

# **Operation and Safety Manual**

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

Models **800S** 860SJ **PVC 2107** 

# **A** 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.

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### 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

# **A** DANGER

INDICATES AN IMMINENTLY HAZARDOUS SITUATION. IF NOT AVOIDED, <u>WILL</u> RESULT IN SERIOUS INJURY OR DEATH. THIS DECAL WILL HAVE A RED BACK-GROUND.

# **A** WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION. IF NOT AVOIDED, <u>COULD</u> RESULT IN SERIOUS INJURY OR DEATH. THIS DECAL WILL HAVE AN ORANGE BACK-GROUND.

# **A** CAUTION

INDICATES A POTENTIALLY HAZARDOUS SITUATION. IF NOT AVOIDED, <u>MAY</u> 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 INDI-RECTLY TO THE SAFETY OF PERSONNEL OR PROTECTION OF PROPERTY.

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# **▲** WARNING

THIS PRODUCT MUST COMPLY WITH ALL SAFETY RELATED BULLETINS. CONTACT JLG INDUSTRIES, INC. OR THE LOCAL AUTHORIZED JLG REPRESENTATIVE FOR INFORMATION REGARDING SAFETY-RELATED BULLETINS WHICH MAY HAVE BEEN ISSUED FOR THIS PRODUCT.

### NOTICE

JLG INDUSTRIES, INC. SENDS SAFETY RELATED BULLETINS TO THE OWNER OF RECORD OF THIS MACHINE. CONTACT JLG INDUSTRIES, INC. TO ENSURE THAT THE CURRENT OWNER RECORDS ARE UPDATED AND ACCURATE.

### NOTICE

JLG INDUSTRIES, INC. MUST BE NOTIFIED IMMEDIATELY IN ALL INSTANCES WHERE JLG PRODUCTS HAVE BEEN INVOLVED IN AN ACCIDENT INVOLVING BODILY INJURY OR DEATH OR WHEN SUBSTANTIAL DAMAGE HAS OCCURRED TO PERSONAL PROPERTY OR THE JLG PRODUCT.

### For:

- · Accident Reporting
- Product Safety Publications
- Current Owner Updates
- Questions Regarding Product Safety

- Standards and Regulations Compliance Information
- Questions Regarding Special Product Applications
- Questions Regarding Product Modifications

#### **Contact:**

Product Safety and Reliability Department JLG Industries, Inc. 13224 Fountainhead Plaza Hagerstown, MD 21742 USA

or Your Local JLG Office (See addresses on inside of manual cover)

#### In USA:

Toll Free: 877-JLG-SAFE (877-554-7233)

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# **REVISION LOG**

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### **SECTION 1. SAFETY PRECAUTIONS**

### 1.1 GENERAL

This section outlines the necessary precautions for proper and safe machine usage and maintenance. It is mandatory that a daily routine is established based on the content of this manual to promote proper machine usage. 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 must 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.

This section contains the responsibilities of the owner, user, operator, lessor, and lessee concerning safety, training, inspection, maintenance, application, and operation. If there are any questions with regard to safety, training, inspection, maintenance, application, and operation, please contact JLG Industries, Inc. ("JLG").

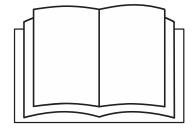


FAILURE TO COMPLY WITH THE SAFETY PRECAUTIONS LISTED IN THIS MANUAL COULD RESULT IN MACHINE DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

### 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.



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#### **SECTION 1 - SAFETY PRECAUTIONS**

- 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, CAU-TIONS, 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 your utilization and application 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.
- 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.

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# **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 the maintenance and inspection requirements as specified in the machine's Service and Maintenance Manual.
- Ensure all safety devices are operating properly. Modification of these devices is a safety violation.

# **A** 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 accumulation 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.
- Before operation, the user must be familiar with the machine capabilities and operating characteristics of all functions.
- Never operate a malfunctioning machine. If a malfunction occurs, shut down the machine. Remove the unit from service and notify the proper authorities.
- Do not remove, modify, or disable any safety devices.
- 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.

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#### SECTION 1 - SAFETY PRECAUTIONS

- Do not carry materials directly on platform railing unless approved by JLG.
- When two or more persons are in the platform, the operator shall be responsible for all machine operations.
- Always ensure that power tools are properly stowed and never left hanging by their cord from the platform work area.
- When driving, always position boom over rear axle in line with the direction of travel. Remember, if boom is over the front axle, steer and drive functions will be reversed.
- Do not assist a stuck or disabled machine by pushing or pulling except by pulling at the chassis tie-down lugs.
- Fully lower platform and shut off all power before leaving machine.
- 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.

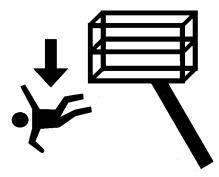
# **Trip and Fall Hazards**

- Prior to operation, ensure all gates are closed and fastened in their proper position.
- During operation, occupants in the platform must wear a full body harness with a lanyard attached to an authorized lanyard anchorage point. Attach only one (1) lanyard per lanyard anchorage point.



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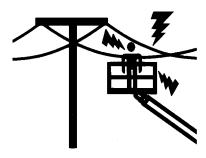
• Enter and exit only through gate area. Use extreme caution when entering or leaving platform. Ensure that the platform assembly is fully lowered. Face the platform when entering or leaving the platform. Always maintain "three point contact" with the machine, using two hands and one foot or two feet and one hand at all times during entry and exit.



- Keep both feet firmly positioned on the platform floor at all times. Never position ladders, boxes, steps, planks, or similar items on unit to provide additional reach for any purpose.
- Keep oil, mud, and slippery substances cleaned from footwear and the platform floor.

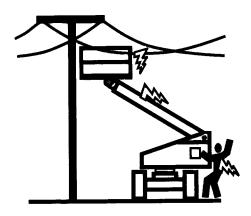
### **Electrocution Hazards**

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



 It is not recommended to use the machine during lightning. To prevent injury or machine damage if lightning occurs during operation, lower the boom and shut down the machine in a safe and secure location.

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- 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. (3m) 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.

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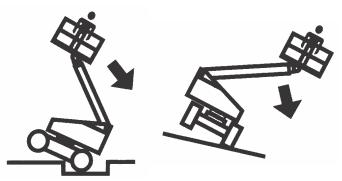
 The minimum approach distance may be reduced if insulating barriers are installed to prevent contact, and the barriers are rated for the voltage of the line being guarded. These barriers shall not be part of (or attached to) the machine. The minimum approach distance shall be reduced to a distance within the designed working dimensions of the insulating barrier. This determination shall be made by a qualified person with respect to electrical transmission and distribution 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.
- The user must be familiar with the operating surface before driving. Do not exceed the allowable sideslope and grade while driving.



 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.

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#### **SECTION 1 - SAFETY PRECAUTIONS**

- 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. Keep all loads within the confines of the platform, unless authorized by JLG.
- Keep the chassis of the machine a minimum of 2 ft. (0.6m) from holes, bumps, drop-offs, obstructions, debris, concealed holes, and other potential hazards at the ground level.
- · Do not push or pull any object with the boom.
- 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.
- If boom assembly or platform is in a position that one or more wheels are off the ground, all persons must be removed before attempting to stabilize the machine. Use cranes, forklift trucks, or other appropriate equipment to stabilize machine.
- Do not operate the machine when wind conditions exceed specifications shown in Figure 1-2, Beaufort Scale. Factors affecting wind speed are; platform elevation, surrounding structures, local weather events, and approaching storms.

- Wind speed can be significantly greater at height than at ground level.
- Wind speed can change rapidly. Always consider approaching weather events, the time required to lower the platform, and methods to monitor current and potential wind conditions.
- Do not cover or increase surface area of the platform or the load. Do not carry large surface area items int he platform when operating outdoors. The addition of such items increases the exposed wind area of the machine. Increased areas exposed to wind will decrease stability.
- Do not increase the platform size with unauthorized modifications or attachments.

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# **▲** WARNING

DO NOT OPERATE THE MACHINE WHEN WIND CONDITIONS EXCEED SPECIFICATIONS SHOWN IN SECTION 7.2 OR AS SHOWN ON THE CAPACITY PLACARD ON THE PLATFORM BILLBOARD.

Beaufort	Wind Speed		Description	Land Conditions	
Number	mph	m/s	Description	Land Conditions	
0	0	0-0.2	Calm	Calm. Smoke rises vertically	
1	1-3	0.3-1.5	Lightair	Wind motion visible in smoke	
2	4-7	1.6-3.3	Light breeze	Wind felt on exposed skin. Leaves rustle	
3	8-12	3.4-5.4	Gentle breeze	Leaves and smaller twigs in constant motion	
4	13-18	5.5-7.9	Moderate breeze	Dust and loose paperraised. Small branches begin to move.	
5	19-24	8.0-10.7	Fresh breeze	Smaller trees sway.	
6	25-31	10.8-13.8	Strong breeze	Large branches in motion. Flags waving near horizontal. Umbrella use becomes difficult.	
7	32-38	13.9-17.1	Near Gale/Moderate Gale	Whole trees in motion. Effort needed to walk against the wind.	
8	39-46	17.2-20.7	Fresh Gale	Twigs broken from trees. Cars veer on road.	
9	47-54	20.8-24.4	Strong Gale	Lightstructure damage.	

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# **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 during all operations.



- During operation, keep all body parts inside platform railing.
- Use the boom functions, not the drive function, to position the platform close to obstacles.
- Always post a lookout when driving in areas where vision is obstructed.

- Keep non-operating personnel at least 6 ft. (1.8m) 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.
- 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 use high speed drive 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.
- Do not operate over ground personnel. Warn personnel not to work, stand, or walk under a raised boom or platform. Position barricades on floor if necessary.

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### 1.4 TOWING, LIFTING, AND HAULING

- Never allow personnel in platform while towing, lifting, or hauling.
- This machine should not be towed, except in the event of emergency, malfunction, power failure, or loading/unloading.
   Refer to the Emergency Procedures section of this manual for emergency towing procedures.
- Ensure boom is in the stowed position and, if equipped, the turntable locked prior to towing, lifting or hauling. The platform must be completely empty of tools.
- When lifting machine, lift only at designated areas of the machine. Lift the unit with equipment 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.
- 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.
- Always relieve hydraulic pressure from all hydraulic circuits before loosening or removing hydraulic components.

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#### SECTION 1 - SAFETY PRECAUTIONS

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.
- · Do not use machine as a ground for welding.
- When performing welding or metal cutting operations, precautions must be taken to protect the chassis from direct exposure to weld and metal cutting spatter.
- Do not refuel the machine with the engine running.
- 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.

# **A** 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.

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# SECTION 2. USER RESPONSIBILITIES, MACHINE 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.

# **Operator Training**

Operator training must cover:

- Reading and understanding the Operation and Safety Manual.
- 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.
- Enough knowledge of the mechanical operation of the machine to recognize a malfunction or potential malfunction.

- The safest means to operate the machine where overhead obstructions, other moving equipment, and obstacles, depressions, holes, and drop-offs exist.
- Means to avoid the hazards of unprotected electrical conductors.
- 9. 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.
- 10. 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.
- 11. 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.

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# **Operator Responsibility**

The operator must be instructed that he/she has 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:

- 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;

- Operating characteristics and limitations;
- Features and devices;
- 6. Accessories and optional equipment.

# 2.2 PREPARATION, INSPECTION, AND MAINTENANCE

The following table covers machine inspections and maintenance required 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.

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Table 2-1. Inspection and Maintenance Table

Туре	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	Operation & 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 (See Note)	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 (See Note)	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 the Service and Maintenance Manual.	Owner, Dealer, or User	Qualified JLG Mechanic	Service and Maintenance Manual

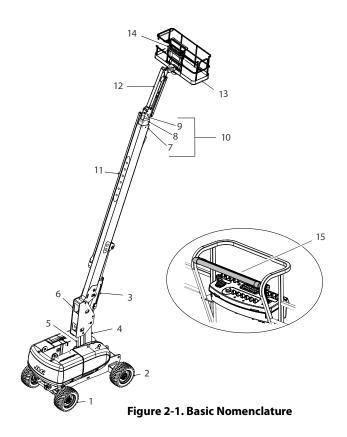
**NOTE:** Inspection forms are available from JLG. Use the Service and Maintenance Manual to perform inspections.

### 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.

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### SECTION 2 - USER RESPONSIBILITIES, MACHINE PREPARATION, AND INSPECTION



- 1. SteerWheels
- 2. Drive Wheels
- 3. Lift Cylinder
- 4. Tower
- 5. Level Link
- 6. Upright
- 7. Base Boom Section
- 8. Mid Boom Section
- 9. Fly Boom Section
- 10. Boom Assembly
- 11. PowerTrack
- 12. Jib (860SJ Only)
- 13. Platform
- 14. Platform Control Console
- 15. SkyGuard

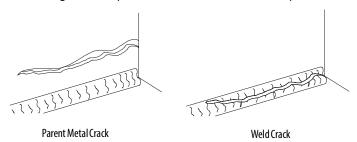
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# **Pre-Start Inspection**

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

- Cleanliness Check all surfaces for leakage (oil, fuel, or battery fluid) or foreign objects. Report any leakage to the proper maintenance personnel.
- **2. Structure** Inspect the machine structure for dents, damage, weld or parent metal cracks or other discrepancies.



3. Decals and Placards – Check all for cleanliness and legibility. Make sure none of the decals and placards are missing. Make sure all illegible decals and placards are cleaned or replaced.

- 4. Operation and Safety Manuals Make sure a copy of the Operation and Safety Manual, EMI Safety Manual (Domestic only), and ANSI Manual of Responsibilities (Domestic only) is enclosed in the weather resistant storage container.
- 5. Walk-Around Inspection Perform as instructed.
- 6. Battery Charge as required.
- **7.** Fuel Add the proper fuel as necessary.
- **8. Engine Oil Supply** Ensure the engine oil level is at the Full mark on the dipstick and the filler cap is secure.
- **9. Hydraulic Oil** Check the hydraulic oil level. Ensure hydraulic oil is added as required.
- 10. 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 4 for more specific instructions.
- 11. Accessories/Attachments Refer to the Accessories section in this manual or accessory installed upon the machine for specific inspection, operation, and maintenance instructions.

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#### SECTION 2 - USER RESPONSIBILITIES, MACHINE PREPARATION, AND INSPECTION

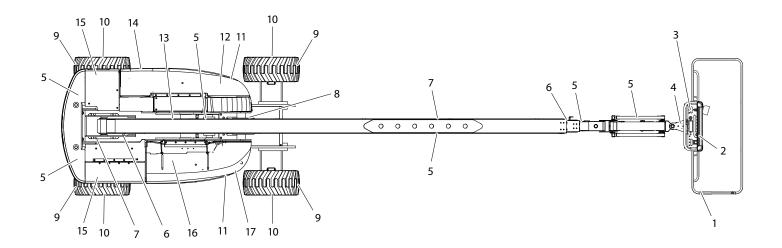
- 12. Platform Gate Keep gate and surrounding area clean and unobstructed. Verify the gate closes properly and is not bent or damaged. Keep gate closed at all times except when entering/exiting the platform and loading/unloading materials.
- **13.** Lanyard Attach Points During operation, occupants in the platform must wear a full body harness with a lanyard attached to an authorized lanyard anchorage point. Attach only one (1) lanyard per lanyard anchorage point.

# **A** 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.

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# **Walk-Around Inspection**



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#### SECTION 2 - USER RESPONSIBILITIES, MACHINE PREPARATION, AND INSPECTION

Begin the Walk-Around Inspection at Item 1, as noted on the diagram. Continue to the right (counterclockwise viewed from top) checking each item in sequence for the conditions listed in the following checklist.

# **▲** WARNING

TO AVOID POSSIBLE INJURY, BE SURE MACHINE POWER IS OFF. DO NOT OPERATE MACHINE UNTIL ALL MALFUNCTIONS HAVE BEEN CORRECTED.

### NOTICE

DO NOT OVERLOOK VISUAL INSPECTION OF CHASSIS UNDERSIDE. CHECKING THIS AREA MAY RESULT IN DISCOVERY OF CONDITIONS WHICH COULD CAUSE EXTENSIVE MACHINE DAMAGE.

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

- Platform Assembly and Gate Footswitch works properly, not modified, disabled, or blocked. Gate latches and hinges in working condition.
- SkyGuard See Inspection Note.

- Platform Control Console Switches and levers return to neutral when activated and released, decals/placards secure and legible, control markings legible.
- 4. Platform Rotator See Inspection Note.
- All Hydraulic Cylinders No visible damage; pivot pins and hydraulic hoses undamaged, not leaking.
- Horizontal and Capacity Limit Switches Switches operate properly.
- 7. Boom Sections/Uprights/Turntable See Inspection Note.
- 8. Swing Drive No evidence of damage.
- 9. Wheel/Tire Assemblies Properly secured, no missing lug nuts. Inspect for worn tread, cuts, tears or other discrepancies. Inspect wheels for damage and corrosion.
- 10. Drive Motor, Brake, and Hub No evidence of leakage.
- 11. Hood Assemblies See Inspection Note.
- **12. Auxiliary Hydraulic Pump** See Inspection Note.

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- Turntable Bearing Evidence of proper lubrication. No evidence of loose bolts or looseness between bearing and machine.
- **14. Ground Control Console** Switches and levers return to neutral when activated and released, decals/placards secure and legible, control markings legible.
- 15. Tie Rod Ends and Steering Spindles See Inspection Note.
- Air Shutoff Valve (ASOV) (If Equipped) See Inspection Note.
- 17. Main Hydraulic Pump See Inspection Note.

### **Function Check**

Perform the Function Check as follows:

- From the ground control console with no load in the platform:
  - **a.** Ensure that all machine functions are disabled when the Emergency Stop Button is pushed in.
  - b. Ensure all functions stop when the function switch is released.
  - c. Operate all functions and check all limiting and cut-out switches to ensure proper operation. All boom sections should extend/retract together at the same rate of speed. Any difference would indicate delayed movement and loose wire ropes.
  - **d.** Ensure proper operation of the manual descent controls, as described in Section 5.5 of this manual.

# **▲** WARNING

IF DELAYED MOVEMENT IS DETECTED IN WIRE ROPE OPERATION, LOWER PLATFORM TO STOWED POSITION, SHUT DOWN MACHINE, AND HAVE WIRE ROPES INSPECTED/
SERVICED BY A FACTORY TRAINED SERVICE TECHNICIAN. LOOSE OR MISADJUSTED WIRE ROPES COULD RESULT IN SERIOUS INJURY OR DEATH.

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#### SECTION 2 - USER RESPONSIBILITIES, MACHINE PREPARATION, AND INSPECTION

- 2. From the platform control console:
  - Ensure the control console is firmly secured in the proper location.
  - **b.** Check all guards protecting the switches or locks are in place.
  - Operate all functions and check all limiting and cut-out switches.
  - **d.** Ensure all machine functions are disabled when the Emergency Stop Button is pushed in.
  - **e.** Operate all functions and ensure proper operation. All boom sections should extend/retract together at the same rate of speed. Any difference would indicate delayed movement and loose wire ropes.

# **A** WARNING

IF DELAYED MOVEMENT IS DETECTED IN WIRE ROPE OPERATION, LOWER PLATFORM TO STOWED POSITION, SHUT DOWN MACHINE, AND HAVE WIRE ROPES INSPECTED/
SERVICED BY A FACTORY TRAINED SERVICE TECHNICIAN. LOOSE OR MISADJUSTED WIRE ROPES COULD RESULT IN SERIOUS INJURY OR DEATH.

- **3.** With the platform in the transport (stowed) position:
  - a. Drive the machine on a grade, not beyond the maximum operating slope, and stop to ensure the brakes hold:
  - **b.** Check the tilt indicator is illuminated to ensure proper operation.
- Swing the boom over either rear corner of the machine and ensure the Drive Orientation indicator illuminates and the Drive Orientation Override switch must be used for the drive function to operate.
- With the machine positioned on a smooth, firm surface within the limits of the maximum operating slope, elevate the boom above 11 degrees of horizontal. Select high speed drive mode. Carefully attempt to drive and ensure the drive speed is reduced.

