push o or pull toward any object outside the platform. DO NOT push the machine or other objects with the platform. DO NOT contact adjacent structures with the platform. DO NOT tie the platform to adjacent structures.



DO NOT use the platform controls to free a platform that is caught, snagged or otherwise prevented from normal motion by an adjacent structure.

For outdoor rated machines, DO NOT elevate the platform when wind speeds are in excess of 28 m.p.h. (12.5 m/s). If wind speeds exceed 28 m.p.h. (12.5 m/s) when the platform is elevated, carefully lower the platform and discontinue operation.

DO NOT increase the surface area of the platform (i.e. cover the rails with tarp or plywood). Increased surface area exposed to the wind will decrease machine stability.

DO NOT attach overhanging loads or use the machine as a crane. DO NOT place loads outside the platform perimeter.

NEVER transport tools and materials unless they are firmly secured. Secure all tools and loose materials.

NEVER alter or disable any machine components.

NEVER replace any part of the machine with items of different weight or specification.

NEVER modify or alter the work platform without written permission from GMG.

NEVER place ladders or scaffolds in the platform or against any part of the machine.

NEVER use the machine on a moving or mobile surface or vehicle.

Ensure that all tires are in good condition and lug nuts are properly torqued.

DO NOT operate the machine with the chassis trays open.

DO NOT alter or disable the limit switches or 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 this machine without prior written permission from the manufacturer.

DO NOT use batteries that weigh less than the original equipment. Each battery must weigh 55 lbs/25 kg. The batteries must weigh a minimum of 110 lbs/50 kg.



#### Fall Hazards





## **Collision Hazards**







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

DO NOT exit the platform when elevated

Keep the platform floor clear of debris.

DO NOT fasten a fall restraint lanyard to an adjacent structure.

Ensure that all gates are properly closed and secured before operating the machine.

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

Check for equipment, materials or other obstructions before moving.

Check for overhead obstructions before moving.

Check for crushing hazards when holding the platform rail before moving.

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

Be aware of extended platform position(s) when moving the machine.

Reduce travel speed when moving the machine on slopes, when near personnel and obstacles, or when surface conditions are wet, slippery or otherwise limiting.

DO NOT operate 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 possible collision.

Stunt driving and horseplay are PROHIBITTED.

Watch for personnel and obstructions below the platform when lowering the platform.

Keep hands and limbs out of scissors.

Use common sense and planning when operating the machine with the controller from the ground. Maintain safe distances between the operator, the machine and fixed objects.



Safety



#### **Additional Safety Hazards**

#### **Explosion and Fire Hazards**

DO NOT operate the machine in hazardous locations or locations where potentially flammable or explosive gases or particles may be present.

#### **Damaged Machine Hazards**

Conduct a thorough prestart inspection of the machine and test all functions before each work shift to check for damage, malfunction and unauthorized modification. Tag and remove a damaged, malfunctioning or modified machine from service. DO NOT use a damaged, malfunctioning or modified machine.

Routine maintenance must be performed by the operator before each work shift. Scheduled maintenance must be performed by a qualified service technician at scheduled intervals. Tag and remove from service any machine that has not had scheduled preventative maintenance performed.

Check that all safety and instructional decals are in place and undamaged.

Check that the operator's, safety and responsibilities manuals are present in the storage container located in the platform. All manuals must be complete, undamaged and readable.

#### **Bodily Injury Hazards**

DO NOT operate the machine when there is a hydraulic fluid or air leak. Hydraulic fluid or air under pressure can penetrate and/or burn skin.

All compartments must remain closed and secure during machine operation. Improper contact with components under any cover will cause serious injury. Only trained maintenance personnel should access compartments. The operator should only access a compartment when performing prestart inspection.

#### Weld Line to Platform Safety (if equipped)

Read, understand and follow all warnings and instructions provided with the welding power unit.

Do not connect weld leads or cables unless the welding power unit is turned off at the platform controls.

DO NOT operate unless the weld cables are properly connected.

DO NOT connect the ground lead to the platform.

