



Operation & Safety Manual

*Original Instructions
Keep this manual with machine at all times.*

***Models
642, 742, 943,
1043, 1055, 1255***

31211031

January 31, 2019 - Rev G

ANSI





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.

REVISION LOG

April 17, 2015 - A - Original Issue of Manual

August 31, 2015 - B - Revised cover and pages d, 2-1, 2-4 thru 2-13, 2-16, 3-3, 3-5, 3-8, 3-11, 3-16, 3-17, 4-5, 4-7, 5-2, 5-3, 5-37, 5-39, 5-40, 5-43, 7-6, 7-8 thru 7-13, 7-15, 7-16, 7-19, 7-23, 9-1 thru 9-6 & 9-8 thru 9-12.

November 18, 2016 - C - Revised covers and pages c, 1-1, 1-4, 2-4 thru 2-16, 2-19, 3-4, 3-5, 3-6, 3-10, 3-11, 3-14, 3-18, 3-19, 3-20, 3-25 thru 3-58, 4-6, 4-7, 4-15, 5-2, 5-3, 5-12, 5-50, 5-51, 5-52, 6-1, 6-2, 6-3, 7-3 thru 7-13, 7-18, 7-20 thru 7-25, 7-27, 7-29, 7-30, 7-31, 8-1, 9-1 thru 9-5, 9-9 thru 9-13.

January 9, 2017 - D - Revised page 1-1.

April 18, 2017 - E - Revised covers and pages d,

Read This First

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.

Operator Qualifications

The operator of the machine must not operate the machine 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. Operation within the U.S.A. requires training per OSHA 1910.178.

Operators of this equipment must possess a valid, applicable driver's license, be in good physical and mental condition, have normal reflexes and reaction time, good vision and depth perception and normal hearing. Operator must not be using medication which could impair abilities nor be under the influence of alcohol or any other intoxicant during the work shift.

In addition, the operator must read, understand and comply with instructions contained in the following material furnished with the material handler:

- This Operation & Safety Manual
- Telehandler Safety Manual (ANSI only)
- All instructional decals and plates
- Any optional equipment instructions furnished

The operator must also read, understand and comply with all applicable Employer, Industry and Governmental rules, standards and regulations.

Modifications

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.

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.

JLG Industries, Inc. must be notified immediately in all instances where JLG products have been involved in an accident involving bodily injury or death of personnel or when damage has occurred to personal property or the JLG product.

FOR:

- Accident Reporting and Product Safety Publications
- Current Owner Updates
- Questions Regarding Product Applications and Safety
- Standards and Regulations Compliance Information
- 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

In USA:

Toll Free: 1-877-JLG-SAFE (1-877-554-7233)

Outside USA:

Other Publications Available

Service Manual	31211033
Parts Manual	
642, 742, 943 & 1043	31211111
1055 & 1255	31211032

Note: The following standards may be referenced in this manual:
ANSI is compliant to ANSI/ITSDF B56.6
AUS is compliant to AS 1418.19
CE is compliant to EN1459
Refer to the machine Serial Number Plate to identify the applicable compliance standard.

Machine Configuration

Two configurations of each machine are included in this manual. Determine if machine is equipped with Ultra Low Sulfur Fuel Decal (1) as indicated below.

- If equipped with Ultra Low Sulfur decal, all specific references to this machine configuration will be referred to as Ultra Low Sulfur (**ULS**) from this point forward.
- If **not** equipped with Ultra Low Sulfur decal, all specific references to this machine configuration will be referred to as Low Sulfur (**LS**) from this point forward.

Maximum engine power can be found on the decal (2) located on the side of the radiator.

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Read This First

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SECTION 1 - GENERAL SAFETY PRACTICES

1.1 HAZARD CLASSIFICATION SYSTEM

Safety Alert System and Safety Signal Words



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

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



CAUTION

CAUTION indicates a potentiality hazardous situation which, if not avoided, may result in minor or moderate injury.

1.2 GENERAL PRECAUTIONS

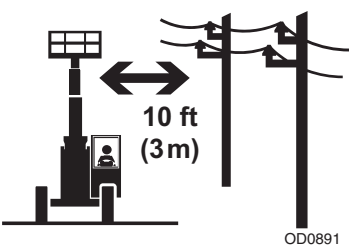
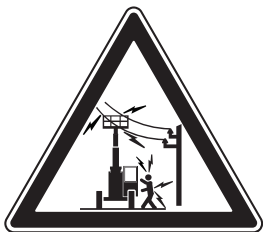


Section 1- General Safety Practices

1.3 OPERATION SAFETY

Note: The manufacturer has no direct control over machine application and operation. Therefore, safety issues listed in this manual are non-exhaustive. The user and operator are responsible for conforming with good safety practices.

Electrical Hazards



- This machine is not insulated and does not provide protection from contact or being near electrical current.
- Always check for power lines before raising the boom.
- Maintain distance from electrical lines, apparatus, or any energized (exposed or insulated) parts according

Section 1- General Safety Practices

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



DANGER

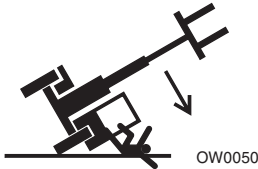
Do not maneuver machine or personnel inside prohibited zone (MAD). Assume all electrical parts and wiring are energized unless known otherwise.

Section 1- General Safety Practices

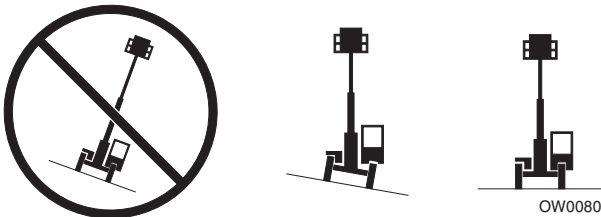
Tip Over Hazard

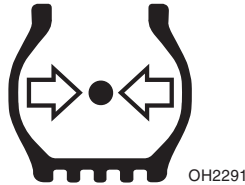
General

- For additional load requirements, refer to the appropriate capacity chart.



- Never use an attachment without the appropriate original equipment manufacturer (OEM) approved capacity chart installed on the telehandler.
- Understand how to properly use the capacity charts located in cab.
- DO NOT** exceed rated lift capacity.
- Be sure that the ground conditions are able to support the machine.
- Be aware of wind conditions. Wind may cause load swing and dangerous side loads.
- Keep the machine a minimum of 2 ft (0,6 m) from holes, drop-offs, obstructions, debris, concealed holes and other potential hazards at ground level.





- **MAINTAIN proper tire pressure** at all times. If proper tire pressures are not maintained, this machine could tip over.
- Refer to manufacturer's specifications for proper fill ratio and pressure requirements for tires equipped with ballast.