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## **SkyGuard® Function Test**

**NOTE:** Refer to Section 4.12 for additional information on SkyGuard operation.

From the Platform Console in an area free from obstructions:

- 1. Operate the telescope out function.
- 2. Activate the SkyGuard sensor:
  - a. SkyGuard Apply approximately 50 lb (222 Nm) of force to yellow bar.
  - b. SkyGuard SkyLine® Press rod to break magnetic between the rod and right bracket.
  - SkyGuard SkyEye® Put arm or hand in path of sensor beam.
- Once the sensor has been activated, verify the following conditions:
  - **a.** Telescope out function stops and telescope in function operates for a short duration.
  - **b.** The horn sounds.
  - If equipped with a SkyGuard beacon, the beacon illuminates.

**NOTE:** If SkyGuard is enabled with the Soft Touch system, functions will cut out instead of reversing.

**4.** Disengage the SkyGuard sensor, release controls, then recycle the footswitch. Ensure normal operation is available.

**NOTE:** On machines equipped with SkyLine, reattach magnetic end of the cable to the bracket.

If SkyGuard remains activated after function reversal or cutout, depress and hold the SkyGuard Override Switch to allow normal use of machine functions until the sensor is disengaged.

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### 2.3 HORIZONTAL AND CAPACITY PROXIMITY SWITCHES

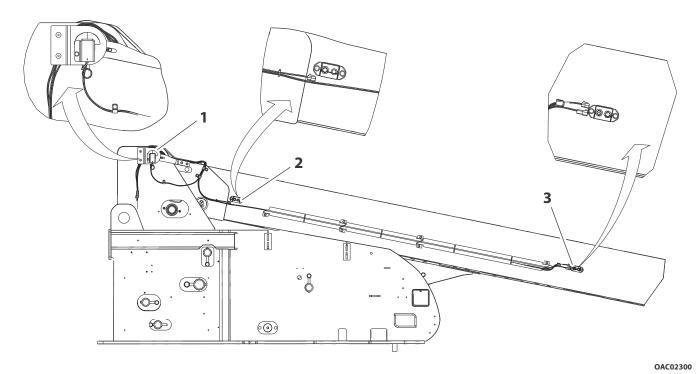


Figure 2-2. Horizontal and Capacity Proximity Sensors- Sheet 1 of 2

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ltem	Description	Operation Characteristic
1	Lower Assembly Sensor	Communicates that the boom is no longer in the transport position and also when the limits of the capacity zone has been reached.
2	Boom Transport Proximity Sensor	Communicates that the boom is no longer in the transport position.
3	Boom Capacity Proximity Sensor	Communicates that the limit of the capacity zone has been reached.

Figure 2-3. Horizontal and Capacity Proximity Sensors- Sheet 2 of 2

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### 2.4 OSCILLATING AXLE LOCKOUT TEST (IF EQUIPPED)

### NOTICE

LOCKOUT SYSTEM TEST MUST BE PERFORMED QUARTERLY, ANY TIME A SYSTEM COM-PONENT IS REPLACED, OR WHEN IMPROPER SYSTEM OPERATION IS SUSPECTED.

**NOTE:** Ensure boom is fully retracted, lowered, and centered between drive wheels prior to beginning lockout cylinder test.

- Place a 6 in (15.2 cm) high block with ascension ramp in front of left front wheel.
- 2. From platform control console, start engine
- **3.** Place the Drive control lever to the forward position and carefully drive machine up ascension ramp until left front wheel is on top of block.
- **4.** Carefully activate Swing control lever and position boom over right side of machine.
- With boom over right side of machine, place Drive control lever to Reverse and drive machine off of block and ramp.
- **6.** Have an assistant check to see that left front or right rear wheel remains elevated in position off of ground.
- Carefully activate Swing control lever and return boom to stowed position (centered between drive wheels). When

boom reaches center, stowed position, lockout cylinders should release and allow wheel to rest on ground, it may be necessary to activate Drive to release cylinders.

- **8.** Place the 6 in (15.2 cm) high block with ascension ramp in front of right front wheel.
- Place Drive control lever to Forward and carefully drive machine up ascension ramp until right front wheel is on top of block.
- With boom over left side of machine, place Drive control lever to Reverse and drive machine off of block and ramp.
- **11.** Have an assistant check to see that right front or left rear wheel remains elevated in position off of ground.
- **12.** Carefully activate Swing control lever and return boom to stowed position (centered between drive wheels). When boom reaches center, stowed position, lockout cylinders should release and allow wheel to rest on ground, it may be necessary activate Drive to release cylinders.
- If lockout cylinders do not function properly, have qualified personnel correct the malfunction prior to any further operation.

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#### 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 functions.

#### 3.2 CONTROLS AND INDICATORS

#### **NOTE:**

The indicator panels use different shaped symbols to alert the operator to different types of operational situations that could arise. The meaning of those symbols are explained below.



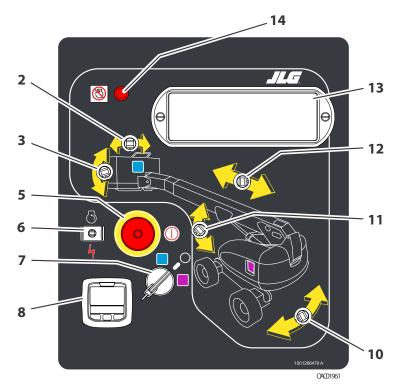
Indicates a potentially hazardous situation, which if not corrected, could result in serious injury or death. This indicator will be red.



Indicates an abnormal operating condition, which if not corrected, may result in machine interruption or damage. This indicator will be yellow.



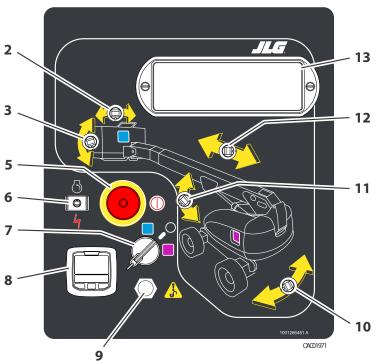
Indicates important information regarding the operating condition, i.e. procedures essential for safe operation. This indicator will be green with the exception of the capacity indicator which will be green or yellow depending upon platform position.



- 1. Not Used
- 2. Platform Rotate
- 3. Platform Leveling Override
- 4. Not Used
- 5. Power/Emergency Stop
- 6. Engine Start/Auxiliary Power
- 7. Platform/Ground Select Switch
- 8. Display Gauge
- 9. Not Used
- 10. Swing
- 11. Lift
- 12. Telescope
- 13. Indicator Panel
- 14. Air Shutoff Valve (ASOV) (If Equipped)

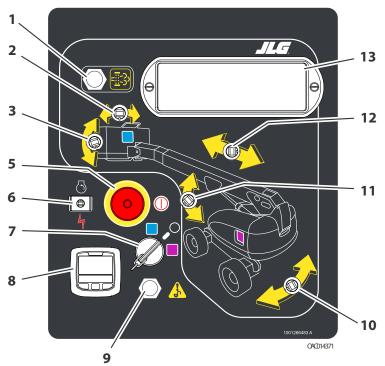
Figure 3-1. Ground Control Console - 800S without MSSO

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- 1. Not Used
- 2. Platform Rotate
- 3. Platform Leveling Override
- 4. Not Used
- 5. Power/Emergency Stop
- 6. Engine Start/Auxiliary Power
- 7. Platform/Ground Select Switch
- 8. Display Gauge
- 9. Machine Safety System Override (MSSO)
- 10. Swing
- 11. Lift
- 12. Telescope
- 13. Indicator Panel

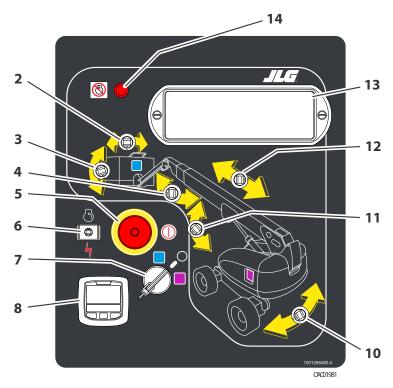
Figure 3-2. Ground Control Console - 800S with MSSO



- Diesel Particulate Filter (DPF)
- 2. Platform Rotate
- 3. Platform Leveling Override
- 4. Not Used
- 5. Power/Emergency Stop
- 6. Engine Start/Auxiliary Power
- 7. Platform/Ground Select Switch
- 8. Display Gauge
- 9. Machine Safety System Override (MSSO)
- 10. Swing
- 11. Lift
- 12. Telescope
- 13. Indicator Panel

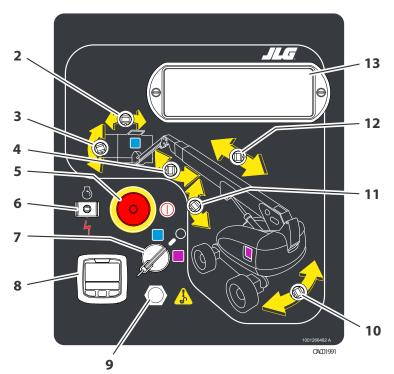
Figure 3-3. Ground Control Console - 800S with MSSO and DPF

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- . Not Used
- 2. Platform Rotate
- 3. Platform Leveling Override
- 4. Articulating Jib Boom
- 5. Power/EmergencyStop
- 6. Engine Start/Auxiliary Power
- 7. Platform/Ground Select Switch
- 8. Display Gauge
- 9. Not Used
- 10. Swing
- 11. Lift
- 12. Telescope
- 13. Indicator Panel
- 14. Air Shutoff Valve (ASOV) (If Equipped)

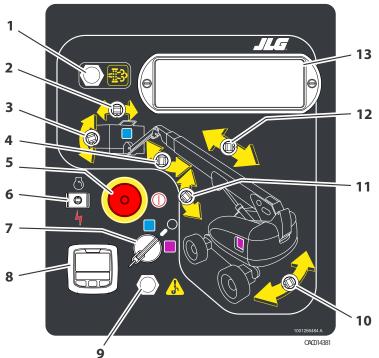
Figure 3-4. Ground Control Console - 860SJ without MSSO



- 1. Not Used
- 2. Platform Rotate
- 3. Platform Leveling Override
- 4. Articulating Jib Boom
- 5. Power/Emergency Stop
- 6. Engine Start/Auxiliary Power
- 7. Platform/Ground Select Switch
- 8. Display Gauge
- 9. Machine Safety System Override (MSSO)
- 10. Swing
- 11. Lift
- 12. Telescope
- 13. Indicator Panel

Figure 3-5. Ground Control Console - 860SJ with MSSO

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- Diesel Particulate Filter (DPF)
- 2. Platform Rotate
- 3. Platform Leveling Override
- 4. Articulating Jib Boom
- 5. Power/Emergency Stop
- 6. Engine Start/Auxiliary Power
- 7. Platform/Ground Select Switch
- 8. Display Gauge
- 9. Machine Safety System Override (MSSO)
- 10. Swing
- 11. Lift
- 12. Telescope
- 13. Indicator Panel

Figure 3-6. Ground Control Console - 860SJ with MSSO and DPF

## **▲** WARNING

TO AVOID SERIOUS INJURY, DO NOT OPERATE MACHINE IF ANY CONTROL LEVERS OR TOGGLE SWITCHES CONTROLLING PLATFORM MOVEMENT DO NOT RETURN TO THE OFF OR NEUTRAL POSITION WHEN RELEASED.

#### **Ground Control Console**

(See Figure 3-1., Figure 3-2., Figure 3-4. and Figure 3-5.)

**NOTE:** When Power/Emergency Stop switch is in the On position and engine is not running, an alarm will sound, indicating Ignition is On.

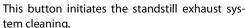
## **A** CAUTION

WHEN THE MACHINE IS SHUT DOWN THE MASTER/EMERGENCY STOP SWITCH MUST BE POSITIONED TO THE OFF POSITION TO PREVENT DRAINING THE BATTERY.

## **A** WARNING

TO AVOID SERIOUS INJURY, DO NOT OPERATE MACHINE IF ANY CONTROL LEVERS OR TOGGLE SWITCHES CONTROLLING PLATFORM MOVEMENT DO NOT RETURN TO THE OFF POSITION WHEN RELEASED.

1. Diesel Particulate Filter (DPF) (If Equipped)





Platform Rotate

Provides rotation of the platform.



3. Platform Leveling Override

A three position switch allows the operator to adjust the automatic self leveling system. This switch is used to adjust platform level in situations such as ascending/descending a grade.



## **A** WARNING

ONLY USE THE PLATFORM LEVELING OVERRIDE FUNCTION FOR SLIGHT LEVELING OF THE PLATFORM. INCORRECT USE COULD CAUSE THE LOAD/OCCUPANT TO SHIFT OR FALL. FAILURE TO DO SO COULD RESULT IN DEATH OR SERIOUS INJURY.

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#### 4. Jib (If Equipped)

Provides raising and lowering of the jib.



5. Power/Emergency Stop Switch

A two-position red mushroom shaped switch supplies power to Platform/Ground Select switch when pulled out (On). When pushed in (Off), power is shut off to the Platform/Ground Select switch.

6. Engine Start/Auxiliary Power Switch

To start the engine, the switch must be held Up until the engine starts.



To use auxiliary power, the switch must be held Down for duration of auxiliary pump use. Auxiliary power can only be used if the engine is not running.



**NOTE:** Auxiliary power only works if there is no engine oil pressure, and is disabled if engine is running.

**NOTE:** On machines with diesel engines, when Glow Plug Indicator is lighted (Yellow), wait until light goes out before cranking engine.

NOTE:

Functions will operate at a slower than normal rate because of the lesser flow of hydraulic fluid delivered.



WHEN USING AUXILIARY POWER, DO NOT OPERATE MORE THAN ONE FUNCTION AT A TIME. (SIMULTANEOUS OPERATION CAN OVERLOAD THE AUXILIARY PUMP.)

NOTE:

When the Platform/Ground Select Switch is in the center position, power is shut off to the controls at both operating consoles. Remove the key to prevent the controls from being actuated. The key is removable in the platform position on CE/UKCA specification machines. The key must be available to ground personnel in the event of an emergency.



7. Platform/Ground Select Switch

The three position, key operated switch supplies power to the platform control console when positioned to Platform. With the switch key turned to the Ground position only ground controls are operable.



#### **Display Gauge**

Registers engine hours, fuel level (if applicable), and Diagnostic Trouble Codes (DTCs) from the JLG Control System and the engine control system.



Machine Safety System Override (MSSO) (If Equipped)



Provides emergency override of function controls that are locked out in the event of Load Sense System activation.



Swing Control



Provides 360 degrees continuous turntable rotation.

#### Telescope Control



Provides extension and retraction of the boom.

#### 12. Lift Control

Provides raising and lowering of the boom.



Indicator Panel. 13.

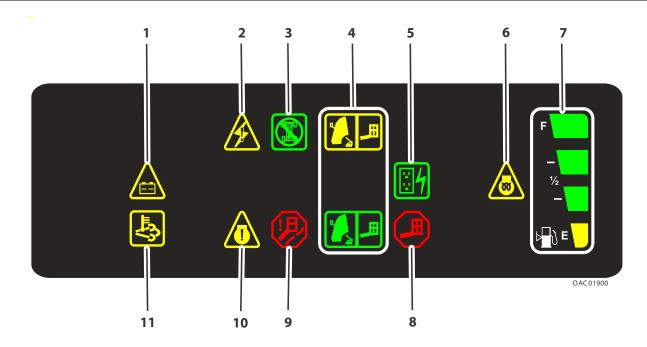
> The LED Indicator Panel contains indicator lights that signal problem conditions or functions operating during machine operation.

**14.** Air Shutoff Valve (ASOV) (If Equipped)



The red LED ASOV light indicates when the valve has been actuated.

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- 1. Battery Charge
- 2. System Distress
- 3. Drive Steer Disable

- 4. Platform Capacity
- 5. Generator
- 6. Glow Plug

- 7. Fuel Level
- 8. Platform Overload
- 9. Wire Rope Service
- 10. Engine Error
- 11. Emissions Temperature

Figure 3-7. Ground Control Indicator Panel

#### **Ground Control Indicator Panel**

(See Figure 3-7., Ground Control Indicator Panel.)

**NOTE:** Indicator lights illuminate as a self test for approximately 1 second when key is turned to the on position.

1. Battery Charge Indicator



Indicates a problem in the battery or charging circuit, and service is required.

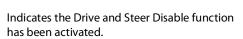
The indicator illuminates when the JLG Control

System Distress Indicator



System has detected an abnormal condition and a Diagnostic Trouble Code has been set in the system memory. Refer to the Service Manual for instructions concerning the trouble codes and trouble code retrieval. The system distress indicator light will illuminate for 2-3 seconds when the key is positioned to the On position to act as a self test.

3. Drive Steer Disable Indicator





Platform Capacity Indicator

Indicates the platform capacity zone for the current position of the platform. Restricted capacities are permitted at restricted platform positions (shorter boom lengths and higher boom angles).



**NOTE:** 

Refer to capacity decals on the machine for restricted and unrestricted platform capacities.

**5.** Generator



Indicates the generator is in operation.

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Glow Plug Indicator

Indicates the glow plugs are on. The glow plugs are automatically turned on with the ignition circuit and remain in for approximately 7 seconds. Start the engine only after the light goes out.

Fuel Level Indicator

Indicates the level of the fuel in the fuel tank.

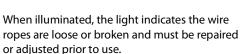


Platform Overload Indicator

Indicates the platform has been overloaded.



Wire Rope Service Indicator





**Engine Error Indicator** 





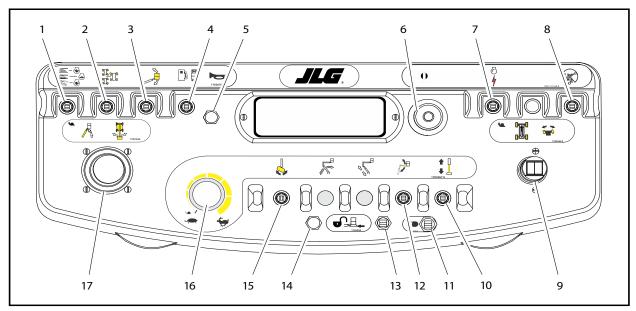
**Emissions Temperature Indicator** 



Indicator illuminates when the engine emissions control sensor reaches a high temperature.



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- Drive Speed / Torque Select
- 2. Steer Select
- 3. Platform Leveling Override
- 4. Fuel Select
- 5. Horn

- 6. Power/Emergency Stop
- 7. Engine Start / Auxiliary Power
- 8. Drive Orientation Override
- 9. Drive/Steer

- 10. Telescope
- 11. Lights
- 12. Jib (If Equipped)
- 13. Soft Touch/SkyGuard/SkySense Override
- 14. Soft Touch/SkyGuard/SkySense
- Indicator
- 15. Platform Rotate
- 16. Function Speed Control
- 17. Main Lift/Swing Controller

Figure 3-8. Platform Console

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#### **Platform Console**

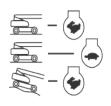
(See Figure 3-8., Platform Console)

## WARNING

TO AVOID SERIOUS INJURY, DO NOT OPERATE MACHINE IF ANY CONTROL LEVERS OR TOGGLE SWITCHES CONTROLLING PLATFORM MOVEMENT DO NOT RETURN TO THE OFF OR NEUTRAL POSITION WHEN RELEASED.

