BACKHOE SAFETY… OPERATING AND SPOTTING FOR A BACKHOE

COURSE OUTLINE

- **Backhoe safety starts before you get behind the wheel.**
  - You need to take several steps to make sure you're prepared to operate the machine.

- **First, you need to be mentally as well as physically ready to operate such a heavy piece of equipment.**
  - This means making sure you get enough sleep, food, and water beforehand.
  - If you're fatigued or dehydrated, the likelihood that you'll make a mistake while operating any equipment increases significantly.

- **The same thing can happen if you're not mentally "balanced".**
  - If you're feeling angry, sad, or just distracted, you should take time to "cool down and focus" before you operate a backhoe.

- **Once you are ready to go, you should read and understand everything in the backhoe's operator's manual.**
  - It should be in the machine at all times.

- **You can then begin your "pre-shift inspection," to confirm that all of the backhoe's parts are working correctly.**

- **First, you should check out anything that you can look at when the motor is turned off. This includes…**
  - Fluid and oil levels.
  - Potential leaks in the hydraulic cylinders.
  - Loose, worn or damaged parts on the tractor, front loader, backhoe and any other attachments.
  - Labels indicating damage.

- **Remember to wear protective equipment.**
  - Gloves are especially important when you're checking for hydraulic leaks.

- **Never use your hands to look for leaks within hydraulic cylinders.**

  - Instead, use the “cardboard test”, running a piece of cardboard along the cylinder to see if it comes back wet or dry.

- **Then, with the motor on, verify that your controls are working correctly.**
  - Exercise them one at a time and make sure you can lift the backhoe and front loader attachments smoothly.

- **Next check that your lights and signals all turn on and can be seen clearly.**
  - You may need another worker to help you with this.
  - If your backhoe has a “back-up” alarm, make sure that it works and can be heard above the noise of your construction site.

- **Last, check your parking brake by putting your backhoe in “park” and trying to move forward or backward.**

- **If any part of the backhoe fails your inspection, do not use it.**
  - Notify your supervisor immediately and tag it “OUT OF SERVICE”.

- **If your backhoe passes inspection, you can move on to surveying the site you’ll be working on. Look around the general area and note any…**
  - Debris.
  - Potholes.
  - Structures.
  - Overhead obstructions.
  - Marked underground utilities.
  - Vehicles, pedestrians, or other workers in the area.

- **Once you’re familiar with your jobsite and feel that you and the backhoe are ready to go, you can get to work.**

- **Using a backhoe can make many projects simpler.**
  - But it can also make them more dangerous if you don’t know how to safely operate one.

- **When you’re working with a backhoe, you have to be alert from the moment you mount the machine until you put it into “park”.**
  - When you’re climbing into the cab, take it slow and steady.
  - If you slip and fall, it could lead to a serious injury.

- **So take your time and maintain “three points of contact”.**

  - At least two hands and a foot or two feet and a hand, on the machine at all times.

- **Once you have a good grip, pull yourself up and slowly rotate your body into the cab.**
  - Never use controls as step stools or handles.

- **Adjust your seat so that you can comfortably reach the controls.**
  - If you're not comfortable, it could very well lead to some type of ergonomic injury.

- **Don't forget to fasten your seatbelt.**
  - In the event of a collision or tip-over, it could save your life.

- **Once you are safely in the cab, you can turn on the motor and start driving to your destination.**
  - Stay alert and move through the jobsite slowly, especially when you are on rough, slick, or uneven surfaces.

- **Keep your bucket low to the ground as you travel, so you can see where you're going as clearly as possible.**

- **If you're climbing a slope, always drive "backward".**
  - Since backhoes have a heavier rear, this helps to prevent them from tipping over.

- **Once you reach your destination, deploy your stabilizer legs.**
  - Make sure they have a solid base to rest on.
  - If they sink into the soil, retract them and place a sturdy "platform" such as a sheet of plywood underneath them to keep them stable.

- **While you are operating a backhoe, never allow anyone to stand under a raised boom or within its "swing area".**
  - If you're using the front loader, make sure you center the load to keep the backhoe stable.
  - You should also keep the loader low to the ground unless you're dumping material.