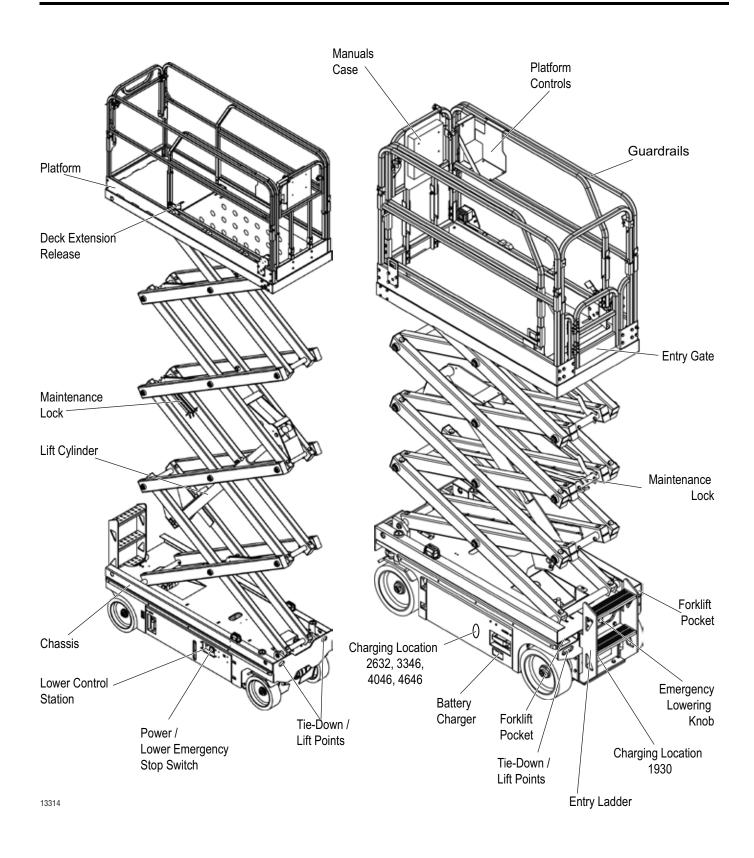
#### **Battery Safety**

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 Hazard	
	Keep sparks, flame and lighted tobacco away from batteries. Batteries emit explosive gas. Leave the battery tray open while charging to avoid gas buildup.
Electrocution Hazard	
	Avoid contact with electrical terminals.



## **Controls & Components**

## **Component Locations**



## **Platform Controls**

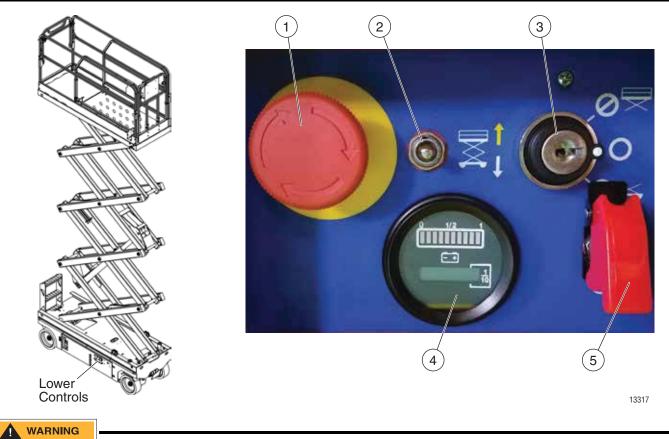


## 

## ALWAYS be aware of the machine's position and of your surroundings before activating any control function.

	CONTROL	DESCRIPTION	DESCRIPTION		
1	Function Enable Switch	Squeeze to enable	DRIVE, STEER, and LIFT functions from the Control Handle.		
2	Steer Switch	Using your thumb	o, press and hold the rocker switch to steer Left or Right.		
3	Control Handle	DRIVE	Proportionally controls Forward and Reverse travel.		
		LIFT	Proportionally controls Lift and Lower functions.		
4	Lift/Drive Select		to the UP position to enable the Lift function. to the DOWN position to enable the Drive function.		
5	Drive Speed Select	Switch in UP position (Rabbit symbol) indicates High Speed Drive is selected. Switch in DOWN position (Turtle symbol) indicates Low Speed Drive is selected.			
6	Horn Button	Press to sound wa	rning horn.		
6	Drive Select	Press this button to enable the Drive function.			
7	Emergency Stop Switch	Press the EMERG Turn switch <i>clock</i>	ENCY STOP switch at any time to stop all machine functions. <i>wise</i> to reset.		