Drive Speed/Torque Select

The machine has a three position switch - The forward position gives maximum drive speed. The back position gives maximum torque for rough terrain and climbing grades. The cen-

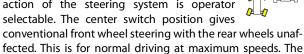


ter position allows the machine to be driven as quietly as possible.

forward position is for "crab" steering. When in this mode

Steer Select (If Equipped)

When equipped with four wheel steering, the action of the steering system is operator selectable. The center switch position gives



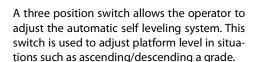
both front and rear axles steer in the same direction, which allows the chassis to move sideways as it goes forward. This can be used for positioning the machine in aisle ways or against buildings. The back switch position is for "coordinated" steering. In this mode the front and rear axles steer in the opposite directions to produce the tightest turning circle for maneuvering in confined areas.

To re-synchronize the front and rear axles, position the rear drive wheels to the forward drive position by selecting either crab or compound steer, then select front steer (center switch position) to operate the normal steering function.

## WARNING

ONLY USE THE PLATFORM LEVELING OVERRIDE FUNCTION FOR SLIGHT LEVELING OF THE PLATFORM. INCORRECT USE COULD CAUSE THE LOAD/OCCUPANTS TO SHIFT OR FALL. FAILURE TO DO SO COULD RESULT IN DEATH OR SERIOUS INJURY.

Platform Leveling Override





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**4.** Fuel Select (Dual Fuel Engine Only) (If Equipped)





Gasoline or liquid propane fuel may be selected by moving the switch to the appropriate position. It is unnecessary to purge the fuel system before switching fuels, so there is no waiting period when switching fuels while the engine is running.

5. Horn

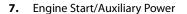


A push-type Horn switch supplies electrical power to an audible warning device when pressed.

Power/Emergency Stop Switch



A two-position red mushroom shaped switch furnishes power to Platform Controls when pulled out (on). When pushed in (off), power is shut off to the platform functions.





When pushed forward, the switch energizes the starter motor to start the engine.

The Auxiliary Power control switch energizes the electrically operated hydraulic pump. (Switch must be held on for duration of auxiliary pump use.)



The auxiliary pump functions to provide sufficient oil flow to operate the basic machine functions should the main pump or engine fail. The auxiliary pump will operate Boom Lift, Telescope and Swing.

**Drive Orientation Override** 

When the boom is swung over the rear tires or further in either direction, the Drive Orientation indicator will illuminate when the drive



function is selected. Push and release the switch, and within 3 seconds move the Drive/Steer control to activate drive or steer. Before driving, locate the black/white orientation arrows on both the chassis and the platform controls. Move the drive controls in a direction matching the directional arrows for the intended direction of travel.

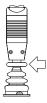
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**NOTE:** Lift, Swing, and Drive control levers are spring-loaded and will automatically return to neutral (off) position when released.

## **▲** WARNING

TO AVOID SERIOUS INJURY, DO NOT OPERATE MACHINE IF ANY CONTROL LEVERS OR TOGGLE SWITCHES CONTROLLING PLATFORM MOVEMENT DO NOT RETURN TO THE OFF OR NEUTRAL POSITION WHEN RELEASED.

**NOTE:** To operate the Drive joystick, pull up on the locking ring below the handle.



**NOTE:** The Drive joystick is spring loaded and will automatically return to neutral (off) position when released.

9. Drive/Steer

Push forward to drive forward, pull back to drive in reverse. Steering is accomplished via a thumb-activated rocker switch on the end of the steer handle.



**10.** Main Boom Telescope

Provides extension and retraction of the main boom.



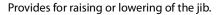
11. Lights (If Equipped)



This switch operates the accessory lights package if the machine is so equipped.

**NOTE:** The ignition switch does not have to be on to operate the lights, so care must be taken to avoid draining the battery if left unattended. The master switch and/or ignition switch at the ground control will turn off power to all lights.

12. Jib (If Equipped)





#### 13. Soft Touch/SkyGuard/SkySense Override Switch

For machines equipped with SkyGuard:

The SkyGuard override switch enables functions cut out by the Skyguard system to be operated again, allowing the operator to resume use of machine functions.



For machines equipped with both SkyGuard and Soft Touch:

The switch operates like the SkyGuard override switch as described above. The switch also enables the functions cut out by the Soft Touch system to



operate again at creep speed, allowing the operator to move the platform away from the obstacle that caused the shutdown situation.

For machines equipped with both SkyGuard and SkySense:

The switch operates like the SkyGuard override switch as described above. The switch also enables the functions cut out by the SkySense system to



operate again at creep speed, allowing the operator to move the platform closer to the obstacle that caused the shutdown situation if desired.

#### **14.** Soft Touch/SkyGuard/SkySense Indicator

Indicates the Soft Touch bumper is against an object or the SkyGuard sensor has been activated. All controls are cut out until the override button is pushed. For Soft Touch, controls are then active in the Creep Mode or for SkyGuard, controls will work normally.

If machine is equipped with SkySense, the switch will mute the SkySense speakers.

#### **15.** Platform Rotate

Provides rotation of the platform.



# **NOTE:** Main Lift, Swing, and Drive control levers are spring-loaded and will automatically return to neutral (Off) position when released.

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#### **16.** Function Speed Control

This control knob affects the speed of Telescope, Jib (If Equipped), and Platform Rotate functions.



During platform rotation, a speed difference NOTE: may not be noticeable to the operator.

> Turning the knob all the way counterclockwise until it clicks puts the machine into Creep Mode. Creep Mode puts the functions listed above, as well as Drive/Steer and Main Lift/ Swing functions into the slowest speed setting.

NOTE: To operate the Main Boom Lift/Swing joystick, pull up on the locking ring below the handle.



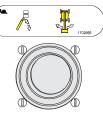
NOTE: The Main Boom Lift/Swing joystick is spring

loaded and will automatically return to neutral (Off) position when released.



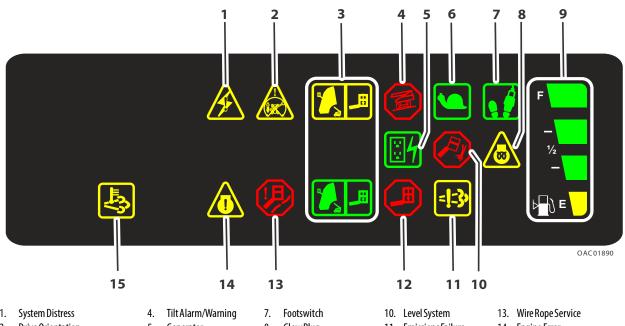
Main Lift/Swing Controller

Provides Main Lift and Swing. Push forward to lift up, pull backward to boom down. Move right to swing right, move left to swing left.



**NOTE:** Main boom lift and swing functions may be selected in combination. Maximum speed is reduced when multiple functions are selected.

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- **Drive Orientation**
- Capacity Zone Indicator
- Generator
- Creep

- Fuel Level
- Glow Plug

- 11. Emissions Failure
- 12. Platform Overload
- 14. Engine Error
- 15. Emissions Temperature

**Figure 3-9. Platform Control Indicator Panel** 

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### **Platform Control Indicator Panel**

(See Figure 3-9., Platform Control Indicator Panel)

**NOTE:** Indicator lights illuminate as a self test for approximately 1 second when key is turned to the on position.

#### 1. System Distress Indicator

The indicator illuminates when the JLG Control System has detected an abnormal condition and a Diagnostic Trouble Code has been set in the system memory. Refer to the Service Manual for instructions concerning the trouble codes and trouble code retrieval. The system distress indicator light will illuminate for 2-3 seconds when the key is positioned to the ON position to act as a self test.

#### 2. Drive Orientation Indicator

Indicates the Drive and Steer Disable function has been activated.



#### 3. Platform Capacity Indicator

Indicates the platform capacity zone for the current position of the platform. Restricted capacities are permitted at restricted platform positions (shorter boom lengths and higher boom angles).



**NOTE:** Refer to capacity decals on the machine for restricted and unrestricted platform capacities.

#### 4. Tilt Warning Light and Alarm

This red illuminator indicates the chassis is on a slope. If the boom is above horizontal and the machine is on a slope, the tilt alarm warning light will illuminate, an alarm will sound, and Creep is automatically activated.

Tilt Angle	Specification
4°	All Markets

## **A** WARNING

IF TILT WARNING LIGHT IS ILLUMINATED WHEN BOOM IS RAISED OR EXTENDED, RETRACT AND LOWER TO BELOW HORIZONTAL THEN REPOSITION MACHINE SO THAT IT IS WITHIN THE LIMITS OF THE MAXIMUM OPERATING SLOPE BEFORE EXTENDING BOOM OR RAISING BOOM ABOVE HORIZONTAL.

**NOTE:** When the tilt sensor alarm is activated the Drive function will be disabled if the boom is elevated above horizontal.

#### 5. Generator Indicator

Indicates the generator is in operation.



#### 6. Creep Speed Indicator

When the Function Speed Control is turned to the Creep position, the indicator acts as a reminder that all functions are set to the slowest speed.

#### 7. Footswitch Enable Indicator

To operate any function, the footswitch must be depressed, and the function selected within seven seconds. The analysis indicator shows that the



seven seconds. The enable indicator shows that the controls are enabled. If a function is not selected within seven seconds, or if a seven second lapse between ending one function and beginning the next function, the enable light will go out and the footswitch must be released and depressed again to enable the controls. Releasing the footswitch removes power from all controls and applies the drive brakes.

## **▲** WARNING

TO AVOID SERIOUS INJURY, DO NOT REMOVE, MODIFY OR DISABLE THE FOOTSWITCH BY BLOCKING OR ANY OTHER MEANS.

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#### 8. Glow Plug Indicator

Indicates the glow plugs are operating. After turning on ignition, wait until light goes out before cranking engine.



#### 9. Fuel Level Indicator

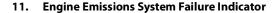
Indicates the level of the fuel in the fuel tank.



#### 10. Level System Fault Indicator

Indicates a fault in the electronic leveling system.

The fault indicator will flash and an alarm will sound. All functions will default to creep if the boom is extended past transport mode (24 in [61 cm]) or elevated more than 15 degrees above horizontal.



Indicator illuminates when there is a fault with the Emissions After Treatment system.

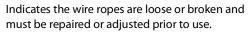


#### 12. Platform Overload Indicator

Indicates the platform has been overloaded.



#### 13. Wire Rope Service Indicator





#### 14. Engine Error Indicator

Indicates an engine fault requiring service.



### 15. Emissions Temperature Indicator

Indicator illuminates when the engine emissions control sensor reaches a high temperature.



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### **SECTION 4. MACHINE OPERATION**

#### 4.1 DESCRIPTION

This machine is a mobile elevating work platform used to position personnel, along with their necessary tools and materials at work locations.

The primary operator control console is in the platform. From this control console, the operator can drive and steer the machine in both forward and reverse directions. The operator can raise or lower the upper or lower boom or swing the boom to the left or right. Standard boom swing is 360 degree continuous left and right of the stowed position. The machine has a Ground Control Console which will override the Platform Control Console. Ground Controls operate all functions except drive and steer. Except for performing inspections and the Function Check, the ground controls are to be used in an emergency to lower the platform to the ground should the operator in the platform be unable to do so.

#### 4.2 OPERATING CHARACTERISTICS AND LIMITATIONS

## **Capacities**

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

- Machine is positioned on a smooth, firm surface within the limits of the maximum operating slope.
- **2.** Load is within manufacturers rated design capacity.
- **3.** All machine systems are functioning properly.
- **4.** Machine is as originally equipped from JLG.

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## **Platform Load Sensing System (LSS)**

The Platform Load Sensing System provides the platform capacity to the control system.

If the LSS system senses an overload condition, boom functions will be disabled, the overload indicator is illuminated at both control stations, and the overload alarm will sound. Reduce the weight in the platform to not exceed the rated workload indicated on the capacity decal, then the controls will work again.

## **Stability**

Machine stability is based on two (2) conditions which are called FORWARD and BACKWARD stability. The machine's position of least FORWARD stability is shown in (See Figure 4-2.), and its position of least BACKWARD stability is shown in (See Figure 4-1.)

## **A** WARNING

TO AVOID FORWARD OR BACKWARD TIPPING, DO NOT OVERLOAD MACHINE OR OPERATE THE MACHINE BEYOND THE LIMIT OF THE MAXIMUM OPERATING SLOPE.

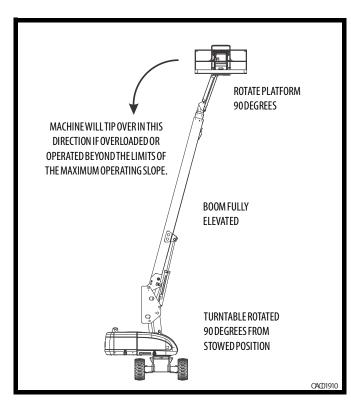


Figure 4-1. Position of Least Backward Stability

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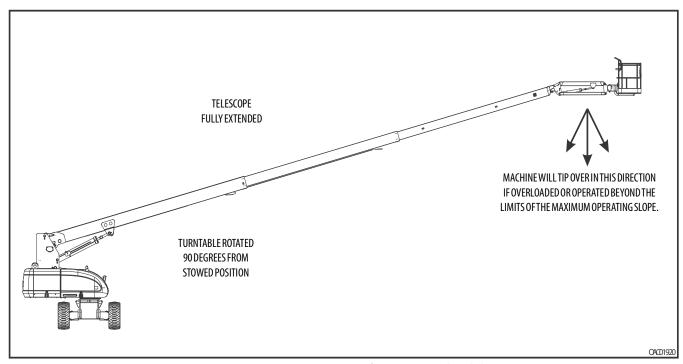


Figure 4-2. Position of Least Forward Stability

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### 4.3 ENGINE OPERATION

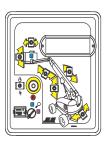
**NOTE:** When operating a machine at high altitudes, a decrease in machine performance may occur due to a decrease in air den-

sity.

**NOTE:** When operating a machine at high ambient temperatures, a decrease in machine performance and an increase in engine coolant temperature may occur.

**NOTE:** Contact JLG Customer Service for operation under abnormal conditions.

**NOTE:** Initial starting should always be performed from the Ground Control console.



## **Starting Procedure**

## **A** CAUTION

IF ENGINE FAILS TO START PROMPTLY, DO NOT CRANK FOR AN EXTENDED TIME. SHOULD ENGINE FAIL TO START AGAIN, ALLOW STARTER TO "COOL OFF" FOR 2-3 MINUTES. IF ENGINE FAILS AFTER SEVERAL ATTEMPTS, REFER TO ENGINE MAINTENANCE MANUAL.

**NOTE:** 

Diesel engines only: After turning on ignition, operator must wait until glow plug indicator light goes out before cranking engine.



 Turn key of Platform/Ground Select switch to Ground.



**2.** Pull the Power/Emergency Stop switch to On.



Push the Engine Start switch until engine starts.



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## **▲** CAUTION

ALLOW ENGINE TO WARM-UP FOR A FEW MINUTES AT LOW SPEED BEFORE APPLYING ANY LOAD.

 After engine has had sufficient time to warm up, push in the Power/Emergency Stop switch and shut engine off.



Turn Platform/Ground Select switch to Platform.



**6.** From Ground Control Console, pull Power/ Emergency Stop switch out.



**7.** From Platform Control Console, pull Power/ Emergency Stop switch out.



Push the Engine Start switch until engine starts.



NOTE:

Footswitch must be in released (up) position before starter will operate. If starter operates with footswitch in the depressed position, DO NOT OPERATE MACHINE.

#### **Shutdown Procedure**



IF AN ENGINE MALFUNCTION CAUSES AN UNSCHEDULED SHUTDOWN, DETERMINE THE CAUSE AND CORRECT IT BEFORE RESTARTING THE ENGINE.

 Remove all load and allow engine to operate at low speed for 3-5 minutes; this allows further reduction of internal engine temperature.

2. Push Power/Emergency Stop switch in.



**3.** Turn Platform/Ground Select switch to Off.

Refer to Engine Manufacturer's manual for detailed information.



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## Air Shutoff Valve (ASOV) (If Equipped)

Air Shutoff Valve (ASOV) is an overspeed protection device mounted to the engine's air intake system. When the valve is actuated, it obstructs airflow intake and stops the engine. Weekly tests are recommended to ensure the valve remains in good working condition.

- Start the engine, running at idle.
- Open the red switch guard on ASOV test switch, then activate toggle to test mode.

**NOTE:** Test switch is located under hood to the left of the ground control panel (look for test decal).

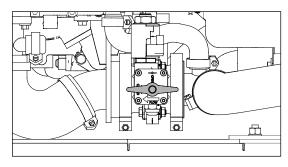


- **3.** At the ground control panel, select any function and activate until valve actuates at test RPM of 1500. Once valve actuates, engine will stop.
- 4. Turn ignition to OFF.
- **5.** Visually inspect valve to ensure it appears in good condition.
- **6.** Reset valve by rotating valve handle to the Open position.

**NOTE:** The handle cannot be turned unless the machine is off. Ensure the ignition is moved to the OFF position.



DO NOT USE ASOV AS AN ALTERNATIVE TO SHUTTING DOWN MACHINE PROPERLY.



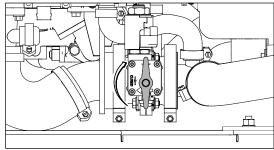


Figure 4-3. ASOV Reset (Open to Closed Position)

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## **Fuel Reserve / Shut-Off System**

**NOTE:** Reference the Service and Maintenance Manual along with a qualified JLG Mechanic to verify your machine setup.

The Fuel Shutoff System monitors the fuel in the tank and senses when the fuel level is getting low. The JLG Control System automatically shuts the engine down before the fuel tank is emptied unless the machine is set up for Engine Restart.

If fuel level reaches the Empty range, the Low Fuel light will begin to flash once a second and there will be approximately 60 minutes of engine run time

left. If the system is in this condition and automatically shuts down the engine or if the operator manually shuts down the engine before the 60 minute run time is complete, the Low Fuel light will flash 10 times a second and the engine will react according to machine setup. Setup options are as follows:

 Engine One Restart - When the engine shuts down, the operator will be permitted to cycle power and restart the engine once with approximately 2 minutes of run time. After the 2 minute run time is complete or if the engine is shut down by the operator prior to the completion of the 2 minute run time, it cannot be restarted until fuel is added to the tank.

- Engine Restart When the engine shuts down, the operator will be permitted to cycle power and restart the engine for approximately 2 minutes of run time. After the 2 minutes of run time is complete, the operator may cycle power and restart the engine for an additional 2 minutes of run time. The operator can repeat this process until there is no more fuel available.
- Engine Stop When the engine shuts down, no restarts will be permitted until fuel is added to the tank.

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## 4.4 DIESEL PARTICULATE FILTER (IF EQUIPPED)

Diesel Particulate Filter (DPF) is an emissions control system used in diesel engines and requires operator interaction to make sure proper operation of the system.

For peak operation, the DPF system must be cleaned using one of two methods, Standstill Cleaning and Maintenance Standstill Cleaning. Standstill Cleaning is any cleaning requested by the engine outside of the regular maintenance window (for example, if the system detects excessive soot in the DPF canister). Maintenance Standstill Cleaning is cleaning requested by the engine on the regular maintenance interval.

**NOTE:** The system will reset the maintenance interval back to zero hours after Standstill or Maintenance Standstill Cleaning events are performed.

## **Standstill Cleaning**

The following conditions must be met to perform Standstill Cleaning.

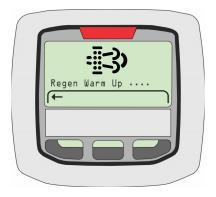
- · Machine must be stationary
- · Boom in the stowed position
- · No personnel in platform
- · Engine must be idling
- Coolant temperature must be above 104° F (40° C)
- · Machine in Ground Station mode
- The Diesel Particulate Filter (DPF) Indicator on the Platform Control Panel will flash when standstill cleaning is required.



**2.** Move the machine to an suitable area free of flammables and personnel that could be exposed to hot exhaust.

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**3.** Launch the cleaning process by pressing the DPF button on the Ground Console for 3 seconds. The Indicator Gauge will display the following screen.



