



GOALS

This safety session will teach trainees that:

- It is important to know the capabilities and limitations of their machines.
- Backhoes and hydraulic excavators have safety hazards.
- They need to follow safety procedures to prevent injuries.

Applicable Regulations: 29 CFR 1926.602



1. Backhoes are chosen for many construction jobs because they are maneuverable and very versatile.

- Always review the operator's manual before you operate an unfamiliar piece of equipment—different models may have different features.
- Become familiar with protective devices like seat belts and warning lights or audible backup signals.
- Wear personal protective equipment (PPE) such as safety shoes, hard hat, heavy gloves, and reflective clothing. You may also need a respirator in dusty areas and hearing protection at noisy construction sites.

2. Inspect your machine before each use and know its capacity.

- Check fluid levels, such as fuel, water, oil, transmission, and battery.
- Check the hydraulic system for leaks.
- Check the seat belt and rollover protective structure (ROPS).
- Make sure the tires are at proper pressure and look for any noticeable cuts or damage.
- Inspect quick-disconnect buckets to be sure they are securely latched before beginning work and frequently during operations.

3. Check out the worksite before actual operations begin.

- Be sure that local utilities and property owners have been contacted to obtain the location of overhead and underground utility lines.
- Avoid working around overhead power lines, but if it is necessary, plan your operations to make sure that adequate clearance is maintained.
- Observe the worksite carefully to identify uneven terrain, obstacles, and steep slopes or drop-offs.
- Always maintain an adequate distance from excavations such as trenches—the ground may not be stable in such areas.
- Be sure workers are not allowed within the hydraulic excavator swing area and that proper communication signals and warning signs are agreed on between the operator and other workers in the area.

4. Practice safe operating practices to prevent accidents.

- Use the handholds, steps, or ladder when boarding the machine—never use controls as handholds.
- Make sure the controls are in neutral or park before starting the machine, and never start the machine unless you are in the driver's seat.
- Check to be sure your brakes and loader bucket controls are operating properly.



- *Never* allow riders on a backhoe.
- When transporting the equipment, be sure the boom is blocked to avoid a fall—never rely on hydraulics to hold the boom.
- *Always* lower the boom so the bucket is on the ground and turn off the machine before leaving the driver's seat.

5. Keep the bucket as low as possible to ensure stability.

- Doing so will increase your visibility and make you more aware of other people close to your work area.
- Raise the bucket only when necessary to dump a load.
- When loading a dump truck, make sure the driver is out of the cab and away from the process—don't swing the load over the cab.
- If you are excavating on a hill, dump the load uphill to maintain stability—dumping downhill may cause the machine to tip.
- When excavating, never undercut the area beneath the backhoe stabilizers. If there is a chance that the ground is not stable, use a platform under the rear wheels and stabilizers to prevent cave-ins.
- If you are hoisting something with the backhoe, keep the weight over the back—never the side—to prevent tipping.
- Making sharp turns, especially on a slope, can also cause a turnover.

6. Nearby workers must be trained to be alert and to observe safety rules.

- Operators and other workers should review and confirm communication signals. When necessary, use spotters or signal persons to ensure safety.
- Workers should be aware of swing areas and blind spots, and these danger areas should be marked with rope, tape, or other barriers before the backhoe begins operation.
- Workers should never stand under suspended loads or backhoe components such as the boom, arm, or bucket.
- Workers should wear proper PPE according to their supervisor's instructions.

DISCUSSION POINTS:



What specific hazards are present at your worksite? And can you suggest methods to improve safety to guard against these hazards?

CONCLUSION:



Backhoes are great but they are heavy pieces of equipment and can cause serious injuries—always follow safe operating practices.

TEST YOUR KNOWLEDGE:



Have your employees take the Backhoe Safety quiz to see if they understand how to protect themselves or whether they need to review this important topic again soon.



BACKHOE SAFETY QUIZ

- 1. Backhoes are chosen for many construction jobs because they are maneuverable and very versatile.**
a. True b. False
- 2. Inspect your machine at least once a week and know its capacity.**
a. True b. False
- 3. ROPS stands for rollover prevention system.**
a. True b. False
- 4. Inspect quick-disconnect buckets to be sure they are securely latched before beginning work and frequently during operations.**
a. True b. False
- 5. Learn the location of overhead and underground utility lines before actual operations begin.**
a. True b. False
- 6. Workers may be allowed to ride on backhoes if they have been trained to do so safely.**
a. True b. False
- 7. Make sure the controls are in neutral or park before starting the machine, and never start the machine unless you are in the driver's seat.**
a. True b. False
- 8. Keep the bucket low to ensure stability and increase visibility, except when necessary to dump a load.**
a. True b. False
- 9. Always lower the boom so the bucket is on the ground and turn off the machine before leaving the driver's seat.**
a. True b. False
- 10. To protect other workers, danger areas should be marked with rope, tape, or other barriers before the backhoe begins operation.**
a. True b. False

When you have completed this quiz, turn it in to your supervisor.

Name: _____

Date: _____



Safety Trainer **Backhoe Safety**

ANSWERS TO BACKHOE SAFETY QUIZ

1. a. True.
2. b. False. Inspect your machine before each use and know its capacity.
3. b. False. ROPS stands for rollover protective structure.
4. a. True.
5. a. True.
6. b. False. Riders are *never* allowed on backhoes—no matter who they are or what training they've had.
7. a. True.
8. a. True.
9. a. True.
10. a. True.