#### **Lower Controls**



## ALWAYS be aware of the machine's position and of your surroundings before activating any control function.

	CONTROL	DESCRIPTION	
1	Emergency Stop Switch	Press the EMERC Turn switch <i>clock</i>	GENCY STOP switch at any time to stop all machine functions. <i>cwise</i> to reset.
2	Platform Lift/Lower Switch	With the Key Swi lower the platfor	itch in the BASE position, move this switch up to lift the platform or down to m.
3	Key Switch	PLATFORM	Select to operate from the platform control panel.
		BASE	Select to operate from the base control panel.
		OFF	Select to stop operation from either control panel.
4	Battery Indicator	Indicates the stat	e of the battery charge.
5	Brake Release Switch	Releases the brak	ies.





## **Workplace Inspection**

DO NOT operate this machine until you have read and understood this manual, have performed the Workplace Inspection, Pre-Start Inspection and Routine Maintenance, and have completed all the test operations detailed in the Operating Instructions section.

Inspect the workplace and determine whether the workplace is suitable for safe machine operation. Do this before moving the machine to the workplace.

Be sure the lift is the correct machine for the job.

Be aware of workplace conditions, and continue to watch for hazards while operating the machine.

#### **Workplace Inspection**

Before operating the machine, check the workplace for all possible hazards, including but not limited to:

- drop-offs or holes, including those concealed by water, ice, mud, etc.
- sloped, unstable or slippery surfaces
- bumps, surface obstructions and debris
- overhead obstructions and electrical conductors
- other objects or equipment
- · hazardous locations and atmospheres
- inadequate surface and support to withstand all load forces imposed by the machine
- wind and weather conditions
- the presence of unauthorized personnel
- other possible unsafe conditions

## **Operating Instructions & Function Tests**

DO NOT operate this machine until you have read and understood this manual, have performed the Workplace Inspection, Prestart Inspection and Routine Maintenance, and have completed all the test operations detailed in the Operating Instructions section.

This section provides instructions and tests for each function of machine operation. Follow all safety rules and instructions. The operator must conduct inspections and a Functions Test of the machine before each work shift to check that all machine systems are working properly.

Test the machine on a firm level surface with no debris, drop-offs, potholes or overhead obstructions. Perform each step outlined in this section.

This machine shall only be operated by trained and authorized personnel. If multiple operators use this machine, all must be trained, qualified and authorized to use it. New operators must perform a Pre-Start Inspection and Functions Test prior to operating the machine.

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

DO NOT use a machine that is malfunctioning. If any function does not perform as described, tag the machine and remove for repair by a qualified service technician. After repairs are completed, a Pre-Start Inspection and Functions Test must be performed before using the machine.

#### Prestart



- Perform Prestart Inspection (see page 25).
- Check Emergency Stop Switches at both the base and platform controls turn clockwise to reset.

#### **Functions Test**

- 1 Select a test area that is firm, level and free of obstruction.
- 2 Be sure the battery pack is connected.

#### At the Ground Controls

- 3 Set the red Emergency Stop button clockwise to the on position at both the ground and platform controls.
- 4 Turn the Key Switch to ground control.

#### **Test Emergency Stop**

- 5 Push in the ground red Emergency Stop button to the off position.
- Result: No functions should operate.
- 6 Turn the red Emergency Stop button clockwise to the ON position.



#### **Test Up/Down Functions**

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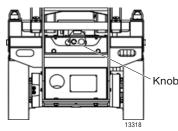
## Check the area above and around the machine for obstructions and electrical power lines before operating the machine.

A buzzer with different sound frequency is controlled by the central system. The descent alarm sounds at 80 beeps per minute. The alarm that goes off when the machine is not level sounds at 200 beeps per minute.

- 7 At the Lower Controls station, turn the Key Switch to off or platform position.
- 8 At the Lower Controls station, push up and hold the platform up / down switch.
- Result: No function should operate.
- 9 Turn the Key Switch to ground control position.
- 10 At the Lower Controls station, push up and hold the Platform Up switch.
- Result: The platform should raise.
- 11 Push down and hold the Platform Down switch.
- Result: The platform should lower to end. The descent alarm should sound while the platform is lowering.

#### **Test the Emergency Lowering**

Machine Rear View



- 12 Activate the up function and raise the platform approximately 2 ft / 60 cm.
- 13 Pull the Emergency Lowering Knob.
- Result: The platform should lower. The descent alarm will not sound.

#### At the Platform Controls

14 Turn the Key Switch to platform control.

#### **Test Emergency Stop**

- 15 Push in the platform red Emergency Stop button to the off position.
- Result: No functions should operate.
- 16 Pull or turn the red Emergency Stop button clockwise to the on position.
- Result: The LED indicator light should come on.

#### **Test the Horn**

- 17 Push the horn button.
  - Result: The horn should sound.