4. The Main Cleaning process will begin and last for approximately 30 to 60 minutes. The following screen will show that the process has begun and includes a status bar that indicates the progress of the cleaning process.





#### **SECTION 4 - MACHINE OPERATION**

5. After the cleaning process is complete, the engine will run for approximately 5 minutes to allow the engine and Exhaust After Treatment (EAT) to cool down. The Indicator Gauge will display the "Regen Complete" screen as shown and the Emissions Temperature indicator will no longer be illuminated.



# **Maintenance Standstill Cleaning Initiation Methods**

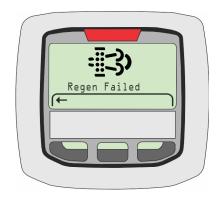
Maintenance Standstill Cleaning can be started by one of two methods, by using the Analyzer or the DPF button on the Ground Console. All the same conditions as outlined under Standstill Cleaning must be met.

## **Canceling Maintenance Standstill**

Maintenance Standstill Cleaning will be stopped immediately if:

- The Platform/Ground Select switch is switched from Ground to Platform mode
- Any function switch is enabled to perform a boom function
- · The Engine is powered down

If Maintenance Standstill Cleaning is interrupted, it must be reinitiated and the Indicator Gauge will display the "Regen Failed" screen as shown.



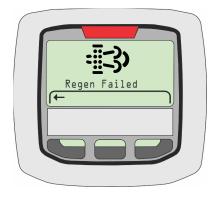
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## **Unsuccessful Cleaning Event**

If there is an unsuccessful cleaning event, the DPF icon will show on the display gauge. Possible causes of an Unsuccessful Cleaning Event are:

- · Engine is not warmed up
- · DEF tank is frozen
- Machine functions operated during cleaning event in progress
- · Other engine faults are active

The Gauge will display "Regen Failed" screen as shown. If the cleaning event has failed, the process must be repeated.



## **DPF Filter Replacement due to Ash Load**

The DPF collects non-burnable particulates which cannot be removed by the Standstill Cleaning process. Build up of the ash load requires filter maintenance and/or exchange.

DPF filter maintenance or exchange requirement is indicated by the DPF Exchange icon shown on the display gauge.

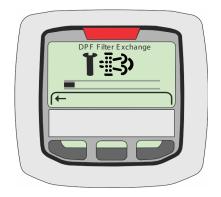


Table 4-1. Ash Load DPF Filter Replacement

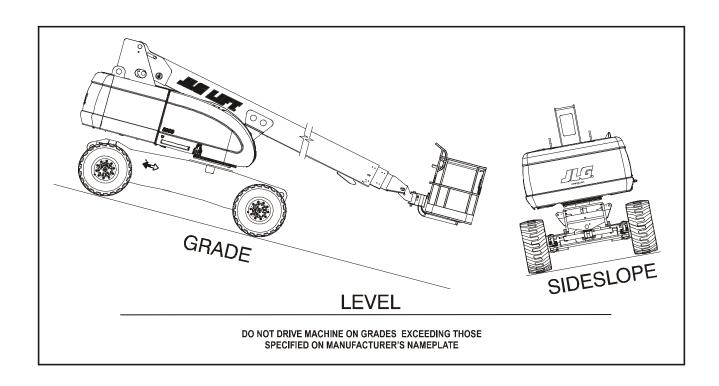
	Ash Load	DPF Filter Exchange Indicator	Engine Error Indicator	Derate
Normal Operation	<100%			None
Filter Exchange Required	≥100%	DPF Filter Exchange		None
Warning Level	Warning Level ≥ 105%			None
Warning Level	≥110%	Blinking  DPF Filter Exchange	Continuous	Machine placed in Creep and DTC active. Contact Deutz Dealer

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	l Cleaning vels	Machine Hours Since Last Cleaning	Engine Error Indicator	DPF Indicator	Emissions Temperature Indicator*	Derate	Comments	
•	Normal	0-500				N	Between 500 and 650 hours,	
0	Operation	500-650				None	cleaning cycle can be initiated with JLG analyzer.	
1	Standstill	650-750		<u></u>	E	None	Engine coolant temperature	
	Required			-11-57	<b>?</b>		must be > 40° C and machine	
2	Warning	750-775	Continuous			Machine placed in Creep	must be in ground station mode.	
2	Level	/50-//5		<u>=</u> 3)		and DTC active		
_	Shut Off		Blinking			Idle Lock. Boom Func-		
3	Level	>775		<b>=3</b>		tions Locked Out and trapped in Transport.		
	Filter	DPF Regeneration NOTPOSSIBLE	Blinking			Idle Lock. Boom Func-	Contact Deutz Dealer	
4	Exchange	DPF Filter exchange required				tions Locked Out and trapped in Transport.		
*Emissions To	emperature ind	icator continuously ON d	uring Standstill Clear	ning				

Soot Levels	Soot Load/ Time	DPF Cleaning Initiation Methods	Engine Error Indicator	DPF Indicator	Emissions Temperature Indicator*	Derate	Comments
Normal Opera- tion	<99%					None	
Standstill Required	100% to 109% or 100 Hours	Switch in JLG Machine or JLG Analyzer				None	Will remain in Stand- still mode for 100 hours or until the soot load reaches 109%
Warning Level	109% to 125% or 25 Hours	Switch in JLG Machine or JLG Analyzer	Continuous			Machine placed in Creep and DTC active	Will remain in Warning level (Derate) for 25 hours or until the soot load reaches 125%
Shut Off Level	125% to 161%	DPF Cleaning Not Possible	Blinking	<b>=</b> 3		Idle Lock. Boom Functions Locked Out and Trapped in Transport	Contact Deutz Dealer
Filter Exchange	>161%	DPF Cleaning Not Possible	Blinking	<b>=3</b> )		Idle Lock. Boom Functions Locked Out and Trapped in Transport	Contact Deut2 Dealei

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# 4.5 TRAVELING (DRIVING)

NOTE:

When the upper boom is raised approximately 11 degrees above horizontal, the high drive function will automatically be in low drive.

**NOTE:** 

Refer to the Operating Specifications table for Gradeability and Sideslope ratings.

All ratings for Gradeability and Sideslope are based upon the machine's boom being in the stowed position, fully lowered, and retracted.

Traveling is limited by two factors:

- Gradeability, which is the percent of grade of the incline the machine can climb.
- Sideslope, which is the angle of the slope the machine can be driven across.

# **A** WARNING

DO NOT DRIVE THE MEWP OUT OF TRANSPORT MODE EXCEPT ON A SMOOTH, FIRM SURFACE WITHIN THE LIMITS OF THE MAXIMUM OPERATING SLOPE.

TO AVOID LOSS OF TRAVEL CONTROL OR TIP OVER, DO NOT DRIVE MACHINE ON GRADES EXCEEDING THOSE SPECIFIED IN THE OPERATING SPECIFICATIONS SECTION OF THIS MANUAL.

BE SURE THE TURNTABLE LOCK IS ENGAGED BEFORE ANY EXTENDED TRAVELING.

DO NOT DRIVE ON SIDESLOPES WHICH EXCEED 4 DEGREES.

USE EXTREME CAUTION WHEN DRIVING IN REVERSE AND AT ALL TIMES WHEN DRIVING WITH PLATFORM ELEVATED.

BEFORE DRIVING, MAKE SURE BOOM IS POSITIONED OVER REAR DRIVE AXLE. IF BOOM IS OVER FRONT WHEELS, STEER AND DRIVE CONTROLS WILL BE REVERSED. LOCATE THE BLACK/WHITE ORIENTATION ARROWS ON BOTH THE CHASSIS AND THE PLATFORM CONTROLS. MOVE THE DRIVE CONTROLS IN A DIRECTION MATCHING THE DIRECTIONAL ARROWS FOR THE INTENDED DIRECTION OF TRAVEL.

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# **Traveling Forward and Reverse**

1. At Platform Controls, pull out Emergency Stop switch and activate footswitch.



2. Position Drive controller to FORWARD or REVERSE as desired.

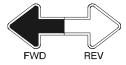


This machine is equipped with a Drive Orientation Indicator. The yellow light on the platform control console indicates that the boom is swung beyond the rear drive tires and the machine may Drive/ Steer in the opposite direction from the move-



ment of the controls. If the indicator is illuminated, operate the Drive function in the following manner:

Match the black and white direction arrows on both platform control panel and the chassis to determine the direction the machine will travel.



Push and release the Drive Orientation Override switch. Within 3 seconds, slowly move the Drive control toward the arrow matching the intended direction of machine travel. The indicator light will flash during the 3 second interval until the drive function is selected.



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## **Traveling on a Grade**

When traveling a grade, maximum braking and traction are obtained with the boom stowed, in position over the rear (drive) axle, and in line with the direction of travel. Drive the machine forward when climbing a grade, and in reverse when descending a grade. Do not exceed the machine's maximum rated gradeability.

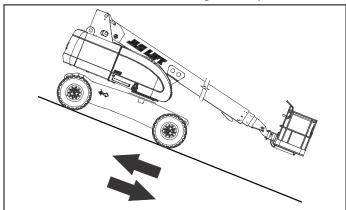


Figure 4-4. Traveling on a Grade



IF THE BOOM IS OVER THE FRONT (STEER) AXLE, DIRECTION OF STEER AND DRIVE MOVEMENT WILL BE OPPOSITE FROM THE MOVEMENT OF THE CONTROLS.

#### 4.6 STEERING

Position thumb switch on Drive/Steer controller to Right for steering right, or to Left for steering left.



#### 4.7 PLATFORM

## **Platform Level Adjustment**

# **▲** WARNING

ONLY USE THE PLATFORM LEVELING OVERRIDE FUNCTION FOR SLIGHT LEVELING OF THE PLATFORM. INCORRECT USE COULD CAUSE THE LOAD/OCCUPANTS TO SHIFT OR FALL. FAILURE TO DO SO COULD RESULT IN DEATH OR SERIOUS INJURY.

To Level Up or Down - Position the Platform/Level control switch Up or Down and hold until the platform is level.



#### **Platform Rotation**

To rotate the platform to the left or right, use the Platform Rotate control switch to select the direction and hold until the platform is level.



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#### 4.8 **BOOM**

# **▲** WARNING

A RED TILT WARNING LIGHT IS LOCATED ON THE PLATFORM CONTROL INDICATOR PANEL WHICH LIGHTS WHEN THE CHASSIS IS ON AN EXCESSIVE SLOPE. DO NOT SWING OR RAISE BOOM ABOVE HORIZONTAL WHEN INDICATOR IS LIT.

DO NOT DEPEND ON THE TILT WARNING LIGHT AS A LEVEL INDICATOR FOR THE CHASSIS. THE TILT WARNING LIGHT INDICATES CHASSIS IS ON AN EXCESSIVE SLOPE (5 DEGREES OR GREATER). CHASSIS MUST BE LEVEL BEFORE SWINGING OR RAISING BOOM ABOVE HORIZONTAL OR DRIVING WITH THE ROOM ELEVATED.

TO AVOID TIP OVER IF RED TILT WARNING LIGHT LIGHTS WHEN THE BOOM IS RAISED ABOVE HORIZONTAL, LOWER PLATFORM TO GROUND LEVEL. THEN REPOSITION MACHINE SO THAT CHASSIS IS LEVEL BEFORE RAISING BOOM.

IF THE PLATFORM DOES NOT STOP WHEN A CONTROL SWITCH OR LEVER IS RELEASED, REMOVE FOOT FROM FOOTSWITCH OR USE EMERGENCY STOP SWITCH TO STOP THE MACHINE.

# **▲** WARNING

TO AVOID SERIOUS INJURY, DO NOT OPERATE MACHINE IF ANY CONTROL LEVER OR TOGGLE SWITCH CONTROLLING PLATFORM MOVEMENT DOES NOT RETURN TO THE 'OFF' OR NEUTRAL POSITION WHEN RELEASED.

# **A** CAUTION

TO AVOID A COLLISION AND INJURY IF PLATFORM DOES NOT STOP WHEN A CONTROL SWITCH OR LEVER IS RELEASED, REMOVE FOOT FROM FOOTSWITCH OR USE EMERGENCY STOP SWITCH TO STOP THE MACHINE.

# **Swinging the Boom**

To swing boom, use Swing control switch to select Right or Left direction.



#### NOTICE

WHEN SWINGING THE BOOM MAKE SURE THERE IS AMPLE ROOM FOR THE BOOM TO CLEAR SURROUNDING WALLS, PARTITIONS AND EQUIPMENT.

NOTE:

On CE/UKCA Market machines, when boom functions are being operated there is an interlock that prevents the use of Drive and Steer functions.

# **Raising and Lowering the Boom**

To raise or lower the Boom, position the Boom Lift control to Up or Down until the desired height is reached.



# **Telescoping the Main Boom**

To extend or retract the boom, use the Telescope Control Switch to select In or Out movement.



#### 4.9 FUNCTION SPEED CONTROL

This control knob affects the speed of Telescope, Jib (If Equipped), and Platform Rotate functions.

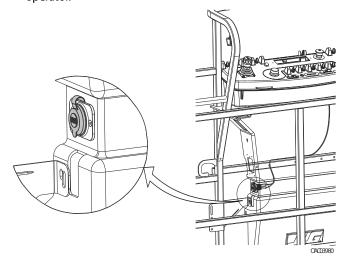


**NOTE:** During platform rotation, a speed difference may not be noticeable to the operator.

Turning the knob all the way counterclockwise until it clicks puts the machine into Creep Mode. Creep Mode puts the functions listed above, as well as Drive/Steer and Main Lift/Swing functions into the slowest speed setting.

#### 4.10 USB CHARGING PORT

The machine is equipped with a USB charging port for the operator.



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# 4.11 MACHINE SAFETY SYSTEM OVERRIDE (MSSO) (IF EQUIPPED)

The Machine Safety System Override (MSSO) is used to override function controls for Emergency Platform Retrieval only. Refer to Section 5.5, Machine Safety System Override (MSSO) (if equipped) for operating procedures.



#### 4.12 SKYGUARD® OPERATION

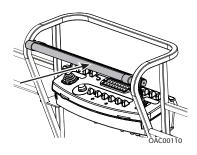
SkyGuard provides enhanced control panel protection. When the SkyGuard sensor is activated, functions in use at the time of actuation will reverse or cutout. The SkyGuard Function Table provides more details on these functions.

During activation, the horn will sound and, if equipped with a SkyGuard beacon, the beacon will illuminate until sensor and footswitch are disengaged.

If the SkyGuard sensor remains activated after function reversal or cutout, depress and hold the SkyGuard Override Switch to allow normal functions until the sensor is disengaged.

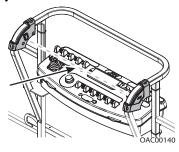
Consult the following illustrations to determine which type of SkyGuard the machine has and how it is activated. Regardless of type, SkyGuard function according to the SkyGuard Function Table does not change.

# **SkyGuard**



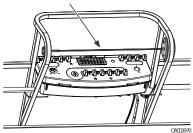
Approximately 50 lb (222 Nm) of force is applied to yellow bar.

# SkyGuard SkyEye®



Operator passes through path of sensor beam.

# SkyGuard SkyLine®



Rod is pressed, breaking the connection between the rod and right bracket.

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# **SkyGuard Function Table**

Drive Forward	Drive Reverse	Steer	Swing	Boom Lift Up	Boom Lift Down	Boom Tele Out	Boom Tele In	Jib Lift	Basket Level	Basket Rotate
R*/C**	R	C	R	R	R	R	C	C	C	C

**R** = Indicates Reversal is Activated

**C** = Indicates Cutout is Activated

\*DOS (Drive Orientation System) Enabled

 $\textcolor{red}{**} \ \mathsf{DOS} \ \mathsf{NotEnabled}, machine is driving straight without steering, and any other hydraulic function is active$ 

**Note:** If SkyGuard is enabled with the Soft Touch system, functions will cut out instead of reversing.

## 4.13 OSCILLATING AXLE LOCKOUT TEST (IF EQUIPPED)

#### NOTICE

LOCKOUT SYSTEM TEST MUST BE PERFORMED QUARTERLY, ANY TIME A SYSTEM COMPONENT IS REPLACED, OR WHEN IMPROPER SYSTEM OPERATION IS SUSPECTED.

Refer to Section 2.4, Oscillating Axle Lockout Test (If Equipped) for procedure.

#### 4.14 EMERGENCY TOWING

# **▲** WARNING

RUNAWAY VEHICLE/MACHINE HAZARD. MACHINE HAS NO TOWING BRAKES. TOWING VEHICLE MUST BE ABLE TO CONTROL MACHINE AT ALL TIMES. ON-HIGHWAY TOWING NOT PERMITTED. FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE SERIOUS INJURY OR DEATH.

MAXIMUM TOWING SPEED 5 MPH (8 KM/H) MAXIMUM TOWING GRADE 25%.

# **A** CAUTION

DO NOT TOW MACHINE WITH ENGINE OPERATING OR DRIVE HUBS ENGAGED.

 Retract, lower and position boom in travel position; lock turntable. **2.** Disconnect drive hubs by inverting disconnect cap.

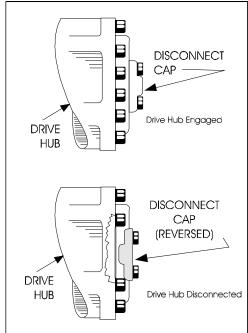


Figure 4-5. Drive Disconnect Hub

**3.** Reconnect the drive hubs by inverting the disconnect cap when towing is complete.

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## 4.15 TOW BAR (IF EQUIPPED)

# **▲** WARNING

RUNAWAY VEHICLE/MACHINE HAZARD. MACHINE HAS NO TOWING BRAKES. TOWING VEHICLE MUST BE ABLE TO CONTROL MACHINE AT ALL TIMES. ON-HIGHWAY TOWING NOT PERMITTED. FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE SERIOUS INJURY OR DEATH.

MAXIMUM TOWING SPEED 5 MPH (8 KM/H)

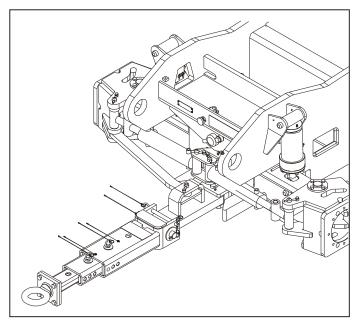
**MAXIMUM TOWING GRADE 25%.** 

Prior to towing the machine, complete the following:

## **A** CAUTION

DO NOT TOW MACHINE WITH ENGINE OPERATING OR DRIVE HUBS ENGAGED.

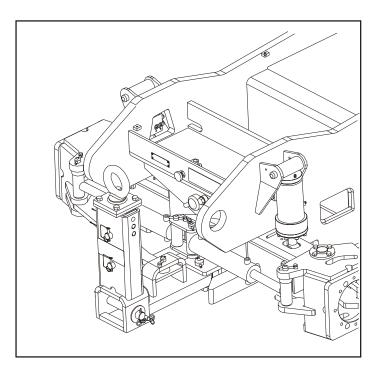
- Retract, lower and position boom in travel position; lock turntable.
- 2. Lower towbar and connect to towing vehicle



- **3.** Disconnect drive hubs by inverting disconnect cap. Refer to Figure 4-5., Drive Disconnect Hub.
- **4.** Position steer/tow selector valve for towing; pull valve knob OUT for towing. The machine is now in the towing mode.

#### After towing the machine, complete the following:

- 1. Actuate steer/tow selector valve for steering; push valve knob IN to the actuated position.
- **2.** Reconnect drive hubs by inverting disconnect cap.
- 3. Disconnect towbar from towing vehicle and place it in the stowed position as shown below. The machine is now in the driving mode.



