JLG®

An Oshkosh Corporation Company

Operation and Safety Manual

Original Instructions - Keep this manual with the machine at all times.

Model

10MSP

PVC 2002

ANSI

CE

AS/NZS

31215821

September 10, 2019 - Rev A

TO PURCHASE THIS PRODUCT PLEASE CONTACT US

Discount Equipment

Equipment Financing and
Extended Warranties Available

Discount-Equipment.com is your online resource for commercial and industrial quality parts and equipment sales.
561-964-4949
visit us on line @ www.discount-equipment.com

Select an option below to find your Equipment

Search by Manufacturer

Search by Product Type

Request a Quote

We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto, Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S. Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment ,Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar

⚠ WARNING

Operating, servicing and maintaining this vehicle or equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle or equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing. For more information go to www.P65Warnings.ca.gov.

FOREWORD

The Mobile Elevating Work Platform (MEWP) models covered in this manual are designed and tested to meet or exceed various compliance standards. Please refer to the manufacturer's nameplate affixed to the subject MEWP for specific standard compliance information.

This manual is a very important tool! Keep it with the machine at all times.

The purpose of this manual is to provide owners, users, operators, lessors, and lessees with the precautions and operating procedures essential for the safe and proper machine operation for its intended purpose.

Due to continuous product improvements, JLG Industries, Inc. reserves the right to make specification changes without prior notification. Contact JLG Industries, Inc. for updated information.

Refer to www.JLG.com for Warranty, Product Registration, and other machine-related documentation.

SAFETY ALERT SYMBOLS AND SAFETY SIGNAL WORDS

This is the Safety Alert Symbol. It is used to alert you to the potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death

⚠ DANGER

INDICATES AN IMMINENTLY HAZARDOUS SITUATION. IF NOT AVOIDED, WILL RESULT IN SERIOUS INJURY OR DEATH. THIS DECAL WILL HAVE A RED BACKGROUND.

⚠ WARNING

INDICATES A POTENTIALITY HAZARDOUS SITUATION. IF NOT AVOIDED, COULD RESULT IN SERIOUS INJURY OR DEATH. THIS DECAL WILL HAVE AN ORANGE BACKGROUND.

⚠ CAUTION

INDICATES A POTENTIALITY HAZARDOUS SITUATION. IF NOT AVOIDED, MAY RESULT IN MINOR OR MODERATE INJURY. IT MAY ALSO ALERT AGAINST UNSAFE PRACTICES. THIS DECAL WILL HAVE A YELLOW BACKGROUND.

NOTICE

INDICATES INFORMATION OR A COMPANY POLICY THAT RELATES DIRECTLY OR INDIRECTLY TO THE SAFETY OF PERSONNEL OR PROTECTION OF PROPERTY.

REVISION LOG

Original Issue	A - September 10, 2019

SECTION - PARAGRAPH, SUBJECT **PAGE**

LIST OF FIGURES

SECTION - PARAGRAPH, SUBJECT **PAGE**

LIST OF TABLES

SECTION 1. SAFETY PRECAUTIONS

1.1 GENERAL

This section outlines the necessary precautions for proper and safe machine usage and maintenance. For proper machine use, it is mandatory that a daily routine is established based on the content of this manual. A maintenance program, using the information provided in this manual and the Service and Maintenance Manual, must also be established by a qualified person and must be followed to ensure that the machine is safe to operate.

The owner/user/operator/lessor/lessee of the machine should not accept operating responsibility until this manual has been read, training is accomplished, and operation of the machine has been completed under the supervision of an experienced and qualified operator.

If there are any questions with regard to safety, training, inspection, maintenance, application, and operation, please contact JLG Industries, Inc. *("JLG")*.

⚠ WARNING

FAILURE TO COMPLY WITH THE SAFETY PRECAUTIONS LISTED IN THIS MANUAL COULD RESULT IN MACHINE DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

NOTICE

THE FOLLOWING INFORMATION IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EUROPEAN MACHINERY DIRECTIVE 2006/42/EC AND IS ONLY APPLICABLE TO CE MACHINES:

FOR ELECTRIC POWERED MACHINES, THE EQUIVALENT CONTINUOUS A-WEIGHTED SOUND PRESSURE LEVEL AT THE WORK PLATFORM IS LESS THAN 70DB(A).

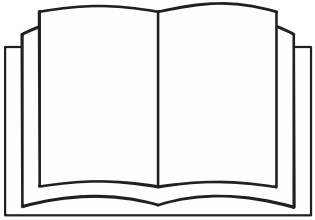
FOR COMBUSTION ENGINE POWERED MACHINES, GUARANTEED SOUND POWER LEVEL (LWA) PER EUROPEAN DIRECTIVE 2000/ 14/EC (NOISE EMISSION IN THE ENVIRONMENT BY EQUIPMENT FOR USE OUTDOORS) BASED ON TEST METHODS IN ACCORDANCE WITH ANNEX III, PART B, METHOD 1 AND 0 OF THE DIRECTIVE, IS 109 DB.

THE VIBRATION TOTAL VALUE TO WHICH THE HAND-ARM SYSTEM IS SUBJECTED DOES NOT EXCEED 2,5 M/S2. THE HIGHEST ROOT MEAN SQUARE VALUE OF WEIGHTED ACCELERATION TO WHICH THE WHOLE BODY IS SUBJECTED DOES NOT EXCEED 0,5 M/S2.

1.2 PRE-OPERATION

Operator Training And Knowledge

- Read, understand, and study the Operation and Safety Manual in its entirety before operating the machine. For clarification, questions, or additional information regarding any portions of this manual, contact JLG Industries, Inc.



- Only personnel who have received proper training regarding the inspection, application and operation of MEWPs (including recognition and avoiding hazards associated with their operation) shall be authorized to operate a MEWP.
- Only properly trained personnel who have received unit-specific familiarization shall operate a MEWP. The user shall determine if personnel are qualified to operate the MEWP prior to operation.
- Read, understand, and obey all DANGERS, WARNINGS, CAUTIONS, and operating instructions on the machine and in this manual.
- Ensure that the machine is to be used in a manner which is within the scope of its intended application as determined by JLG.
- All operating personnel must have a thorough understanding of the intended purpose and function of the MEWP controls, including platform, ground and emergency descent controls.
- Read, understand, and obey all applicable employer, local, and governmental regulations as they pertain to operation of the machine.

Workplace Inspection

- Precautions to avoid all hazards in the work area must be taken by the user before and during operation of the machine.
- Do not operate or raise the platform from a position on trucks, trailers, railway cars, floating vessels, scaffolds or other equipment unless the application is approved in writing by JLG.
- This machine can be operated in temperatures of 0° F to 104° F *(-20° C to 40° C)*. Consult JLG for operation outside this range.

- Before operation, check work area for overhead hazards such as electric lines, bridge cranes, and other potential overhead obstructions.
- Check operating surfaces for holes, bumps, drop-offs, obstructions, debris, concealed holes, and other potential hazards.
- Check the work area for hazardous locations. Do not operate the machine in hazardous environments unless approved for that purpose by JLG.
- Ensure that the ground conditions are adequate to support the maximum tire load indicated on the tire load decals located on the chassis adjacent to each wheel. Do not travel on unsupported surfaces.

Machine Inspection

- Do not operate this machine until the inspections and functional checks as specified in Section 2 of this manual have been performed.
- Do not operate this machine until it has been serviced and maintained according to requirements specified in the Service and Maintenance Manual.
- Ensure all safety devices are operating properly. Modification of these devices is a safety violation.

⚠ WARNING

MODIFICATION OR ALTERATION OF A MEWP SHALL BE MADE ONLY WITH PRIOR WRITTEN PERMISSION FROM THE MANUFACTURER.

- Do not operate any machine on which the safety or instruction placards or decals are missing or illegible.
- Check the machine for modifications to original components. Ensure that any modifications have been approved by JLG.
- Avoid any build up of debris on platform floor. Keep mud, oil, grease, and other slippery substances from footwear and platform floor.

1.3 OPERATION

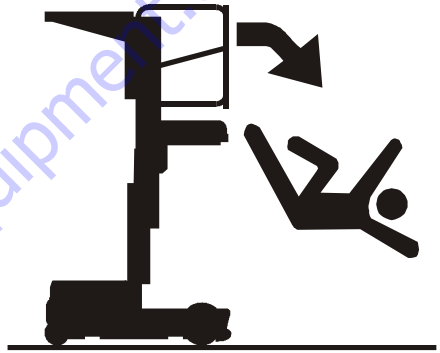
General

- Machine operation requires your full attention. Bring the machine to a full stop before using any device, i.e. cell phones, two-way radios, etc. that will distract your attention from safely operating the machine.
- Do not use the machine for any purpose other than positioning personnel, their tools and equipment, or for hand stock picking or placing.
- Never operate a malfunctioning machine. If a malfunction occurs, shut down the machine. Remove the unit from service and notify the proper authorities.
- Never slam a control switch or lever through neutral to an opposite direction. Always return switch to neutral and stop before moving the switch to the next function. Operate controls with slow and even pressure.
- Do not allow personnel to tamper with or operate the machine from the ground with personnel in the platform, except in an emergency.
- Do not carry materials directly on platform railing unless approved by JLG.
- Always ensure that power tools are properly stowed and never left hanging by their cord from the platform work area.
- Do not assist a stuck or disabled machine by pushing or pulling except by pulling at the chassis tie-down lugs.
- Fully lower mast assembly and shut off all power before leaving machine.
- No riders are permitted on machine. Operator only in machine during operation.
- Remove all rings, watches, and jewelry when operating machine. Do not wear loose fitting clothing or long hair unrestrained which may become caught or entangled in equipment.
- Persons under the influence of drugs or alcohol or who are subject to seizures, dizziness, or loss of physical control must not operate this machine.
- Hydraulic cylinders are subject to thermal expansion and contraction. This may result in changes to the platform position while the machine is stationary. Factors affecting thermal movement can include the length of time the machine will remain stationary, hydraulic oil temperature, ambient air temperature and platform position.

Trip and Fall Hazards

- JLG recommends that the operator utilizes a fall/travel restraint system in the platform with a lanyard attached to an authorized lanyard anchorage point. For further information regarding fall protection requirements on JLG products, contact JLG.

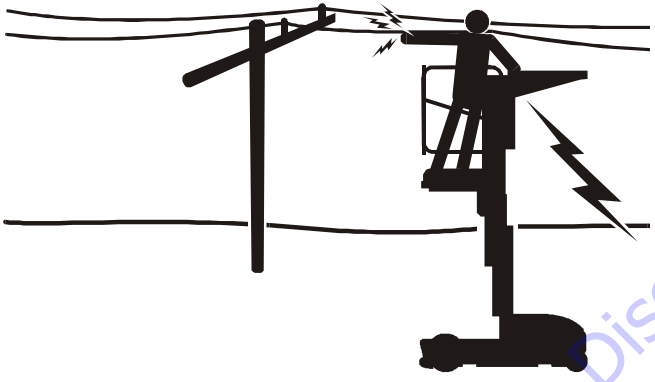
- Before operating the machine, make sure all railing and gates are fastened in their proper position.



- Keep both feet firmly positioned on the platform floor at all times. Never use ladders, boxes, steps, planks, or similar items on platform to provide additional reach.
- Never use the mast assembly to enter or leave the platform.
- Use extreme caution when entering or leaving platform. Ensure that the mast assembly is fully lowered. Face the platform when entering or leaving the platform. Always maintain “three point contact” with the machine, using two hands and one foot or two feet and one hand at all times during entry and exit.

Electrocution Hazards

- This machine is not insulated and does not provide protection from contact or proximity to electrical current.



- Maintain distance from electrical lines, apparatus, or any energized (exposed or insulated) parts according to the Minimum Approach Distance (MAD) as shown in Table 1-1.
- Allow for machine movement and electrical line swaying.

Table 1-1. Minimum Approach Distances (M.A.D.)

Voltage Range (Phase to Phase)	MINIMUM APPROACH DISTANCE in Feet (Meters)
0 to 50 KV	10 (3)
Over 50KV to 200 KV	15 (5)
Over 200 KV to 350 KV	20 (6)
Over 350 KV to 500 KV	25 (8)
Over 500 KV to 750 KV	35 (11)
Over 750 KV to 1000 KV	45 (14)

NOTE: *This requirement shall apply except where employer, local or governmental regulations are more stringent.*

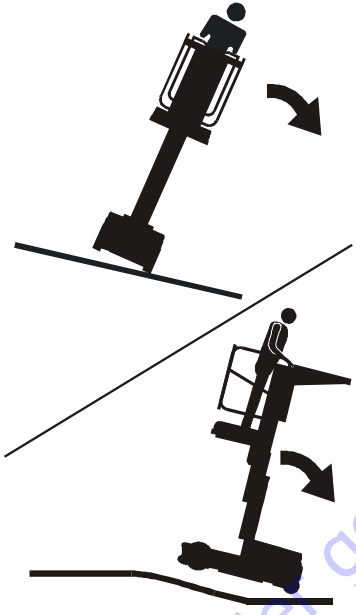
- Maintain a clearance of at least 10 ft (3 m) between any part of the machine and its occupants, their tools, and their equipment from any electrical line or apparatus carrying up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts or less.

- The minimum approach distance may be reduced if insulating barriers are installed to prevent contact, and the barriers are rated for the voltage of the line being guarded. These barriers shall not be part of (or attached to) the machine. The minimum approach distance shall be reduced to a distance within the designed working dimensions of the insulating barrier. This determination shall be made by a qualified person in accordance with the employer, local, or governmental requirements for work practices near energized equipment

⚠ DANGER

DO NOT MANEUVER MACHINE OR PERSONNEL INSIDE PROHIBITED ZONE (MAD). ASSUME ALL ELECTRICAL PARTS AND WIRING ARE ENERGIZED UNLESS KNOWN OTHERWISE.

Tipping Hazards

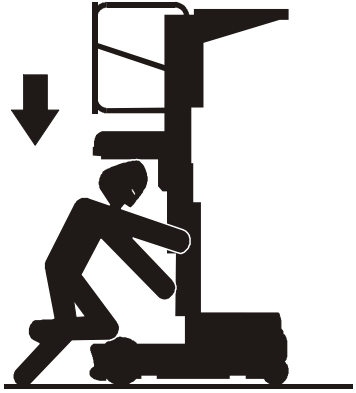


- Ensure that the ground conditions are adequate to support the maximum tire load indicated on the tire load decals located on the chassis adjacent to each wheel. Do not travel on unsupported surfaces.
- Do not elevate platform or drive with platform elevated while on or near a sloping, uneven, or soft surface. Ensure machine is positioned on a smooth, firm surface within the limits of the maximum operating slope before elevating platform or driving with the platform in the elevated position.
- Before driving on floors, bridges, trucks, and other surfaces, check allowable capacity of the surfaces.
- Never exceed the maximum platform capacity as specified on the platform. Distribute loads evenly on platform floor and material tray.
- Keep the chassis of the machine a minimum of 2 ft. (0.6 m) from holes, bumps, drop-offs, obstructions, debris, concealed holes, and other potential hazards at the ground level.
- Never attempt to use the machine as a crane. Do not tie-off machine to any adjacent structure. Never attach wire, cable, or any similar items to platform.
- Do not operate the machine when wind conditions exceed 0 mph (0 khp).

- Do not increase the platform size with unauthorized deck extensions or attachments, increasing the area exposed to wind will decrease stability.
- If mast assembly or platform is caught so that one or more wheels are off the ground, the operator must be removed before attempting to free the machine. Use cranes, forklift trucks, or other appropriate equipment to stabilize machine.

Crushing And Collision Hazards

- Approved head gear must be worn by all operating and ground personnel.
- Watch for obstructions around machine and overhead when driving. Check clearances above, on sides, and bottom of platform when lifting or lowering platform.



- During operation, keep all body parts inside platform railing.

- Always post a lookout when driving in areas where vision is obstructed.
- Keep non-operating personnel at least 6 ft (1.8 m) away from machine during all operations.
- Under all travel conditions, the operator must limit travel speed according to conditions of ground surface, congestion, visibility, slope, location of personnel, and other factors which may cause collision or injury to personnel.
- Be aware of stopping distances in all drive speeds. When driving in high speed, reduce drive speed before stopping. Travel grades in low speed only.
- Do not drive at high speeds in restricted or close quarters or when driving in reverse.
- Exercise extreme caution at all times to prevent obstacles from striking or interfering with operating controls and persons in the platform.
- Ensure that operators of other overhead and floor level machines are aware of the MEWP's presence. Disconnect power to overhead cranes.
- Warn personnel not to work, stand, or walk under a raised platform. Position barricades on floor as necessary.

1.4 LIFTING AND HAULING

General

- Never allow personnel in platform while lifting or hauling.
- This machine should not be towed in the event of emergency, malfunction, power failure, or loading/unloading. Lift only with a fork lift truck using the designated fork lift pockets in the machine's base frame.
- Ensure platform is fully retracted and completely empty of tools prior to lifting or hauling.
- When lifting machine with a forklift, position forks only at designated areas of the machine. Lift with a forklift of adequate capacity.
- Refer to the Machine Operation section of this manual for lifting information.

1.5 MAINTENANCE

This sub-section contains general safety precautions which must be observed during maintenance of this machine. Additional precautions to be observed during machine maintenance are inserted at the appropriate points in this manual and in the Service and Maintenance Manual. It is of utmost importance that maintenance personnel pay strict attention to these precautions to avoid possible injury to personnel or damage to the machine or property. A maintenance program must be established by a qualified person and must be followed to ensure that the machine is safe.

Maintenance Hazards

- Shut off power to all controls and ensure that all moving parts are secured from inadvertent motion prior to performing any adjustments or repairs.
- Never work under an elevated platform until it has been fully lowered to the full down position, if possible, or otherwise supported and restrained from movement with appropriate safety props, blocking, or overhead supports.
- Always relieve hydraulic pressure from all hydraulic circuits before loosening or removing hydraulic components.
- DO NOT attempt to repair or tighten any hydraulic hoses or fittings while the machine is powered on or when the hydraulic system is under pressure.
- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks. Wear gloves to help protect hands from spraying fluid.

- Use only replacement parts or components that are approved by JLG. To be considered approved, replacement parts or components must be identical or equivalent to original parts or components.
- Never attempt to move heavy parts without the aid of a mechanical device. Do not allow heavy objects to rest in an unstable position. Ensure adequate support is provided when raising components of the machine.
- Use only approved non-flammable cleaning solvents.
- Do not replace items critical to stability, such as batteries or solid tires, with items of different weight or specification. Do not modify the MEWP in any way to affect stability.
- Refer to the Service and Maintenance Manual for the weights of critical stability items.

⚠ WARNING

MODIFICATION OR ALTERATION OF A MEWP SHALL BE MADE ONLY WITH PRIOR WRITTEN PERMISSION FROM THE MANUFACTURER.

Battery Hazards

- Always disconnect batteries when servicing electrical components or when performing welding on the machine.
- Do not allow smoking, open flame, or sparks near battery during charging or servicing.
- Do not contact tools or other metal objects across the battery terminals.
- Always wear hand, eye, and face protection when servicing batteries. Ensure that battery acid does not come in contact with skin or clothing.