#### **Test Function Enable and Up/Down Functions**

#### WARNING

## Check the area above and around the machine for obstructions and electrical power lines before operating the machine.

18 Set the Lift/Drive Select Switch to LI	FT.
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- 19 Do not hold the Function Enable Switch on the control handle.
- 20 Slowly move the control handle forward/downward, then rearward/upward.
- Result: No functions should operate.
- 21 Press and hold the Function Enable Switch on the control handle.
- 22 Slowly pull the control handle rearward/upward.
- Result: The platform should raise.
- 23 Release the control handle.
  - Result: The platform should stop raising.
- 24 Press and hold the Function Enable Switch. Slowly push the control handle forward/downward.
  - Result: The platform should lower. The descent alarm should sound while the platform is lowering.

#### **Test the Steering**

- **Note:** When performing the steer and drive function tests, stand in the platform facing the steering end of the machine.
- 25 Set the Lift/Drive Select Switch to DRIVE.
- 26 Press and hold the Function Enable Switch on the control handle.
- 27 Depress the thumb rocker switch on top of the control handle in the direction identified by the green left arrow on the control panel.
- Result: The steer wheels should turn in the direction that the green left arrow points on the control panel.
- 28 Depress the thumb rocker switch in the direction identified by the yellow right arrow on the control panel.
  - Result: The steer wheels should turn in the direction that the yellow right arrow points on the control panel.

#### **Test Drive and Braking**

- 29 Press and hold the Function Enable Switch on the control handle.
- 30 Slowly move the control handle forward/downward until the machine begins to move, then return the handle to the center position.
- Result: The machine should move forward, in the direction of the steering wheels, then come to an abrupt stop.
- 31 Press and hold the Function Enable Switch on the control handle.
- 32 Slowly move the control handle rearward/upward until the machine begins to move, then return the handle to the center position.
  - Result: The machine should move rearward, in the direction of the platform entry, 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 Limited Drive Speed**

- 33 Set the Lift/Drive Select Switch to LIFT.
- 34 Press the Function Enable Switch. Raise the platform approximately 4.2 ft /1.3 m from the ground.
- 35 Set the Lift/Drive Select Switch to DRIVE.
- 36 Press and hold the Function Enable Switch on the control handle.
- 37 Slowly move the control handle to the full drive position.
- Result: The maximum achievable drive speed with the platform raised should not exceed 1.1 ft per second / 30.5 cm/s.
- If the drive speed with the platform raised exceeds 1.1 ft per second / 30.5 cm/s, immediately tag and remove the machine from service.

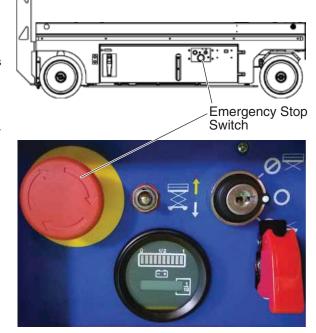
#### **Operating Instructions**

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Check the area above and around the machine for obstructions and electrical power lines before operating the machine.

#### **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.
- If any function operates when either red Emergency Stop button is pushed in, repair the Emergency Stop function before using the machine.



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#### **Emergency Lowering**

#### 

If the control system fails while the platform is elevated, use the emergency lowering procedure to safely lower the platform.

Do not climb down the scissor assembly or exit the platform.

The Emergency Lowering System is used to lower the platform in case of power failure.

• Pull the Emergency Lowering Handle to lower the platform.



#### **Operation from Ground**

#### 

Check the area above and around the machine for obstructions and electrical power lines before operating the machine.

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

- 1 Turn the Key Switch to ground control.
- 2 Set the red Emergency Stop button to the on position at both the ground and platform controls.
- 3 Be sure the battery pack is connected before operating the machine.

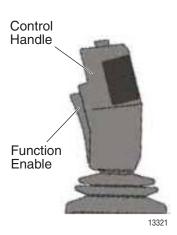
#### **To Position Platform from Ground**

Move the up/down toggle switch according to the markings on the control panel.

#### **Operation from Platform**

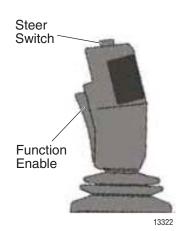
Check the area above and around the machine for obstructions and electrical power lines before operating the machine.

- 1 Turn the Key Switch to platform control.
- 2 Set the red Emergency Stop button to the on position at both the ground and platform controls.
- 3 Be sure the battery pack is connected before operating the machine.