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#### 4.16 SHUT DOWN AND PARK

To shut down and park the machine, the procedures are as follows:

- 1. Drive machine to a reasonably well protected area.
- 2. Ensure boom is fully retracted and lowered over rear axle.
- **3.** Shut down Emergency Stop at Platform Controls.
- Shut down Emergency Stop at Ground Controls. Position Platform/Ground Select switch to center Off (center position).
- If necessary, cover Platform Controls to protect instruction placards, warning decals, and operating controls from hostile environment.

#### NOTICE

IF PARKING A MEWP WITH THE BOOM ELEVATED IN AN EFFORT TO CONSERVE SPACE, BOOMS MAY BE ELEVATED, BUT SHALL NOT BE EXTENDED. IT IS THE OPERATOR'S RESPONSIBILITY TO ENSURE ALL SAFETY PRECAUTIONS IN SECTION 1 OF THIS MANUAL ARE FOLLOWED FOR EACH UNIQUE SITUATION.

#### 4.17 LIFTING AND TIE DOWN

# Lifting

- 1. Refer to the Machine Serial Number Plate, call JLG Industries, or weigh the individual unit to find out the Gross Vehicle Weight.
- 2. Place the boom in the stowed position.
- 3. Remove all loose items from the machine.
- Properly adjust the rigging to prevent damage to the machine and so the machine remains level.

#### **Tie Down**

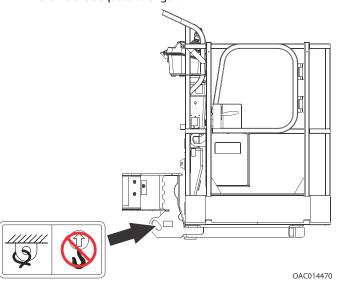
## NOTICE

WHEN TRANSPORTING THE MACHINE, THE BOOM MUST BE FULLY LOWERED INTO THE BOOM REST.

- 1. Place the boom in the stowed position.
- 2. Remove all loose items from the machine.
- **3.** Secure the chassis using straps or chains of adequate strength.

**4.** Ensure the platform is lowered so the wear pad on the bottom rests on the surface of the transportation vehicle.

**NOTE:** Secure through the tie downs on the boom using straps or chains of adequate strength.



NOTE: SECURE TURNTABLE WITH TURNTABLE LOCK BEFORE TRAVELING LONG DISTANCES OR HAULING MACHINE ON TRUCK/TRAILER.

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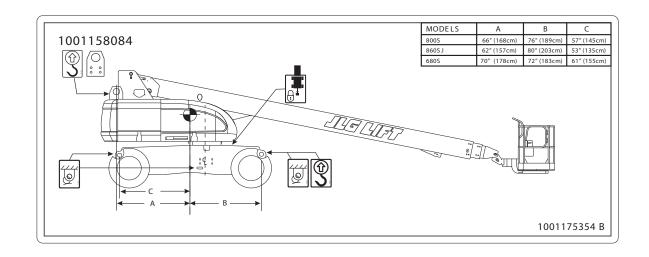


Figure 4-6. Lifting and Tie Down Chart

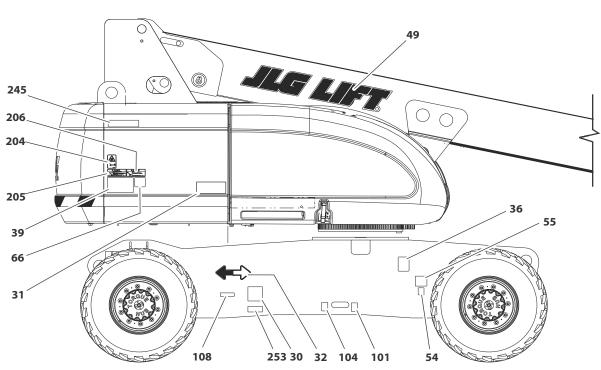


Table 0-1. Decal Location Legend, 860SJ

Figure 4-7. Decal Location - 800S Decal Location Sheet 1 of 5

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OAC02030

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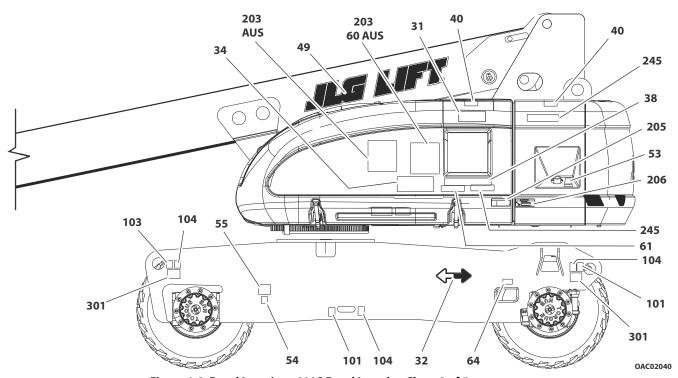


Figure 4-8. Decal Location - 800S Decal Location Sheet 2 of 5

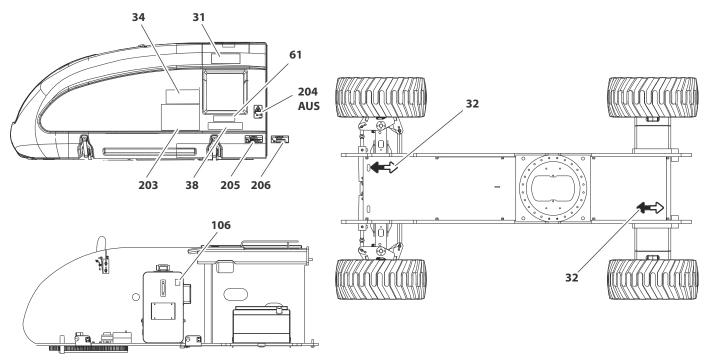


Figure 4-9. Decal Location - 800S Decal Location Sheet 3 of 5

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OAC02050

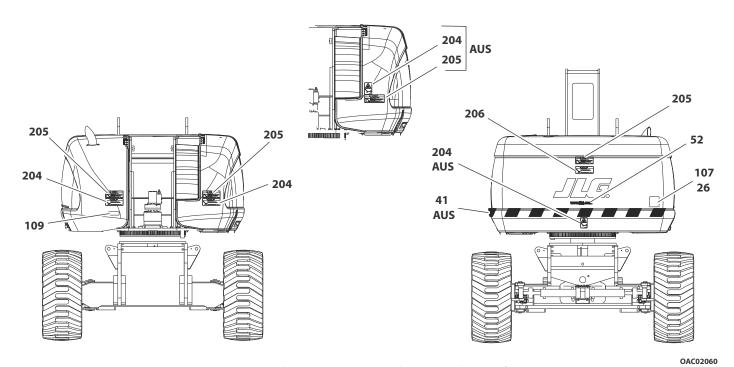


Figure 4-10. Decal Location - 800S Decal Location Sheet 4 of 5

- --

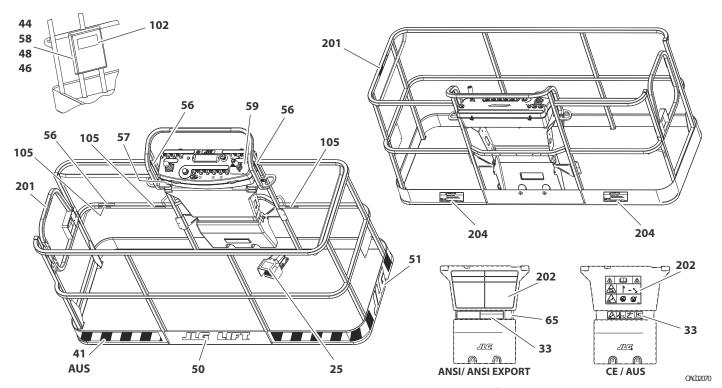


Figure 4-11. Decal Location - 800S Decal Location Sheet 5 of 5

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Table 4-2. Decal Location Legend, 800S

Item#	ANSI 1001242459-D	Korean 1001242595-D	Chinese 1001242654-D	Spanish 1001242694-D	Portuguese 1001242700-D	French 1001242753-D	CE/UKCA 1001257320-B	Japanese 1001242826-D	Australian 1001257322-B
11							1705980		1705980
25	3252347								
26	3251813	3251813	3251813	3251813	3251813	3251813			
30	1702631	1702631	1702631	1702631	1702631	1702631	1702631	1702631	1702631
31	1001267308	1001267308	1001267308	1001267308	1001267308	1001267308	1001267308	1001267308	1001267308
32	1701501	1701501	1701501	1701501	1701501	1701501	1701501	1701501	1701501
33	1001257229	1001257233	1001257235	1001257237	1001257241	1001257231	1001257257	1001257239	1001257257
34	1001257230	1001257234	1001257236	1001257238	1001257242	1001257232	1001257258	1001257240	1001257258
36	1001131269					1001131269			
39	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354
40	1701691	1701691	1701691	1701691	1701691	1701691	1701691	1701691	1701691
41	4420051	4420051	4420051	4420051	4420051	4420051	4420051	4420051	4420051
44	0860520	0860520	0860520	0860520	0860520	0860520	0860520	0860520	0860520
46	3311405	3311405	3311405	3311405	3311405	3311405	3311405	3311405	3311405
47	3820001	3820001	3820001	3820001	3820001	3820001	3820001	3820001	3820001
48	4751400	4751400	4751400	4751400	4751400	4751400	4751400	4751400	4751400
49	1702861	1702861	1702861	1702861	1702861	1702861	1001159323	1702861	0274518

#### **SECTION 4 - MACHINE OPERATION**

Table 4-2. Decal Location Legend, 800S

Item#	ANSI 1001242459-D	Korean 1001242595-D	Chinese 1001242654-D	Spanish 1001242694-D	Portuguese 1001242700-D	French 1001242753-D	CE/UKCA 1001257320-B	Japanese 1001242826-D	Australian 1001257322-B
50	1702774	1702774	1702774	1702774	1702774	1702774		1702774	0274518
51	1702773	1702773	1702773	1702773	1702773	1702773	1702773	1702773	0274518
52	1704885	1704885	1704885	1704885	1704885	1704885		1704885	0274518
55	1700818	1700818	1700818	1700818	1700818	1700818		1700818	1700818
57	1001231801								
58	0641406	0641406	0641406	0641406	0641406	0641406	0641406	0641406	0641406
59	1705351	1705427	1705430	1705910	1705905	1705429		1705426	
61							1001197408		
62	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145
63	1001223055	1001224048	1001224050	1001224049	1001224052	1001223971	1001139654	1001224053	
64	1001223453					1001223453			
66			1001244298						
100	1001109029	1001109029	1001109029	1001109029	1001109029	1001109029	1001199949	1001109029	1001199949
101	1701499	1701499	1701499	1701499	1701499	1701499	1701499	1701499	1701499
102	1701509	1701509	1701509	1701509	1701509	1701509	1701509	1701509	1701509
103	1703811	1703811	1703811	1703811	1703811	1703811	1703811	1703811	1703811
104	1703814	1703814	1703814	1703814	1703814	1703814	1703814	1703814	1703814
105	1704277	1704277	1704277	1704277	1704277	1704277	1704277	1704277	1704277

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Table 4-2. Decal Location Legend, 800S

Item#	ANSI 1001242459-D	Korean 1001242595-D	Chinese 1001242654-D	Spanish 1001242694-D	Portuguese 1001242700-D	French 1001242753-D	CE/UKCA 1001257320-B	Japanese 1001242826-D	Australian 1001257322-B
106	1704412	1704412	1704412	1704412	1704412	1704412	1704412	1704412	1704412
109	3251243	3251243	3251243	3251243				3251243	
200	2902307	2902310	2902309	2902311	2902312	2902322	2902329	2902308	2902329
201	1702868	1705969	1001116846	1704001	1705967	1704000	1705921		1705921
202	1703797	1703927	1703925	1703923	1705895	1703924	1705822	1703926	1705822
203	1705336	1705345	1001116849	1705917	1705896	1705347	1701518	1705344	1701518
204	1703804	1703951	1703949	1703947	1705898	1703948	1705961	1703950	1705961
205	1703805	1703939	1001116851	1703935	1705897	1703936	1705828	1703938	1705828
206	1703953	1703945	1703943	1703941	1705903	1703942		1703944	
210		1703981	1703982	1703983	1705902	1703984		1703980	
300	2902354	2902354	2902354	2902354	2902354	2902354	2902354	2902354	2902354
301	1703475	1703475	1703475	1703475	1703475	1703475	1703475	1703475	1703475

Table 4-3. Decal Location Legend, 860SJ

Item#	ANSI 1001242586-D	Korean 1001242597-D	Chinese 1001242655-D	Spanish 1001242695-D	Portuguese 1001242701-D	French 1001242754-D	CE/UKCA 1001257321-B	Japanese 1001242827-D	Australian 1001257323-B
11							1705980		1705980
25	3252347								
26	3251813	3251813	3251813	3251813	3251813	3251813			
30	1702631	1702631	1702631	1702631	1702631	1702631	1702631	1702631	1702631
31	1001267309	1001267309	1001267309	1001267309	1001267309	1001267309	1001267309	1001267309	1001267309
32	1701501	1701501	1701501	1701501	1701501	1701501	1701501	1701501	1701501
33	1001257243	1001257247	1001257249	100125751	1001257255	1001257245	1001257259	1001257253	1001257259
34	1001257244	1001257248	1001257250	100125752	1001257256	1001257246	1001257260	1001257254	1001257260
36	1001131269					1001131269			
39	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354	1001175354
40	1701691	1701691	1701691	1701691	1701691	1701691	1701691	1701691	1701691
41	4420051	4420051	4420051	4420051	4420051	4420051	4420051	4420051	4420051
44	0860520	0860520	0860520	0860520	0860520	0860520	0860520	0860520	0860520
46	3311405	3311405	3311405	3311405	3311405	3311405	3311405	3311405	3311405
47	3820001	3820001	3820001	3820001	3820001	3820001	3820001	3820001	3820001
48	4751400	4751400	4751400	4751400	4751400	4751400	4751400	4751400	4751400
49	1702861	1702861	1702861	1702861	1702861	1702861	1001159323	1702861	1702861
50	1702774	1702774	1702774	1702774	1702774	1702774		1702774	1702774
51	1702773	1702773	1702773	1702773	1702773	1702773	1702773	1702773	1702773

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## **SECTION 4 - MACHINE OPERATION**

ltem#	ANSI 1001242586-D	Korean 1001242597-D	Chinese 1001242655-D	Spanish 1001242695-D	Portuguese 1001242701-D	French 1001242754-D	CE/UKCA 1001257321-B	Japanese 1001242827-D	Australian 1001257323-B
52	1704885	1704885	1704885	1704885	1704885	1704885		1704885	1704885
55	1700818	1700818	1700818	1700818	1700818	1700818		1700818	1700818
57	1001231801								
58	0641406	0641406	0641406	0641406	0641406	0641406	0641406	0641406	0641406
59	1705351	1705427	1705430	1705910	1705905	1705429		1705426	
61							1001197408		
62	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145	1001181145
63	1001223055	1001224048	1001224050	1001224049	1001224052	1001223971	1001139654	1001224053	
64	1001223453					1001223453			
66			1001244298						
100	1001109029	1001109029	1001109029	1001109029	1001109029	1001109029	1001199949	1001109029	1001199949
101	1701499	1701499	1701499	1701499	1701499	1701499	1701499	1701499	1701499
102	1701509	1701509	1701509	1701509	1701509	1701509	1701509	1701509	1701509
103	1703811	1703811	1703811	1703811	1703811	1703811	1703811	1703811	1703811
104	1703814	1703814	1703814	1703814	1703814	1703814	1703814	1703814	1703814
105	1704277	1704277	1704277	1704277	1704277	1704277	1704277	1704277	1704277
106	1704412	1704412	1704412	1704412	1704412	1704412	1704412	1704412	1704412
109	3251243	3251243	3251243	3251243				3251243	
200	2902307	2902310	2902309	2902311	2902312	2902322	2902329	2902308	2902329
201	1702868	1705969	1001116846	1704001	1705967	1704000	1705921		1705921

#### **SECTION 4 - MACHINE OPERATION**

Item#	ANSI 1001242586-D	Korean 1001242597-D	Chinese 1001242655-D	Spanish 1001242695-D	Portuguese 1001242701-D	French 1001242754-D	CE/UKCA 1001257321-B	Japanese 1001242827-D	Australian 1001257323-B
202	1703797	1703927	1703925	1703923	1705895	1703924	1705822	1703926	1705822
203	1705336	1705345	1001116849	1705917	1705896	1705347	1701518	1705344	1701518
204	1703804	1703951	1703949	1703947	1705898	1703948	1705961	1703950	1705961
205	1703805	1703939	1001116851	1703935	1705897	1703936	1705828	1703938	1705828
206	1703953	1703945	1703943	1703941	1705903	1703942		1703944	
210		1703981	1703982	1703983	1705902	1703984		1703980	
300	2902429	2902429	2902429	2902429	2902429	2902429		2902429	
301	1703482	1703482	1703482	1703482	1703482	1703482		1703482	

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#### **SECTION 5. EMERGENCY PROCEDURES**

#### 5.1 GENERAL

This section explains the steps to be taken in case of an emergency situation while operating.

#### **5.2** 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, the factory should 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: ProductSafetv@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 ACCIDENT, THOROUGHLY INSPECT THE MACHINE AND TEST ALL FUNCTIONS FIRST FROM THE GROUND CONTROLS, THEN FROM THE PLATFORM CONTROLS. DO NOT LIFT ABOVE 3 M (10 FT.) UNTIL YOU ARE SURE THAT ALL DAMAGE HAS BEEN REPAIRED, IF REQUIRED, AND THAT ALL CONTROLS ARE OPERATING CORRECTLY.

#### **5.3 EMERGENCY OPERATION**

## **Operator Unable to Control Machine**

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

- Other personnel should operate the machine from ground controls only as required.
- Other qualified personnel on the platform may use the platform controls. DO NOT CONTINUE OPERATION IF CONTROLS DO NOT FUNCTION PROPERLY.
- Cranes, forklift trucks or other equipment can be used to remove platform occupants and stabilize motion of the machine.

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# **Platform or Boom Caught Overhead**

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

- Shut off the machine.
- Rescue all people in the platform before freeing the machine. Personnel must be out of the platform before operating any controls on the machine.
- Use cranes, forklifts, or other equipment to stabilize motion of the machine to prevent a tip over as required.
- From the ground controls, use the Auxiliary Power System (if equipped) to carefully free the platform or boom from the object.
- 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.

#### 5.4 EMERGENCY TOWING PROCEDURES

Towing this machine is prohibited, unless properly equipped. However, provisions for moving the machine have been incorporated. For specific procedures, refer to Section 4.

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# 5.5 MACHINE SAFETY SYSTEM OVERRIDE (MSSO) (IF EQUIPPED)

The Machine Safety System Override (MSSO) is only to be used to retrieve an operator that is pinned, trapped, or unable to operate the machine and function controls are locked out from the platform due to a platform overload situation.



**NOTE:** If the MSSO functionality is used, the fault indicator is set with a fault code in the JLG Control System which must be reset by a qualified JLG Service Technician.

**NOTE:** No functional checks of the MSSO system are necessary. The JLG Control system will set a Diagnostic Trouble Code if the control switch is faulty.

To operate the MSSO:

- From the ground control console, place the Platform/ Ground Select switch in the Ground position.
- 2. Pull out the Power/Emergency Stop control.
- 3. Start the engine.
- Press and hold the MSSO switch and the control switch for the desired function.