⚠ CAUTION

BATTERY FLUID IS HIGHLY CORROSIVE. AVOID CONTACT WITH SKIN AND CLOTHING AT ALL TIMES. IMMEDIATELY RINSE ANY CONTACTED AREA WITH CLEAN WATER AND SEEK MEDICAL ATTENTION.

- Charge batteries only in a well ventilated area.
- Avoid overfilling the battery fluid level. Add distilled water to batteries only after the batteries are fully charged.

SECTION 2. PREPARATION AND INSPECTION

2.1 PERSONNEL TRAINING

The Mobile Elevating Work Platform (MEWP) is a personnel handling device; so it is necessary that it be operated and maintained only by trained personnel.

Persons under the influence of drugs or alcohol or who are subject to seizures, dizziness or loss of physical control must not operate this machine.

Operator Training

Operator training must cover:

1. Reading and understanding the Operation and Safety Manual.
2. Thorough understanding of the intended purpose and function of the MEWP controls, including platform, ground, and emergency descent controls.
3. Control labels, instructions, and warnings on the machine.
4. Applicable regulations, standards, and safety rules.
5. Use of approved fall protection equipment.
6. Enough knowledge of the mechanical operation of the machine to recognize a malfunction or potential malfunction.
7. The safest means to operate the machine where overhead obstructions, other moving equipment, and obstacles, depressions, holes, and drop-offs exist.
8. Selection of the appropriate MEWP and available options for the work to be performed considering specific job requirements, with involvement from the MEWP owner, user, and/or supervisor.
9. The responsibility of the operator to ensure all platform occupants have a basic level of knowledge to work safely on the MEWP, and to inform them of applicable regulations, standards, and safety rules.
10. The requirement for familiarization in addition to training.

Training Supervision

Training must be delivered by a qualified person in an open area, free of hazards until the trainee has demonstrated the ability to safely control and operate the machine.

Operator Responsibility

The operator must be instructed that they have the responsibility and authority to shut down the machine in case of a malfunction or other unsafe condition of either the machine or the job site.

Machine Familiarization

NOTE: *Responsibilities for familiarization may vary by region.*

Only properly trained personnel who have received unit-specific familiarization shall operate a MEWP. The user shall determine if personnel are qualified to operate the MEWP prior to operation. The user shall ensure that after familiarization, the operator operates the MEWP for a sufficient period of time to achieve proficiency. When authorized by the user, self-familiarization can be achieved, if authorized, by a properly trained operator reading, understanding and following the manufacturer's operator's manual.

Prior to users authorization of an operator to use a specific model of MEWP, the user shall ensure the operator is familiarized on the following:

1. Location of the manual storage compartment and the requirement to ensure the required manual(s) are present on the MEWP;
2. Purpose and function of the machine controls and indicators at the platform and ground control stations;
3. Purpose, location, and function of the emergency controls;
4. Operating characteristics and limitations;
5. Features and devices;
6. Accessories and optional equipment.

2.2 PREPARATION, INSPECTION, AND MAINTENANCE

Table 2-1 explains the machine inspections and maintenance recommended by JLG Industries, Inc. Consult local regulations for further requirements for MEWPs. Frequency of inspections and maintenance must be increased as necessary when machine is used in a harsh or hostile environment, if machine is used with increased frequency, or if machine is used in a severe manner.

Table 2-1. Inspection and Maintenance Table

TYPE	FREQUENCY	PRIMARY RESPONSIBILITY	SERVICE QUALIFICATION	REFERENCE
Pre-Start Inspection	Before using each day; or whenever there's an Operator change.	User or Operator	User or Operator	Operator and Safety Manual
Pre-Delivery Inspection *(See Note)*	Before each sale, lease, or rental delivery.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual and applicable JLG inspection form
Frequent Inspection	In service for 3 months or 150 hours, whichever comes first; or; Out of service for a period of more than 3 months; or Purchased used.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual and applicable JLG inspection form
Annual Machine Inspection	Annually, no later than 13 months from the date of prior inspection.	Owner, Dealer, or User	Factory Trained Service Technician *(Recommended)*	Service and Maintenance Manual and applicable JLG inspection form
Preventative Maintenance	At intervals as specified in Service and Maintenance Manual.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual

NOTE: *Inspection forms are available from JLG. Use the Service and Maintenance Manual to perform inspections.*

NOTICE

JLG INDUSTRIES, INC. RECOGNIZES A FACTORY TRAINED SERVICE TECHNICIAN AS A PERSON WHO HAS SUCCESSFULLY COMPLETED THE JLG SERVICE TRAINING SCHOOL FOR THE SPECIFIC JLG PRODUCT MODEL.

2.3 PRE-START INSPECTION

The Pre-Start Inspection should include each of the following:

1. **Cleanliness** – Check all surfaces for leakage (hydraulic oil or battery fluid) or foreign objects. Report any leakage to the proper maintenance personnel.
2. **Decals and Placards** – Check all for cleanliness and legibility. Make sure no decals or placards are missing. Make sure all illegible decals and placards are cleaned or replaced. Refer to "Decal Installations" in Section 3.
3. **Operation and Safety Manuals** – Ensure a copy of the Operation and Safety Manual, AEM Safety Manual (ANSI market only), and ANSI Manual of Responsibilities (ANSI/CSA Spec market only) is enclosed in the weather-resistant storage container.
4. **Walk-Around Inspection** – Refer to Section 2.4.
5. **Battery** – Charge as required (refer to Section 3.6).
6. **Hydraulic Oil** – Check the hydraulic oil level in the pump reservoir; add as required (refer to Section 6.3).
7. **Function Check** – Once the Walk-Around Inspection is complete, perform a functional check of all systems in an area free of overhead and ground level obstructions. (Refer to Section 2.5 for more specific instructions on the operation of each function.)
8. **Platform Gate –** Keep gate and surrounding area clean and unobstructed. Verify the gate closes properly and is not bent or damaged. Keep gate closed at all times except when entering/exiting the platform and loading/unloading materials.
9. **Accessories/Options** – Refer to the Accessories section in this manual or to the accessory installed on the machine for specific inspection, operation, and maintenance instructions.

⚠ WARNING

IF THE MACHINE DOES NOT OPERATE PROPERLY, TURN OFF THE MACHINE IMMEDIATELY! REPORT THE PROBLEM TO THE PROPER MAINTENANCE PERSONNEL. DO NOT OPERATE THE MACHINE UNTIL IT IS DECLARED SAFE FOR OPERATION.

2.4 WALK-AROUND INSPECTION

Begin the Walk-Around Inspection at item one as noted on Figure 2-1. Continue around machine checking each item in sequence for the conditions listed in the following check list.

⚠ WARNING

TO AVOID POSSIBLE INJURY, BE SURE MACHINE POWER IS "OFF" DURING WALK-AROUND INSPECTION.

DO NOT OPERATE MACHINE UNTIL ALL MALFUNCTIONS HAVE BEEN CORRECTED.

NOTICE

DO NOT OVERLOOK VISUAL INSPECTION OF THE BASE FRAME UNDERSIDE. CHECK THIS AREA FOR OBJECTS OR DEBRIS WHICH COULD CAUSE EXTENSIVE MACHINE DAMAGE.

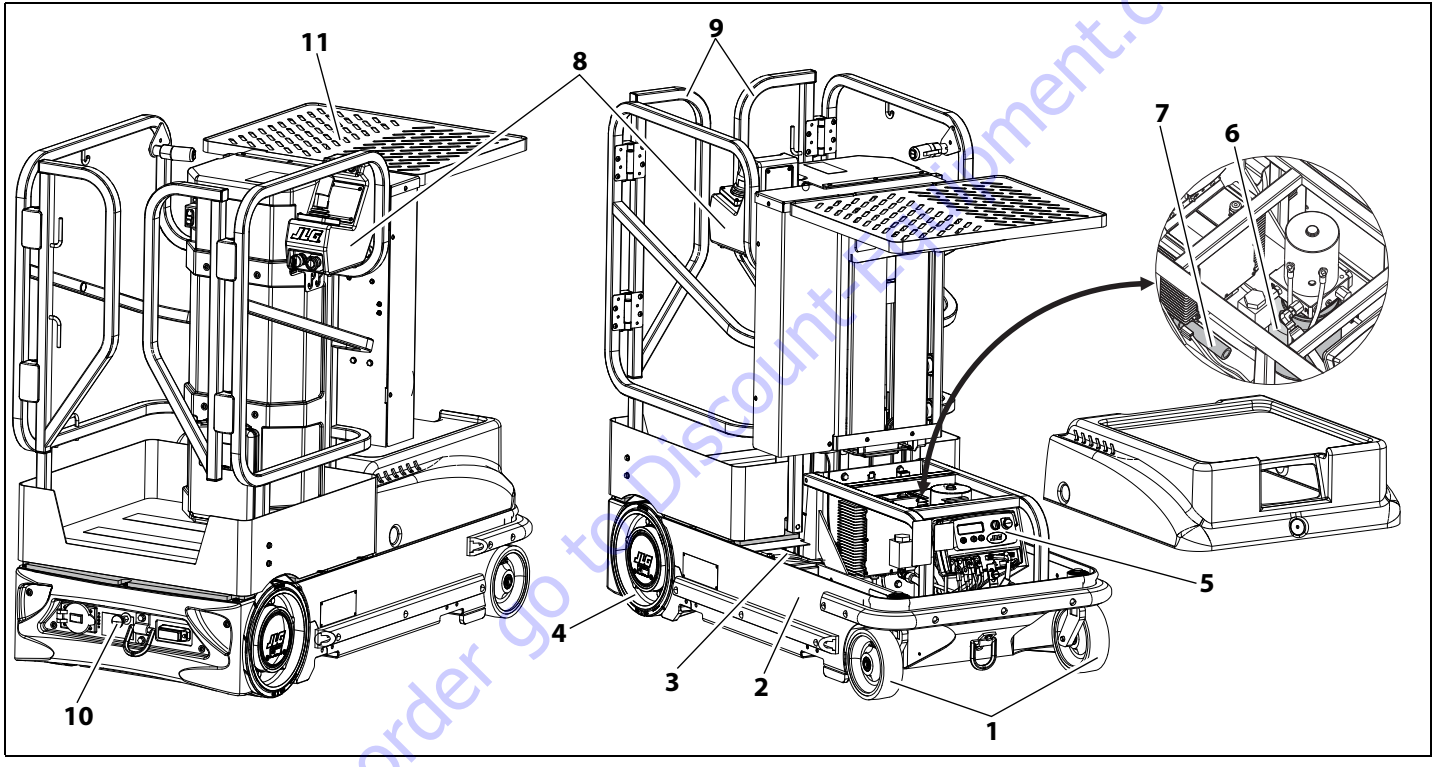


Figure 2-1. Walk-Around Inspection

Walk-Around Inspection Components

Refer to Figure 2-1.

***INSPECTION NOTE**: On all components, make sure there are no loose or missing parts, they are securely fastened, and no visible damage, leaks, or excessive wear exists in addition to any other criteria mentioned.*

1. **Front Caster Wheels** - Check for any debris stuck to or around wheels.
2. **Base Frame** - Check for loose wires or cables dangling below the base.
3. **Batteries** (on each side of machine) - Not leaking; battery cables secure to posts; no corrosion.
4. **Rear Drive Wheels** - Check for any debris stuck to or around wheels.
5. **Ground Control Station** - Main Power Switch (Key) operable; placards secure and legible; control switches return to neutral position when activated and released; emergency stop switch operates properly.
6. **Motor/Pump/Reservoir Unit** - No evidence of hydraulic leaks.
7. **Manual Descent Control Valve** - Refer to Inspection Note.
8. **Platform Control Console** - Platform control; placards secure and legible, control lever and switches return to neutral position when activated and released; emergency stop switch reset for operation; control markings legible.
9. **Platform Assembly and Gate** - Platform railings; entry gate in proper working order, closing properly.
10. **Remote Manual Descent (If Equipped)** - Refer to Inspection Note.
11. **Power Tray (If Equipped)** - No evidence of hydraulic leaks.

2.5 FUNCTION CHECK

Once the Walk-Around Inspection is complete, perform a function check of all systems in an area free of overhead and ground level obstructions.

NOTE: *Refer to Section 3 for more specific operating instructions.*

Function Check Items

1. From the ground controls with no load in the platform:
   - **a.** Operate ground control functions, platform lift up and lift down.
   - **b.** Ensure all machine functions are disabled when Emergency Stop Button is activated (pressed in).
   - **c.** Raise the platform approximately 1 in or more. Ensure the gate alarm will sound when either platform gate is opened.
   - **d.** Ensure Manual Descent, located under hood, is functioning properly. Remote Manual Descent (if equipped) is located at rear of machine next to the charger socket.
2. From the platform control console:
   - **a.** Ensure the control console is firmly secure in the proper location.
   - **b.** Ensure all machine functions are disabled when Emergency Stop Button is activated (pressed in).
   - **c.** Operate all functions. Check all limit, cut-out, and enable switches are functioning properly:
     - **Machine Brakes** - With the platform completely lowered, drive the machine on a grade do not exceed the rated gradeability and stop to ensure the brakes hold.
     - **Tilt Warning Limit** - With the platform completely lowered, drive the machine onto a surface with a tilt of more than 1.5° in any direction **(do not exceed rated gradeability).** The machine will indicate a tilt condition if any attempt is made to elevate the platform. Refer to "Tilt Alarm Warning" on page 3-15.
     - **Drive Speed Reduction Limit** - When platform is elevated more than 1.5 to 2 ft (0.5 m) above the stowed position, drive speed is cut to approximately 1/10 of platform lowered drive speed.

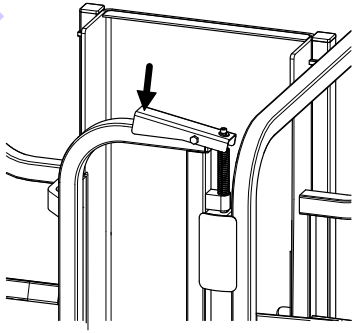
- **Platform Joystick Enable, Footswitch Enable, and Left Hand Lift Enable** - The machine will not operate (drive or lift) unless all these switches are pressed and held during drive or lift operation. A timeout will occur after five seconds if enable is engaged and no function is selected.

d. Raise and lower platform 2 ft to 3 ft (0.61 m to 0.92 m) several times. Check for smooth lifting and lowering of platform.

- When the platform is elevated, visually inspect the mast sections, slide pads, mast chains, sequencing cables, platform control and power cables (on side of mast). Ensure power cables are properly tensioned and seated in sheaves and rotating freely.

di. Platform Gate Open (Australian Spec. Machines Only) - If the machine is equipped with a Platform Gate Alarm, an alarm will sound and all lifting and driving functions will stop if either or both gates are opened once the platform is raised approximately 1 in above the fully stowed position.

NOTE: *(Australian Spec machines also include a platform gate lock/release lever mechanism on top of each gate that must be pressed down to open the platform gate. Check that the lock/release on each gate latches properly when gate is closed and releases when the handle lever is depressed.)*



Platform Gate Lock/Release Lever (Australian Spec. Machines Only)

3. Ensure the Object Detection System (if equipped) functions properly (refer to Section 3):
    - Raise the platform to a height of 24 in (61 cm) or more.
    - Have someone on the ground place an object of 15 lb (7 kg) or greater on the object detection pad.
    - Attempt to lower the platform. If the object detection system is functioning properly, the horn should sound three short blasts, and the platform will not lower.
    - Have the person on the ground remove the weight. Reset the Object Detection System by pressing the horn button once. The platform lift down function should now operate.
4. Ensure the Power Tray (if equipped) functions properly by raising and lowering the tray several times. Check for smooth operation.

TO PURCHASE THIS PRODUCT PLEASE CONTACT US

Discount Equipment

Equipment Financing and
Extended Warranties Available

Discount-Equipment.com is your online resource for commercial and industrial quality parts and equipment sales.
561-964-4949
visit us on line @ www.discount-equipment.com

Select an option below to find your Equipment

Search by Manufacturer

Search by Product Type

Request a Quote

We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto, Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S. Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment ,Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar

SECTION 3. MACHINE OPERATION

3.1 GENERAL

NOTICE

THE MANUFACTURER HAS NO DIRECT CONTROL OVER MACHINE APPLICATION AND OPERATION. THE USER AND OPERATOR ARE RESPONSIBLE FOR CONFORMING WITH GOOD SAFETY PRACTICES.

This section provides the necessary information needed to understand control function and operation.

3.2 MACHINE DESCRIPTION

This machine is a Mobile Elevating Work Platform (MEWP) with attached adjustable material handling tray, mounted to an elevating mast mechanism. The personnel lift's intended purpose is to provide personnel access to areas above ground level to allow placing and removing of stock from storage or display areas.

The primary control console is located in the platform. From the Platform Control Console the operator can drive the machine and raise or lower the platform. The machine can be driven on a smooth, firm surface within the limits of the maximum operating slope from an elevated platform position. Additionally, operators can activate the material Power Tray (if equipped) and horn.

The Ground Control Station is to be used during machine power-up, maintenance, function checks, or in case of emergency, should the operator in the platform be unable to lower the platform.

3.3 OPERATING CHARACTERISTICS AND LIMITATIONS

Placards

Important points to remember during operation are provided at the control stations by DANGER, WARNING, CAUTION, NOTICE, and INSTRUCTION placards. This information is placed at various locations for the express purpose of alerting personnel of potential hazards constituted by the operating characteristics and limitations of the machine. See foreword for definitions of placard safety signal words.

Capacities

Raising platform above horizontal with or without any load in the platform is based on the following criteria:

1. Machine is positioned on a smooth, firm surface within the limits of the maximum operating slope.
2. Load is within manufacturer's rated capacity.
3. All machine systems are functioning properly.

Stability

This machine, as originally manufactured by JLG and operated within its rated capacity on a smooth firm surface within the limits of the maximum operating slope, provides a stable aerial platform for all platform positions.

3.4 MACHINE OPERATION

Getting Started

The following conditions must be met before the machine can be operated from either the Ground or Platform Controls:

- Batteries contain enough voltage to operate. Low Battery warning not indicated on Ground Control Station.
- The Main Power Selector Switch on the Ground Control Station must be set for either Ground Control Mode or Platform Control Mode.
- Platform Control Console On/Off Power Switch (Key) must be set to ON.
- Both Emergency Stop Switches, Ground and Platform Control must be in the RESET position (out).
- The Machine Status LCD Screen on the Ground Control Station indicates normal operating conditions when machine is powered up.
- Both platform swing-in entry gates must be closed to operate machine. If one or both gates are opened, all lifting and driving functions will stop.