- **When you are dumping material, do it slowly and deliberately.**
  - Precision is important.
  - If you need to, use a spotter to help guide you.

- **To help prevent cave-ins at your excavation site, work perpendicular to any trenches you are working around.**
  - This will keep some of the backhoe's weight away from the edge.
  - Always place your spoil pile at least three feet from the site where you're excavating.

- **When you're ready to "call it a day", it's important to park and shut down your backhoe safely.**
  - First, find an open, level place.
  - You want to avoid parking anywhere that will block fire hydrants, exits or entrances, or emergency equipment routes.

- **Once you're positioned, set the parking brake and put the transmission in "neutral".**
  - Lower the bucket, front loader or any other attachments that are elevated.
  - Finally, let the motor cool down for a few minutes.

- **Then turn the backhoe off and dismount, using the process you did to get on, but in reverse.**
  - Keep both hands and a foot or both feet and a hand on the machine at all times.
  - Take your time, and be especially careful if the machine has gotten muddy or slippery.

- **Backhoes aren't just potentially dangerous for the person operating them.**
  - They can hurt people on the ground, too… especially "spotters".

- **When operators have limited visibility, they will sometimes use a "spotter".**
  - It's the spotter's responsibility to safely guide the operator where they need to go.

- **If you're the "spotter", before the operator mounts the backhoe you should have an agreed-upon "action plan".**

- **Be sure to discuss…**
  - Where the backhoe's blind spots are.
  - Any hazards in the area.
  - The planned movement and positioning of the backhoe.
  - The hand signals you're going to use.

- **Common hand signals that spotters use include…**
  - "Stop".
  - "Continue" ("Keep Moving").
  - "Move Right".
  - "Move Left".
  - "Slow Down".

- **To signal "Stop", most spotters will hold up one or both hands with closed fists, or with an open palm held forward.**
  - So you need to discuss which version of the signal you're going to use with the operator.

- **To signal the operator to "Keep Moving", you should…**
  - Raise your arm with a bent elbow.
  - Then wave the top part of the arm in a motion away from the machine.

- **In instances where the backhoe won't be moving in a straight line, you'll have to know the "Move Right" and "Move Left" hand signals.**
  - The most common way to do this is to hold your arm out straight, with a finger pointing in the direction the operator should move.
  - Then, use the other hand to signal that they should "Keep Moving".

- **To help prepare the operator to stop smoothly, you will need a motion that tells them to "Slow Down".**
  - Here, you hold one arm out and move your hand up and down while keeping your palm face down.

- **Everyone should know the universal "Emergency Stop" signal.**
  - Repeatedly pointing both hands toward your chest to form an "X", then away from you, and back in again.

- **When you're acting as a spotter, you need to wear high-visibility clothing.**
  - You should also stay out of the backhoe's "blind spots"… as well as directly behind or in front of it.

- **Keep a safe distance away and stay in the operator's line of sight.**
  - Watch your step as you're moving.
  - If you're so focused on the backhoe that you forget to look where you're walking, you could trip on a rut or some debris.

- **It's also critical that you pay attention to what's going on around you.**
  - Construction sites are busy places, and if you allow your mind to wander it could have serious consequences for you and the backhoe operator.

*** * * SUMMARY * * ***

- **Backhoes are typically used for digging, small demolition projects and transporting materials on a jobsite.**

- **When preparing to use a backhoe, make sure you are physically and mentally ready to operate it safely.**

- **Always do a pre-shift inspection to make sure your backhoe is safe to operate.**

- **Be careful when you are mounting or dismounting a backhoe. Always maintain three points of contact.**

- **When you're traveling with a backhoe, keep the attachments low to the ground and move slowly. Stay alert, and if any workers get close, stop immediately.**

- **If you're a "spotter", work out your hand signals with the backhoe operator beforehand, wear high-visibility clothing, and stay focused.**

- **Now that you know how a backhoe works and how to operate one, you can get a lot done… while making sure that you and your coworkers go home safe… every day!**