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#### **SECTION 5 - EMERGENCY PROCEDURES**

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## **SECTION 6. ACCESSORIES**

**Table 6-1. Available Accessories** 

		Market							
Accessory	ANSI (USA Only)	ANSI	CSA	CE/UKCA	AUS	MOL 70	China (GB)	EAC	
Fall Arrest Platform (36" x 96")	√	V			√		√	V	
Fall Arrest Platform (36" x 72")	√	V							
Pipe Racks	√				√				
SkyAir®	√	V	√						
SkyCutter®	√	V	√			√			
SkyGlazier®	√	V	√		√				
SkyPower®-7.5 kW	√	V	√		√	√	<b>V</b>	V	
Generator - 4 kW	√	V	√	√	√	√	√		
SkyWelder®	√	V	√		√	√		V	
Soft Touch®	V	V	√	√	√	√		V	
Bolt-On External Fall Arrest (36" x 96")	√	V	√		√	√	√	<b>V</b>	
Bolt-On External Fall Arrest (36" x 72")	√	V	√		√	√	<b>V</b>	√	
SkySense™	√	V	√	√	√	√	√	√	

**Table 6-1. Available Accessories** 

	Market								
Accessory	ANSI (USA Only)	ANSI	CSA	CE/UKCA	AUS	MOL 70	China (GB)	EAC	
Nite Bright®	√	√	√	√	√	√	√	V	
PlatformWorkLights	√	√	V	√	√	√	√	V	
Platform Mesh to Top Rail (36" x 96") (36" x 72") (30" x 60") (30" x 48")	√	V	√						
Platform Mesh to Mid Rail (36" x72") (30" x60") (30" x48")	√	V			V				
Platform Mesh to Mid Rail (36" x 96")	<b>√</b>	√			√			√	
Fabric Mesh to Top Rail (36" x96") (36"'x72") (30" x60") (30" x48")	<b>V</b>	V	√						
Fabric Mesh to Mid Rail (36" x72") (30" x60") (30" x48")	√	V			V				
Fabric Mesh to Mid Rail (36" x 96")	√	√			√			V	
PlatformTop Rail Extension (36" x72")	V	√	√	√	√	√	√	$\sqrt{}$	
PlatformTop Rail Extension (36" x 96")	√	V	√	√	√	√	√	$\checkmark$	

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Table 6-2. Options/Accessories Relationship Table

ACCESSORY	REQUIRED ITEM	COMPATIBLE WITH (Note 1)	INCOMPATIBLE WITH	INTERCHANGABLE WITH (Note 2)
Pipe Racks		SkyPower	Platform Mesh to Mid Rail, Platform Mesh to Top Rail, SkySense, Soft Touch	SkyCutter, SkyGlazier, SkyWelder
SkyAir	SkyPower	SkyCutter, SkyGlazier, SkyWelder		
SkyCutter	SkyPower	SkyWelder	4' Platform, Pipe Racks, Platform/Fabric Mesh to Top Rail, Soft Touch	SkyGlazier
SkyGlazier		SkyPower	4'Platform, Pipe Racks, Platform/Fabric Mesh to Top Rail, SkySense, Soft Touch	SkyCutter, SkyWelder
SkyPower		SkyCutter, SkyGlazier, SkyWelder		
SkyWelder	SkyPower	SkyCutter	4'Platform, Pipe Racks, Platform/Fabric Mesh to Top Rail, SkySense, Soft Touch, Fabric Mesh to Top Rail	SkyGlazier
SoftTouch			Pipe Racks, SkyCutter, SkyGlazier, SkySense, SkyWelder	
SkySense			Pipe Racks, SkyGlazier, SkyWelder, Platform/Fabric Mesh to Mid Rail, Platform/Fabric Mesh to Top Rail, Soft Touch	
Nite Bright				
Note 1: Any non-"Sky" acc	essory not listed under "INCOMI	PATIBLE WITH" is assumed to be compatib	le.	

Note 2: Can be used on same unit but not simultaneously.

#### 6.1 FALL ARREST PLATFORM

**NOTE:** Refer to the JLG External Fall Arrest System manual (PN 3128935) for more detailed information.

The external fall arrest system is designed to provide a lanyard attach point while allowing the operator to access areas outside the platform. Exit/enter the platform through the gate area only. The system is designed for use by one person.

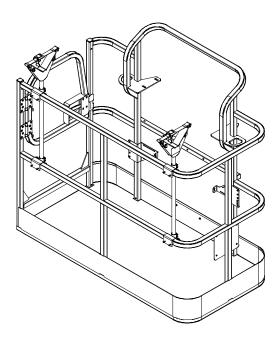
Personnel must use fall protection at all times. A full body harness is required with lanyard not to exceed 6 ft (1.8 m) in length, that limits the maximum arrest force to 900 lb (408 kg) for the transfastener type and 1350 lb (612 kg) for the shuttle type fall arrest system.

### **Safety Precautions**

# **WARNING**

DO NOT OPERATE ANY MACHINE FUNCTIONS WHILE OUTSIDE THE PLATFORM. USE CAUTION WHEN ENTERING/EXITING THE PLATFORM AT ELEVATION.

#### 6.2 PIPE RACKS



Pipe Racks provide a way to store pipe or conduit inside the platform in order to prevent rail damage and optimize platform utility. This accessory consists of two racks with adjustable straps to secure the load in place.

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### **Capacity Specifications (Australia Only)**

Max. Capacity in Racks *	Max. Platform Capacity (With Max. Weight in Racks)				
80 kg	184 kg				
Max. Length of Material in Racks: 6.0 m Min. Length of Material in Racks: 2.4 m					

### **Safety Precautions**

# **▲** WARNING

REDUCE PLATFORM CAPACITY BY 100 LB (45.5 KG) WHEN INSTALLED.

# **▲** WARNING

WEIGHT IN RACKS PLUS WEIGHT IN PLATFORM MUST NOT EXCEED RATED CAPACITY.

### NOTICE

THE MAXIMUM LOAD IN THE RACKS IS 180 LB (80 KG) EVENLY DISTRIBUTED BETWEEN THE TWO RACKS.

### NOTICE

THE MAXIMUM LENGTH OF MATERIAL IN RACKS IS 20 FT (6.1 M).

- · Ensure no personnel are beneath the platform.
- Do not exit platform over rails or stand on rails.
- · Do not drive machine without material secured
- Return racks to the stowed position when not in use.
- Use this option only on approved models.

### **Preparation and Inspection**

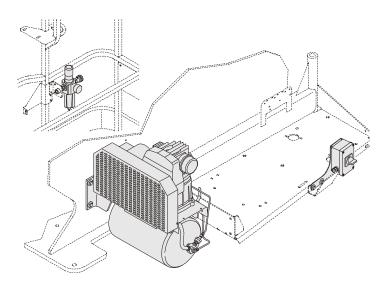
- Ensure racks are secured to the platform rails.
- Replace torn or frayed tie-down straps.

### **Operation**

- To prepare racks for loading, remove locking pins, rotate each rack 90 degrees from stowed to working position, then secure with locking pins.
- Loosen and remove tie-down straps. Place material on racks with weight evenly distributed between both racks.
- Route the tie-down straps at each end across loaded material and tighten.
- **4.** To remove material, loosen and remove tie-down straps, then carefully remove material from racks.

**NOTE:** Reinstall tie-down straps across any remaining material before continuing machine operations.

### 6.3 SKYAIR®



SkyAir supplies compressed air to the platform. A filter/regulator located in the platform controls air pressure. The on/off switch is located in the engine compartment. This accessory receives power from the SkyPower system.

# **Compressor Specifications**

- · Single stage with dual control
- CFM displacement: 9.3
- Motor: 230 V, 2 hp, 3-phase

# **Accessory Ratings**

CONTROL MODE	VOLUME
Automatic Start-Stop Control	100 - 130 psi
Constant Run Control	105 - 120 psi

# **Safety Precautions**



- Ensure no personnel are beneath platform.
- This factory-installed option is available only on specified models.
- · Keep lanyard attached at all times.

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## **Preparation and Inspection**

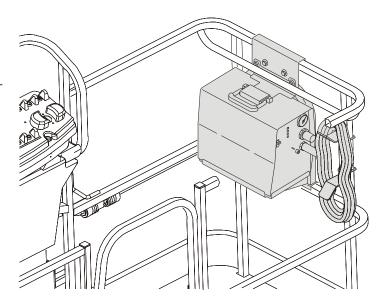
- Ensure compressor and hoses are secure.
- · Check condition of belt and wiring.

# **Operation**

Start the engine, turn on the generator, then turn on the air compressor.

Refer to the J-Air Manual (PN 3128970) for more information.

### 6.4 SKYCUTTER®



SkyCutter is capable of cutting up to a thickness of 3/8" metal. It can produce 27 A at 92 VDC at 35% duty cycle or 14 A at 92 VDC at 60% duty cycle. It receives power from the SkyPower system.

### **Accessory Ratings**

Spec.	Rated Output	Amperes Input @ Rated Output, 60 Hz, 1-Phase	kVa/kW	Plasma Gas	Plasma Gas Flow/ Pressure	Rated Cutting Capacity @ 10 IPM	Max. OCV
120 Volts ±10% (20 A)	27 A @ 91 VDC @ 20% Duty Cycle	28.8 max; 0.30*	3.4 kVa 3.2 kW		4.5 cfm		
120 Volts ±10% (15 A)	20 A @ 88 VDC @ 35% Duty Cycle	20.6 max; 0.30*	2.5 kVa 2.3 kW	Air or Nitrogen Only @ 90 - 120 psi (621 - 827 kPa)	(129 L/Min) @ 60 psi	3/8 in (10 mm)	400 VDC
240 Volts ±10% (27 A)	27 A @ 91 VDC @ 35% Duty Cycle	13.9 max; 0.13*	3.3 kVa 3.0 kW	(02.1 02.1 4)	(414 kPa)		
*While idling.							

## **Generator Output**

Engine Speed of 1800 rpm +/- 10%.

#### **ANSI Specifications:**

• 3-phase: 240 V, 60 Hz, 7.5 kW

• 1-phase: 240 V/120 V, 60 Hz, 6 kW

## **Safety Precautions**





DE-RATE THE PLATFORM BY 70 LB (32 KG) WHEN PLASMA CUTTER IS IN PLATFORM.

- Check for cracked welds and damage to plasma supports.
- Check for secure installation of cutter and bracket.

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- Ensure no personnel are beneath platform.
- Do not exit platform over rails or stand on rails.
- Use this option only on approved models.
- · Keep lanyard attached at all times.
- · Use correct cutting settings.
- Do not use electrical cords without ground.
- · Do not use electrical tools in water.
- Do not cut platform, or ground through the platform.
- · Wear proper cutting apparel.
- Do not drive machine while connected to external air/gas sources.

## **Preparation and Inspection**

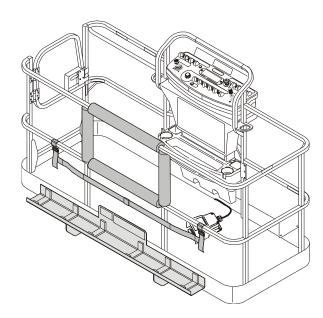
- Connect ground clamp to metal being cut.
- Ensure there is a good ground connection.

### **Operation**

Start the engine, turn on the generator, then turn on the plasma cutter.

Refer to the Miller Plasma Cutter Owner's Manual (PN 3128420) for more information.

### 6.5 SKYGLAZIER®



SkyGlazier allows glaziers to position panels efficiently. The glazier package consists of a tray that attaches the bottom of the platform. The panel rests on the tray and against top-rail of the platform, which is padded to prevent damage. SkyGlazier includes a strap to secure the panel to the platform rail.

### **Capacity Specifications**

Capacity Zone *	Max. Tray Capacity	Max. Platform Capacity (With Max. Weight in Tray)
500 lb	150 lb	250 lb
(227 kg)	(68 kg)	(113 kg)
550 lb	150 lb	250 lb
(250 kg)	(68 kg)	(113 kg)
600 lb	150 lb	250 lb
(272 kg)	(68 kg)	(113 kg)
750 lb	150 lb	440 lb
(340 kg)	(68 kg)	(200 kg)
1000 lb	250 lb	500 lb
(454 kg)	(113 kg)	(227 kg)

<sup>\*</sup> Refer to the capacity decals installed on the machine for capacity zone information.

Required Platform Type: Side-Entry

Max. Dimensions of Panel: 32 sq.ft. (3 sq.m.)

### **Safety Precautions**

### **WARNING**

**ENSURE PANEL IS SECURED WITH STRAP.** 

# **▲** WARNING

DO NOT OVERLOAD TRAY OR PLATFORM. TOTAL MACHINE CAPACITY IS REDUCED WHEN TRAY IS INSTALLED.

# **WARNING**

WITH SKYGLAZIER INSTALLED, THE ORIGINAL PLATFORM CAPACITY RATINGS ARE REDUCED AS SPECIFIED IN THE CAPACITY SPECIFICATIONS TABLE. DO NOT EXCEED NEW PLATFORM CAPACITY RATINGS. REFER TO CAPACITY DECAL LOCATED ON TRAY.

# **▲** WARNING

AN INCREASE OF THE AREA EXPOSED TO THE WIND WILL DECREASE STABILITY. LIMIT PANEL AREA TO 32 SQ.FT. (3 SQ.M).

- Ensure no personnel are beneath platform.
- Do not exit platform over rails or stand on rails.
- · Remove tray when not in use.
- Use this option only on approved models.

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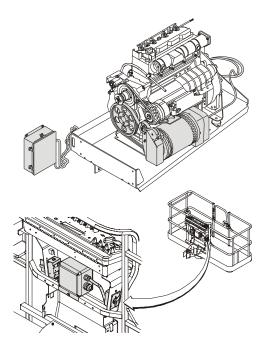
# **Preparation and Inspection**

- · Check for cracked welds and damage to tray.
- Ensure tray is properly secured to platform.
- Ensure strap is not torn or frayed.

# **Operation**

- 1. Load SkyGlazier tray with panel.
- Route the adjustable strap around the panel and tighten until secure.
- 3. Position panel to its desired location.

### 6.6 SKYPOWER® 7.5 KW AND GENERATOR 4 KW



The SkyPower and generator systems supply AC power to the platform through an AC receptacle to run tools, lights, cutting, and welding equipment.

#### SECTION 6 - ACCESSORIES

All power regulation components are located in a watertight box connected by cable to the generator. The generator supplies power when running at the specified speed with the power switch on (switch is located on platform). A two-pole, 20 A (4 kW) or a three-pole, 30 A (7.5 kw) circuit breaker protects the generator from overload.

### **Output**

#### **ANSI Specifications:**

- 3-phase: 240 V, 60 Hz, 7.5 kW (Peak: 8.5 kW)
- 1-phase: 240 V/120 V, 60 Hz, 6 kW (Peak: 6.0 kW)

## **Safety Precautions**



- Ensure no personnel are beneath platform.
- This factory-installed option is available only on specified models.
- · Keep lanyard attached at all times.
- Do not use electrical tools in water.
- Use correct voltage for tool being used.
- · Do not overload circuit.

### **Preparation and Inspection**

- Ensure generator is secure.
- · Check condition of belt and wiring.

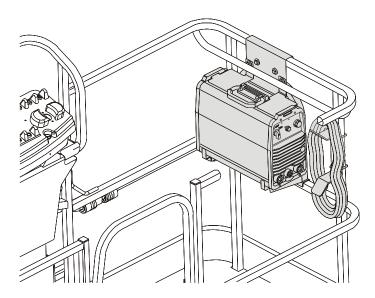
### **Operation**

Start the engine, then turn on the generator.

Refer to the Miller Generator Technical Manual (PN 3121677) for more information.

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### 6.7 SKYWELDER®



SkyWelder is capable of TIG and Stick welding, producing 200 Amps at 100% duty cycle or 250 Amps at 50% duty cycle. This accessory receives power from the SkyPower system.

## **Generator Output**

Engine Speed of 1800 rpm +/- 10%.

#### **Specifications:**

• 3-phase: 240 V, 60 Hz, 7.5 kW

• 1-phase: 240 V/120 V, 60 Hz, 6 kW

## **Welding Accessories**

- 12 ft welding leads with clamp and stinger (stored in the platform)
- · Fire extinguisher

### **Accessory Ratings**

			Welding	Maximum Open		Amps Input At Rated Load Output (50/60 Hz)				
Welding Mode	Input Power	Rated Output	Amperage Range	Circuit voitage	230 V	460 V	575 V	kVa	kW	
	3-phase	280 Amp at 31.2 V, 35% Duty Cycle	5-250 A	79VDC	32	17	13	15.7	10	
Stick (SMAW)	э-рназе	200 Amp at 28 V, 100% Duty Cycle	3-23UA	7,740€	20	11	8	10.3	6.4	
TIG (GTAW)	1-phase	200 Amp at 28 V, 50% Duty Cycle	5-200 A	79 VDC -	35			9.8	6.5	
	1-рназе	150 Amp at 28 V, 100% Duty Cycle			34			6.9	4.4	

## **Safety Precautions**



DO NOT OVERLOAD PLATFORM.



DE-RATE THE PLATFORM BY 70 LB (32 KG) WHEN WELDER IS IN THE PLATFORM.

- Check for cracked welds and damage to welder supports.
- Check for proper and secure installation of welder and bracket.
- Ensure no personnel are beneath platform.
- Do not exit platform over rails or stand on rails.
- Use this option only on approved models.
- · Keep lanyard attached at all times.
- · Ensure correct polarity of leads.
- · Wear proper welding apparel.

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- Use correct rod size and current settings.
- Do not use electrical cords without ground.
- · Do not use electrical tools in water.
- Do not weld to the platform.
- · Do not ground through the platform.
- Do not use a high frequency arc starter with TIG welder.

### **Preparation and Inspection**

- · Connect ground clamp to metal being welded.
- Ensure there is a good ground connection and observe proper polarity.

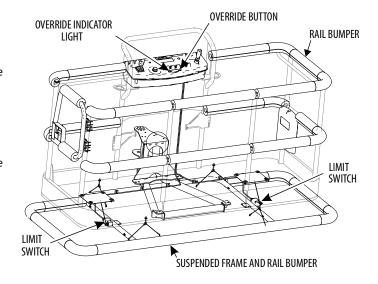
## **Operation**

Start the engine, turn on the generator, then turn on the welder.

Refer to the Miller Welder Owner's Manual (PN 3128957) for more information.

### 6.8 SOFT TOUCH®

A padding kit is mounted to the platform rails and to a frame suspended below the platform. Limit switches deactivate platform functions when the padded framework contacts an adjacent structure. A button on the platform console allows override of the system.



#### 6.9 SKYSENSE™

# **A** WARNING

SKYSENSE IS NOT INTENDED TO REPLACE OR REDUCE THE NEED FOR THE OPERATOR TO BE AWARE OF THE ENVIRONMENT AROUND THE MACHINE. HAZARDS THAT WILL CAUSE SERIOUS INJURY OR DEATH MAY NOT BE PREVENTED OR REDUCED BY SKYSENSE. THE OPERATOR MUST ALWAYS LOOK IN THE DIRECTION OF TRAVEL, AVOID POWER LINES, AVOID OBSTACLES THAT COULD STRIKE THE MACHINE OR PERSONS IN THE PLATFORM, AND FOLLOW ALL INSTRUCTIONS, DECALS, AND OTHER WARNINGS PROVIDED WITH THIS MACHINE.

THE OPERATOR MUST NOT RELY ON SKYSENSE AS A SUBSTITUTE FOR FOLLOWING THE INSTRUCTIONS AND WARNINGS CONTAINED IN THE MANUALS AND PLACARDS PROVIDED WITH THIS MACHINE.

SKYSENSE IS INTENDED TO ASSIST THE OPERATOR. SKYSENSE MAY NOT DETECT CERTAIN OBJECTS DEPENDING ON SHAPE, TYPE OF MATERIAL, OR ORIENTATION OF THE OBJECT TO THE SENSORS. IT IS THE OPERATOR'S RESPONSIBILITY TO BE AWARE OF THEIR SURROUNDINGS AT ALL TIMES.

# **A** WARNING

DE-RATE THE PLATFORM BY 10 LB (4.5 KG) PER BAR WHEN INSTALLED ON THE PLATFORM (20 LB (9 KG) OR 30 LB (14 KG) TOTAL).