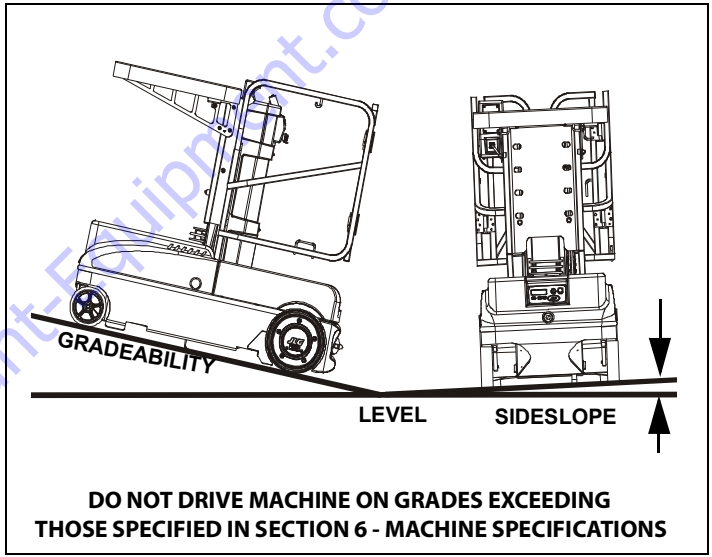


Figure 3-1. Grade and Side Slope

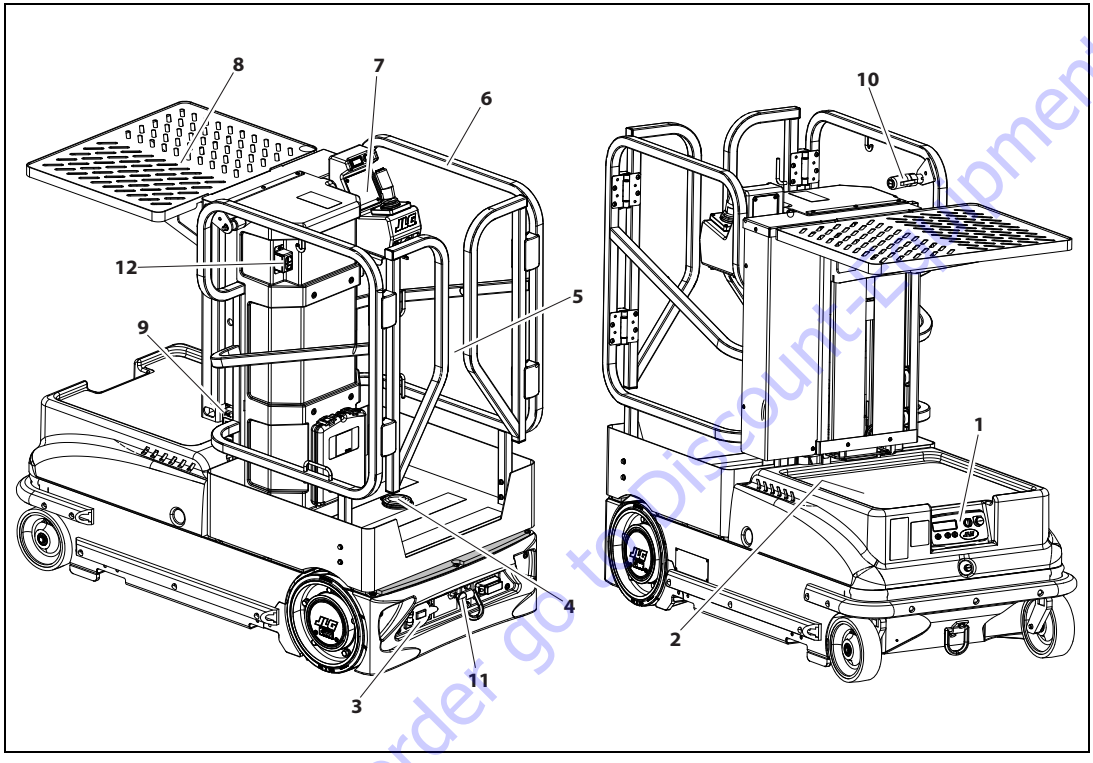


Figure 3-2. Machine Operating Component Locations

1. Ground Control Station (Module)
2. Internal Platform Manual Descent Valve (Under Hood)
3. Battery Charger AC Receptacle and Charging Status LED Indicators
4. Platform Enable Footswitch
5. Platform Entry Gate
6. Platform
7. Platform Control Console
8. Material Handling Tray - Power Tray (shown) or Manual Tray
9. Programmable Security Lock (PSL) (If Equipped)
10. Left Hand Lift
11. Remote Manual Descent (If Equipped)
12. Power Tray Switch

3.5 HOOD (CARRY DECK)

Removal

1. To remove the hood, loosen the attach screw on the front of the hood.
2. Lift the hood at the front to clear the rubber sealing gasket on the base frame and slide the hood forward while lifting up to completely remove it from the machine.

Installation

1. Set hood down into the hood gasket on the top of the frame and slide it rearward. Be certain the rear hold-down bracket engages the hood support underneath the hood.
2. Tighten the hood attach screw at the front of the hood.

⚠ WARNING

DO NOT ALLOW ANY PERSONNEL TO RIDE ON THE CARRY DECK HOOD.

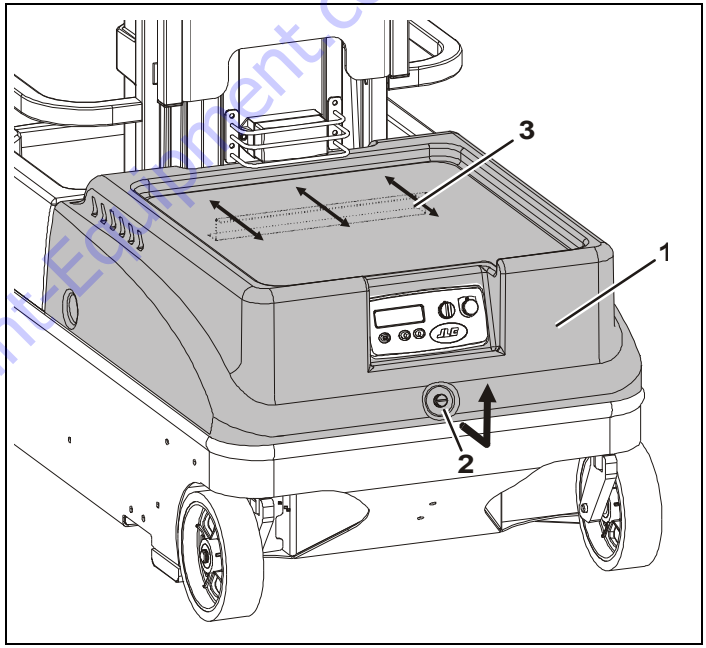


Figure 3-3. Hood (Carry Deck) Removal

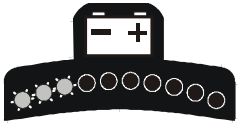
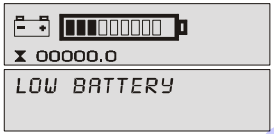
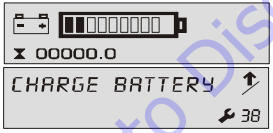
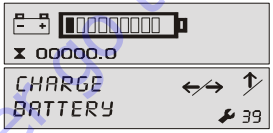
1. Hood (Carry Deck)
2. Attach Screw
3. Rear Hold-Down Bracket -Located Under Hood - Slides Under Hood Support

3.6 BATTERY CHARGING

Battery Low Voltage Warning Indicators

The Platform Control Console and Ground Control Station indicate battery low voltage at three Warning Levels.

Table 3-1. Battery Low Voltage Warning Indicators

WARNING LEVEL	INDICATOR LOCATION		RESULT	ACTION REQUIRED TO CLEAR FAULT
	PLATFORM CONTROL LED	GROUND CONTROL LCD		
LEVEL 1			• 3 LEDs/BARS Flashing with an audible beep. • Machine will Operate - No Control Functions Locked Out.	Charge batteries to a level of four LEDs/ BARS or more before operating.
LEVEL 2			• 2 LEDs/BARS Flashing with an audible beep. • Platform Lift-UP Function is Locked Out.	Charge batteries for a minimum of four continuous hours or eight LEDs/BARS lit before operating. (Refer to note.)
LEVEL 3			• 1 LED/BAR Flashing with an audible beep. • Drive and Platform Lift-UP Functions Locked Out.	Charge batteries for a minimum of four continuous hours or eight LEDs/BARS lit before operating. (Refer to note.)

NOTE: *To maximize battery life, it is recommended that the factory supplied batteries be charged continuously for a minimum of four hours or until eight bars are lit on the ground station LCD Display before operating the machine. When drained to Warning Level 2 or 3, batteries must be charged until eight bars are lit on the ground station LCD display to clear the fault code.*

To Charge Batteries

This machine is equipped with an AC voltage input/DC voltage output battery charger. The charger automatically terminates charging when the batteries reach full capacity.

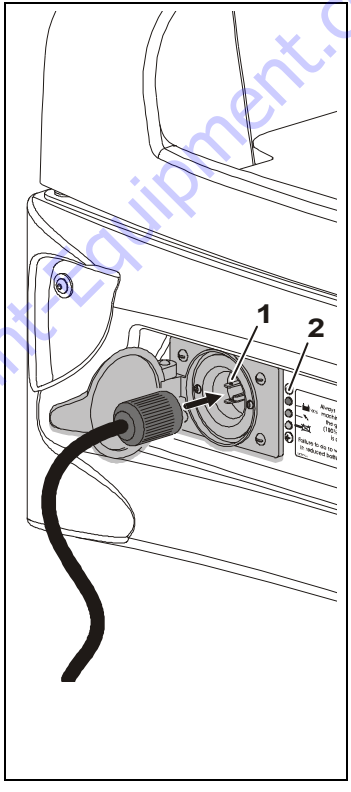
NOTE: *The platform drive function is disabled when the battery charger is plugged into an AC receptacle.*

⚠ WARNING

LEAD ACID BATTERIES MAY GENERATE EXPLOSIVE HYDROGEN GAS DURING NORMAL OPERATION. KEEP SPARKS, FLAMES, AND SMOKING MATERIALS AWAY FROM BATTERIES. PROVIDE ADEQUATE VENTILATION DURING CHARGING. NEVER CHARGE A FROZEN BATTERY. STUDY ALL BATTERY MANUFACTURERS' SPECIFIC PRECAUTIONS SUCH AS RECOMMENDED RATES OF CHARGE AND REMOVING OR NOT REMOVING CELL CAPS WHILE CHARGING.

1. Park machine in a well ventilated area near an AC voltage electrical wall outlet.

NOTE: *To maximize battery life, it is recommended batteries be charged continuously for a minimum of four hours when drained to Warning Levels 2 and 3. Refer to Table 3-1.*



2. Always use a grounded AC outlet. Connect charger to an outlet that has been properly installed and grounded in accordance with all local codes and ordinances. A grounded outlet is required to reduce risk of electric shock – do not use ground adapters or modify plug. When using an extension cord, avoid excessive voltage drops by using a grounded 3-wire 12 AWG cord.

(1) Charger AC Input Receptacle located on the rear bumper cover of the machine.

(2) Battery Charger Status LED Indicators.

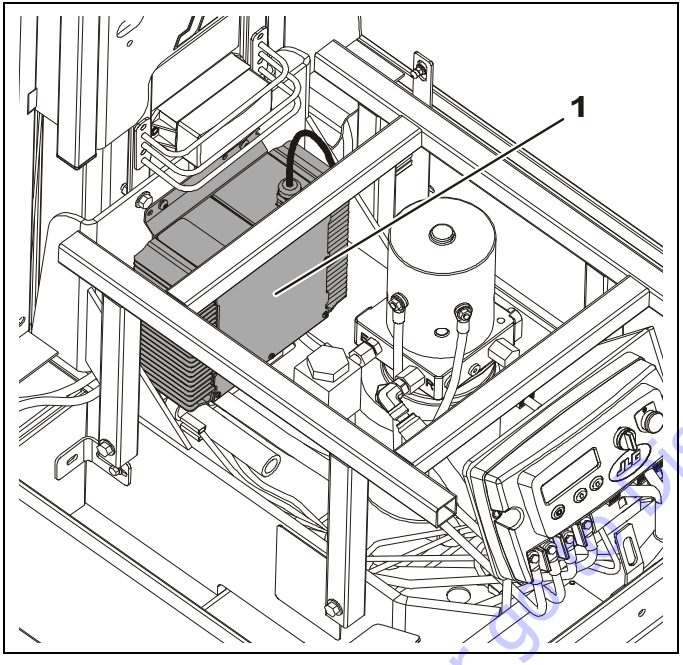


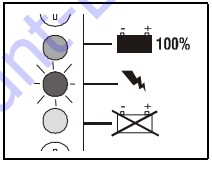
Figure 3-4. Battery Charger Location

1. Battery Charger

Battery Charging Status Indicators

The battery charging status indicators are located just above the Charger AC input receptacle on the center cover section at the rear of the machine.

1. When first plugged in, the charger will automatically turn on and go through a short LED indicator self-test (all LEDs will flash in an up-down sequence for two seconds), then charging will begin.



CHARGING

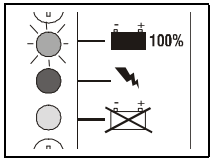
YELLOW(MIDDLE) LED ON
Charge Incomplete

2. The YELLOW 'CHARGING' LED will turn on and a trickle current will be applied until a minimum voltage is reached.

Once a minimum battery voltage of 2 volts per cell is detected, the charger will enter the bulk charging constant-current stage and the YELLOW 'CHARGING' LED will remain on. The length of charge time will vary by how large and how depleted the battery pack is, the input voltage (the higher, the better), and ambient temperatures (the lower, the better). If the input AC

voltage is low (below 104VAC), then the charging power will be reduced to avoid high input currents. If the ambient temperature is too high, then the charging power will also be reduced to maintain a maximum internal temperature.

3. When the GREEN 'CHARGED' LED turns on, the batteries are completely charged.

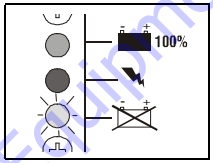


CHARGE COMPLETE

GREEN (TOP) LED ON
100% Complete

The charger may now be unplugged from AC power (always pull on plug and not cord to reduce risk of damage to the cord). If left plugged in, the charger will automatically restart a complete charge cycle if the battery pack voltage drops below a minimum voltage or 30 days has elapsed.

4. If a fault occurred anytime during charging, a fault indication is given by flashing the RED 'FAULT' LED with a code corresponding to the error.



CHARGING PROBLEM

RED (BOTTOM) LED ON
See Flash Codes following

There are several possible conditions that generate errors. Some errors are serious and require human intervention to first resolve the problem and then to reset the charger by interrupting AC power for at least 10 seconds. Others may be simply transient and will automatically recover when the fault condition is eliminated. To indicate which error occurred, the RED 'FAULT' LED will flash a number of times, pause, and then repeat.

[1 FLASH] Battery Voltage High: auto-recover. Indicates a high battery pack voltage.

[2 FLASH] Battery Voltage Low: auto-recover. Indicates either a battery pack failure, battery pack is not connected to charger, or battery volts per cell is less than 0.5 VDC. Check the battery pack and battery pack connections.

[3 FLASH] Charge Time-out: Indicates the battery did not charge within the allowed time. This could occur if the battery is of a larger capacity than the algorithm is intended for. It can also occur if the battery pack is damaged, old, or in poor condition. In unusual cases it could mean charger output is reduced due to high ambient temperature.

[4 FLASH] Check Battery: Indicates the battery pack could not be trickle charged up to the minimum 2 volts per cell level required for the charge to be started. This may also indicate that one or more cells in the battery pack are shorted or damaged.

[5 FLASH] Over-Temperature: auto-recover. Indicates charger has shutdown due to high internal temperature which typically indicates there is not sufficient airflow for cooling – see step 1 of Installation Instructions. Charger will restart and charge to completion if temperature is within accepted limits.

[6 FLASH] QuiQ Fault: Indicates that the batteries will not accept charge current, or an internal fault has been detected in the charger. This fault will nearly always be set within the first 30 seconds of operation. Once it has been determined that the batteries and connections are not faulty and Fault 6 is again displayed after interrupting AC power for at least 10 seconds, the charger must be brought to a qualified service depot.

3.7 GROUND CONTROL STATION

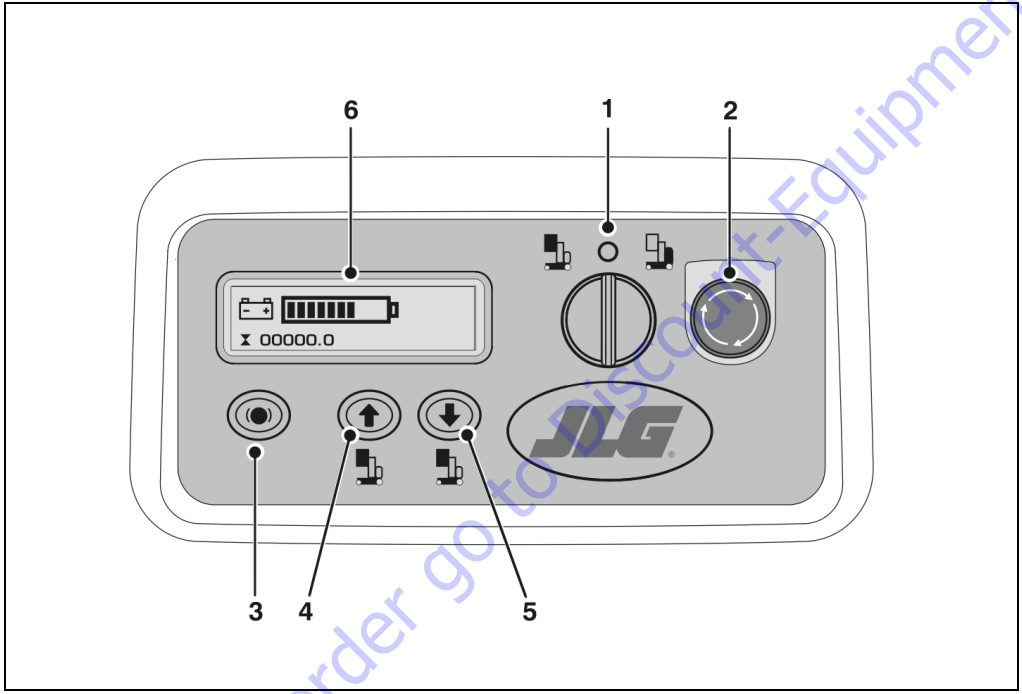


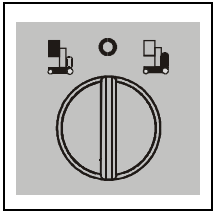
Figure 3-5. Ground Control Station

1. Platform/Off/Ground Selector Switch
2. Emergency Stop/Shut Down Button
3. Brake Release Button
4. Platform Up Button
5. Platform Down Button
6. Machine Status LCD Display

NOTE: *The Ground Control Station Module is fully programmable. For operator level programmability, refer to Section 6.*

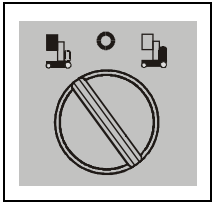
NOTE: *If equipped with Programmable Security Lock (PSL), refer to Section 6.*

Platform/Off/Ground Selector Switch



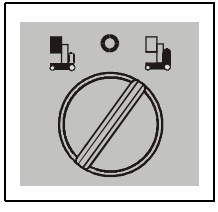
POWER OFF

Turn to this position to power machine off after use.



PLATFORM CONTROL MODE

When set to this position the machine can be operated from the platform control console.