#### **To Position Platform**

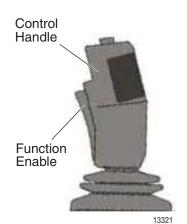
- 1 Set the Lift/Drive Select Switch to LIFT.
- 2 Press and hold the Function Enable Switch on the control handle.
- 3 Pull the control handle rearward/upward to raise the platform.
- 4 Push the control handle forward/downward to lower the platform.



#### **To Steer**

- 1 Set the Lift/Drive Select Switch to DRIVE.
- 2 Press and hold the Function Enable Switch on the control handle.
- 3 Turn the steer wheels with the thumb rocker switch located on the top of the control handle.





#### **To Drive**

1 Set the Lift/Drive Select Switch to DRIVE.

- 2 Press and hold the Function Enable Switch on the control handle.
- Increase speed: Slowly move the control handle off center.
- Push the control handle forward to move forward.Pull the control handle rearward to move rearward.
- 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 to identify the direction the machine will travel.

Machine travel speed is restricted when the platform is raised.

Battery condition will affect machine performance. Machine drive speed and function speed will drop when the battery level indicator is flashing.

#### **To Reduce Drive Speed**

The drive controls can operate in two different drive speed modes.

When the Drive Speed Switch is in the DOWN position and set to the Turtle icon, slow drive speed mode is active.

When the Drive Speed Switch is in the UP position and set to the Rabbit icon, fast drive speed mode is active.



#### **Driving On A Slope**

#### WARNING

DO NOT drive the machine on a slope with the platform elevated. The platform must be in the fully stowed position before driving on a slope.

Determine the slope and side slope ratings for the machine and determine the slope grade.

Maximum forward/rearward slope rating, stowed position 25%. Maximum side slope rating, stowed position 5°.

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

Set the Drive Speed Switch to the DOWN (Turtle) position to engage slow speed drive mode.

#### 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 3.3 ft / 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 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.

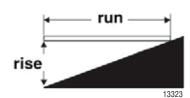


 $\mathsf{Rise} = 12 \, \mathrm{III} / \, 0.3 \, \mathrm{III}$ 

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

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

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





#### **Operation from Ground with Controller**

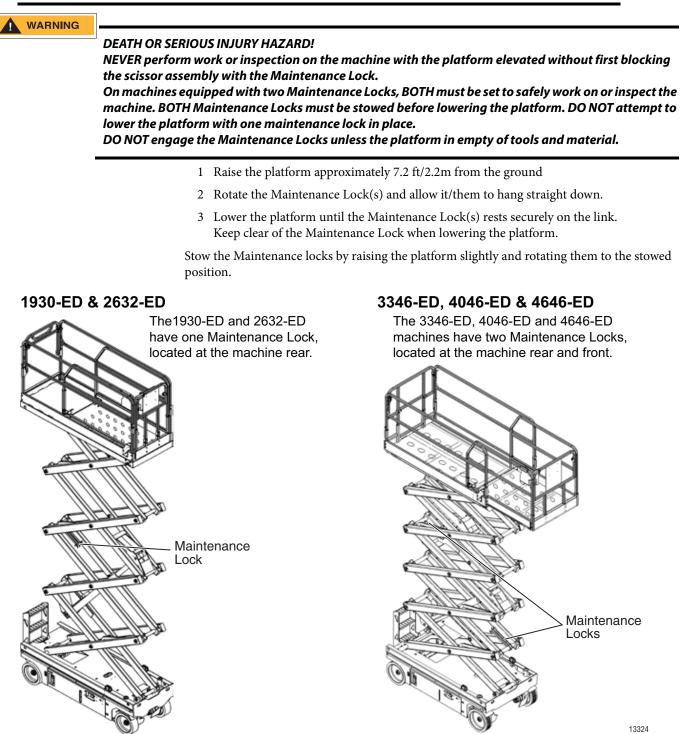
#### 

Use extreme caution when operating the machine with the controller from the ground

Maintain safe distances between operator, machine and fixed objects.

Be aware of the direction the machine will travel when using the controller.

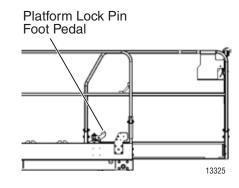
#### Maintenance Lock



#### To Extend and Retract the Deck Extension

- **Operating Instructions & Function Tests**
- 1 Press the Platform Lock Pin Foot Pedal on the extension deck.
- 2 Push the platform extension guardrail to extend the platform to the desired position.