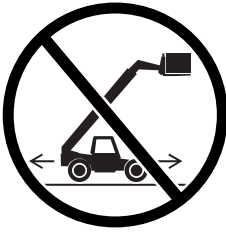


- Always wear seat belt.
- Keep head, arms, hands, legs and all other body parts inside operator's cab at all times.



Section 1- General Safety Practices

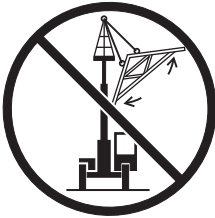
Non-Suspended Load



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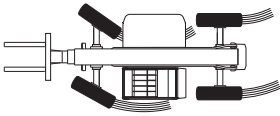
- **DO NOT** drive with boom raised.

Suspended Load



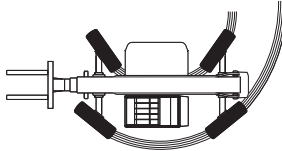
Travel Hazard

2-WHEEL FRONT STEER

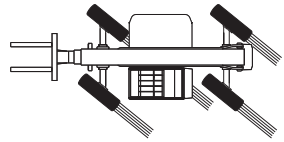


OAL2030

4-WHEEL CIRCLE STEER



4-WHEEL CRAB STEER



- Steering characteristics differ between steer modes. Identify the steer mode settings of the telehandler being operated.
- **DO NOT** change steer modes while traveling. Steer modes must be changed while telehandler is stationary.
- Visually verify proper wheel alignment after each steer mode change.
- Ensure that adequate clearance is provided for both rear tail swing and front fork swing.
- Look out for and

Section 1- General Safety Practices

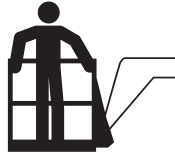
Load Falling Hazard



OW0130

- Never suspend load from forks or other parts of carriage weldment. Use only approved lift points.
- **DO NOT** burn or drill holes in fork(s).
- Forks must be centered under load and spaced apart as far as possible.

Lifting Personnel



OW0171

- When lifting personnel, **USE ONLY** an approved personnel work platform, with proper capacity chart displayed in the cab.

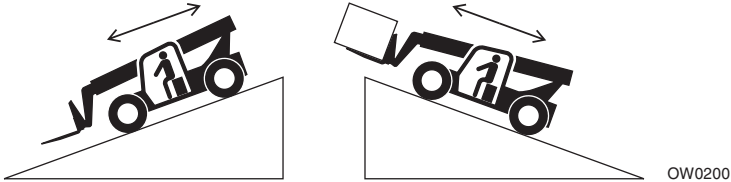


OD0921

- **DO NOT** drive machine from cab when personnel are in platform.

Section 1- General Safety Practices

Driving Hazards on Slopes

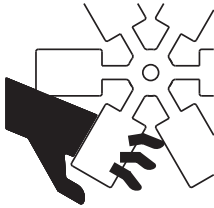


To maintain sufficient traction and braking capabilities, travel on slopes as follows:

- When unloaded, drive with forks pointed downhill.
- When loaded, drive with the forks pointed uphill.
- For additional travel requirements, refer to the appropriate capacity chart.
- To avoid overspeeding the engine and drivetrain when driving down slopes, downshift to a lower gear and use the service brake as necessary to maintain a slow speed. **DO NOT shift into neutral and coast downhill.**
- Avoid excessively steep slopes or unstable surfaces. To avoid tip over **DO NOT** drive across excessively steep slopes under *any* circumstances.
- Avoid turning on a slope. Never engage “inching” or shift to “Neutral” when going downhill.
- **DO NOT** park on a slope.

Pinch Points and Crush Hazards

Stay clear of pinch points and rotating parts on the telehandler.



OW0210

- Stay clear of moving parts while engine is running.



OW0220

- Keep clear of steering tires and frame or other objects.



OW02

Section 1- General Safety Practices



OW0240

- Keep clear of boom holes.



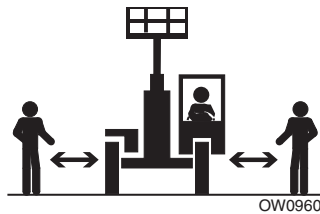
OW0250

- Keep arms and hands clear of attachment tilt cylinder.



OW0260

- Keep hands and fingers clear of carriage and forks.



Fall Hazard



OW0280

- Enter using the proper hand holds and steps provided. Always maintain 3-point contact when mounting or dismounting. Never grab control levers or steering wheel when mounting or dismounting the machine.
- **DO NOT** get off the machine until the shutdown procedure on page 4-5 has been performed.



OW0290

- **DO NOT** carry riders. Riders could fall off machine causing death or serious injury.

Section 1- General Safety Practices

Chemical Hazards

Exhaust Fumes

- **DO NOT** operate machine in an enclosed area without proper ventilation.
- **DO NOT** operate the machine in hazardous environments unless approved for that purpose by JLG and site owner. Sparks from the electrical system and the engine exhaust can cause an explosion.

Flammable Fuel



OW0300

- **DO NOT** fill the fuel tank or service the fuel system near an open flame, sparks or smoking materials. Engine fuel is flammable and can cause a fire and/or explosion.

Hydraulic Fluid



OW0950

1.4 CLEARSKY (IF EQUIPPED)

Federal Communications Commission (FCC) Information for Users

FCC Statement Regarding Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the

Section 1- General Safety Practices

Notice Regarding Radio Frequency Radiation Exposure

Do not operate your unit when a person is within eight inches (20 centimeters) of the antenna. A person or object within eight inches (20 centimeters) of the antenna could impair call quality and may cause the unit to operate at a higher power level than necessary, as well as expose that person to RF energy in excess of that established by the FCC RF Exposure Guidelines.

Important: The unit must be installed in a manner that provides a minimum separation distance of eight inches (20 centimeters) or more between the antenna and persons and just not be co-located or operate in conjunction with any other antenna or transmitter in order to satisfy FCC RF exposure requirements for mobile transmitting devices.

Important: To comply with the FCC RF exposure limits and to satisfy the categorical exclusion requirements for mobile transmitters, the requirements described in the following section, "Antenna Installation", must be met.

Antenna Installation

A minimum separation distance of eight inches (20 centimeters) must be maintained between the antenna and all persons.

The combined cable loss and antenna gain must not exceed +7.5 dBi (850 band). The combined cable loss and antenna gain must not exceed +2.5 dBi and total system output must not exceed 2.0W EIRP in the PCS (1900) band in order to comply with the EIRP limit of 24.232 (b). OEM installers must be provided with antenna installation instruction and transmitter operating conditions for satisfying RF exposure compliance.