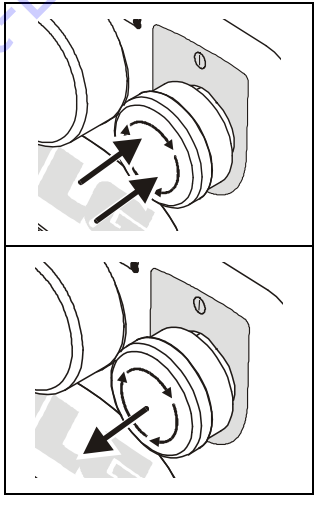


GROUND CONTROL MODE

When set to this position the machine can be operated from the ground control station.

NOTE: ***SLEEP MODE*** *- During operation if no control functions have been activated for 5 minutes (default programmable setting), the ground control module will power down the machine to conserve battery power. Cycle power back on using either the main power selector switch (key) or the emergency stop/power down button either on the platform controller or on the ground control station.*

Emergency Stop/Shut Down Button



POWER OFF

PUSH IN - To Engage Emergency Stop

POWER ON

TURN CLOCKWISE and RELEASE to RESET Emergency Stop

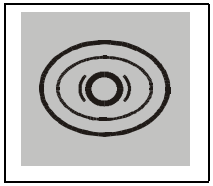
Brake Release Button

The machine must be POWERED ON and the Ground Control Station set to the GROUND CONTROL MODE to manually release the brakes. The brakes only DISENGAGE (electrically) when the joystick control is moved off center during driving or are manually DISENGAGED (electrically) using the Brake Release Button on the front of the Ground Control Station.

NOTE: *If the machine's batteries are completely depleted of electrical charge, the brakes cannot be released manually.*

⚠ CAUTION

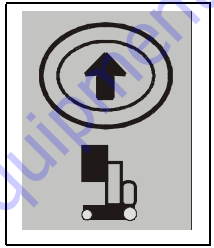
DO NOT MANUALLY DISENGAGE THE BRAKES UNLESS MACHINE IS SITTING ON A LEVEL SURFACE OR MACHINE IS FULLY RESTRAINED.



PUSH and RELEASE -
TO DISENGAGE Brakes

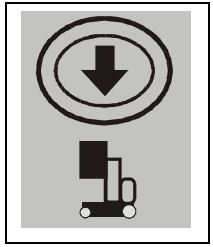
PUSH and RELEASE AGAIN -
TO ENGAGE Brakes

Platform Up and Down Buttons



PUSH IN -
TO ELEVATE Platform

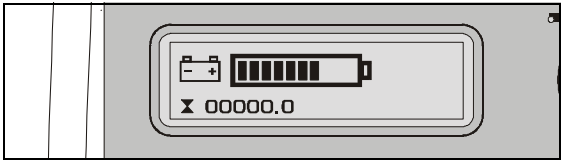
RELEASE -
TO STOP ELEVATING



PUSH IN -
TO LOWER Platform

RELEASE -
TO STOP LOWERING

Machine Status LCD Display



At power-up and during operation, the LCD display on the Ground Control Module displays the current machine operating status. The following illustration explains the symbol indications.

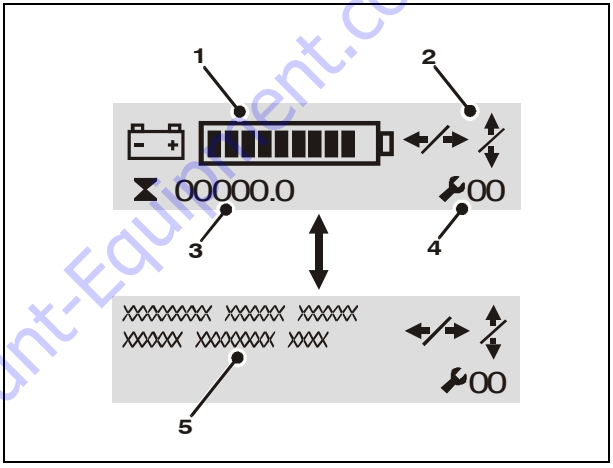
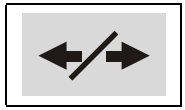


Figure 3-6. LCD Display Symbols

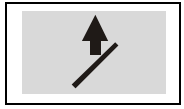
1. Battery Charge Indicator (BCI)
2. Function Display or Function Disabled Indicators
3. Hour Meter Display
4. Fault Code Indicator (Refer to Table 3-2)
5. Fault Text Message Display (Refer to Note)

NOTE: *When a Fault Code is indicated the LCD screen will alternate between the text and symbol display modes.*

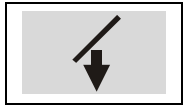
In the LCD Display Symbols (refer to Figure 3-6., item 2), the Function Display or Function Disabled Indicators will vary as shown following:



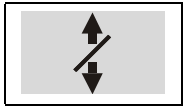
DRIVE Disabled



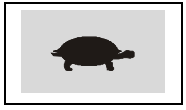
LIFT UP Disabled



LIFT DOWN Disabled



Both LIFT UP and LIFT DOWN Disabled



Drive Speed Cut-Back *(Turtle)* Mode Engaged *(When Platform is Elevated)*

Battery Charger (AC) Plugged In

Tilt Alarm Warning

The Ground Control Station LCD screen flashes a fault code and gives an audible warning. The LEDs on the platform control console also flash during tilt warning. Refer to Table 3-2.

⚠ WARNING

THE GROUND CONTROL STATION CONTAINS A 1.5 DEGREE TILT ALARM. IF THE TILT ALARM HAS BEEN ACTIVATED, THE PLATFORM WILL NOT ELEVATE. ALSO IF THE TILT ALARM HAS BEEN ACTIVATED WHEN THE PLATFORM IS ELEVATED, THE DRIVE AND LIFT UP FUNCTIONS WILL BE DISABLED UNTIL THE PLATFORM IS COMPLETELY LOWERED AND DRIVEN OFF THE TILT CONDITION.

LCD Display Fault Conditions

Table 3-2 following shows common LCD display fault indicators which may occur during operation and are usually caused by either an error in machine operation or a work area condition. These fault conditions can usually be corrected by the operator and do not require a qualified mechanic to repair:

NOTICE

AFTER A FAULT CONDITION IS CORRECTED THE MACHINE POWER MAY NEED TO BE RECYCLED TO RESET THE GROUND CONTROL STATION.

Table 3-2. LCD Display - Operating Fault Conditions

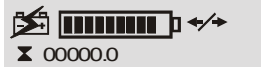
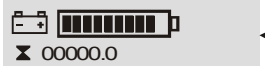
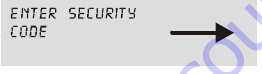
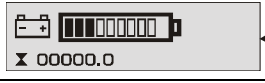
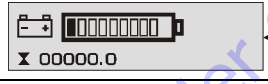
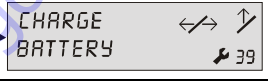
FAULT CODE	PLATFORM LEDs FLASHING	LCD SYMBOL SCREEN	LCD TEXT SCREEN	FAULT DESCRIPTION/ MACHINE CONDITION	TO CORRECT PROBLEM
—	—			Brakes Released - *(DRIVE Disabled)*	To Engage Brakes - Press Brake Release Button on Ground Control Station
—	—		—	Charger AC Plugged In DRIVE Disabled	Unplug Charger AC Power Cord
—	—			Programmable Security Lock Password	Enter Code on PSL Keypad to Power-Up Machine
—	3			Low Battery - *(Warning Level 1)*	Charge Batteries to Four (4) Bars or more on Indicator.
—	2			Charge Battery - (*LIFT UP Disabled) (Warning Level 2)*	Charge Batteries a Minimum of Four (4) Hours or eight (8) LEDs/BARS lit.
—	1			Charge Battery - *(LIFT UP/DRIVE Disabled) (Warning Level 3)*	Charge Batteries a Minimum of Four (4) Hours or eight (8) LEDs/BARS lit.
4	3			Tilt Condition *(Platform Elevated)* DRIVE and Lift UP Disabled	Lower the Platform and Drive off the Tilt Condition

Table 3-2. LCD Display - Operating Fault Conditions (Continued)

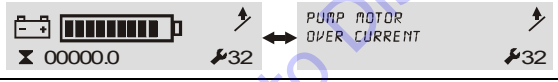
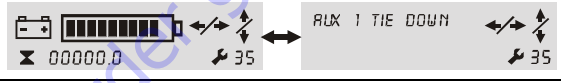
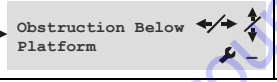
FAULT CODE	PLATFORM LEDs FLASHING	LCD SYMBOL SCREEN / LCD TEXT SCREEN	FAULT DESCRIPTION/ MACHINE CONDITION	TO CORRECT PROBLEM
6	8		Drive Motor Brush Wear Warning *(Counts down 25 hrs. of DRIVE operation remaining to a 10 sec. shut down mode)*	Drive Motor Brushes Require Service Replacement - *(See Section 6.7 on page 6-19 for further Instructions)*
13	6		Traction Module Over Temperature *(DRIVE Disabled)*	Allow Drive System Traction Module to Cool Before Operating *(Caused by extreme temperature)*
17	7		Ground Control Module Over Temperature *(Machine Stopped)*	Allow Ground Control Module to Cool Before Operating - *(Caused by extreme temperature)*
32	7		Pump Motor Over Current *(LIFT UP Disabled)*	Platform Load Over Capacity
34	—		Aux. #1 - Left Hand Enable Open	Press on Left Hand Enable during machine operation
35	—		Aux. #1 - Left Hand Enable depressed during Machine Power-up	Do Not Press on Left Hand Enable during Machine Power-Up

Table 3-2. LCD Display - Operating Fault Conditions (Continued)

FAULT CODE	PLATFORM LEDs FLASHING	LCD SYMBOL SCREEN	LCD TEXT SCREEN	FAULT DESCRIPTION/ MACHINE CONDITION	TO CORRECT PROBLEM
36	—			Aux. # 2 - Platform Gate Open While Elevated	Close Platform Gate
37	—			Aux. # 2 - Platform Gate Open While Elevated During Machine Power-up	Do Not Have Platform Gate Open During Machine Power-up
—	5			>20 lb Detected on Object Sensing Pad	Remove Object From Sensing Pad

NOTE: *The fault conditions shown in this table are fault conditions that the operator may be able to resolve. Should a fault occur that cannot be corrected at the operator's level, the problem must be referred to a mechanic qualified to repair this model of JLG Lift. A complete table of fault codes is listed in the Troubleshooting section of the Service and Maintenance Manual.*

3.8 PLATFORM CONTROL CONSOLE

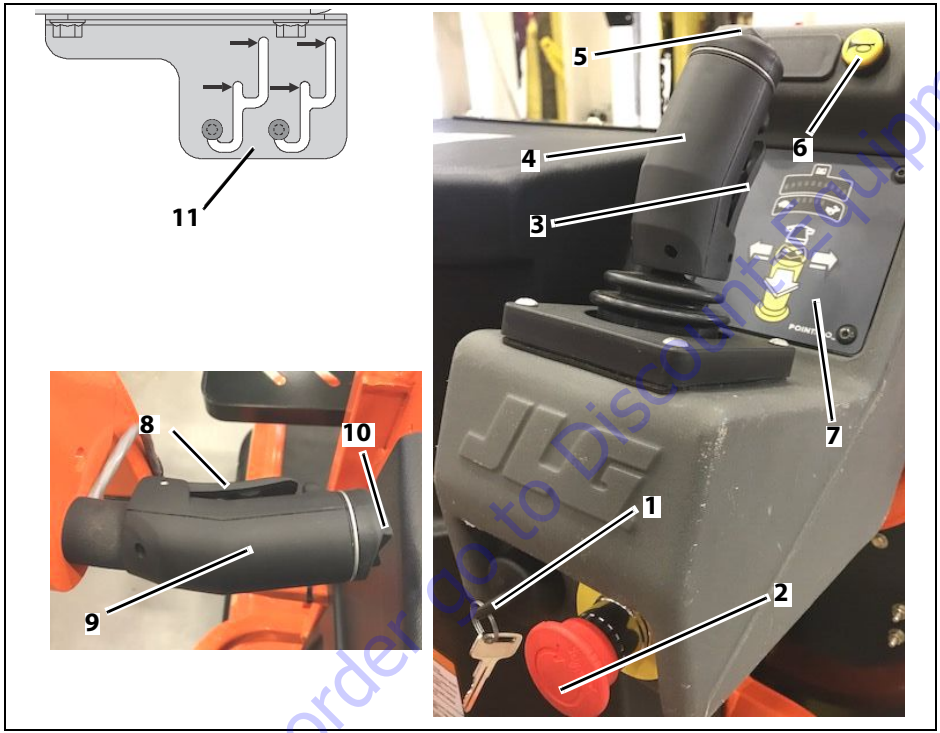


Figure 3-7. Platform Control Console

1. On/Off Key Switch
2. Emergency Stop/Shut Down Switch
3. Function Enable Lever
4. Single Function Joystick Control
5. Drive Speed Setting Selector Switch
6. Horn Button
7. Platform Control Display Panel
8. Left Hand Enable Lever
9. Left Hand Lift Handle
10. Platform Lift Up/Down Switch
11. Console Mounting Bracket - 3 Position Height Adjustment (If Equipped) (On Bottom of Console Box)

NOTE: *This platform control console uses the Single Function Joystick Control to control drive functions. The Left Hand Lift, which controls platform lift up/down functions, when engaged with the Single Function Joystick lever and the footswitch, allows for simultaneous lift and drive functions.*

General

NOTE: ***SLEEP MODE*** *- During operation if no control functions have been activated for 10 minutes (default programmable setting), the ground control module will power the machine down to conserve battery power. Cycle power back on using either the main power selector switch (key) or the emergency stop/power down button either on the platform controller or on the ground control station.*

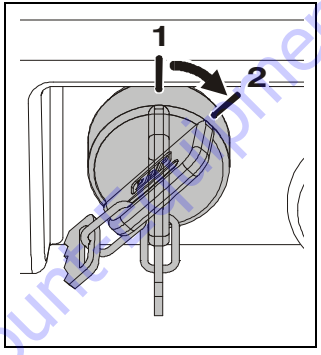
The following conditions must be met before the machine can be operated from the platform control console:

- Ground Control Station - Main Power Selector Switch must be set to PLATFORM CONTROL MODE.
- Ground Control Station - Emergency Stop/Shut Down Button must be in the RESET position (POWER ON).
- If equipped with the PSL (Programmable Security Lock) it must be set to the ON position.

NOTE: *Refer to Section 3.14 for PSL instructions.*

- Both platform entry gates are equipped with an interlock switch and must be completely closed before the drive and platform lift functions can be operated.

Platform On/Off Key Switch



At the Platform Control Console - Set the On/Off Key Switch to the ON position (2) to operate machine.

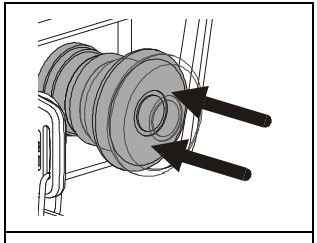
1. OFF Position
2. ON Position

Set the ON/OFF Key Switch to the OFF position to power machine down.

If necessary, when machine is not in use, remove key from platform key switch to disable machine from unauthorized use.

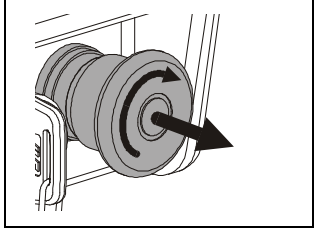
Platform Emergency Stop/Shut Down Button

NOTE: *The Platform and Ground Control Station Emergency Stop/Shut Down Buttons must both be in the RESET position to operate machine.*



POWER OFF

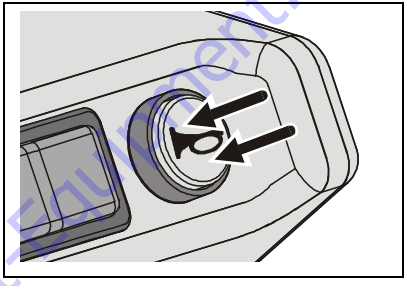
PUSH IN -
TO ENGAGE
Emergency Stop



POWER ON

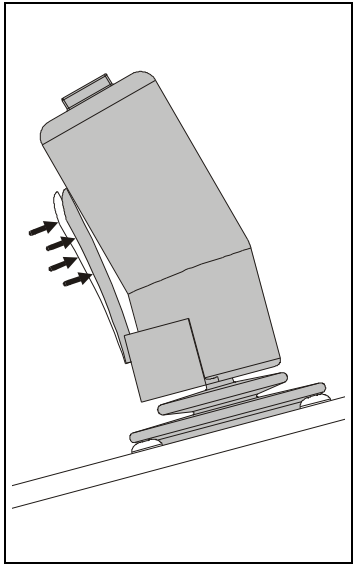
TURN CLOCKWISE
and RELEASE to
RESET Emergency Stop

Horn Button



When the machine is powered on, pressing this button will sound the Horn.

Joystick Function Enable Lever



Joystick Function Enable Lever

The joystick enable lever on the front of the joystick control on the platform control console must be engaged and held in during any joystick operation.

Note:
The platform function enable footswitch and Left Hand Lift must also be pressed and held simultaneously with the joystick enable lever.

⚠ WARNING

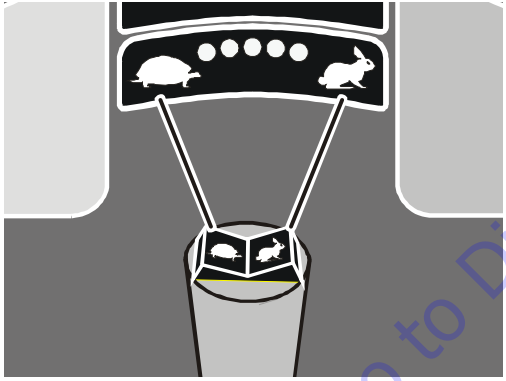
WHEN THE PLATFORM IS ELEVATED, DRIVE ONLY ON A SMOOTH, FIRM SURFACE WITHIN THE LIMITS OF THE MAXIMUM OPERATING SLOPE. REFER TO FIGURE 3-1., GRADE AND SIDE SLOPE.

Single Function Joystick Control

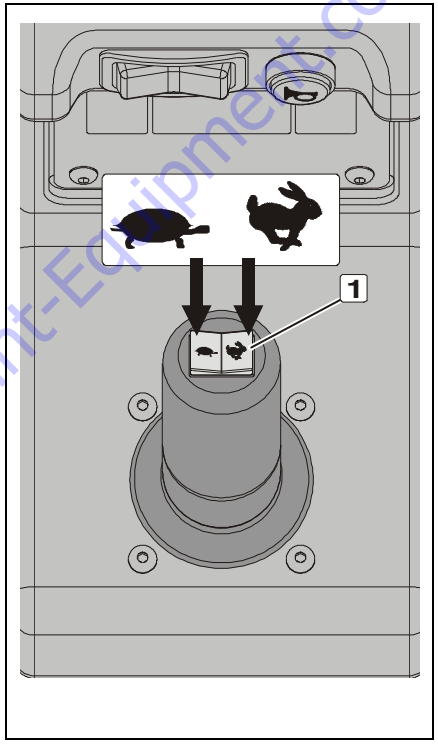
The single function joystick control on the platform control console operates drive/steer functions of the machine. The Left Hand Lift control operates the lift up and down functions of the machine. Engage the enable lever, footswitch, and left hand enable lever simultaneously to drive and steer. A timeout will occur after five seconds if enable is engaged and no function is selected.