Do not stand on the platform extension while extending or retracting it.



IF THE ROLL-OUT DECK IS EXTENDED CHECK FOR CLEARANCE UNDER DECK AREA BEFORE LOWERING PLATFORM.

#### **Shutdown Procedure**

- When finished with the machine, place the platform in the stowed position.
- Park the machine on a level surface.
- Turn the Key Switch to the OFF position and remove the key to prevent unauthorized use.Carefully exit the platform using a constant three (3) point dismount/grip.
- Push in the red Main Power/Lower Emergency Stop Switch button to the OFF position when leaving the machine at the end of the work day.
- Charge the batteries.





## **Battery Charging**

#### 

The charger surface can get hot while operating. Contact with the skin or surrounding materials should be avoided.

To reduce the risk of an electric shock, connect only to a properly grounded single-phase (3 wire) outlet. Do not use an external charger or booster battery.

Charge the battery in a well-ventilated area.

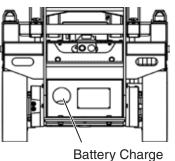
#### 

Use proper AC input voltage for charging as indicated on the machine. Use only GMG authorized batteries and chargers.

**IMPORTANT**— Be sure to disconnect the charger from the outlet before attempting to operate the unit.

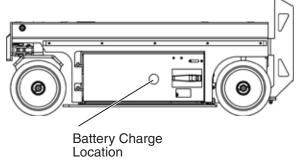
The charger will indicate the status of the charge cycle.

#### 1930-ED



Location

## 2632-ED, 3346-ED, 4046-ED, 4646-ED



13326



## Maintenance

#### DO NOT operate this machine until you have read and understood this manual, have performed the Workplace Inspection, Pre-Start Inspection and Routine Maintenance, and have completed all the test operations detailed in the Operating Instructions section.

The operator must conduct a Pre-Start Inspection of the machine and test all functions before each work shift to check for damage, malfunction and unauthorized modification. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests.

Tag and remove a damaged, malfunctioning or modified machine from service. DO NOT use a damaged, malfunctioning or modified machine.

Use the Pre-Start Inspection to determine what Routine Maintenance is required. The operator may perform only the routine maintenance items specified in this manual.

IMPORTANT—Scheduled maintenance inspection checklists are included in this manual for use only by qualified service technicians. Only qualified service technicians may perform repairs to the machine. After repairs are completed, the operator must perform a Pre-Start Inspection before proceeding to the Functions Test.

#### 

Hydraulic fluid under pressure can penetrate and burn skin, damage eyes, and may cause serious injury, blindness, and death. Repair leaks immediately. Fluid leaks under pressure may not always be visible. Check for pin hole leaks with a piece of cardboard, not your hand.

#### 

NEVER perform work or inspection on the machine with the platform elevated without first blocking the scissor assembly with the Maintenance Lock (see page 19).

Perform scheduled maintenance at recommended intervals. Failure to perform scheduled maintenance at recommended intervals may result in a defective or malfunctioning machine and may result in injury or death of the operator. Keep maintenance records current and accurate.

Immediately report any damage, defect, unauthorized modification or malfunction to your supervisor. Any defect must be repaired prior to continued use. DO NOT use a damaged, modified or malfunctioning machine.

#### 

Never leave hydraulic components or hoses open. Plug all hoses and fitting immediately after disassembly to protect the system from outside contamination (including rain).

Never open a hydraulic system when there are contaminants in the air.

Always clean the surrounding area before opening hydraulic systems.

Use only recommended lubricants. Improper lubricants or incompatible lubricants may cause as much damage as no lubrication.

Watch for makeshift "fixes" which can jeopardize safety as well as lead to more costly repair. Inspection and maintenance should be performed by qualified personnel familiar with the equipment.



#### **Routine Maintenance**

WARNING

NEVER perform work or inspection on the machine with the platform elevated without first blocking the scissor assembly with the Maintenance Lock. See page 19 for instructions.

**IMPORTANT**—The operator may perform only maintenance items on the Pre-Start Inspection Checklist. Frequent and Annual maintenance must be performed by qualified service technicians.

**Pre-Start Inspection** Perform routine maintenance as identified in the *Pre-Start Inspection Checklist* on page 25.

#### **Frequent and Annual Maintenance**

Frequent Inspection Checklists and Annual Inspection Reports must be completed by qualified service technicians trained and authorized to perform maintenance on this machine, and must be done in accordance with the procedures outlined in the service manual. Scheduled maintenance inspection checklists are included in this manual for use by qualified service technicians.