SECTION 2 - PRE-OPERATION AND INSPECTION**2.1 PREPARATION, INSPECTION AND MAINTENANCE**

The following table covers the periodic machine inspections and maintenance required. Consult local regulations for further requirements for telehandlers. The frequency of inspections and maintenance must be increased as necessary when the machine is used in a harsh or hostile environment, if the machine is used with increased frequency, or if the machine is used in a severe manner.

Inspection and Maintenance </

Section 2- Pre-Operation and Inspection

2.2 PRE-OPERATION CHECK AND INSPECTION

Note: Complete all required maintenance before operating unit.



WARNING

FALL HAZARD. Use extreme caution when checking items beyond your normal reach. Use an approved

Section 2- Pre-Operation and Inspection

8. **Operational Check** - Once the walk-around inspection is complete, perform a warm-up and operational check (see page 2-19) of all systems in an area free of overhead and ground level obstructions. See Section 3- Controls and Indicators for more specific operating instructions.



WARNING

If telehandler does not operate properly, immediately bring machine to a stop, lower boom and attachment to ground and stop the engine. Determine cause and correct before continued use.

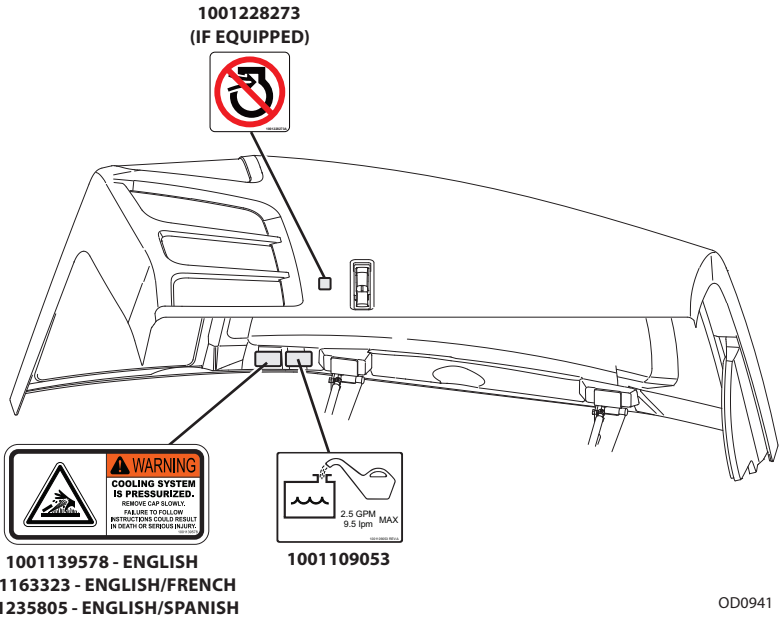
Section 2- Pre-Operation and Inspection

2.3 SAFETY DECALS

Ensure all **DANGER, WARNING, CAUTION** and instructional decals and proper capacity charts are legible and in place. Clean and replace as required.

ANSI (if equipped)

VIEW UNDER ENGINE COVER



Section 2- Pre-Operation and Inspection

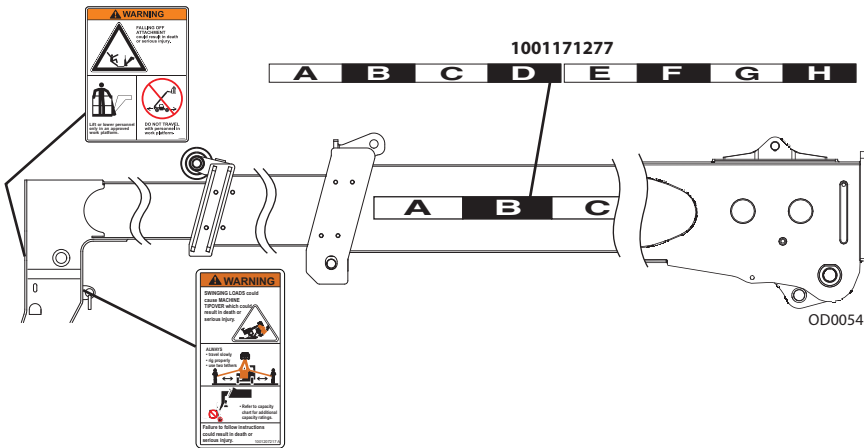
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1706302 - ENGLISH
1001163223 - ENGLISH/FRENCH
1001235800 - ENGLISH/SPANISH

1706300 - ENGLISH
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Section 2- Pre-Operation and Inspection

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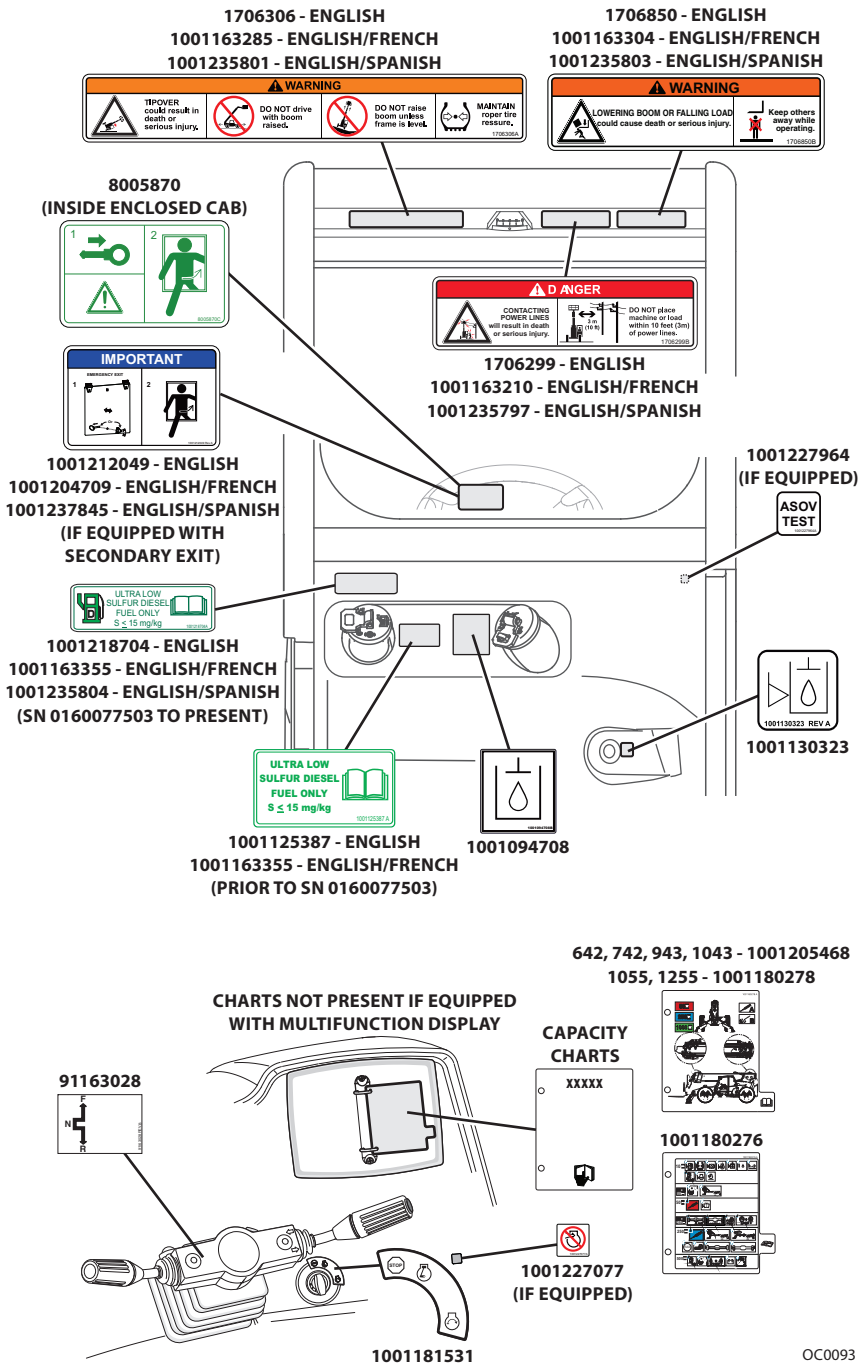