Drive Speed Setting Selector Switch

NOTE: *When the platform is elevated, the maximum drive speed is automatically cut back to approximately 10%. The Ground Control Module LCD screen will display a turtle when in this mode, Refer to Machine Status LCD Display in this section.*



Drive Speed Indicator



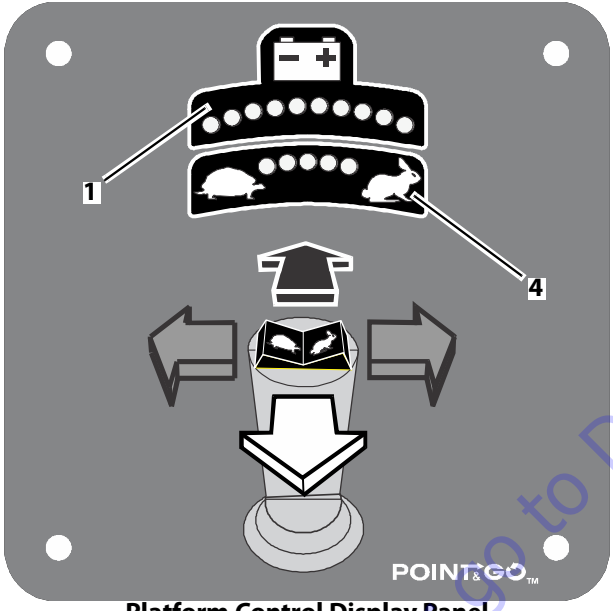
Drive Speed Setting Selector Switch

1. Selector Switch (on top of platform control console joystick)

Each PRESS on this side of the switch will DECREASE maximum drive speed. (FEWER LEDs Lit up on the Drive Speed Indicator.)

Each PRESS on this side of the switch will INCREASE maximum drive speed. (MORE LEDs Lit up on the Drive Speed Indicator.)

Platform Control Display Panel



Platform Control Display Panel

1. Battery Charge/Flash Code LEDS
2. Drive Speed Setting Indicator

1. Battery Charge/Flash (Fault) Code Indicator LEDS

On normal power-up and operation this series of ten (10) LEDs visually indicates the amount of charge remaining in the batteries.

The number of LEDs lit will change depending on the level of charge in the batteries.

- (+) All Three GREEN LEDs lit up indicate maximum battery charge.
- Four YELLOW LEDs indicate a two thirds to one third battery charge remaining.
- (–) Three RED LED's lit indicate minimum battery charge remaining. The machine will continue to operate at this charge level but will begin to indicate low battery voltage warning indicators.

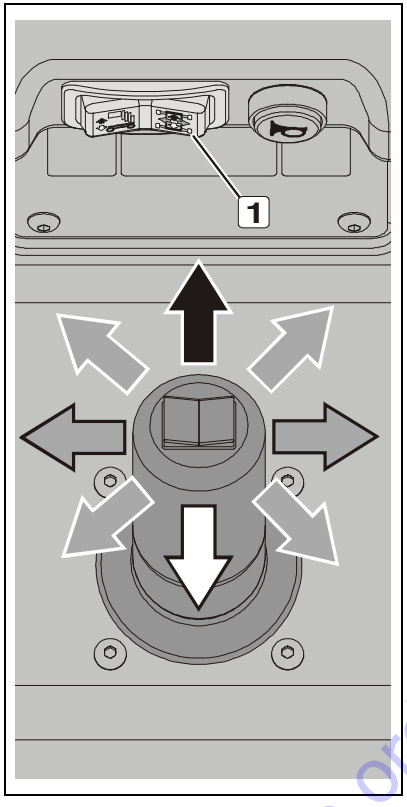
NOTE: *For more information on Battery Warning Level Indicators See "Battery Low Voltage Warning Indicators".*

This set of ten LEDs will also indicate a flash (fault) code if other operating problems are detected by the Ground Control Station. Fault codes are also accompanied by a beeping alert from the platform control console.

NOTE: *LED Flash (Fault) Code indications that may be corrected by the operator are shown on Table 3-2 of this manual.*

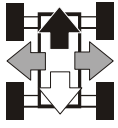
2. Drive Speed Setting Indicator

The five GREEN LEDs on the top of this indicator display the drive speed setting with the TURTLE representing the MINIMUM speed setting and the RABBIT representing the MAXIMUM speed setting.

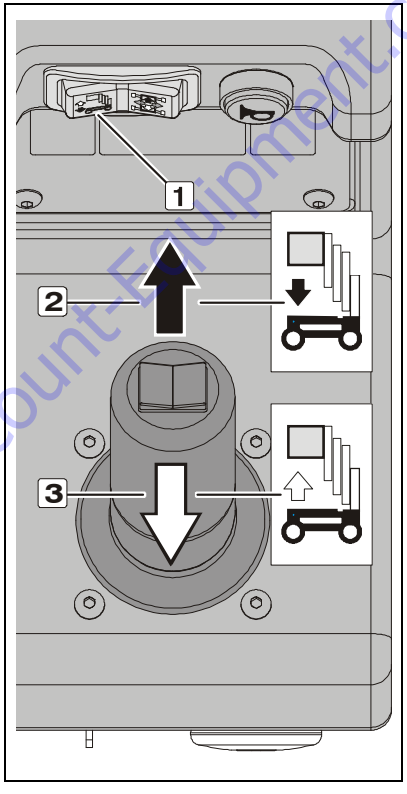


Drive Mode

1. Activate the Drive Mode using the Drive/Lift Mode Selector switch.



Within 5 seconds of activation - Simultaneously ENGAGE and HOLD both the JOYSTICK ENABLE LEVER and the FOOTSWITCH ENABLE then move the joystick in the desired direction of travel. Drive power is applied proportionally the further the joystick is moved off center.



Lift Mode

1. Activate the Lift Mode using the Drive/Lift Mode Selector switch.

2. Platform LIFT DOWN Direction
3. Platform LIFT UP Direction

Within 5 seconds of activation - ENGAGE and HOLD both the FOOTSWITCH and JOYSTICK ENABLE LEVER then move the joystick in the direction of LIFT (3) or LOWER (2).

Left Hand Lift

The Left Hand Lift is attached to the top left rail of the platform. The enable lever functions in conjunction with the footswitch and platform control console function enable lever. All three must be pressed and held while operating any functions. The rocker switch on the end of the handle controls platform lift/up down functions. Use the single function joystick control to drive simultaneously while controlling platform lift/up down functions.

NOTICE

DO NOT HOLD THE LEFT HAND LIFT DURING MACHINE POWER UP. OPERATING ANY CONTROLS DURING MACHINE POWER UP OTHER THAN THE POWER ON/OFF KEY SWITCH OR RESETTING THE E-STOP/SHUT DOWN SWITCHES WILL CAUSE THE MACHINE TO DISPLAY AN ERROR.

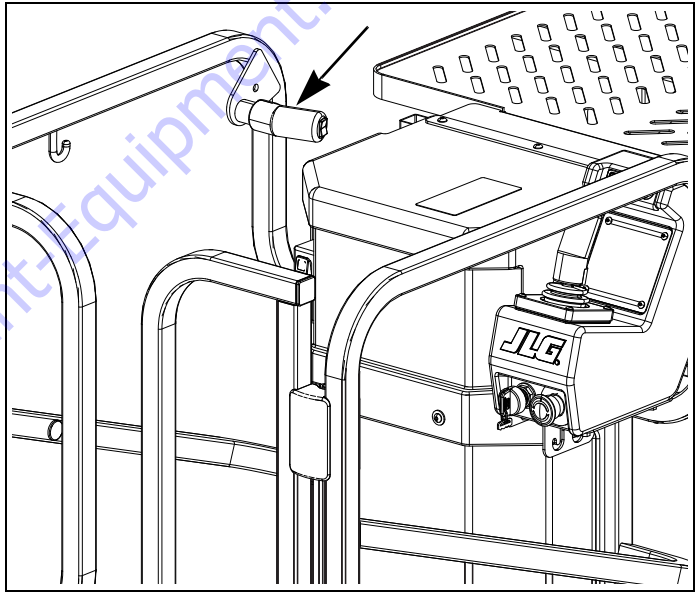
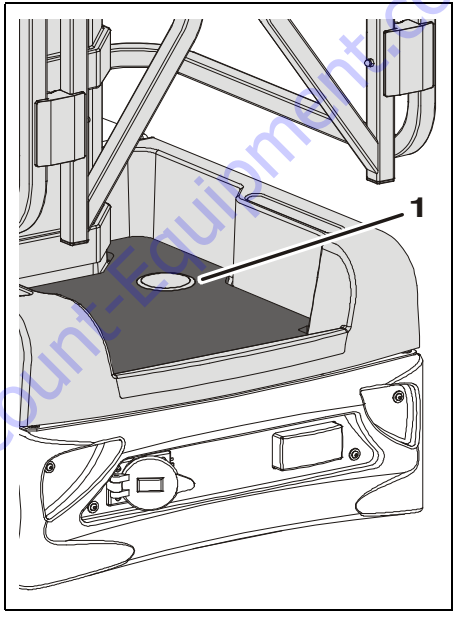


Figure 3-8. Left Hand Lift

3.9 PLATFORM FUNCTION ENABLE FOOTSWITCH

NOTICE

DO NOT REST FOOT ON THE ENABLE FOOT SWITCH DURING MACHINE POWER UP, OPERATING ANY CONTROLS DURING MACHINE POWER UP OTHER THAN THE POWER ON/OFF KEY SWITCH OR RESETTING THE E-STOP/SHUT DOWN SWITCHES WILL CAUSE THE MACHINE TO DISPLAY AN ERROR.



Platform Function Enable Footswitch

1. Footswitch

Press down and hold while operating any joystick function.

Note:
The foot switch, joystick enable, and the left hand lift enable must be held simultaneously in order to operate any joystick functions.

3.10 PLATFORM MANUAL DESCENT CONTROL VALVE

⚠ WARNING

CRUSHING HAZARD - BE AWARE OF DESCENDING PLATFORM WHEN MANUALLY LOWERING THE PLATFORM. KEEP HANDS OR FEET OFF OF THE MAST ASSEMBLY AND FROM BENEATH PLATFORM.

The platform manual descent control valve allows ground personnel to lower the platform if the platform operator cannot lower the platform once elevated.

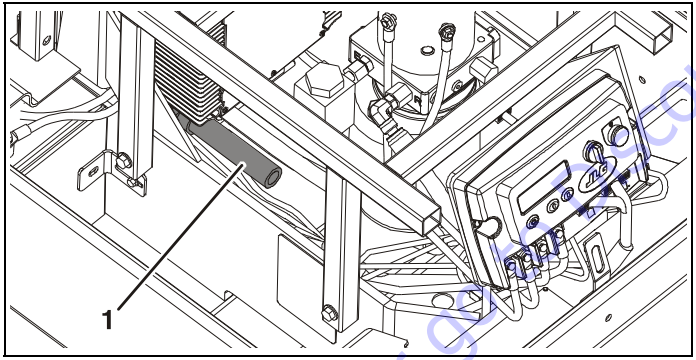
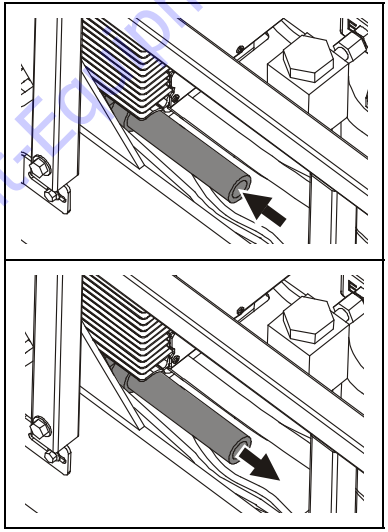


Figure 3-9. Internal Manual Descent Valve Location

1. Manual Descent Valve

Activating the Internal Manual Descent Valve

To activate the internal manual descent valve, remove the hood (carry deck) from the machine. Locate the valve (just below the battery charger), then operate per the following instructions;



PUSH-IN the RED BUTTON on the end of the valve TO LOWER the platform.

RELEASE the RED BUTTON TO STOP platform descent when desired level is reached.

Activating the Remote Manual Descent (If Equipped)

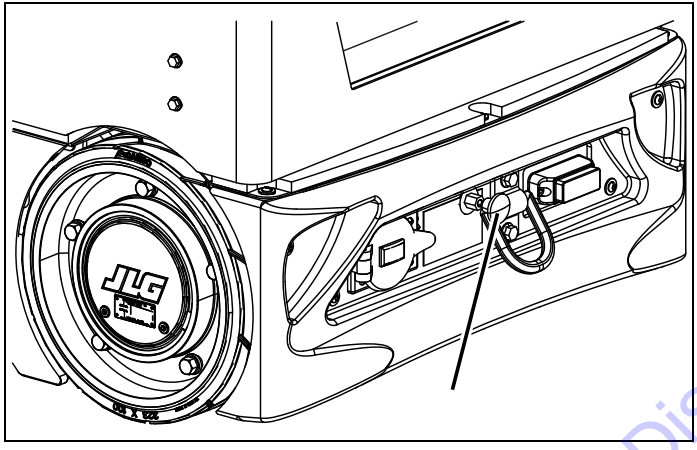
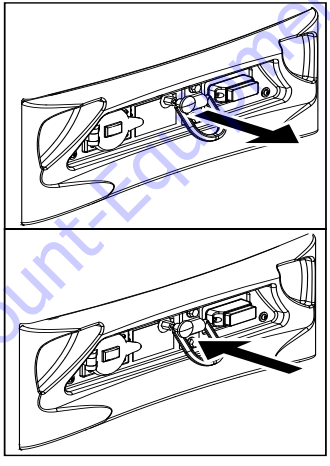


Figure 3-10. Remote Manual Descent Location

To activate the remote manual descent, follow the below instructions:



Pull out the lever on the outer side of the machine TO LOWER the platform.

Release the lever TO STOP platform descent when desired level is reached.

3.11 PLATFORM CONFIGURATION

Table 3-3. Platform Maximum Capacity

SPECIFICATION	MAXIMUM CAPACITY				Max. Wind Speed
	Platform Load	Manual Material Tray Load	Power Material Tray Load	Carry Deck	
ANSI/CSA (Indoor Use Only)	352 lb (160kg)	254 lb (115kg)	198lb (90kg)	254 lb (115kg)	0 mph (0 m/s)
CE (Indoor Use Only)					0 m/s
Australia (Indoor Use Only)					0 m/s

Platform Lanyard Anchorage Point

Attach fall restraint lanyard to lanyard anchorage point on lower platform railing. (Refer to item 7 on Figure 3-11.)

⚠ WARNING

ATTACH THE LANYARD TO THE AUTHORIZED LANYARD ANCHORAGE POINT IN THE PLATFORM. FOR FURTHER INFORMATION REGARDING FALL PROTECTION REQUIREMENTS ON JLG PRODUCTS, CONTACT JLG.

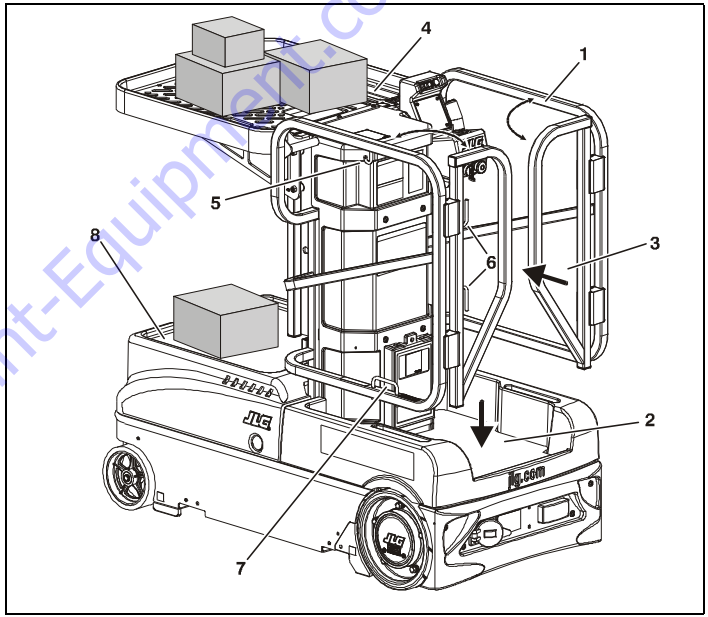


Figure 3-11. Standard Platform

1. Operators Platform
2. Platform Load (Operator)
3. Platform Swing-In Entry Gate
4. Material Handling Tray
5. Storage Hook
6. Ext. Cord Wrap Hooks
7. Lanyard Attach Point
8. Hood (Carry Deck)

Object Detection System (If Equipped)

The Object Detection System is designed to detect an object beneath the platform.

Operation

During platform lowering, if there is no object on the mat beneath the platform, the platform will lower normally.

If an object is detected on the pad beneath the platform the horn will sound three short blasts and the platform will stop lowering.

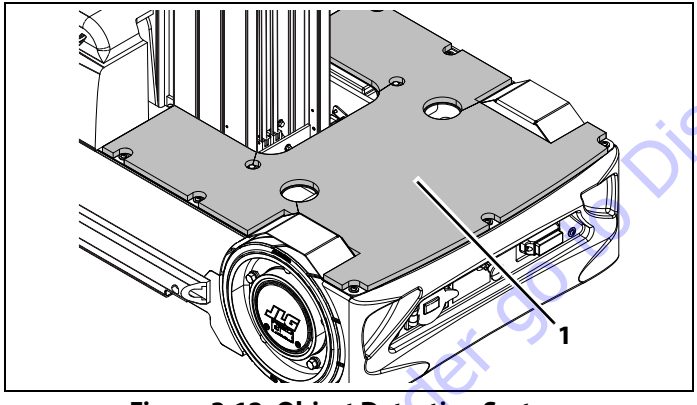


Figure 3-12. Object Detection System

1. Safety Pad Obstruction Switch

If an object is detected, have the object cleared by someone on the ground, reset the system by pressing the horn button once, then continue to lower the machine normally.

Should the object detection system falsely detect an obstruction, the system can be overridden by pressing and holding the horn button while operating the platform lowering controls.

⚠ WARNING

ALWAYS ENSURE THE AREA UNDER THE PLATFORM IS CLEAR OF OBSTRUCTIONS BEFORE LOWERING THE PLATFORM.

Platform Gate Alarm (Australian Spec. Machines Only)

If the machine is equipped with a Platform Gate Alarm, an alarm will sound and all lifting and driving functions will stop if either or both gates are opened once the platform is raised approximately 1 in above the fully stowed position. If the machine is moving forward or backward and one or both gates are opened, the alarm will sound and all lifting and driving functions will stop.

Manual Tray Height Adjustment

The manual tray is designed to carry up to 254 lb (115 kg) of weight. It can be quickly raised or lowered vertically on the front of the mast assembly using the tray handle release.

NOTICE

REMOVE ALL WEIGHT FROM THE TRAY BEFORE ENGAGING THE TRAY RELEASE BAR TO LOWER OR RAISE THE TRAY.