**NOTE:** SkySense is not active when operating the machine from the ground controls.

### **Preparation and Inspection**

**Pre-Operation Inspection:** 

- Inspect each of the SkySense tubes for dents, cracks, or other damage.
- Inspect each SkySense sensor for any damage to the housing or sensor.

To test the SkySense system:

- In an area free of obstructions, ensure the machine is on a smooth, firm surface within the limits of the maximum operating slope.
- From the platform control console, elevate the boom until the bottom of the platform is at least 6 feet off the ground.
- 3. Continue to elevate the platform.
- While elevating, hold your hand 6 inches to 12 inches above one of the upward facing sensors. The machine should stop, and the LED corresponding to that sensor (left LED for left sensor bar; right LED for right sensor bar; both LEDs for center sensor bar or overhead sensor) should be red.

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- 5. Ensure the area below the platform is clear of obstructions and lower the platform. The machine should slow down, (SkySense Status LED will blink yellow with increasing frequency) and stop, (SkySense Status LED will be illuminated solid red) when the bottom of the platform is approximately 12 inches from the ground. The alarm should sound if it is not muted (refer to SkySense Alarm).
- Recycle the footswitch and press the override button on the platform control console.
- Continue to lower the platform. The machine should move in the elevated drive speed mode (SkySense Status LED will remain red).

**NOTE:** The SkySense system will not stop machine operation while in Creep.

### **Operation**

SkySense slows a machine's function to creep speed when it is a certain distance away from an object, known as the "warning zone." If the machine continues to approach the object and moves into the "stop zone," SkySense stops all machine functions.

For proportional functions activated by the joystick, the size of the warning zone varies based on the amount of joystick activation. The stop zone always activates at the same distance from the object regardless of the joystick's position.

If the function has reached the warning zone, normal drive speed will resume when a function is activated in the opposite direction. If the machine has reached the SkySense stop zone, release the function and recycle the footswitch to activate a function in the opposite direction.

SkySense is active during the following functions:

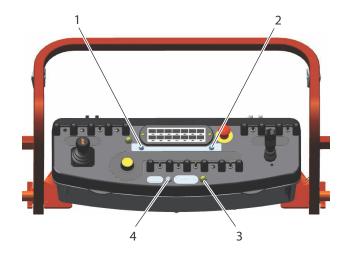
- · Lift Up/Down (including jib functions)
- Platform Rotate (including jib rotate)
- Telescope Out
- Swing
- · Reverse Drive

#### **SECTION 6 - ACCESSORIES**

**NOTE:** During active DOS (Drive Orientation System), SkySense is active when driving in both forward and reverse directions.

There are two LED indicators on the platform control box that signal SkySense activity.

- No LED: Normal operation.
- LED Flashing Yellow: Machine is in SkySense warning zone and will reduce function speed to creep. Flash frequency correlates to proximity of object.
- LED Red: Machine is in SkySense stop zone and all machine functions will cease.
- LED Flashing Red: SkySense sensor is obstructed or damaged. Obstructions must be removed and proper function verified. Damaged sensors must be replaced.



- 1. LED Indicator Light
- 2. LED Indicator Light
- 3. Override Button
- 4. Mute Speaker Switch

Figure 6-1. SkySense Platform Panel Indicators

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### **SkySense Alarm**

Activation of SkySense is signaled by an audible alarm and the LEDs on the platform console that indicate SkySense activity when reaching the warning or stop zones.

In the warning zone, the audible alarm will pulse and increase in frequency as the machine moves closer to the object. In the stop zone, the alarm will sound a continuous tone.

Additionally, when the machine is in the stop zone, the platform control panel audible alarm will sound. The system may be reset by recycling the footswitch.

The audible SkySense alarms can be muted by a switch on the platform control console, although LEDs will continue to light. The platform control panel alarm will sound when the machine enters the SkySense stop zone even when muted.

### **Override Button**

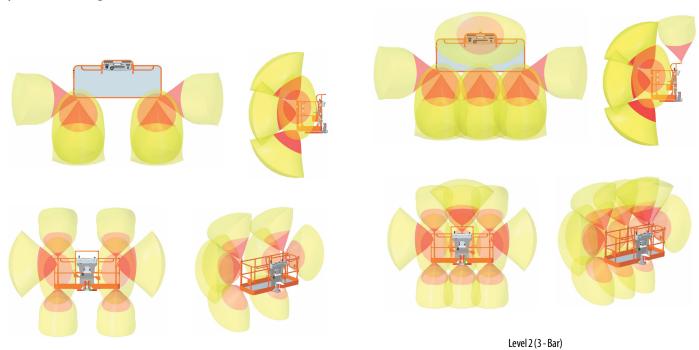
The yellow override button allows operators to bypass normal SkySense operation in order to move closer to an object in the stop zone.

When the operator overrides the SkySense via the override button to get closer to a work surface, the machine will maintain creep speed and flash the appropriate indicator color based on location in either the warning or stop zones.

**NOTE:** Override is only required to be engaged if the operator desires to move the platform closer to an object that is in or entering the stop zone.

SKYGUARD OPERATION IS AFFECTED WHEN SKYSENSE IS INSTALLED ON A MACHINE. IF SKYSENSE ACTIVATION OCCURS PRIOR TO SKYGUARD ACTIVATION, SKYGUARD WILL ONLY CUT OUT FUNCTIONS IF ACTIVATED. IF SKYGUARD ACTIVATION OCCURS PRIOR TO SKYSENSE ACTIVATION, SKYGUARD WILL FUNCTION NORMALLY.

# **SkySense Coverage Areas**



Level 1 (2 - Bar)

Sensor Cones shown are approximations for reference only.

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### 6.10 BOLT-ON EXTERNAL FALL ARREST

The bolt-on external fall arrest system is designed to provide a lanyard attach point while allowing the operator to access areas outside the platform. Exit/Enter the platform through the gate area only. The system is designed for use by one person.

Personnel must use fall protection at all times. A full body harness is required with lanyard not to exceed 6 ft (1.8 M) in length, that limits the maximum arrest force to 900 lb (408 kg).

External Fall Arrest System capacity is 310 lb (140 kg) - one (1) person maximum.

Do not move platform during use of the external fall arrest system.



DO NOT OPERATE ANY MACHINE FUNCTIONS WHILE OUTSIDE OF PLATFORM. BE CAREFUL WHEN ENTERING/EXITING THE PLATFORM AT ELEVATION.

# **▲** WARNING

IF THE EXTERNAL FALL ARREST SYSTEM IS USED TO ARREST A FALL OR IS OTHERWISE DAMAGED, THE ENTIRE SYSTEM MUST BE REPLACED AND THE PLATFORM FULLY INSPECTED BEFORE RETURNING TO SERVICE. REFER TO THE SERVICE MANUAL FOR REMOVAL AND INSTALLATION PROCEDURES.

#### NOTICE

THE EXTERNAL FALL ARREST SYSTEM REQUIRES AN ANNUAL INSPECTION AND CERTIFICATION. THE ANNUAL INSPECTION AND CERTIFICATION MUST BE PERFORMED BY A QUALIFIED PERSON OTHER THAN THE USER.

### **Inspection Before Use**

The external fall arrest system must be inspected before each use of the machine. Replace components if there are any signs of wear or damage.

Before each use, perform a visual inspection of the following components:

• Cable: Inspect cable for proper tension, broken strands, kinks, or any signs of corrosion.

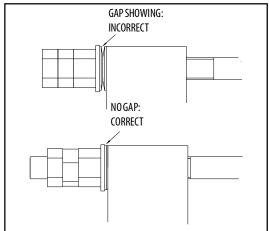


Figure 6-1. Bolt-On External Fall Arrest Cable

- Fittings & Brackets: Ensure all fittings are tight and there are no signs of fractures. Inspect brackets for any damage.
- Attachment Ring: No cracks or signs of wear are acceptable. Any signs of corrosion requires replacement.
- Attaching Hardware: Inspect all attaching hardware to ensure there are no missing components and hardware is properly tightened.
- Platform Rails: No visible damage is acceptable.

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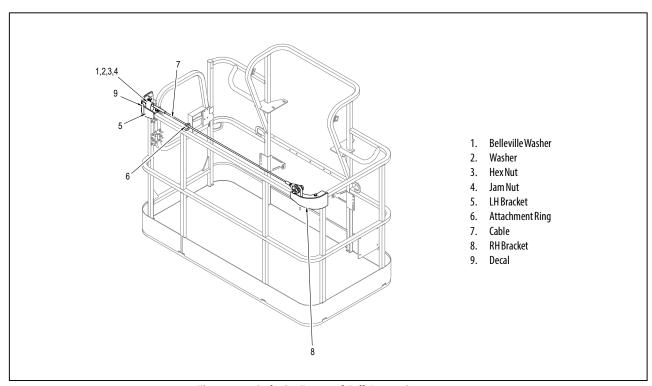
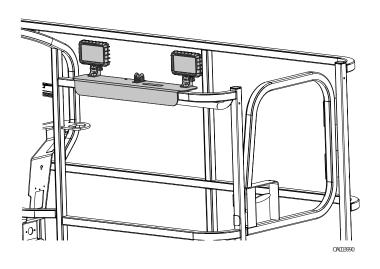


Figure 6-2. Bolt-On External Fall Arrest System

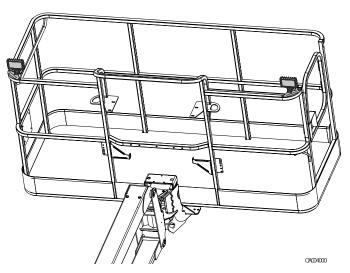
#### 6.11 NITE BRIGHT®

The Nite Bright light package consists of two 40W lights mounted to the platform railing.



#### **6.12 PLATFORM WORK LIGHTS**

The Platform Work Lights accessory consists of two 12V lights mounted to the platform railing.



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### **SECTION 7. GENERAL SPECIFICATIONS & OPERATOR MAINTENANCE**

#### 7.1 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, and does not replace the more thorough Preventive Maintenance and Inspection Schedule included in the Service and Maintenance Manual.

#### Other Publications Available:

Service and Maintenance Manual	.31219074
Illustrated Parts Manual	.31219075

#### 7.2 OPERATING SPECIFICATIONS

**Table 7-1. Operating Specifications** 

Maximum WorkLoad (Capacity) All Markets Unrestricted:	500 lb (227 kg)
Restricted:	Refer to Capacity Decals on machine for restricted platform capacities
Maximum Capacity - Dual Rating All Markets	
800S	1000 lb (454 kg)
860SJ	750 lb (340 kg)
Maximum Operating Slope	4°
Maximum Travel Grade (Gradeability)*	
2WD	25%
4WD	45%
Maximum Travel Grade (Side Slope)*	4°
Maximum Vertical Platform Height:	800S - 80 ft. (24.38 m)
	860SJ - 86 ft. (26.20 m)
Maximum Horizontal Platform Reach	
800S	71 ft. (21.6 m)
860SJ	75 ft. (22.9 m)

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**Table 7-1. Operating Specifications** 

	_
Turning Radius (outside) 800S/860SJ	19.75 ft. (6.02 m)
0003/00033	17.7311.(0.02111)
Turning Radius (inside)	12.5 ft. (3.8 m)
Maximum Drive Speed:	3.48 mph (5.6 km/h)
Max. Hydraulic System Pressure	4500 psi (310 Bar)
Maximum Wind Speed	28 mph (12.5 m/s)
Maximum Manual Force	400 N
Electrical System Voltage	12 Volts
Gross Machine Weight (Platform Empty)	
800S	33,030 lb (14,982 kg)
860SJ	36,230 lb (16,433 kg)
Ambient (Operating) Temperature	See Figures 7-2 through 7-3

<sup>\*</sup>With boom in stowed position

# **Specifications and Performance Data**

**Table 7-2. Specifications and Performance Data** 

Swing	360°
Tail Swing	4′8" (1.42 m)
Platforms	36"x72"(0.91mx1.83m) 36"x96"(0.91mx2.44m)
Overall Width	8'2" (2.48 m)
Stowed Height 800S 860SJ	9′11" (3.02 m) 10′(3.04 m)
Stowed Length 800S 860SJ	37′3.25" (11.4 m) 40′(12.2 m)
Wheel base 800S/860SJ	10′(3.06 m)
Ground Clearance 800S/860SJ	11" (0.28 m)
Drive Speed Stowed 2WD Stowed 4WD Elevated	3.0 mph (5.5 km/h) 3.5 mph (5.6 km/h) 0.75 mph (1.2 km/h)
Ground Bearing Pressure - 800S	72 psi (5.06 kgm/cm <sup>2</sup> )

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**Table 7-2. Specifications and Performance Data** 

Ground Bearing Pressure - 860SJ	81 psi (5.7 kgm/cm <sup>2</sup> )
Max. Tire Load - 800S	17,350 lb (7870 kg)
Max. Tire Load - 860SJ	20,200 lb (9163 kg)

# **Capacities**

**Table 7-3. Capacities** 

Fuel Tank	Approx. 31 gallons (117 liters)
Fuel Tank (Optional)	Approx. 52.8 gallons (200 liters)
HydraulicTank (to Full Line on Sight Gauge	Approx. 40 gallons (151 liters)
Engine Oil Capacity	
Deutz D2011L04	
Cooling System	5 Quarts (4.5 L)
Crankcase	11 Quarts (10.5 L) w/Filter
Total Capacity	16 Quarts (15 L)
DeutzTD 2.9L	2.4 Gallon (8.9 L) w/Filter
Ford 2.5L	7 Quarts (6.6 L) w/Filter

## **Engine Data**

Table 7-4. Deutz D2011L04 Specifications

Туре	Liquid Cooled (Oil)
Fuel	Diesel
Oil Capacity	
Cooling System	5 Quarts (4.5 L)
Crankcase	11 Quarts (10.5 L) w/Filter
Total Capacity	16Quarts (15L)
Idle RPM	1000
Low RPM	1800
High RPM	2600
Alternator	55 Amp, belt drive
FuelConsumption	0.88 GPH (3.33 lph)
Battery	1000 Cold Cranking Amps, 210 minutes
•	Reserve Capacity, 12 VDC
Horsepower	61.6@2600 RPM, full load

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Table 7-5. Deutz TD 2.9 Specifications

Fuel	Ultra Low Sulfur Diesel (15 ppm)
Output	67 hp (50 kW)
Torque	173 ft.lbs. (234 Nm) @ 1800rpm
Oil Capacity (Crankcase)	2.4 Gallon (8.9 L) w/Filter
Cooling System	3.3 Gallon (12.5 L)
LowRPM	1200±50rpm
High RPM	2600±50 rpm
Alternator	95 Amp
Fuel Consumption	1.06 GPH (4.0 LPH)

Table 7-6. Ford 2.5L DF Specifications

Gasoline or Gasoline/LP Gas
84 hp @ 3200 rpm
80 hp @ 3200 rpm
4.0 in. (101.6 mm)
3.6 in. (91.44 mm)
181 cu.in. (3.0 L, 2966 cc)
7 Quarts (6.6 L)
6 psi (0.4 Bar) @ 1000 rpm
18 psi (1.2 Bar) @ 2000 rpm
0.63 Gal (2.4L)
12V 64.4A @ 3574 RPM
12V, 150 Amp
1.3
3200
0.99 GPH (3.74 LPH)
5.67 GPH (2.57 LPH)

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# **Battery**

**Table 7-7. Battery Specifications** 

Voltage	12 Volt
Туре	31-950
Cold Cranking Amps	950 CCA @ 0° F (-18° C)
Reserve Capacity	205 Minutes @ 80° F (27° C)

### Tires

**Table 7-8. Tire Specifications** 

Size	Туре	Ply Rating	Load Range	Pressure
15-625	foam-filled	16	Н	N/A
18-625	foam-filled	16	Н	N/A

# **Major Component Weights**

**Table 7-9. Component Weights** 

Component	Pounds	Kilograms		
Turntable (bare)	3700	1678		
Counterweight (S)	7000	3175		
Counterweight (SJ)	8750	3969		
Upright	1050	476		
Tower	685	311		
Fly Boom (SJ)	472	214		
Fly Boom (S)	490	222		
Mid Boom (SJ)	750	340		
Mid Boom (S)	740	336		
Base Boom (SJ)	1400	635		
Base Boom (S)	1410	640		
Boom Assembly	3337	1514		
Telescope Cylinder (800S)	590	268		
Telescope Cylinder (860SJ)	579	263		
Slave Cylinder	73	33		
Torque Hub (2WD)	218	99		
Tire & Wheel (FF)	544	247		

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### **Hydraulic Oil**

Table 7-10. Hydraulic Oil

Hydraulic System Operating Temperature Range	S.A.E. Viscosity Grade			
+0°to+180°F(-18°to+83°C)	10W			
+0°to+210°F(-18°to+99°C)	10W-20, 10W30			
+50° to +210° F (+10° 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. JLG Industries recommends standard UTTO.

**NOTE:** 

When temperatures remain consistently below 20 degrees F. (-7 degrees C.), JLG Industries recommends the use of premium cold weather hydraulic fluid.

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. If use of hydraulic oil other than standard UTTO is desired, contact JLG Industries for proper recommendations.

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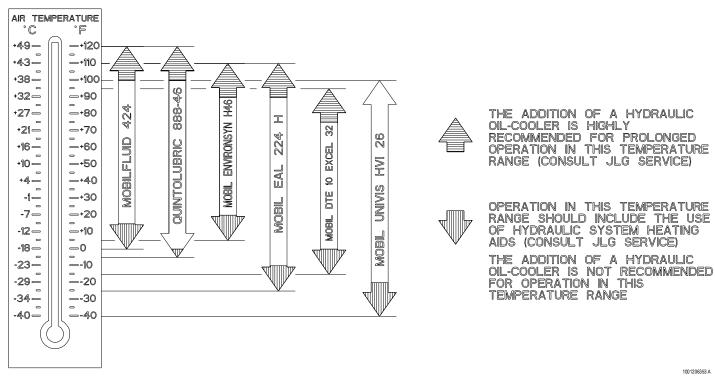


Figure 7-1. Hydraulic Oil Operation Chart - Sheet 1 of 2

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Fluid	Prop	erties	Base			Classifications			
Description	Viscosity at 40°C (cSt, Typical)	Viscosity Index	Mineral Oils	Vegetable 0 ils	Synthetic	Synthetic Polyol Esters	Readily Biodegradable*	Virtually Non-toxic**	Fire Resistant***
Shell Spirax S4 TXM - Recommended	67	146	X						
Mobilfluid 424 - Optional	60	134	Χ						
Shell Tellus S2 VX 32 - Recommended	32	142	X					X	
Mobil DTE 10 Excel 32 - Optional	32	164	Χ					Χ	
Shell Tellus S4 VX 32 - Recommended	32	296	X						
Univis HVI 26 - Optional	26	376	χ						
Shell Naturelle HF - E32 - Recommended	31	192		X			X	X	
Mobil EAL Envirosyn H32- <i>Optional</i>	34	146		χ			Χ	Χ	
Shell Naturelle HF - E46 - Recommended	46	193			X		X	X	
Mobil EAL Envirosyn H46 - Optional	49	145			χ		Х	Х	
Quintolubric 888-46	48	190				Χ	Χ	Χ	Χ
Hydrolube HP-5046D	46	192				Χ	Χ	Χ	Χ

<sup>\*</sup> Readily biodegradable classification indicates one of the following:

4150740B

Figure 7-2. Hydraulic Oil Operation Chart - Sheet 2 of 2

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CO2 Conversion > 60% per EPA 560/6-82-003

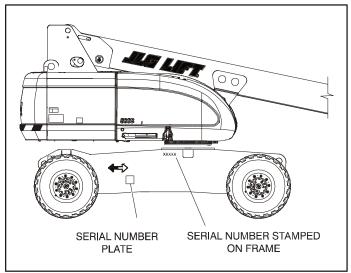
CO2 Conversion > 80% per CEC-L-33-A-93

<sup>\*\*</sup> Virtually Non-toxic classification indicates an LC50 > 5000 ppm per 0ECD 203

<sup>\*\*\*</sup> Fire Resistant classification indicates Factory Mutual Research Corp. (FMRC) Approval

### 7.3 SERIAL NUMBER LOCATION

A serial number plate is affixed to the left rear side of the frame. If the serial number plate is damaged or missing, the machine serial number is stamped on the left side of the frame.