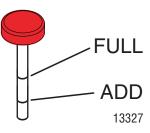
Machines that have been out of service for more than three months must have the Frequent Inspection Checklists completed before returning to service.

IMPORTANT—In addition to the Frequent Inspection Checklists and Annual Inspection, the 30-Day Service must be performed after the first 30 days or 40 hours of initial service. See the Service & Parts Manual for specific instructions.



#### Lubrication

Operator may perform routine maintenance only. Lubrication listed as Scheduled Maintenance must be performed by a qualified service technician.



#### Lubrication

No.	ITEM	SPECIFICATION	FREQUENCY
1	Hydraulic Reservoir	Mobile Fluid DTE 10, DTE 13M or AW32 <b>Do not substitute other fluids as pump damage may</b> <b>result.</b> Fill to the middle of the dipstick with platform in the stowed position.	Routine Maintenance Check level daily Scheduled Maintenance Change yearly or every 600 hours, whichever occurs first
2	Hydraulic Cap Breather Filter Hydraulic Filter	Breather Filter (located inside filler cap) Hydraulic Filter Canister	Scheduled Maintenance Normal Conditions Change every six months or 300 hours, whichever occurs first Severe Conditionsvery dusty, exceptionally hot or exceptionally cold conditions Change every three months or 150 hours, whichever occurs first



## **Pre-Start Inspection Checklist**

The operator must conduct a Pre-Start Inspection of the machine before each work shift. DO NOT use a damaged or malfunctioning machine.

Initial	Description
	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.
	Check for hydraulic oil leaks.
	Check for battery fluid leaks.
Check th	e following components or areas for damage, improperly installed or missing parts and unauthorized modifications:
	Electrical components, wiring and electrical cables
	Battery connections
	Hydraulic hoses, fittings, cylinders and manifolds
	Battery pack and connections
	Drive motors
	Slide blocks/wear pads
	Tires and wheels
	Ground strap
	Limit switches, alarm and beacon
	Nuts, bolts and other fasteners
	Platform entry gate
	Beacons and alarms
	Maintenance Lock
	Platform extension
	Scissor pins and retaining fasteners
	Platform control handle
	Brake release components
	Pothole guards
Check er	ntire machine for:
	Cracks in welds or structural components
	Dents or damage to machine
	Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened
	Be sure that guard rails are properly installed and secured, and that all pins and bolts are properly fastened.
	Be sure that the chassis trays are closed and latched and the batteries are properly connected.
	WARNING
	NEVER perform work or inspection on the machine with the platform elevated without first blocking the scissor assembly with the Maintenance Lock. See page 19 for instructions.



#### **Frequent Inspection Checklist**

WARNING

This checklist must be used at 3-month intervals or every 150 hours of machine use, whichever occurs first. Failure to do so could result in death or serious injury.

Frequent Maintenance Inspections should be conducted by qualified service technicians only. Photocopy this page for reuse. Keep inspections records up to date. Record and report all discrepancies to your supervisor. See the Service & Parts Manual for specific instructions.

el Number	Serial Number	Hour Meter Reading
al Description		
Perform all c	necks listed on Pre-Start Inspection.	
Grease the S	teering Yokes	
Inspect the c	ondition of hydraulic fluid in the reservoir.	Oil should be a clear and amber in color.
Batteries		
Electrical wir	ing	
Tires and wh	eels	
Emergency s	top	
Key switch		
Horn (if equi	oped)	
Drive brakes		
Drive speed	stowed	
Drive speed	raised	
Drive speed	slow	
Tank venting	system	
Latch Compo	pnents	
Test Down &	Pothole limit switches	
Test Up limit	switches	

#### Additional maintenance requirements for severe conditions

If the machine is used in very dusty, exceptionally hot or exceptionally cold conditions, replace the Hydraulic Cap Breather Filter and Hydraulic Filter (under normal conditions replace every 6 months or 300 hours, whichever comes first).

#### DATE\_\_\_\_\_INSPECTED BY



## **Annual Inspection Report**

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## Troubleshooting

#### 

Should you experience erratic operation or notice any malfunction while operating this machine, discontinue use immediately.

Call for assistance and report the incident to your supervisor, and do not use the machine until it has been checked by a trained, qualified mechanic.