To Lower Or Raise the Tray:

1. In the slot opening at the top rear of the tray, grasp the tray lifting handle to support the tray while adjusting.
2. Squeeze the tray release rod and raise the tray slightly until the locking pins have disengaged from the detent slots.
3. Lower or raise the tray. When desired tray height is achieved, release the tray release rod. Be certain the locking pins at both ends of the release rod are engaged in the detent slots before letting go of the tray lifting handle.

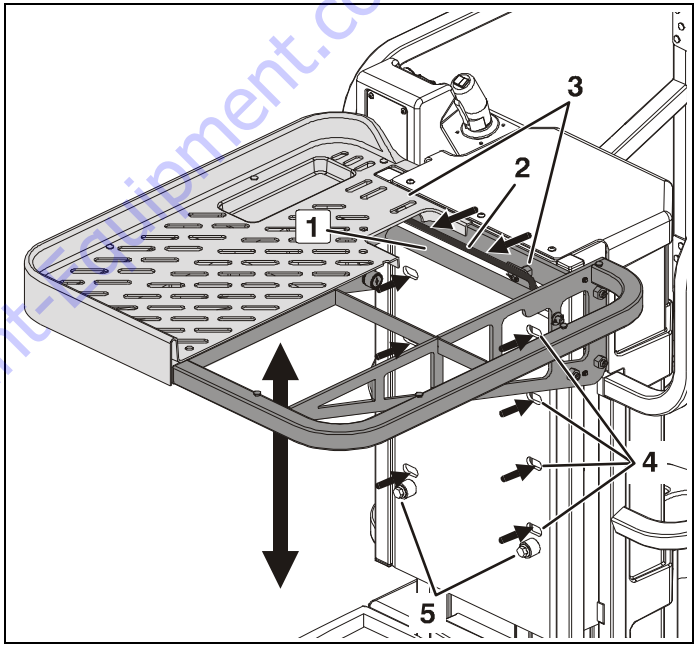


Figure 3-13. Manual Tray Height Adjustment

1. Tray Lifting Handle
2. Tray Release Rod
3. Locking Pins
4. Lock Pin Detent Slots (Five Level Settings)
5. Tray Stops

Power Tray Height Adjustment

The power tray is designed to carry up to 198 lb (90 kg) of weight. It can be quickly and easily raised or lowered vertically on the front of the mast assembly using the switch located in the platform.

1. Push the power tray switch UP ⬆ to raise the tray to the desired height.
2. When desired tray height is achieved, release the power tray switch.
3. Push the power tray switch DOWN ⬇ to lower the tray.

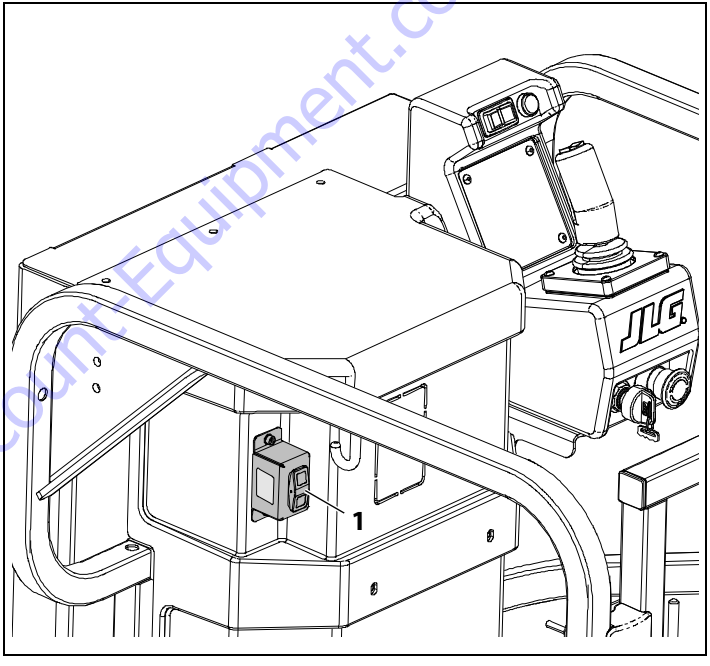


Figure 3-14. Power Tray Height Adjustment

1. Power Tray Switch

Cargo Strap (Option)

The retractable cargo strap is designed to help secure objects loaded onto the material handling tray while machine is in operation.

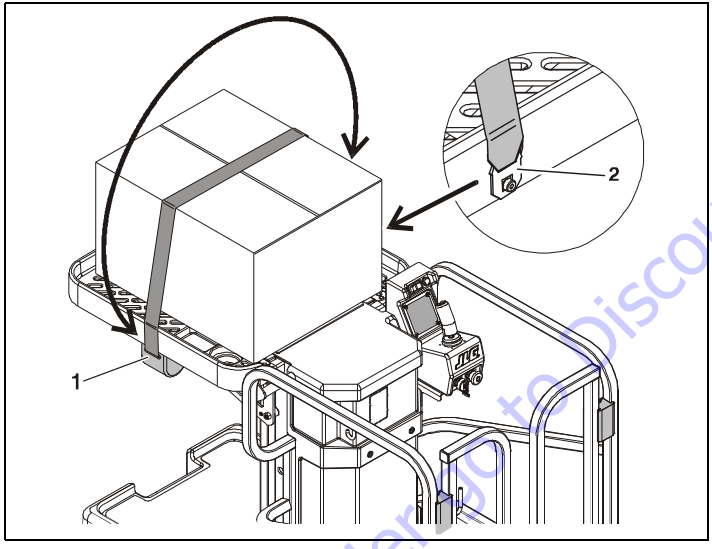


Figure 3-15. Cargo Strap

1. Cargo Strap Assembly **2.** Strap Attach Lug

3.12 PARKING MACHINE

1. Drive machine to a well-protected and well-ventilated area.
2. Ensure the platform is fully lowered. Turn the main power selector switch on the platform to the OFF position.
3. If necessary, remove key from the platform ON/OFF power switch to disable machine from unauthorized use.

NOTE: *If required, charge batteries in preparation for next work day.*

3.13 TRANSPORTING, LIFTING AND TIE-DOWN PROCEDURES

General

This machine may be transported to a work site using the following methods:

- Driven around on its base wheels if travel surface area permits.
- Moved with a forklift truck using the forklift pockets in the base frame.
- Loaded onto a transport vehicle and driven to the work site, when equipped with Front and Rear Tie-Down Loop.

Forklift Truck Transport

This machine is equipped with forklift pockets running crossways under the base frame. This allows the machine to be either transported around a work area or lifted onto a higher level using a standard forklift truck.

NOTE: *Forklift trucks must be capable of handling the gross weight of the machine, refer to the Operating Specifications table in Section 6.*

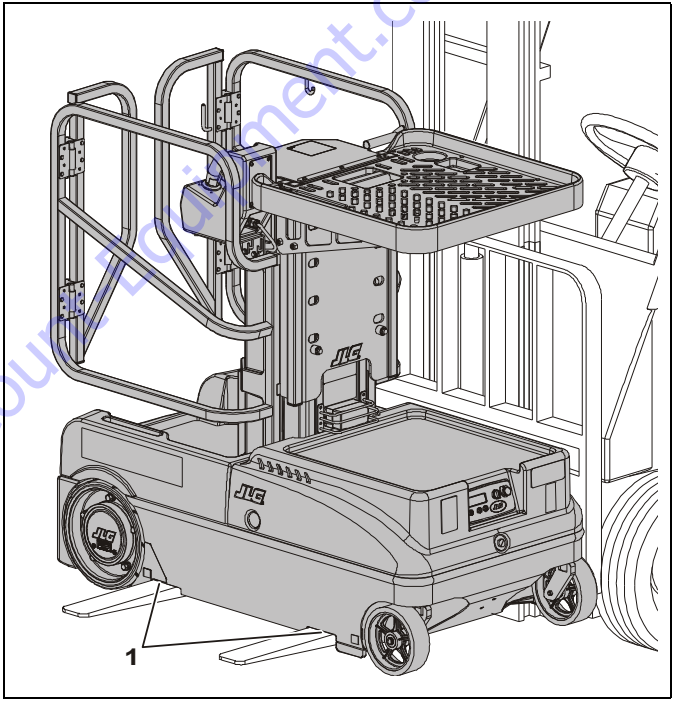


Figure 3-16. Forklift Truck Lifting Pockets

1. Forklift Pockets

Vehicle Transport Using the Tie-Down Loops

With the machine on the transport vehicle in position to be tied down and machine powered down *(brakes engaged)*, use the following guidelines for restraining the machine during transport.

NOTICE

USE OF EXCESSIVE FORCE WHEN SECURING MACHINE (WHEEL LOAD) CAN CAUSE DAMAGE TO THE MACHINES REAR DRIVE OR FRONT CASTER WHEEL COMPONENTS.

1. Secure machine to the transport vehicle with adequate chains or straps attached through the tie down loops located at the front and rear of machine.

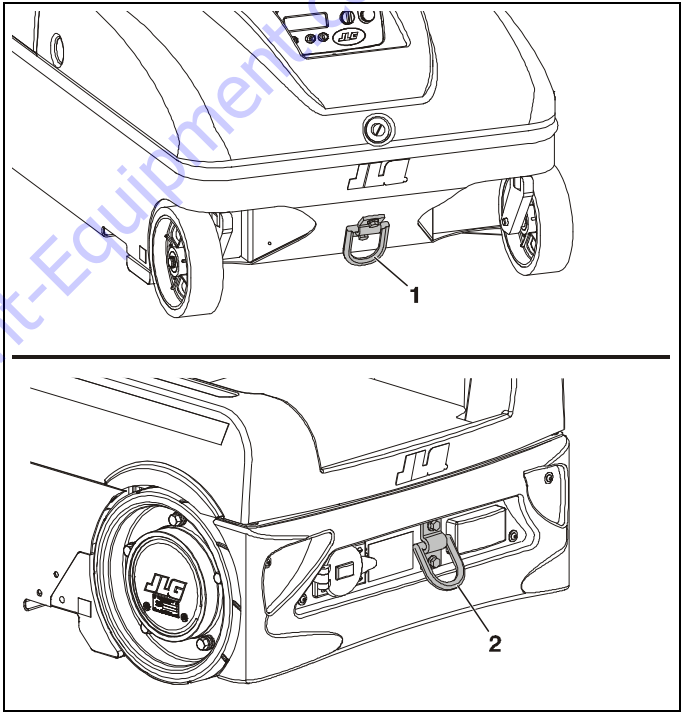


Figure 3-17. Front and Rear Tie-Down Loop

1. Front Tie-Down Loop **2.** Rear Tie-Down Loop

3.14 PROGRAMMABLE SECURITY LOCK (PSL™) (OPTION)

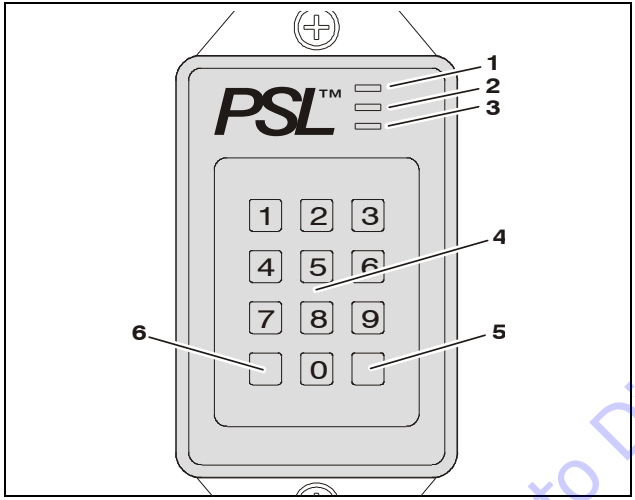


Figure 3-18. PSL™ Controls & Indicators

1. ON (Green LED)
2. ACCEPT (Amber LED)
3. PROGRAM (Red LED)
4. Key Pad
5. OFF Switch
6. ON Switch

The optional keyless Programmable Security Lock switch can be programmed with a four-digit Operator's Code to allow only those persons with the code to power-up and operate the machine.

The PSL™ is located on the side of the mast near the bottom. On some machines, it may be located on the front of the mast in the platform.

Machine Power Up

NOTE: *When entering the Operator's Code on the keypad, a short beep indicates a properly depressed key, a long beep indicates an error in depressing key. If an error occurs, restart the code entry process again.*

1. Enter the programmed four digit Operator's Code on the key pad. The ACCEPT - AMBER LED indicator will be lit if the code is correct.
2. Press the keypad ON button. The ON - GREEN LED indicator will light and power will be supplied to the Ground Control Station.
3. At the ground control station, turn the main power selector switch from OFF to either Platform Control Mode or Ground Control Mode. At the Platform Control Console set the key switch to the ON position.
4. The machine will now operate normally.

Machine Power Down

1. At the Ground Control Station set the main power selector switch to the OFF position.
2. Press the OFF button on the PSL™ keypad. No LEDs on the PSL™ box will be lit.

Changing the Operator's Code

The Operator's Code can be changed should the need occur. A separate Permanent Code matched to the serial number of the PSL™ box is included on a sheet in the PSL™ user manual supplied with the machine.

1. Enter the Permanent Code on the key pad. The PROGRAM - RED LED will be lit if correct code is entered.

NOTE: *ON or OFF cannot be one of the four digits of the new Operator's code.*

2. Enter a new four digit Operator's Code on the keypad. The ACCEPT - AMBER LED will light up if the new Operator's Code is accepted.
3. Press the OFF button on the keypad to activate the new Operator's Code.

NOTE: *The new Operator's Code will remain in the PSL™ even when power is removed from the equipment, or until that code is changed again using the Permanent Code.*

3.15 DECAL INSTALLATION

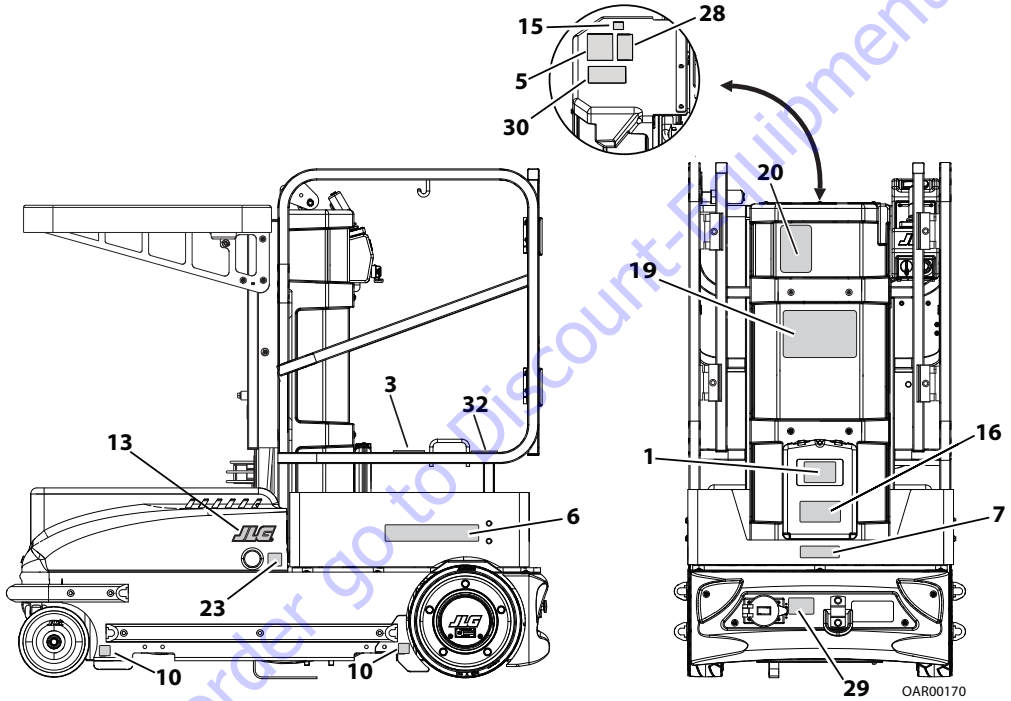


Figure 3-19. Manual Tray - Decal Installation

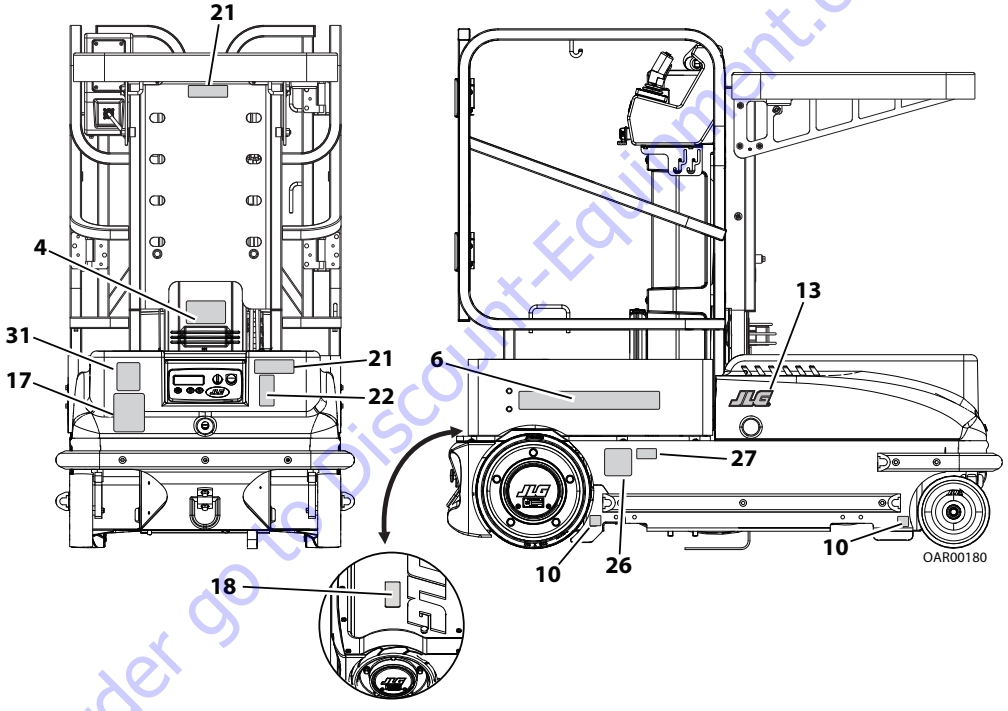


Figure 3-20. Manual Tray - Decal Installation

Table 3-4. Manual Tray - Decal Installation

Item	ANSI (ENG)	CSA (FRE)	CE (ENG)	ANSI (SPA)	ANSI (POR)	ANSI (CHI)	ANSI (JPN)	AUS (ENG)
1	1701640	1701640	1701640	1701640	1701640	1701640	1701640	1701640
2	--	--	--	--	--	--	--	--
3	1001213582	1001213582	1001213582	1001213582	1001213582	1001213582	1001213582	1001213582
4	1705992	1705992	1705992	1705992	1705992	1705992	1705992	1705992
5	1706131	1706131	1706131	1706131	1706131	1706131	1706131	1706131
6	1706743	1706743	1706743	1706743	1706743	1706743	1706743	1706743
7	1706764	1706764	1706764	1706764	1706764	1706764	1706764	1706764
8	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--
10	1001143557	1001143557	1001143557	1001143557	1001143557	1001143557	1001143557	1001143557
11	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--
13	1703681	1703681	1703681	1703681	1703681	1703681	1703681	1703681
14	--	--	--	--	--	--	--	--
15	1001230219	1001230219	1001230219	1001230219	1001230219	1001230219	1001230219	1001230219
16	1703779	--	--	--	--	--	--	--
17	1703781	1703781	1705802	1704029	174021	174077	1704086	1705802