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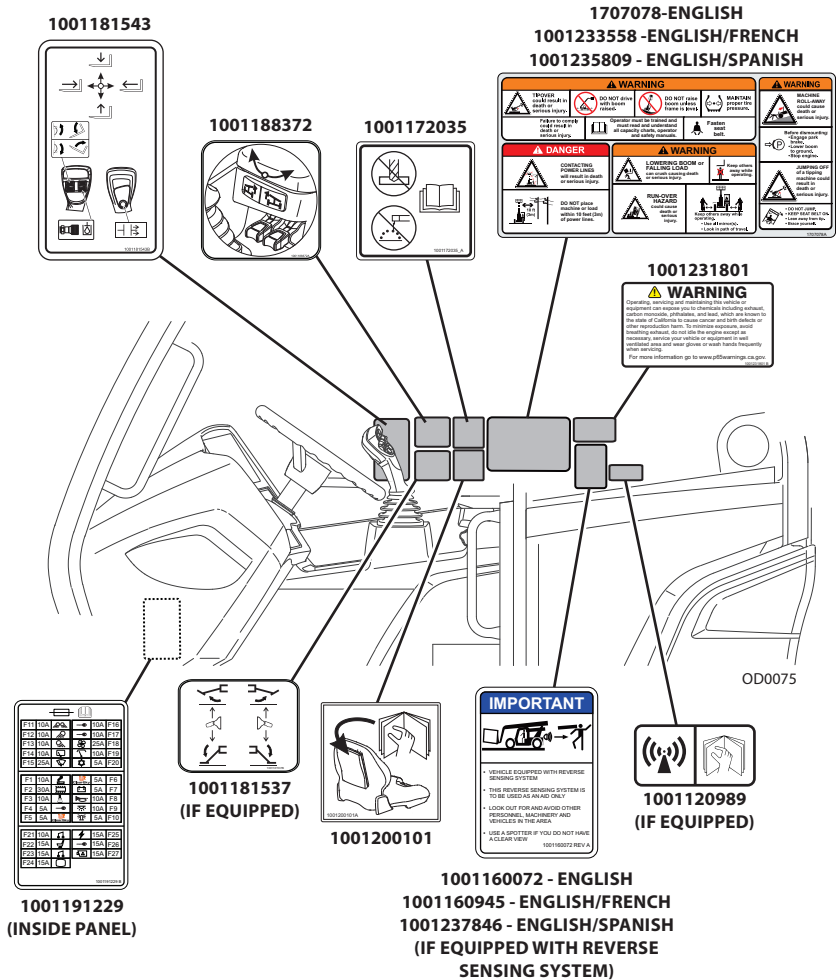


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Section 2- Pre-Operation and Inspection