#### Machine functions will not operate

- Battery properly connected?
- Battery fully charged?
- Key Switch in proper position?
- Both Emergency Stop Switches reset?
- Circuit Breaker tripped?
- Function Enable Switch not activated?
- Hydraulic fluid level low?
- Obvious fluid leak or damaged component?
- Wires disconnected, broken, or loose?
- Diagnostic panel on?
- Fault Code Present? Refer to service manual or contact GMG Technical Support.



## **Transport and Lifting Instructions**

#### **Safety Information**

# WARNING This section is provided for reference and does not supersede any government or company policy regarding the loading, transport or lifting of GMG machinery. Truck drivers are responsible for loading and securing machines, and should be properly trained and authorized to operate GMG machinery. Drivers are also responsible for selecting the correct and

appropriate trailer according to government regulations and company policy. Drivers must ensure that the vehicle and chains are strong enough to hold the weight of the machine (see the serial number plate for machine weight).

While loading and unloading, the transport vehicle must be parked on a level surface and secured to prevent rolling.

#### Loading

#### Free-wheel configuration for Winching or Towing

#### 

#### RUNAWAY HAZARD!

After releasing the brakes there is nothing to stop machine travel. Machine will roll freely on slopes. ALWAYS chock the wheels before manually releasing the brakes.

> Before towing or winching the machine, it is necessary to release the brakes. Reset the brakes after towing or winching.

#### Disengage Brakes before Towing or Winching

- 1 Chock the wheels.
- 2 At the Ground Controls panel, turn the Key Switch to the GROUND position.
- 3 At the Platform Controls, set the red Emergency Stop button clockwise to the ON position.
- 4 At the Ground Controls panel, press the Emergency Stop button.
- 5 Lift up red cover to Brake Release Switch and move the Brake Release Switch to UP position and hold.

#### **Resetting Brakes**

Turn the Key Switch to the OFF position to reset the brake.

#### Driving or Winching onto or off of a Transport Vehicle

#### 

Always attach the machine to a winch when loading or unloading from a truck or trailer by driving. Read and understand all safety, control, and operating information found on the machine and in this manual before operating the machine.

Before loading or unloading the machine, check that:

- The deck extension, controls and component trays are secure.
- The platform is fully lowered.
- All loose items have been removed.

Before driving or winching the machine:

- Attach the machine to a winch.
- Remove all machine tie downs. Remove wheel chocks.

#### Driving

- Turn the Base Key Switch to PLATFORM. Check that the Emergency Stop Switch is reset by turning it clockwise.
- Enter the platform and reset the Platform Emergency Stop Switch.
- Test platform control functions.
- Select slow drive speed mode. Carefully drive the machine off the transport vehicle with the winch attached.
  - **Note:** The brakes are automatically released for driving and will automatically apply when the machine stops.

#### Winching

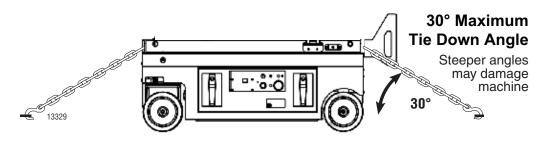
- Carefully operate the winch to lower the machine down the ramp.
- · Chock the wheels and engage the brakes.

#### Lifting The Machine With A Forklift

- Position the forklift forks in line with the forklift pockets.
- Drive forward to the full extent of the forks.
- Raise the machine 6 in / 15 cm and then tilt the forks back slightly to keep the machine secure.
- Be sure the machine is level when lowering the forks.

#### Securing to Truck or Trailer for Transport

- Turn the Key Switch to OFF and remove the key before transport.
- Inspect the entire machine for loose or unsecured items.
- Chock the wheels
- Use the tie-down points on the chassis for anchoring down to the transport surface.
- Use chains or straps of ample load capacity.
- Use a minimum of four (4) chains or straps.
- Adjust the rigging to prevent damage to the chains and the machine.







#### Lifting Instructions

#### 

Only qualified riggers shall rig and lift the machine.

Ensure that the crane, loading surfaces, spreader bars, cables, chains and straps are of sufficient capacity to withstand the machine weight. See the serial plate for the machine weight.

- Fully lower the platform. Be sure the deck extension is retracted and the controls and component trays are closed and secure. Remove all loose items from the machine.
- Determine the center of gravity of the machine.
- Attach rigging to the designated lift points *only*.
- Adjust the rigging to prevent damage to the machine and to keep the machine level.

NOTES:



# GMG Global Machinery Group, Inc.

## Global Machinery Group, Inc.

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