



EXCAVATOR OPERATION BEST

For Supervisory Personnel, Operators, and Workers

Best Practices for Supervisory Personnel

PRE-OPERATION

- Review the operator manual for unique operational/equipment requirements.
- Pre-plan each job and review the Job Safety Analysis (JSA).
- Ensure there is an appropriate Emergency Action Plan to protect employees in case of fires, electrical storms, hurricanes, tornadoes, etc. Ensure that your plan is site specific for each job and that it is well communicated to employees.
- Ensure there is a Trenching and Excavation Program in place and that it is well communicated to employees *if applicable to work being performed*.
- Communicate to all employees their assigned task(s) and responsibilities.
- Designate a competent person.
- Ensure availability of appropriate personal protective equipment (PPE) for the task being performed and as required per OSHA regulations.
- Verify the fire extinguisher location. Check and verify it is operational. Make sure the operator is qualified to operate it.

OPERATION

- Only qualified personnel shall operate equipment. A qualified person through knowledge, skills, and experience has demonstrated their ability to operate the equipment.
- Verify that the one call (811) has been made and that utilities are marked and depth verified before the commencement of digging activities.
- Ensure there is a competent person on site whenever employees are working in an excavation.

- Ensure a spotter is used if there are overhead power lines, underground utilities, or tight working conditions in the work area.
- Verify that bucket teeth are barred if digging around underground utilities.
- Confirm that equipment is kept as safely away as practical from the side of excavation.
- Verify that all unnecessary personnel are prohibited from the work area.
- Ensure that hand signals are given by one person and understood by all personnel on site.

POST OPERATION

- Verify equipment is properly parked and secured.

Best Practices for Operators

PRE-OPERATION

- The operator should read, understand, and follow the operator's manual.
- Consult the manual to determine maximum allowable slope for safe operation.
- Wear appropriate PPE as required by the task being performed and as required per OSHA regulations.
- When refueling, bond the supply tank with the fuel tank to prevent static discharge and possible fire.
- Conduct a walk around inspection *checking all fluids and* noting any items needing maintenance and repair. Ensure all critical repairs are performed before operation.
- Ensure that bucket teeth have been barred if working around underground utilities.
- All controls should be operated with no load, until familiar with the machine function.
- Make sure all warning labels are legible. Those not legible must be cleaned or replaced.
- Remove debris and clutter in the cab that would prevent safe operation.
- Verify the fire extinguisher location. Check and verify it is operational. Make sure you are qualified to operate it.
- Use 3 points of contact to enter the machine.
- Get on the machine only at locations that have steps and/or handholds. If the machine has none, advise your supervisor immediately.

- Do not use any controls as handholds when entering or exiting the operator compartment.
- Check backup alarm for operation.
- Check to ensure the seat belt is operational. *Always* use the seat belt when operating the piece of equipment.
- Check that controls are in proper settings before starting machine.

OPERATION

- Only qualified personnel shall operate equipment. A qualified person through knowledge, skills, and experience has demonstrated their ability to operate the equipment.
- Verify that the one call (811) has been made and that utilities are marked and depth verified before the commencement of digging activities.
- Ensure that a spotter is used when working around overhead lines, nderground utilities, and in tight working conditions.
- Work under the bucket shall be limited. No personnel shall be under the bucket while it is being raised or lowered.
- When the equipment is in operation, the doors (when installed) must be *closed or secured by latch in the open position*.
- Ensure there is room for the swing radius and bucket operation.
- Ensure there are no obstructions or ground people in the swing radius.
- 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.
- If the operator leaves the seat of the equipment, the bucket shall be lowered to the ground and the machine turned off.
- 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.
- When moving the excavator, the bucket shall be lowered and curled in.
- When moving a load, proper lifting techniques shall be used.
- No riders shall be permitted.

- Do not operate this piece of equipment during stormy conditions. Seek shelter according to the company's Emergency Action Plan.

POST OPERATION

- Park and set parking brake.
- 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.

Best Practices for Workers

- Always follow all company safety and health rules and regulations.
- 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 vicinity of the machine.
- Wear appropriate PPE as required by the task being performed and as required per OSHA regulations.
- 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.
- You may be asked to act as a spotter if there are overhead power lines, underground utilities, or tight working conditions.
- Work under the bucket shall be limited. 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.

Through OSHA's Alliance Program, this Best Practices document was developed as a product of the OSHA and American Pipeline Contractors Association Alliance for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor.

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