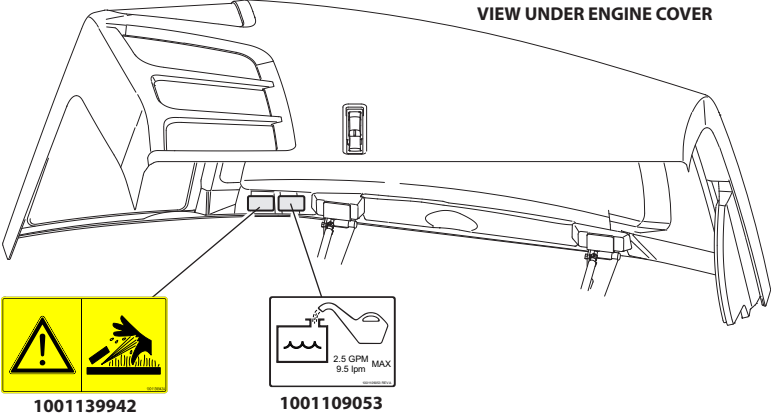


Section 2- Pre-Operation and Inspection

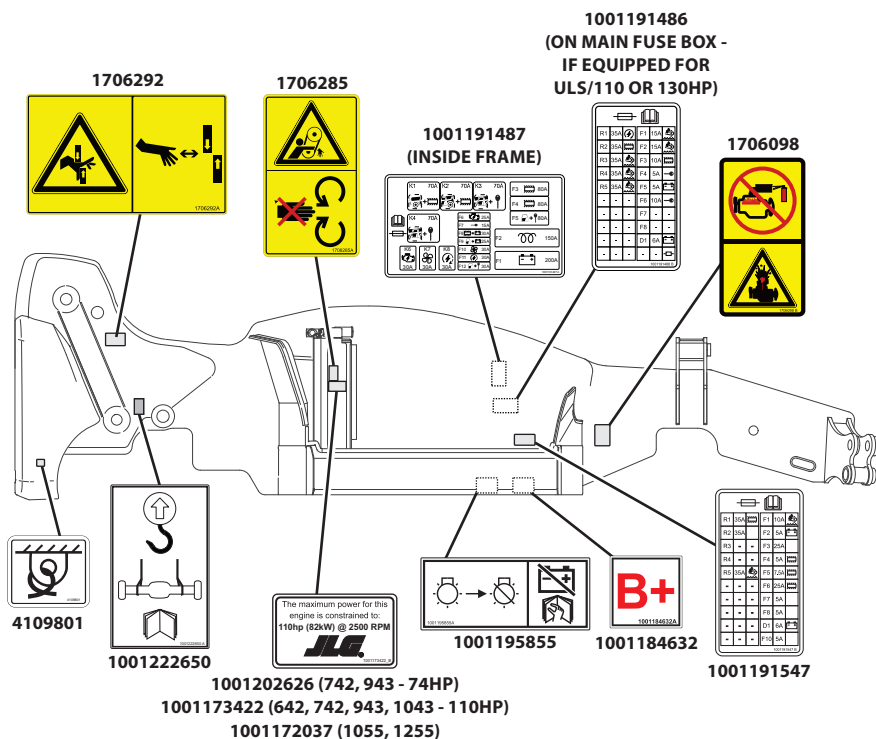


Section 2- Pre-Operation and Inspection

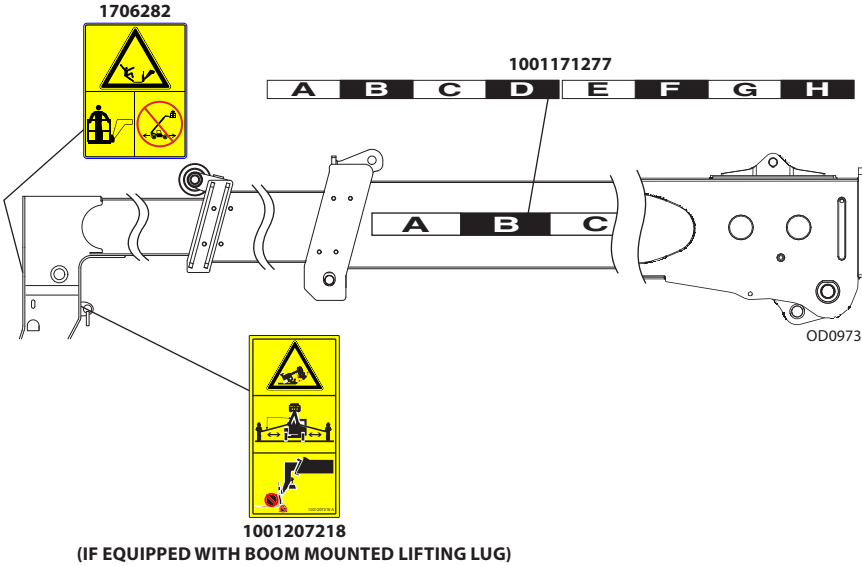
ISO (if equipped)

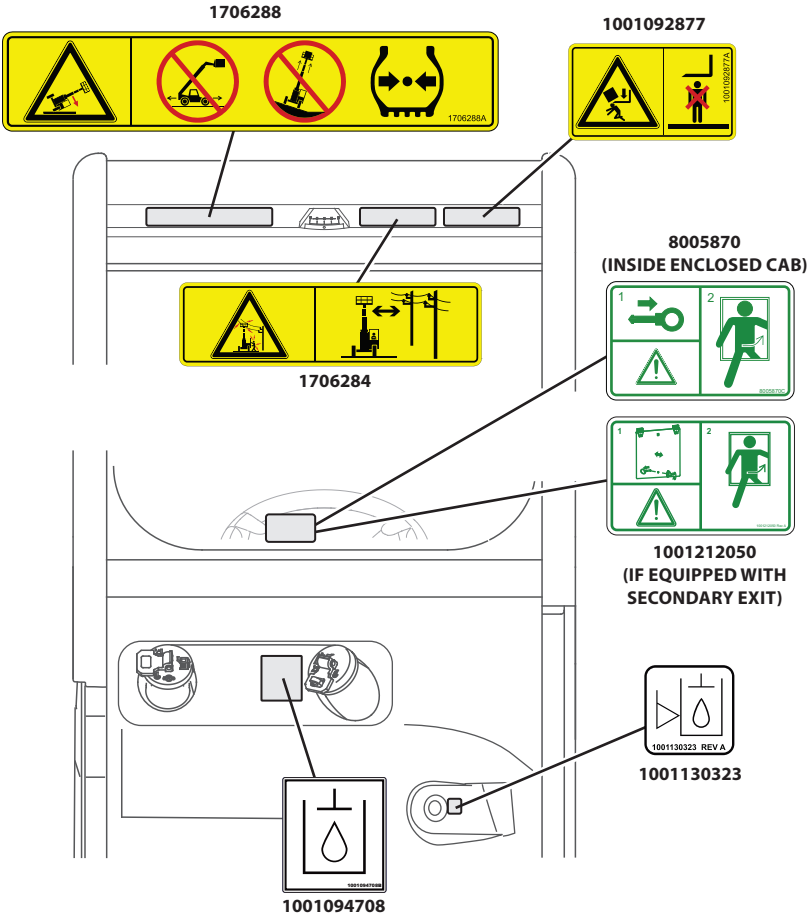


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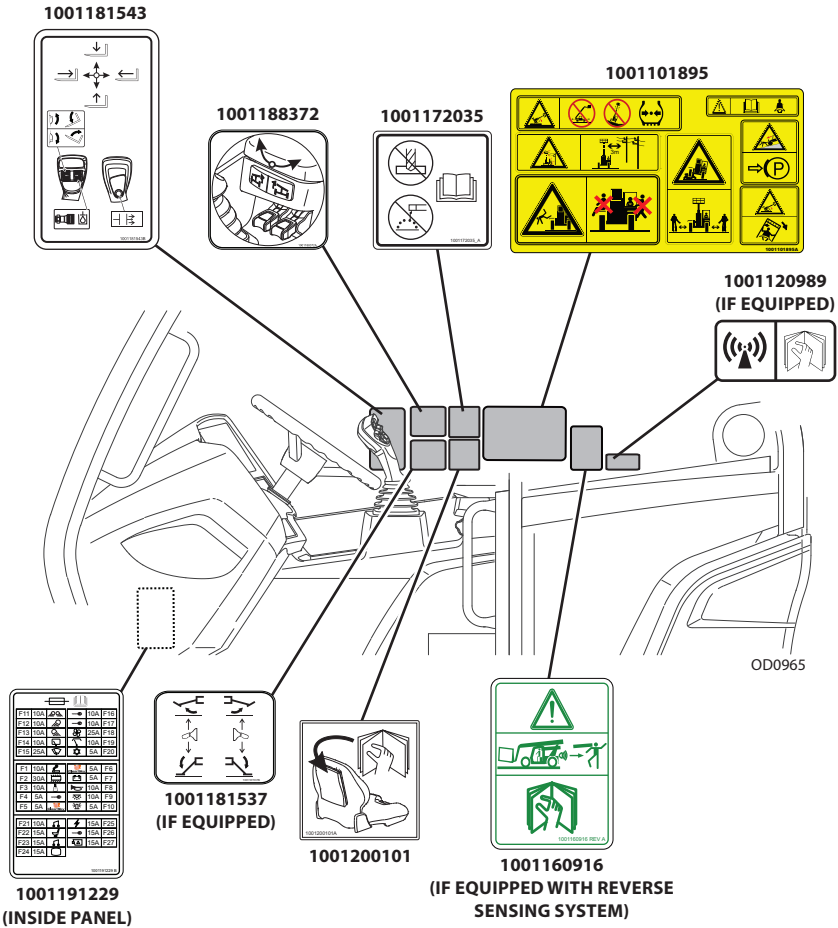


