

## Machine Operation and Hand Guide

### Best Practices

- Always follow all company policies and requirements.
- Stay clear of pinch points created by operating equipment.
- NEVER *get under a load or between the load and the machine.*
- During an electrical storm, stay away from the machine.
- Wear appropriate PPE as required by regulations and for the task being performed.
- Be aware of suspended loads, counter weights, and pinch points.
- Maintain eye contact with the operator at all times.
- Be aware of and listen for the backup alarm operation.
- Use a spotter if there are overhead power lines, underground utilities, or tight working conditions.
- No personnel shall be under the bucket while it is being raised or lowered.
- All unnecessary personnel shall be prohibited from the work area.
- Hand signals shall be given by one person and must be understood by all personnel on site.
- No riders shall be permitted.
- Know the location of the nearest fire extinguisher.

### Operator:

- Only qualified personnel shall operate equipment.
- User manual should be readily available. Manual should be read and reviewed by operator.

### Signal Person

The signal person provides direction and assists in the safe operation of equipment. The signal person must:

- Know and understand the type of signals used
- Be competent in the application of the type of signals used
- Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads
- Know and understand the relevant requirements of the provisions of the standard relating to signal

A signal person is required when:

- The point of operation is not in full view of the operator (1926.1419(a))
- The operator's view is obstructed in the direction the equipment is traveling
- Either the operator or the person handling the load determines that a signal person is needed because of site-specific safety concerns

## **MACHINE PRE-OPERATION**

- Conduct a walk around inspection *checking all fluids and* noting any items needing maintenance and repair.
- On excavators, ensure that bucket teeth have been barred if working around underground utilities.
- Make sure all warning labels are legible. Those not legible must be cleaned or replaced.
- Verify the fire extinguisher location. Verify it is operational.
- Use 3 points of contact to enter the machine.
- Get on the machine only at locations that have steps and/or handholds. Do not use any controls as handholds.
- Perform a preoperational inspection. Check backup alarm for operation. Check to ensure the seat belt is operational.
- Check that controls are in proper settings before starting machine.
- When refueling, bond the supply tank with the fuel tank to prevent static discharge and possible fire.
- *Verify that the One Call (811) has been made and that utilities are marked and depth verified before the commencement of any digging activities.*
- *Ensure there is room for the swing radius and bucket operation.*
- *Ensure there are no obstructions or ground people in the swing radius.*

## **MACHINE OPERATION**

- Ensure that a spotter is used when working around overhead lines, underground utilities, and in tight working conditions.
- No personnel shall be under the bucket while it is being raised or lowered.
- When necessary to park on a grade, do so according to the manufacturer's recommendations.
- Equipment shall be kept as far away as practical from the side of excavation.
- Ensure mud mats are used in wetlands, when working over buried lines, and as needed.
- When moving an excavator, the bucket shall be lowered and curled in.
- When moving a load, proper rigging and/or lifting techniques shall be used.
- Do not operate the piece of equipment during stormy conditions.
- If the operator leaves the seat of the equipment, the bucket shall be lowered to the ground and the machine turned off.

## **MACHINE POST OPERATION**

- Park and set parking brake before exiting.
- Lower all hydraulics and set hydraulic lock out.
- Shut engine off, remove key, lock doors, and engage security system (if available).
- Use 3 points of contact to exit the machine.

## RESOURCES:

<https://www.osha.gov/SLTC/trenchingexcavation/additionalinformation.html>

<http://www.mhi.org/solutions/chm>

<https://www.osha.gov/SLTC/cranehoistsafety/hazards.html>