**Figure 7-3. Serial Number Locations** 

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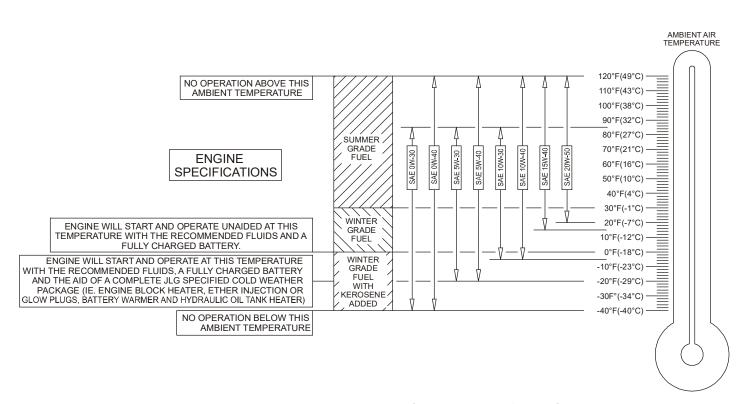


Figure 7-4. Engine Operating Temperature Specifications - Deutz - Sheet 1 of 2

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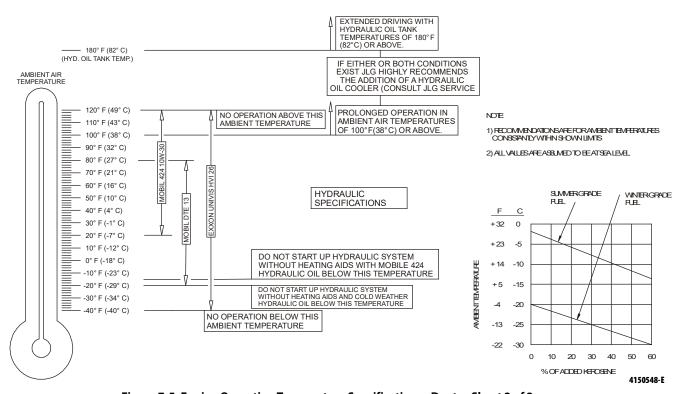


Figure 7-5. Engine Operating Temperature Specifications - Deutz - Sheet 2 of 2

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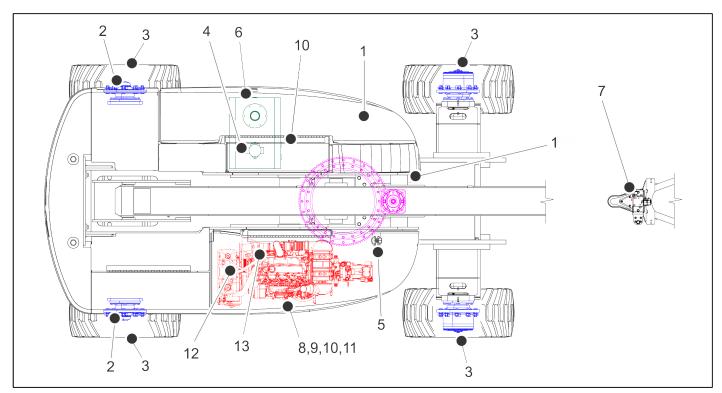


Figure 7-6. Maintenance and Lubrication Diagram

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#### 7.4 MAINTENANCE AND LUBRICATION

**NOTE:** The following numbers correspond to those in Figure 7-6., Maintenance and Lubrication Diagram.

**Table 7-11. Lubrication Specifications** 

KEY	SPECIFICATIONS			
MPG	$\label{lem:multipurpose} Multipurpose Grease having a minimum dripping point of 350°F (177°C). Excellent water resistance and adhesive qualities, and being of extreme pressure type. (Timken OK 40 pounds minimum.)$			
EPGL	Extreme Pressure Gear Lube (oil) meeting API service classification GL-5 or MIL- Spec MIL-L-2105			
НО	Hydraulic Oil. API service classification GL-3, e.g. Standard UTTO.			
EO	Engine (crankcase). Gas (5W30)- API SN, -Arctic ACEA AI/BI, A5/B5 - API SM, SL, SJ, EC, CF, CD - ILSAC GF-4. Diesel (15W40, 5W30 Arctic) - API CJ-4.			

# NOTICE

LUBRICATION INTERVALS ARE BASED ON MACHINE OPERATION UNDER NORMAL CONDITIONS. FOR MACHINES USED IN MULTI-SHIFT OPERATIONS AND/OR EXPOSED TO HOSTILE ENVIRONMENTS OR CONDITIONS, LUBRICATION FREQUENCIES MUST BE INCREASED ACCORDINGLY.

**NOTE:** It is recommended as a good practice to replace all filters at the same time.

1. Swing Bearing - Internal Ball Bearing



Lube Point(s) - 1 Grease Fittings Capacity - A/R

Lube - MPG

Interval - Every 3 months or 150 hrs of operation

Comments - Remote Access

#### 2. Wheel Bearings



Lube Point(s) - Repack
Capacity - A/R
Lube - MPG
Interval - Every 2 years or 1200 hours of operation

#### 3. Wheel Drive Hub



Lube Point(s) - Level/Fill Plug Capacity - 44 oz. (1.3 L) - 1/2 Full Lube - EPGL

Interval - Check level every 3 months or 150 hours of operation; change every 2 years or 1200 hours of operation

Comments - Place Fill port at 12 o'clock position and Check port at 3 o'clock position. Pour lubricant into fill port until it just starts to flow out of check port.

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4. Hydraulic Return Filter



Interval - Change after first 50 hours and every 6 months or 300 hours thereafter or as indicated by Condition Indicator.

5. Hydraulic Charge Filter



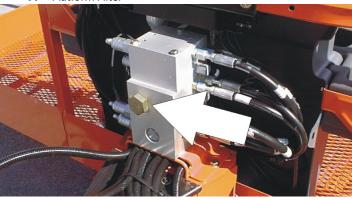
Interval - Change after first 50 hours and every 6 months or 300 hours thereafter or as indicated by Condition Indicator (if equipped).

**6.** Hydraulic Tank



Lube Point(s) - Fill Cap
Capacity - Tank (to Full mark on sight gauge)
Approx. 21 gallons (79.5 liters)
System Capacity - 59 gallons (223 liters)
Lube - HO
Interval - Check Level daily; Change every 2 years or 1200 hours of operation.

7. Platform Filter



Interval - Change as necessary

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8. Oil Change w/Filter - Deutz



Lube Point(s) - Fill Cap/Spin-on Element
Capacity - 11 Quarts(10.5 L) Crankcase;
Lube - EO
Interval - Every Year or 1200 hours of operation
Comments - Check level daily/Change in accordance with engine manual.

B. Oil Change w/Filter - Deutz TD2.9



Lube Point(s) - Fill Cap/Spin-on Element
Capacity - 9.6 Quarts (9.0 L)
Lube - EO
Interval - Every Year or 600 hours of operation
Comments - Check level daily/Change in accordance with engine manual.

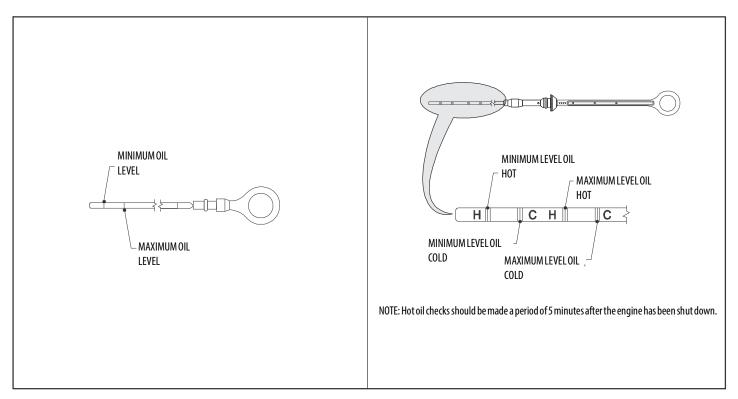


Figure 7-7. Deutz 2011 Engine Dipstick

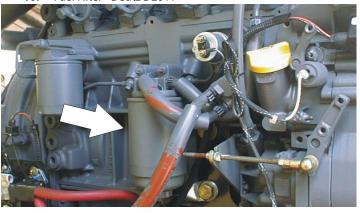
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9. Oil Change w/Filter - Ford 2.5L



Lube Point(s) - Fill Cap/Spin-on Element
Capacity - 4.5 qt. (4.25 L) w/filter
Lube - EO
Interval - 3 Months or 150 hours of operation
Comments - Check level daily/Change in accordance with engine manual.

10. Fuel Filter - Deutz D2011



Lube Point(s) - Replaceable Element Interval - Every Year or 600 hours of operation

B. Fuel Filter - Deutz TD2.9 (On Hydraulic Tank)



Lube Point(s) - Replaceable Element Interval - Change in accordance with engine manual

C. Fuel Filter - Deutz TD2.9 (On Engine)



Lube Point(s) - Replaceable Element Interval - Change in accordance with engine manual

11. Fuel Filter (Gasoline) - GM

Lube Point(s) - Replaceable Element Interval - Every 6 months or 300 hours of operation

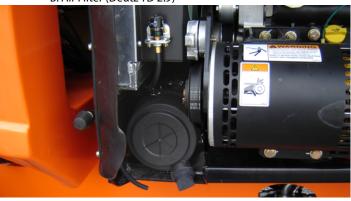
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**12.** Air Filter



Lube Point(s) - Replaceable Element Interval - Every 6 months or 300 hours of operation or as indicated by the condition indicator

B. Air Filter (Deutz TD 2.9)



Lube Point(s) - Replaceable Element Interval - Every 6 months or 300 hours of operation or as indicated by the condition indicator

13. Fuel Filter (Propane) - Ford 2.5L Engine



Interval - 3 Months or 150 hours of operation Comments - Replace filter. Refer to Section 7.6, Propane Fuel Filter Replacement

#### 7.5 TIRES & WHEELS

# **Tire Damage**

For polyurethane foam filled tires, JLG Industries, Inc. recommends when any of the following are discovered, measures must be taken to remove the JLG product from service immediately and arrangements must be made for replacement of the tire or tire assembly.

- a smooth, even cut through the cord plies which exceeds 3 inches (7.5 cm) in total length
- any tears or rips (ragged edges) in the cord plies which exceeds 1 inch (2.5 cm) in any direction
- · any punctures which exceed 1 inch in diameter
- any damage to the bead area cords of the tire

If a tire is damaged but is within the above noted criteria, the tire must be inspected on a daily basis to insure the damage has not propagated beyond the allowable criteria.

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# **Tire Replacement**

JLG recommends a replacement tire be the same size, ply and brand as originally installed on the machine. Please refer to the JLG Parts Manual for the part number of the approved tires for a particular machine model. If not using a JLG approved replacement tire, we recommend that replacement tires have the following characteristics:

- Equal or greater ply/load rating and size of original
- · Tire tread contact width equal or greater than original
- Wheel diameter, width, and offset dimensions equal to the original
- Approved for the application by the tire manufacturer (including inflation pressure and maximum tire load)

Unless specifically approved by JLG Industries Inc. do not replace a foam filled or ballast filled tire assembly with a pneumatic tire. When selecting and installing a replacement tire, ensure that all tires are inflated to the pressure recommended by JLG. Due to size variations between tire brands, both tires on the same axle should be the same.

# **Wheel Replacement**

The rims installed on each product model have been designed for stability requirements which consist of track width, tire pressure, and load capacity. Size changes such as rim width, center piece location, larger or smaller diameter, etc., without written factory recommendations, may result in an unsafe condition regarding stability.

#### **Wheel Installation**

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

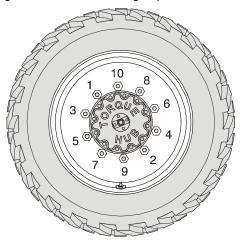
# **▲** WARNING

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

TORQUE SEQUENCE						
1st Stage	2nd Stage	3rd Stage				
70 ft. lbs.	170 ft. lbs.	300 ft. lbs.				
(95 Nm)	(225 Nm)	(405 Nm)				

Tighten the lug nuts to the proper torque to prevent wheels from coming loose. Use a torque wrench to tighten the fasteners. If you do not have a torque wrench, tighten the fasteners with a lug wrench, then immediately have a service garage or dealer tighten the lug nuts to the proper torque. Over-tightening will result in breaking the studs or permanently deforming the mounting stud holes in the wheels. The proper procedure for attaching wheels is as follows:

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



- The tightening of the nuts should be done in stages. Following the recommended sequence, tighten nuts per wheel torque chart.
- **4.** Wheel nuts should be torqued after first 50 hours of operation and after each wheel removal. Check torque every 3 months or 150 hours of operation.

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#### 7.6 PROPANE FUEL FILTER REPLACEMENT

#### Removal

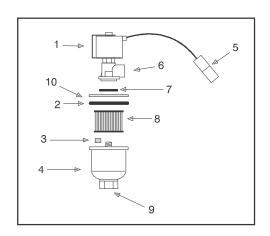
- Relieve the propane fuel system pressure. Refer to Propane Fuel System Pressure Relief.
- 2. Disconnect the negative battery cable.
- 3. Slowly loosen the Filter housing and remove it.
- **4.** Pull the filter housing from the Electric lock off assembly.
- **5.** Remove the filter from the housing.
- **6.** Locate Filter magnet and remove it.
- **7.** Remove and discard the housing seal.
- **8.** If equipped, remove and discard the retaining bolt seal.
- **9.** Remove and discard mounting plate to lock off O-ring seal.

#### Installation



# BE SURE TO REINSTALL THE FILTER MAGNET INTO THE HOUSING BEFORE INSTALLING NEW SEAL

- 1. Install the mounting plate to lock off O-ring seal.
- **2.** If equipped, install the retaining bolt seal.
- 3. Install the housing seal.
- 4. Drop the magnet into the bottom of the filter housing.
- Install the filter into the housing.
- **6.** If equipped, install the retaining bolt into the filter housing.
- 7. Install the filter up to the bottom of the electric lock off.
- **8.** Tighten the filter bowl retainer to 106 in lbs (12 Nm).
- **9.** Open manual shut-off valve. Start the vehicle and leak check the propane fuel system at each serviced fitting. Refer to Propane Fuel System Leak Test.



- Electric Lock Off Solenoid
- **Housing Seal**
- Filter Magnet
- Filter Housing
- Flectrical Connector

- Fuel Outlet
- 0-ring
- Filter
- Fuel Inlet
- 10. Ring

Figure 7-8. Filter Lock Assembly

#### PROPANE FUEL SYSTEM PRESSURE RELIEF 7.7

# CAUTION

THE PROPANE FUEL SYSTEM OPERATES AT PRESSURES UP TO 312 PSI (21.5 BAR). TO MINIMIZE THE RISK OF FIRE AND PERSONAL INJURY, RELIEVE THE PROPANE FUEL SYSTEM PRESSURE (WHERE APPLICABLE) BEFORE SERVICING THE PROPANE FUEL SYSTEM COMPONENTS.

To relieve propane fuel system pressure:

- 1. Close the manual shut-off valve on the propane fuel tank.
- Start and run the vehicle until the engine stalls.
- Turn the ignition switch Off.

# CAUTION

RESIDUAL VAPOR PRESSURE WILL BE PRESENT IN THE FUEL SYSTEM. ENSURE THE WORK AREA IS WELL VENTILATED BEFORE DISCONNECTING ANY FUEL LINE.

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# 7.8 SUPPLEMENTAL INFORMATION ONLY APPLICABLE TO CE/UKCA MACHINES

The following information is provided in accordance with the requirements of the European Machinery Directive 2006/42/EC or Supply of Machinery (Safety) Regulations 2008 No. 1597.

The A-Weighted emission sound pressure level at the work platform is less than 70dB (A).

The guaranteed Sound Power Level (LWA) per European Directive 2000/14/EC (Noise Emission in the Environment by Equipment for Use Outdoors) or Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001 No. 1701 based on test methods in accordance with Annex III, Part B, Method 1 and 0 of the directive, is 106 dB for Stage IIIA engines, 113 dB for machines equipped with Stage IIIB engines and steel hoods, and 112 dB for machines equipped Stage IIIB engines and ABS hoods.

The vibration total value to which the hand-arm system is subjected does not exceed 2,5 m/s<sup>2</sup>. The highest root mean square value of weighted acceleration to which the whole body is subjected does not exceed 0,5 m/s<sup>2</sup>.

# **EC Declaration of Conformity**

**Manufacturer:** 

JLG Industries, Inc.

**Address:** 

1 JLG Drive McConnellsburg, PA 17233 USA

**Technical File:** 

JLG EMEA B.V. Polaris avenue 63, 2132 JH Hoofddorp The Netherlands

**Contact / Position:** 

Senior Manager — Product Safety & Reliability

Date / Place:

Hoofddorp, Netherlands

Machine Type: Mobile Elevating Work Platform

**Model Type:** 800S, 860SJ

**Notified Body:** Kuiper Certificering b.v.

EC-Number: 2842

**Address:** Van Slingelandtstraat 75, 7331 NM

Apeldoorn, The Netherlands

**Certificate Number:** KCEC4415

Reference Standards: • EN 55011:2009/A1:2010

• EN 61000-6-2:2005

• EN 60204-1:2018

EN 280:2013+ A1:2015

• EN ISO 12100:2010

JLG Industries Inc. hereby declares that the above mentioned machine conforms with the requirements of:

· 2006/42/EC - Machinery Directive

2014/30/EU - EMC Directive

• 2014/53/EU - RED Directive (If fitted with optional equipment)

• 2000/14/EC - Outdoor Noise Directive

**NOTE:** This declaration conforms with the requirements of annex II-A of the council directive 2006/42/EC. Any modification to the above described machine violates the validity of this declaration.

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# **UKCA Declaration of Conformity**

#### **Manufacturer:**

JLG Industries, Inc.

#### **Address:**

1 JLG Drive McConnellsburg, PA 17233 USA

#### **Technical File:**

JLG Industries UK Ltd Braunstone Frith Industrial Estate Unit 3 Sunningdale Road Leicester, LE3 1UX United Kingdom

#### **Contact / Position:**

Director of Engineering - Europe

#### Date / Place:

Leicester, United Kingdom

Machine Type: Mobile Elevating Work Platform

Model Type: 800S, 860SJ

Approved Body: Amtri Veritas

AB-Number: 0463

**Address:** Pierce Street, Macclesfield, SK11 6ER.

England

Certificate Number: AVUK4415

Reference Standards: • EN 55011:2009/A1:2010

EN 61000-6-2:2005
EN 60204-1:2018
EN 280:2013+ A1:2015
EN ISO 12100:2010

JLG Industries Inc. hereby declares that the above mentioned machine conforms with the requirements of:

- 2008 No. 1597 Supply of Machinery (Safety) Regulations 2008
- 2016 No. 1091 Electromagnetic Compatibility Regulations 2016
- 2017 No. 1206 Radio Equipment Regulations 2017 (if fitted with optional equipment)
- 2001 No. 1701 Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001

**NOTE:** This declaration conforms with the requirements of annex II-A of the Regulations 2008 No. 1597. Any modification to the above described machine violates the validity of this declaration.

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# **SECTION 8. INSPECTION AND REPAIR LOG**

	Table 8-1.	Inspection and Repair Log
Machine Scharwanisch		

Machine Serial Number

Date	Comments

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Table 8-1. Inspection and Repair Log

Date	Comments

**8-2** 31219073



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