Section 2- Pre-Operation and Inspection



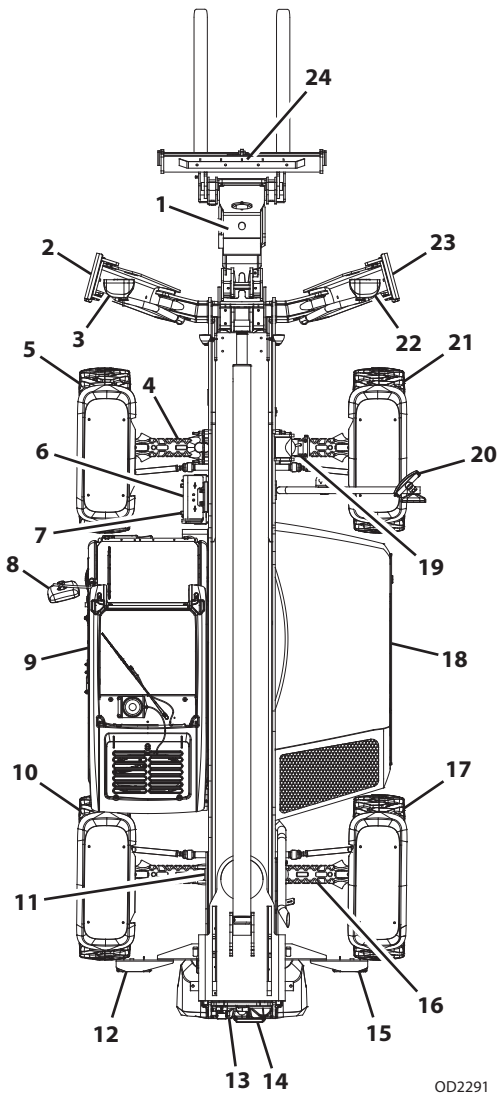


Section 2- Pre-Operation and Inspection



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2.4 WALK-AROUND INSPECTION



Section 2- Pre-Operation and Inspection

- 1. Boom Sections and Lift, Tilt, Extend/Retract, Compensating Cylinders -**
 - Check front, top, side and rear wear pads for presence of grease.
 - Pivot pins secure; hydraulic hoses undamaged, not leaking.
- 2. Left Outrigger (if equipped) -** Pins secure; hydraulic hoses and cylinder undamaged, not leaking.
- 3. Front Lights (if equipped) -** Clean and undamaged.
- 4. Front Axle -** Steer cylinders undamaged, not leaking; pivot pins secure; hydraulic hoses und

Section 2- Pre-Operation and Inspection

- 19. Frame Level Cylinder** - Pins secure; hydraulic hoses undamaged, not leaking.
- 20. Mirrors** - Clean and undamaged.
- 21. Wheel/Tire Assembly** - Properly inflated and secured; no loose or missing lug nuts. Inspect for worn tread, cuts, tears or other discrepancies.
- 22. Front Lights (if equipped)** - Clean and undamaged.
- 23. Right Outrigger (if equipped)** - Pins secure; hydraulic hoses and cylinder undamaged, not leaking.
- 24. Attachment** - Properly installed, see *"Attachment Installation"* on page 5-15.

2.5 WARM-UP AND OPERATIONAL CHECKS

Warm-Up Check

During warm-up period, check:

1. Heater, air conditioning and wipers (if equipped).
2. Check all lighting systems (if equipped) for proper operation.
3. Adjust mirrors for maximum visibility.

Section 2- Pre-Operation and Inspection

2.6 CAB

The telehandler is equipped with an open or enclosed ROPS/FOPS cab.



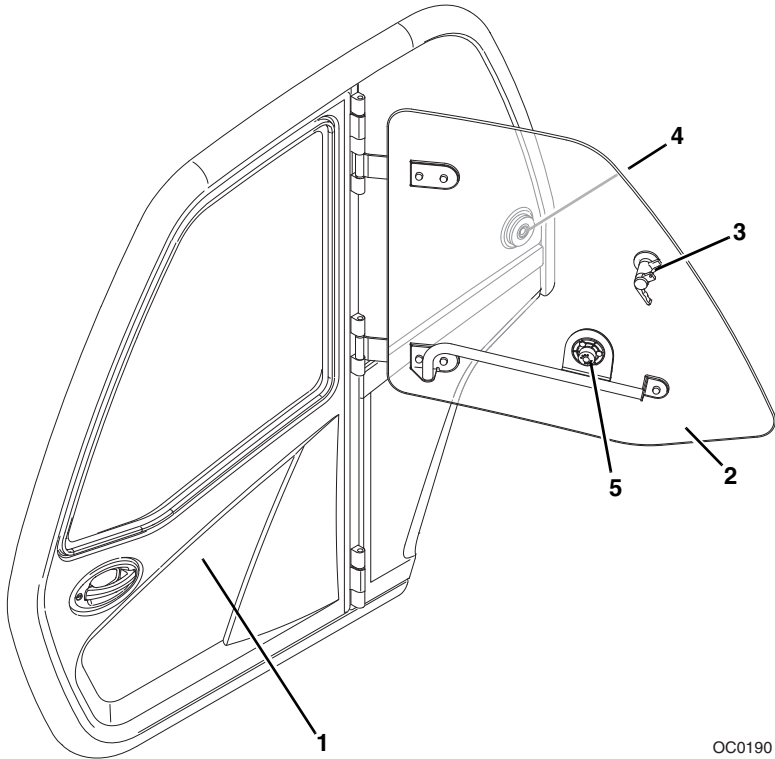
WARNING

Never operate telehandler unless the overhead guard, cab structure and right side glass or screen are in good condition. Any modification to this machine must be approved by JLG to assure