Table 3-4. Manual Tray - Decal Installation

Item	ANSI (ENG)	CSA (FRE)	CE (ENG)	ANSI (SPA)	ANSI (POR)	ANSI (CHI)	ANSI (JPN)	AUS (ENG)
18	1703786	1706094	--	--	--	--	--	--
19	1705937	1706096	1706078	1706084	1706088	1706092	1706078	1706078
20	1705938	1706095	--	1706083	1706087	1706091	--	--
21	1705995	1706094	1705099	1706082	1706086	1706090	1705099	1705099
22	1706617	1706617	1706617	1706617	1706617	1706617	1706617	1706617
23	1706740	1706740	1706740	1706740	1706740	1706740	1706740	1706740
24	--	--	--	--	--	--	--	--
25	--	--	--	--	--	--	--	--
26	1001223055	1001223055	--	1001224049	1001224052	1001224051	1001224053	--
27	1001228370	1001228370	--	--	--	--	--	--
28	1001231801	--	--	--	--	--	--	--
29	1001233054	1001233055	1706077	1001233056	1001233057	1001233058	1706077	1706077
30	1001254432	1001254432	1001207206		1001254432	1001254432	1001207206	1001207206
31	1001255190	1001255190	1001255190	1001255190	1001255190	1001255190	1001255190	1001255190
32	--	1706119	--	1706116	1706118	1706117	--	--

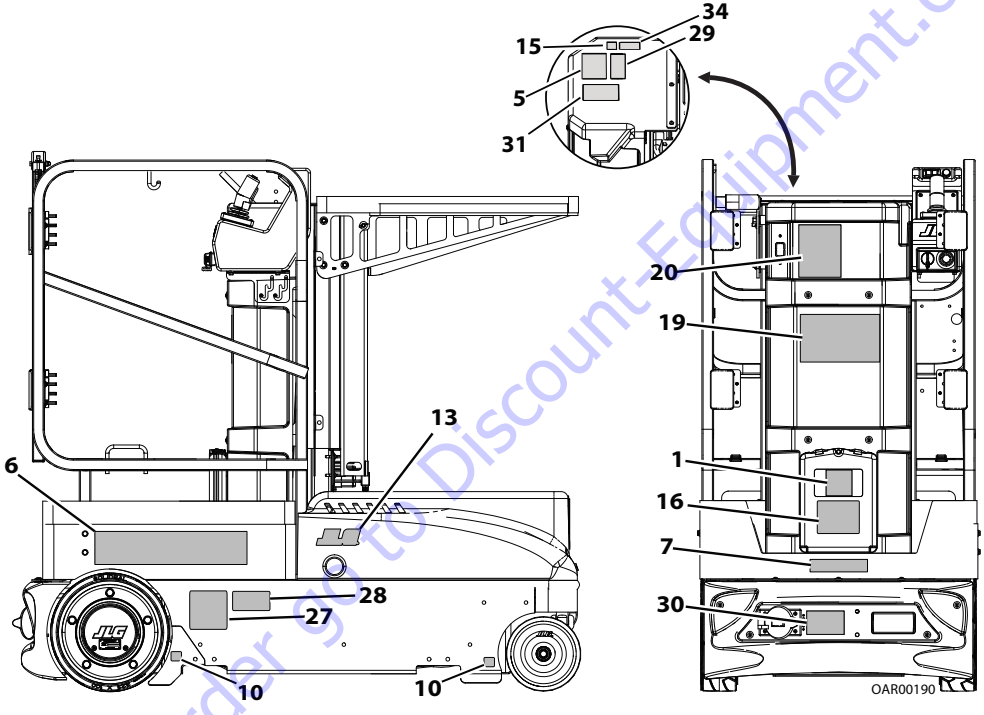


Figure 3-21. Power Tray - Decal Installation

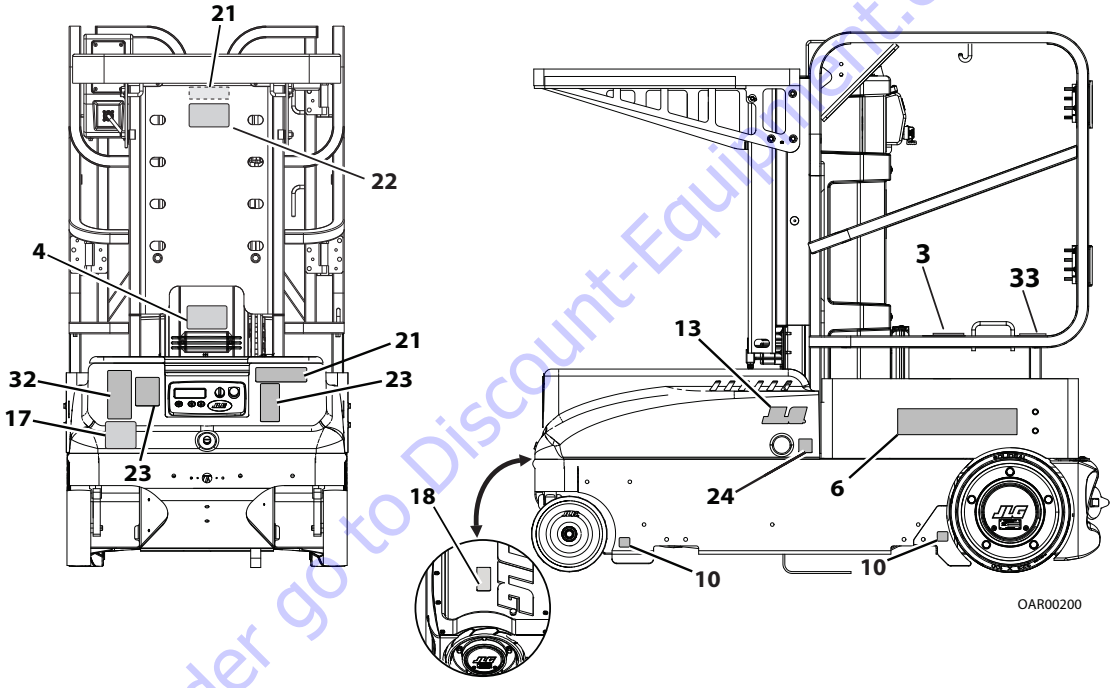


Figure 3-22. Power Tray - Decal Installation

Table 3-5. Power Tray - Decal Installation

Item	ANSI (ENG)	CSA (FRE)	CE (ENG)	ANSI (SPA)	ANSI (POR)	ANSI (CHI)	ANSI (JPN)	AUS (ENG)
1	1701640	1701640	1701640	1701640	1701640	1701640	1701640	1701640
2	--	--	--	--	--	--	--	--
3	1001213582	1001213582	1001213582	1001213582	1001213582	1001213582	1001213582	1001213582
4	1705992	1705992	1705992	1705992	1705992	1705992	1705992	1705992
5	1706131	1706131	1706131	1706131	1706131	1706131	1706131	1706131
6	1706743	1706743	1706743	1706743	1706743	1706743	1706743	1706743
7	1706764	1706764	1706764	1706764	1706764	1706764	1706764	1706764
8	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--
10	1001143557	1001143557	1001143557	1001143557	1001143557	1001143557	1001143557	1001143557
11	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--
13	1703681	1703681	1703681	1703681	1703681	1703681	1703681	1703681
14	--	--	--	--	--	--	--	--
15	1001230219	1001230219	1001230219	1001230219	1001230219	1001230219	1001230219	1001230219
16	1703779	--	--	--	--	--	--	--
17	1703781	1704795	1705802	1704029	1704021	1704077	1704086	1705802

Table 3-5. Power Tray - Decal Installation

Item	ANSI (ENG)	CSA (FRE)	CE (ENG)	ANSI (SPA)	ANSI (POR)	ANSI (CHI)	ANSI (JPN)	AUS (ENG)
18	1703786	1706094	--	--	--	--	--	--
19	1705937	1706096	--	1706084	1706088	1706092	1706078	1706078
20	1705938	1706095	1706078	1706083	1706087	1706091	--	--
21	1705995	1001093992	1705099	1706082	1706086	1706090	1705099	1705099
22	1706302	--	1706292	1001233727	1001233728	1001233729	1706292	1706292
23	1706617	1706617	1706617	1706617	1706617	1706617	1706617	1706617
24	1706740	1706740	1706740	1706740	1706740	1706740	1706740	1706740
25	--	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--	--
27	1001223055	1001223971	--	1001224049	1001224052	1001224051	1001224053	--
28	1001228370	1001228370	--	--	--	--	--	--
29	1001231801	--	--	--	--	--	--	--
30	1001233054	1001233055	1706077	1001233056	1001233057	1001233058	1706077	1706077
31	1001254433	1001254433	1001202686	1001254433	1001254433	1001254433	1001202686	1001202686
32	1001255190	1001255190	1001255190	1001255190	1001255190	1001255190	1001255190	1001255190
33	--	1706119	--	1706116	1706118	1706117	--	--
34	--	--	1001158844	--	--	--	--	--

SECTION 4. EMERGENCY PROCEDURES

4.1 GENERAL INFORMATION

This section explains the steps to be taken in case of an emergency situation during operation.

4.2 EMERGENCY OPERATION

Operator Unable to Control Machine

IF THE PLATFORM OPERATOR IS PINNED, TRAPPED OR UNABLE TO OPERATE OR CONTROL THE MACHINE:

1. Other personnel should operate the machine from ground controls only as required.
2. Only qualified personnel in the platform may use the platform controls. DO NOT CONTINUE OPERATION IF CONTROLS DO NOT FUNCTION PROPERLY.
3. Rescue equipment can be used to remove the platform occupant. Cranes and forklifts can be used to stabilize motion of the machine.

Platform Caught Overhead

If the platform becomes jammed or snagged in overhead structures or equipment, do the following:

1. Shut off the machine.
2. Rescue all people in the platform before freeing the machine. Personnel must be out of the platform before operating any controls on the machine.
3. Use cranes, forklifts or other equipment to stabilize motion of the machine to prevent a tip over as required.
4. From the ground controls, carefully free the platform from the object.
5. Once clear, restart the machine and return the platform to a safe position.
6. Inspect the machine for damage. If the machine is damaged or does not operate properly, turn off the machine immediately. Report the problem to the proper maintenance personnel. Do not operate the machine until it is declared safe for operation.

4.3 INCIDENT NOTIFICATION

JLG Industries, Inc. must be notified immediately of any incident involving a JLG product. Even if no injury or property damage is evident, JLG must be contacted by telephone and provided with all necessary details.

- USA: 877-JLG-SAFE (554-7233)
- EUROPE: (32) 0 89 84 82 20
- AUSTRALIA: (61) 2 65 811111
- E-mail: productsafety@jlg.com

Failure to notify the manufacturer of an incident involving a JLG Industries product within 48 hours of such an occurrence may void any warranty consideration on that particular machine.

NOTICE

FOLLOWING ANY INCIDENT, THOROUGHLY INSPECT THE MACHINE. DO NOT ELEVATE THE PLATFORM UNTIL IT IS CERTAIN THAT ALL DAMAGE HAS BEEN REPAIRED AND THAT ALL CONTROLS ARE OPERATING CORRECTLY. TEST ALL FUNCTIONS FIRST FROM THE GROUND CONTROL STATION THEN FROM THE PLATFORM CONTROL CONSOLE.

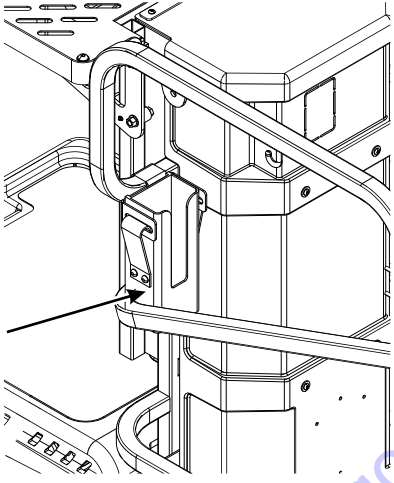
SECTION 5. ACCESSORIES

Table 5-1. Available Accessories

Accessory	Market					
	ANSI (USA Only)	ANSI	CSA	CE	AUS	Japan
Scanner Pocket	√	√	√	√	√	√

5.1 SCANNER POCKET

This accessory offers a secure location in the platform to store handheld scanners.



SECTION 6. GENERAL SPECIFICATIONS AND OPERATOR MAINTENANCE

6.1 INTRODUCTION

This section of the manual provides additional necessary information to the operator for proper operation and maintenance of this machine.

The maintenance portion of this section is intended as information to assist the machine operator to perform daily maintenance tasks only. It does not replace the more thorough Preventive Maintenance and Inspection Schedule included in the Service and Maintenance Manual.

Other Publications Available Specific to This Machine

Service and Maintenance Manual

GLOBAL 31215822

Illustrated Parts Manual

GLOBAL 31215823

6.2 GENERAL SPECIFICATIONS

Machine Specifications

SPECIFICATION	10MSP
Gross Machine Weight: (*Platform Empty*)	1260 lb (572 kg)
Machine Height: *(Platform Stowed)*	57.4 in (1.45 m)
Maximum Tire Load: *(Per Wheel)*	710 lb (322 kg)
Machine Ground Clearance:	1.875 in (47.6 mm)
Machine Turning Radius: *(Circle)*	65 in (165 cm)
Tilt Indicator Setting:	1.5°
Maximum Travel Grade (Gradeability): *(Platform STOWED ONLY)*	15% (8.5°)
Maximum Travel Grade (Side Slope): *(Platform STOWED ONLY)*	5°
Machine Base - Overall: *(Width x Length)*	29.5 in x 60 in (75 cm x 152 cm)

SPECIFICATION	10MSP
±**Maximum Drive Speeds:** *(Operator Variable)*	5 mph (8 kp/h)
Maximum Operating Wind Speed:	
(For indoor use only) ANSI/CSA:	0 mph (0 m/s)
(For indoor use only) CE/AUS:	0 mph (0 m/s)
Maximum Horizontal Manual Side Force: *(Platform fully extended with Maximum load)*	
ANSI/CSA:	200 N (45 lbs)
CE/AUS/JPN:	200 N (45 lbs)
Maximum Hydraulic System Pressure: *(Recommended initial setting)*	1800 PSI (124 Bars)
Hydraulic System Capacity:	5 qts U.S. (4.7 L)
Hydraulic Reservoir Capacity:	1 gal (3.78 L)
Machine Component Weight: Platform Weight:	75 lb (34 kg)
Battery: *(per battery)*	12V - 65.7 lb (29.8 kg) 6V - 64 lb (29 kg)
Front Hood:	12 lb (5.4 kg)

Electrical Specifications

SPECIFICATION		10MSP
System Voltage:		24 Volts DC
Battery Specifications:	Battery Type:	AGM (VRLA) (Sealed)
	Voltage:	4 - 6 V DC; OR 2 - 12 V DC
	Amp Hour (AH) Rating:	6V - 210 Amp Hr. @ 20 Hr. 12V - 100 Amp Hr. @ 20 Hr.
Battery Charger:	Input:	120/240 V AC - 50/60 Hz - Voltage Selectable
	Output:	24 V, 20 Amp Output - with 2 Amp Finish

Platform Data

SPECIFICATION		10MSP
Occupants: *(Persons allowed in Platform)*		1
Maximum Work Load (Capacity):	Platform:	352 lb (160 kg)
	Manual Material Tray:	254 lb (115 kg)
	Power Material Tray:	198lb (90 kg)
Carry Deck Capacity:		254 lb (115 kg)
Platform Entry Height: *(Ground to Platform Floor)*		13.9in (35.3cm)
Platform Height - Mast Fully Extended - *(Ground to Platform Floor)*:		10 ft (3 m)
Platform Cycle Performance: *(w/max. rated load)*	Lift Up:	13 sec
	Lift Down:	9 - 13 sec

Serial Number Location

The serial number plate is located on the right side of the machine behind the caster wheel.

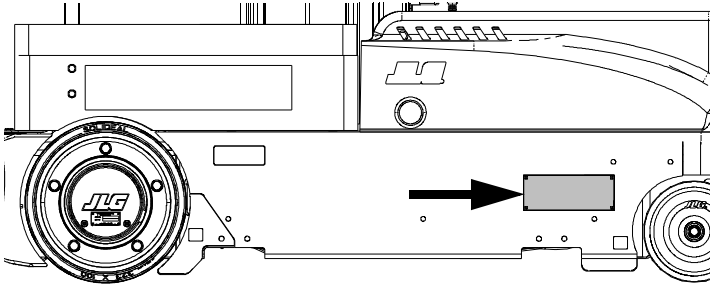


Figure 6-1. Serial Number Plate Location

6.3 OPERATOR MAINTENANCE

Lubrication

Hydraulic Oil (HO)

HYDRAULIC SYSTEM OPERATING TEMPERATURE RANGE	SAE VISCOSITYGRADE
+0°F to +180°F (-18°C to -83°C)	10W
+0°F to +210°F (-18°C to +99°C)	10W-20, 10W-30
+50°F to +210°F (+10°C to +99°C)	20W-20

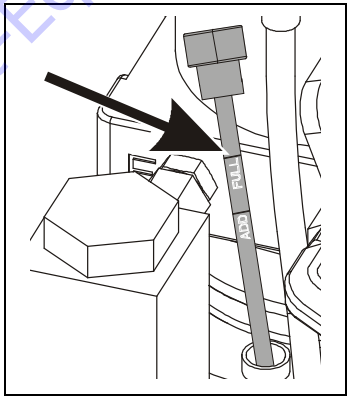
NOTE: *Hydraulic oils must have anti-wear qualities at least to API Service Classification GL-3, and sufficient chemical stability for mobile hydraulic system service.*

NOTE: *Aside from JLG recommendations, it is not advisable to mix oils of different brands or types, as they may not contain the same required additives or be of comparable viscosities.*

The hydraulic oil level in the pump reservoir can vary with oil temperature (i.e., the oil level in a cold machine may not be up to the FULL line on the dipstick). Cycle the mast up and down a few times to get a more accurate reading on the dipstick. Once the hydraulic oil is warmed, check the dipstick reading. It should be up to or close to the FULL line on the dipstick.

- DO NOT FILL PAST THE FULL LINE.
- ALWAYS ADD oil if level is at or below the ADD line.

NOTE: *If hydraulic oil is to be added, CHECK THE HYDRAULIC OIL DECAL located on the right side frame, opposite the pump assembly, for hydraulic oil type and specification. DO NOT OVERFILL.*



The hydraulic oil level in the reservoir located on the hydraulic pump assembly should read to or close to the FULL LINE on the Hydraulic Reservoir dip stick when hydraulic oil is at operating temperature.