2.7 ENCLOSED CAB WINDOWS (IF EQUIPPED)

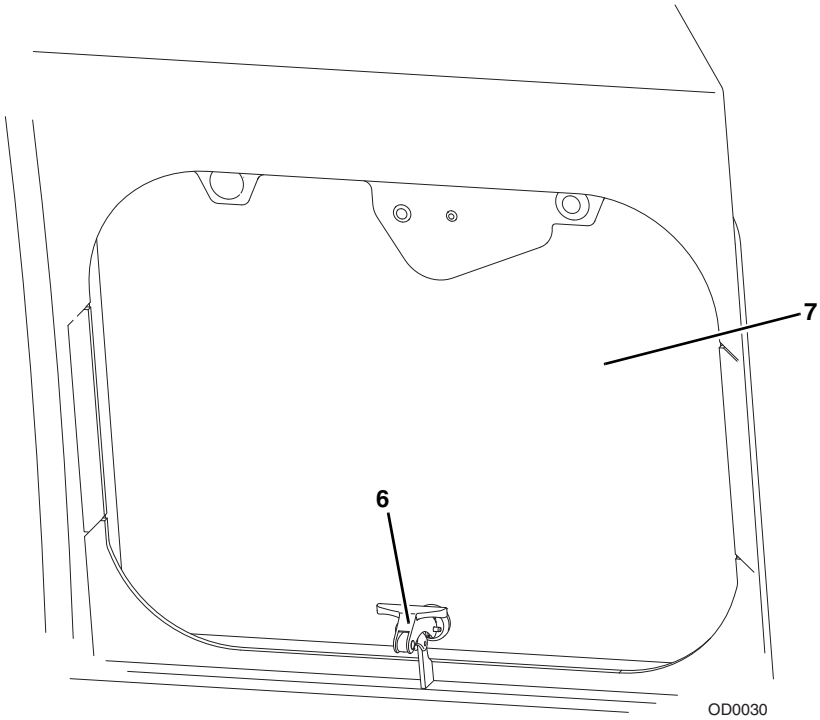
Keep all windows clean and unobstructed.

Cab Door Window



Section 2- Pre-Operation and Inspection

Rear Window



OD0030

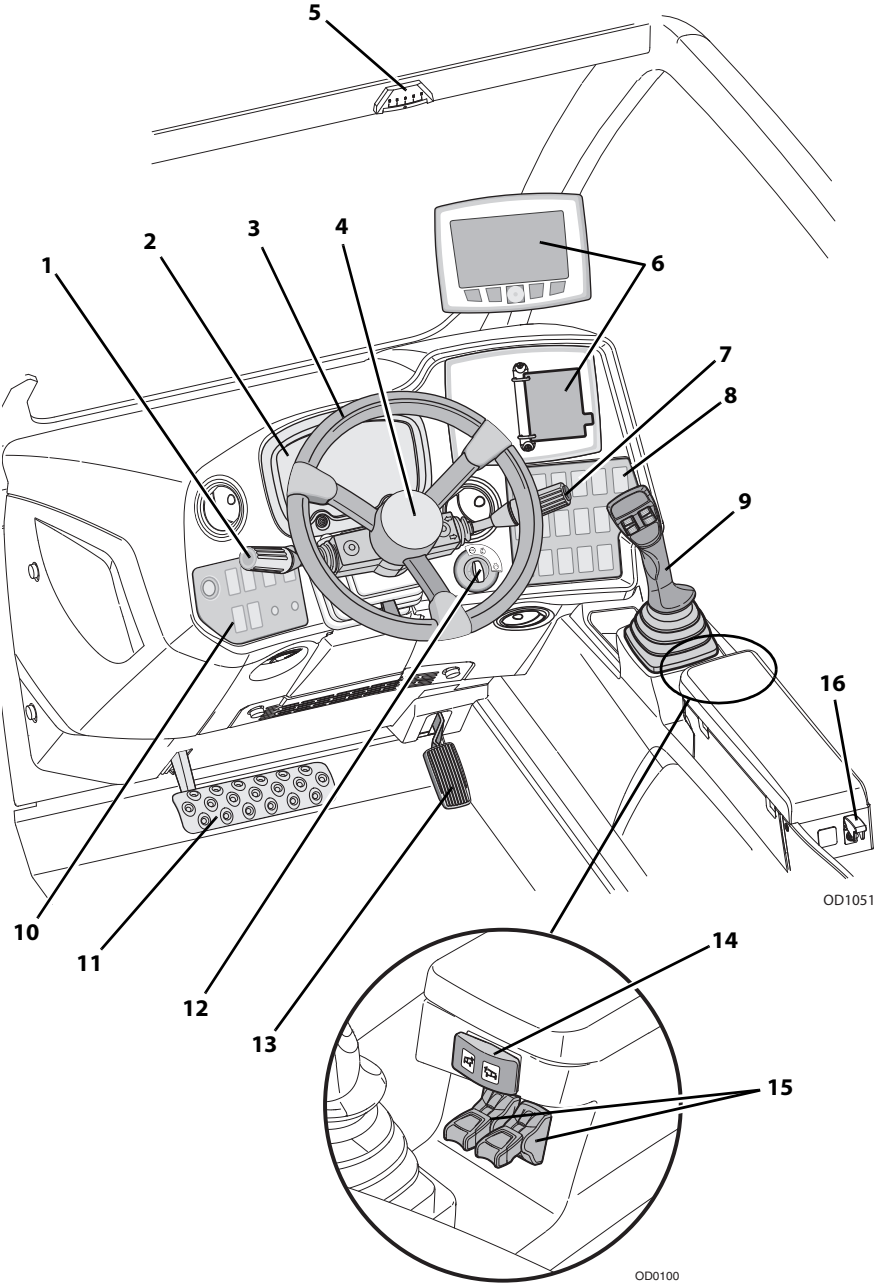
- Lift lever (6) and push to open the rear window (7)
- Lift lever and pull to close

SECTION 3 - CONTROLS AND INDICATORS

3.1 GENERAL

This section provides the necessary information needed to understand control functions.

3.2 CONTROLS



1. **Transmission Control Lever:** See page 3-16.
2. **Instrument Panel:** See page 3-4.
3. **Steering Wheel:** Turning the steering wheel to the left or right steers the machine in the corresponding direction. Three steering modes are available. See “Steer Modes” on page 3-23.
4. **Horn:** Press to sound horn.
5. **Frame Level Indicator:** Enables operator to determine the left to right level condition of the telehandler.
6. **Charts/Display:**
 - a. Capacity and Maintenance Charts (if equipped): See Section 5- Attachments or Section 7- Lubrication and Maintenance.
 - b.

Section 3- Controls and Indicators

Instrument Panel

The instrument panel uses different colors to alert the operator to different types of operational situations that could arise.

- When an indicator illuminates RED (except park brake) or if a gauge enters a red zone, immediately bring machine to a stop, lower boom and attachment to the ground and stop the engine. Determine cause and correct before continued use.
- When an indicator illuminates YELLOW an abnormal operating condition is present. If not corrected, machine interruption or damage may result.
- When an indicator illuminates GREEN or BLUE or if a gauge is in the green zone, important information regarding safe operation is being displayed

Section 3- Controls and Indicators

- 26. Left Control Button** Press to decrease display brightness. Increases digits in anti theft function. See page 3-22.
- 27. Right Control Button** Press to increase display brightness. Confirms digits in anti theft function. See page 3-22.

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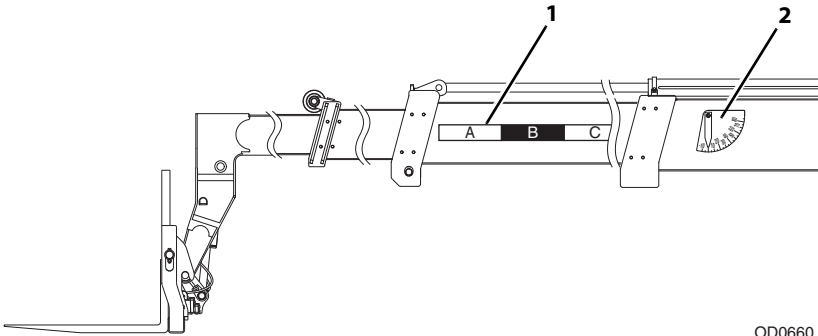
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- 12. Steer Select Switch:** Three positions: 4-wheel circle steer, 4-wheel crab steer and 2-wheel steer. See page 3-23.
- 13. Rear Wiper Switch (if equipped):** On/Off switch.
- 14. Roof Wiper Switch (if equipped):** On/Off switch.
- 15. Air Shutoff Valve (ASOV) Indicator Lamp (if equipped):** Indicates when the ASOV valve has been actuated.

Seat Belt



3.6 BOOM ANGLE AND EXTENSION INDICATORS



- 2. Previous Screen Button:** The previous screen button returns the display to the previous menu or screen. The screen will not change if already at the home screen.
- 3. Attachment Select Button:** The attachment selection button allows the operator to select a specific attachment in order to display the applicable capacity chart. See page 3-45.
- 4. Navigation Button:** The navigation button has four arrow buttons to navigate up, down, left or right. The center button allows the operator to confirm the selection.
- 5. Main Menu Button:** The main menu button displays the main menu. The operator can navigate the menu using the navigation button. See page 3-35.
- 6. Home Screen Button:** The home screen button returns display to the home screen. The screen will not change

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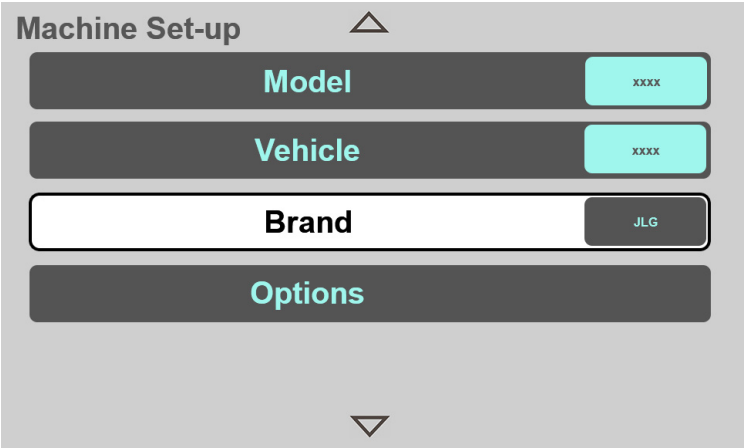
Boom Ride & Float: Boom ride and float screen displays parameters related to boom ride and float.

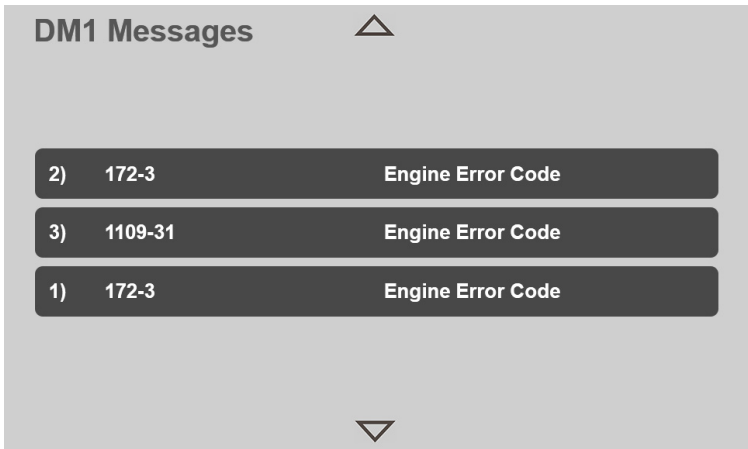
CAN Statistics: CAN statistics screen displays the parameters of the system bus and diagnostic bus.

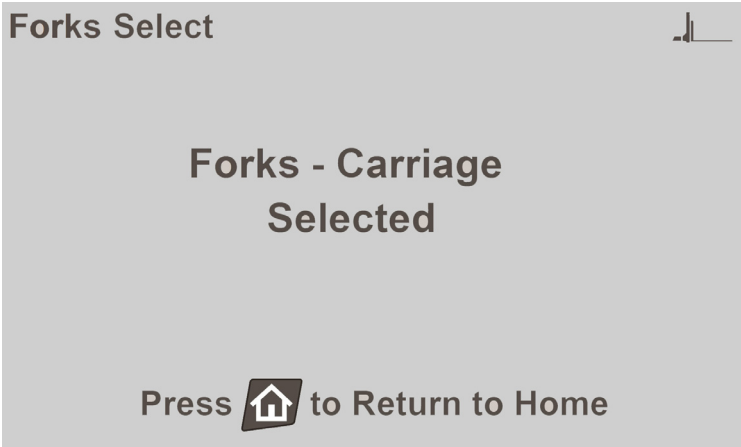
Section 3- Controls and Indicators

Machine Set-Up

Machine set-up menu displays configuration (brand, model, engine, transmission, etc.) of the machine.







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