Table 6-1. Standard UTTO Specs

SAE Grade	10W30
Gravity, API	29.0
Density, Lb/Gal. 60°F	7.35
Pour Point, Max	-46°F (-43°C)
Flash Point, Min.	442°F (228°C)
Viscosity	
Brookfield, cP at -18°C	2700
at 40° C	55 cSt
at 100° C	9.3 cSt
Viscosity Index	152

Table 6-2. UCon Hydrolube HP-5046 Specs

pH	9.1
Specific Gravity, 20/20°F	1.082
Pour Point, °C(°F)	<-50(<58)
Appearance	Red Liquid
Viscosity	
at 0°C (32°F)	340cST(1600SUS)
at 40°C (104°F)	46cST(215SUS)
at 65°C (150°F)	22cST(106SUS)
Viscosity Index	170

Table 6-3. Lubrication Specifications

KEY	SPECIFICATIONS
MPG -	Multipurpose Grease having a minimum dripping point of 350° F. Excellent water resistance and adhesive qualities, and being of extreme pressure type. (Timken OK 40 pounds minimum.)
EPGL -	Extreme Pressure Gear Lube (oil) meeting API service classification GL-5 or MIL-Spec MIL-L-2105.
HO -	Hydraulic Oil. ISO-Vg grade 32, 46.
CL -	Chain Lube. Use a good quality chain lubricant.

NOTE: *Refer to Table 6-4. for specific lubrication locations on machine.*

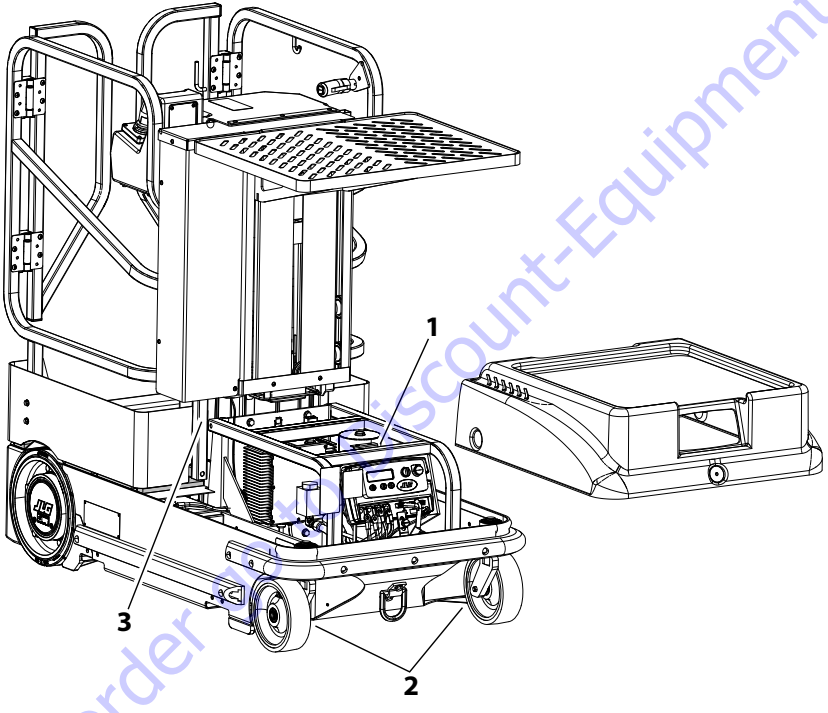


Figure 6-2. Lubrication Points

Table 6-4. Lubrication Intervals for Various Components

ITEM	COMPONENT	NO/TYPE LUBE POINTS	LUBE/METHOD	INTERVAL (See Note)				COMMENTS
				3 MONTHS	6 MONTHS	1 YEAR	2 YEARS	
1	Hydraulic Oil	Fill To Full Line on Dipstick - 5 Qt. Reservoir	HO - Check Hyd. Oil Level HO - Change Hyd. Oil				√	Check fluid level every day. Change hydraulic oil every 2 years. ***NOTE:*** *Prior to checking hydraulic oil level, operate machine through one complete cycle of lift function (full up and down). Failure to do so will result in incorrect oil level reading on the hydraulic reservoir.*
2	Swivel Raceways	—	MPG					Upper: Permanently Sealed. Lower: Repack if Serviced.
3	Mast Chains	2 - Per Section	CL - Brush or Spray		√			Inspect, lubricate if dry or rusting.

Key to Lubricants: **MPG** - Multipurpose Grease
HO - Hydraulic Oil - ISO-Vg grade 32, 46
GEAR OIL - Good Quality Worm Gear Oil - SAE 90 - AGMA#5 - EP Compounded
CL - Chain Lube. Use a good quality chain lubricant

NOTE: *Recommended lubricating intervals are based on normal use. If machine is subjected to severe operating conditions, such as a high number of cycles, location, corrosive/dirty environment, etc., user must adjust lubricating requirements accordingly.*

6.4 BATTERY MAINTENANCE

The OEM batteries are AGM sealed (VRLA) type so the electrolyte level cannot be checked. However, the battery terminals should be checked periodically for corrosion and tightness.

The batteries (4-battery 6V/each system, or a 2-battery 12V/each system) are located inside the base frame. To access the batteries, remove the hood (carry deck) and the rear cover under the platform.

6.5 TIRES AND WHEELS

Tire Wear and Damage

The tire and rim assemblies installed on machines have been approved by the tire manufacturer for applications in which those products are intended to be used. The tire and rims installed on each product model have been designed for stability requirements, which consist of track width, tire compound, and load capacity. Tire changes such as rim width, centerpiece location, larger or smaller diameter, tire compound, etc., without written manufacturers approval, could result in an unsafe condition regarding stability.

The tires and rims installed on machines are to be inspected daily as part of the daily walk-around inspection. JLG requires that the daily walk-around inspection be performed at each operator change during a shift and at each shift change.

Wheel and Tire Replacement

JLG recommends that any replacement tire be the same size and brand as originally installed on the machine or offered by JLG as an approved replacement. Please refer to the JLG Parts Manual for the part number of the approved tires for a particular machine model.

If any of the following is discovered during tire inspection, measures must be taken to remove the JLG product from service immediately. Arrangements must be made for replacement of the tire(s) or tire assembly(s). Both tires/wheels on the same axle must be replaced:

- If the overall diameter of the tire is less than one of the following:

  100 x 323 Tire – 12.25 in. (311mm) minimum

- If any uneven wear is discovered.

  A tire with significant damage in the tread area or sidewall requires immediate evaluation before placing the machine into service. If a cut, tear, chunk, or other discrepancy exceeds any one or more of the following dimensions, the tire must be replaced:

  3.0 in. (76 mm) long
  0.75 in. (19 mm) wide
  0.75 in. (19 mm) deep

- If the metal wheel is visible at any point through the tread area of the tire.

If more than one discrepancy exists in any quadrant of the wheel (within 90 degrees of one another).

Wheel Installation

It is extremely important to apply and maintain proper wheel mounting torque.

⚠ WARNING

WHEEL BOLTS MUST BE INSTALLED AND MAINTAINED AT THE PROPER TORQUE TO PREVENT LOOSE WHEELS, BROKEN WHEEL BOLTS, AND POSSIBLE SEPARATION OF WHEEL FROM THE AXLE. BE SURE TO USE ONLY THE WHEEL BOLTS MATCHED TO THE CONE ANGLE OF THE WHEEL.

Tighten the wheel bolts to the proper torque to prevent wheels from coming loose. Use a torque wrench to tighten the fasteners. If a torque wrench is unavailable, tighten the fasteners with a lug wrench, then immediately have a service garage or dealer tighten the wheel bolts to the proper torque. Over-tightening will result in breaking the wheel bolts or permanently deforming the mounting holes in the wheels. The proper procedure for attaching wheels is as follows:

1. Start all wheel bolts by hand to prevent cross threading. DO NOT use a lubricant on threads or nuts.
2. Tighten wheel bolts in the following sequence.

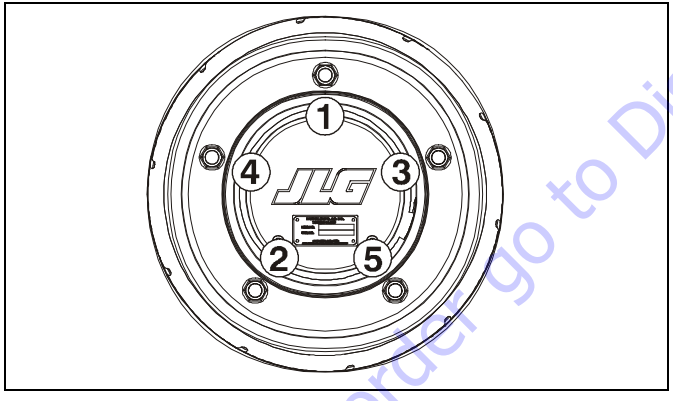


Figure 6-3. Wheel Bolt Tightening Sequence

3. The tightening of the wheel bolts should be done in stages. Following the recommended sequence, tighten wheel bolts per wheel torque.

Table 6-5. Wheel Torque Chart

TORQUE SEQUENCE		
1st Stage	2nd Stage	3rd Stage
20-30 ft lb (28-42 Nm)	65-80 ft lb (91-112 Nm)	105-120 ft lb (142-163 Nm)

4. Wheel bolts should be torqued after the first 50 hours of operation and after each wheel removal. Check torque every 3 months or 150 hours of operation.

6.6 GROUND CONTROL STATION - PROGRAMMING

General

The Ground Control Station on this machine allows on-board programming of various component and control function personality settings.

Programming may be required under circumstances such as:

- The Ground Control Station module has been replaced and optional equipment on the machine needs to be enabled.
- Optional equipment has been added to the machine in the field and a function must be enabled before operation.
- Customizing the machine to fit a specific application, such as changing the LCD display language.

Programming Levels

There is one **password protected** programming level available to the Operator:

- **Level 3:** Operator's Settings - **Level 3 Password: 33271**

Operator Programming Mode

In the Operator Level Programming Mode the following items are shown on the main menu:

- Tilt Sensor
- Program

Tilt Sensor

Allows viewing current tilt sensor - individual X and Y direction degree reading.

Programming Items

Allows programming of the items shown in Table 6-4. The following is a brief explanation of each programming item.

NOTE: *There are two production modules available at this time, one for North/South American and European languages, and one for Asian languages. All programmable items between these modules are identical with the exception of language selection.*

- **Back To Main (Menu)** - When selected, will return to main level menu.
- **Set Language** - Selects the language that text on the LCD screen will be displayed.
- **Set Sleep Time** - Allows setting the length of time the machine will remain powered up without control input before powering itself down.
- **Set Polarity of Keypad Code** - Turns ON or OFF the Programmable Security Lock switch circuit, if equipped.
- **Enable Detection of Horn Open Circuit** - Enables horn electrical circuit to be turned ON (YES) or OFF (NO) if machine is equipped with a horn.
- **Enable Detection of Beacon Open Circuit** - Enables mast/base beacon strobe electrical circuits to be turned ON (YES) or OFF (NO) if machine is equipped with either or both beacon strobes.
- **Forward Alarm Disable** - When turned ON (YES) will disable the alarm when driving forward.

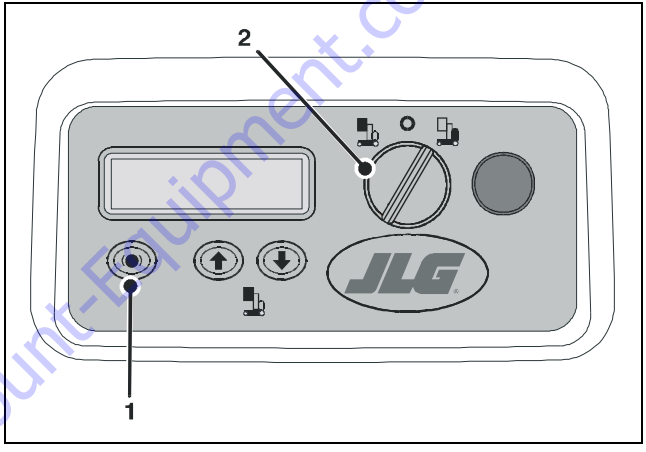
Table 6-6. Programmable Settings and Factory Presets

LEVEL	PROGRAMMABLE ITEM	FACTORY PRESET	SETTING RANGE
3	Back to Main	—	Return to Main Menu
3	Set Language ***NOTE:*** *There are two production modules available at this time, one for North/South America and European Languages, and one for Asian Languages.*	1	**1.** English **2.** German **3.** Dutch **4.** French **5.** Spanish **6.** Italian **7.** Swedish **8.** Finnish
		2	**9.** English **10.** Chinese **11.** Japanese
3	Set Sleep Time	10 MINS	0 - 60 MINS
3	Set Polarity of the Keypad Code	LOW	HIGH/LOW
3	Enable Detection of Horn Open Circuit	NO	YES/NO
3	Enable Detection of Beacon Open Circuit	NO	YES/NO
3	Forward Alarm Disable	NO	YES/NO
On LCD Display: YES = ✓ HIGH = ↑ NO = X LOW = ↓			

Activating Programming Mode

NOTE: *If machine does not power up, check that both the Ground Control Station - Emergency Stop Button, and the Platform Control Console - Emergency Stop Button, are in the RESET position.*

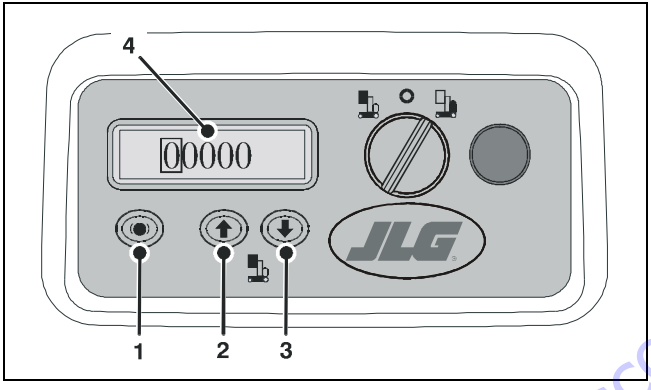
Also if machine is equipped with the (PSL) Programmable Security Lock option, see Section 3 of this Operators Manual for additional machine power-up steps.



Activating Programming Mode

1. With machine power OFF, press and hold the Brake Release Button (1) on the Ground Control Station.
2. While holding the Brake Release Button in, power machine up by turning the Main Power Selector Switch (2), to either the Ground Control or Platform Control Mode.
3. Release the Brake Release Button (1) after machine is powered up. The LCD display should now display five zeros, one with a box around. Continue to next step Entering Password.

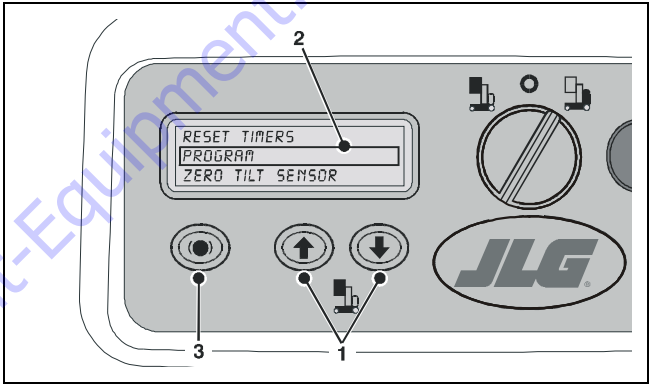
Entering Password



Entering Password (33271)

1. The Brake Release button (1) moves the box (around digit) from left to right to select which digit to change.
2. Platform UP button (2) increases the numerical digit.
3. Platform DOWN button (3) decreases the numerical digit.
4. Change all five digits (4) to match password level, then press the Brake Release button (1) again.

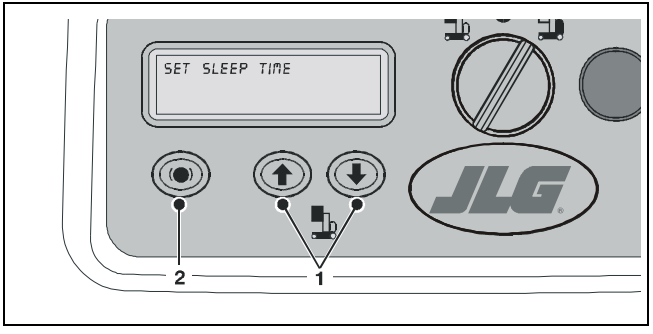
Programming Mode Selection



Programming Mode Selection

1. Use Platform UP/DOWN buttons (1) to move the selection box (2) up or down to select item to program.
2. Press the Brake Release button (3) to enter selected mode then move on to Selecting Programmable Item to Adjust.

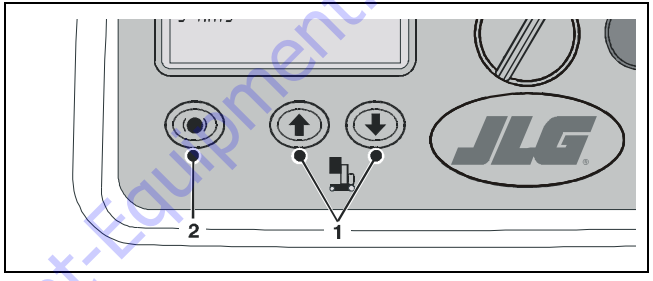
Selecting Programmable Item to Adjust



Selecting Programmable Item to Adjust

1. Use the Platform UP/DOWN buttons (1) to scroll through the list of available programmable items in the programming level.
2. Once a programmable item to be adjusted is selected, press the Brake Release button (2) to enter that settings' adjustment mode.

Adjusting Programmable Setting



Adjusting Programmable Setting

1. Adjust the programmable setting using the Platform UP/DOWN buttons (1), see Table 6-6. for range of settings for that item.
2. Once parameter is set for the programmable item, press the Brake Release button (2), this will enter the parameter and return the user to the Programmable Settings Menu.

TO EXIT Programming Mode after adjusting programmable settings, power machine down with either the Main Power Selector Switch or Emergency Stop Button.

6.7 DRIVE MOTOR BRUSH WEAR - WARNING INDICATION

The machines drive motors include brush wear sensors that activate a warning indicating the drive motor brushes will require replacement soon. This warning protects the drive motors from damage due to extreme brush wear.

When the brush wear warning is activated the Ground Control Station LCD screen will indicate a fault code of 6, also the hourmeter is set to countdown 25 hours of (DRIVE) operation remaining.

The Platform Control LEDs will indicate this warning with 8 flashing LEDs and an intermittent beep.

NOTE: *Only the drive function when used will affect the hour meter count down once the warning has been activated. The machine will operate normally until the last 10 seconds of the 25 hour countdown.*

During the last 10 seconds of the 25 hour (DRIVE) countdown the machine will only drive in creep/turtle drive mode and platform lift up will be disabled. At this point cycling power on/off will only repeat the final 10 second mode cycle.

The machine will not operate normally until the drive motor brushes are replaced *(repositioning the brush warning sensors),* and the Ground Control Station is programmed to reset the Brush Wear - Warning Timer per the Service and Maintenance Manual.

SECTION 7. INSPECTION AND REPAIR LOG

Machine Serial Number _____

Table 7-1. Inspection and Repair Log

DATE	COMMENTS

TO PURCHASE THIS PRODUCT PLEASE CONTACT US

Discount Equipment

Equipment Financing and
Extended Warranties Available

Discount-Equipment.com is your online resource for commercial and industrial quality parts and equipment sales.
561-964-4949
visit us on line @ www.discount-equipment.com

Select an option below to find your Equipment

Search by Manufacturer

Search by Product Type

Request a Quote

We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto, Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S. Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment ,Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar

An Oshkosh Corporation Company

www.Discount-Equipment.com