

INSTRUCTOR GUIDE 1

STUDENTS ARE REQUIRED TO IDENTIFY:

- Bucket/Coupler
- Stick
- Boom
- Cab
- Bottom roller
- Sprockets
- Track rail
- Engine
- Push frame
- Top roller
- Final drive
- Front idler
- Track Pad
- Left Joystick - Stick Forward and Back
- Left Joystick - Body Left and Right
- Right Joystick - Boom Forward and Back
- Right Joystick - Bucket Open/Close
- Left track movement
- Right track movement
- Start
- Stop
- Safety/Lock Lever
- Hydraulics
- Auto idle
- Throttle up
- Throttle down
- Eco
- Auxillary for attachments
- Lights

1 - PRIOR TO THE CHECK OFF:

- Review each of the items and show location on excavator.
- Give an overview of each item and its function.

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:

- Allow students to practice skills while others are assessed

3 - DURING LAB PERFORMANCE:

- Present student with questions that have real life job applications.
- What should you be sure to do when going over the equipment?
- What are some important things to know about the the equipment?
- Present student with real life job scenarios and ask for solutions.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks
- Send student to the next station when available

***Student must receive at least 26  to complete this lab station.* (80%)**

INSTRUCTOR GUIDE 2

STUDENTS ARE REQUIRED TO PERFORM:

Step 1 Walk Around

- General visual overview looking for leaks and damage.
- Check the bucket, stick, and boom for holes, dents, bolts, and wear.
- Check both sides of the tracks - inspect the pads, bolts, sag, rollers, rock guard, idler, and sprocket. Make sure the tracks are free of debris and check for damage.
- Look under for leaks.
- Check the hydraulic cylinders for leaks, dirt, and oil. Inspect the following for damage and/or leaks. Check that all connections are secure.

Step 2 Check Your Compartments

- Opening compartments and checking fluids
- Check the fuel filter, oil dipstick, and air filter gauge. Check the filters for signs of damage or leaking.
- Check the def fluid.
- Check the battery. Look at the terminals, for corrosion or dirt, and inspect hold down.
- Check the following fluid levels:
 - Coolant (large reservoir)
 - Engine oil (dipstick)
 - Hydraulic fluid (sight glass)
 - Diesel exhaust fluid (DEF)
- Check the hydraulic filter, main control valve, and fuel tank drain.

Step 3 Sit in the Operator Seat

- Check all buttons, knobs, levers, and lights.
- Windows
- Console Controls (move freely)
- Wipers
- Seatbelt
- Warning Lights
- Horn

***Student must receive at least 14  to complete this lab station.* (80%)**



INSTRUCTOR GUIDE 2 (cont'd)

1 - PRIOR TO THE CHECK-OFF:

- Review each of tasks and show location on excavator.
- Give an overview of each task and its purpose for performance.

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:

- Allow students to practice skills while others are assessed

3 - DURING LAB PERFORMANCE:

- Present student with questions that have real life job applications.
- What should you be sure to do when going over the equipment?
- What are some important things to know about the the equipment?
- Present student with real life job scenarios and ask for solutions.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks
- Send student to the next station when available

Points to make

- **A machine can be crippled by the inefficiency of the tracks it sits on.**
- **Hydraulic leaks are a common problem. If this occurs, you may need to change your fluid reservoir, check your fittings, or replace your hoses.**
- **If the bucket/teeth are worn or broken, the machine will run less efficiently, use more fuel, and wear out more parts.**
- **If joints and friction points are not properly greased, they can be damaged by moisture and abrasive materials on the job site.**
- **If you spot a leak or pool of fluid, it's a good idea to identify the source of that fluid and fix it before operation.**
- **How all of the checks are important to an employer.**

***Student must receive at least 16  to complete this lab station.* (80%)**

INSTRUCTOR GUIDE 3

1 - PRIOR TO THE CHECK-OFF DISCUSS AND/OR DEMONSTRATE:

- Properly wear a hard hat, boots, and eye protection
- Explain the Zone of Protection
- 3 Points of Contact
- Use of handholds
- Use of safety belt
- Safety situations
- Entry/Exit
- Barricades
- Buried utilities
- Crush points

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:


- Allow students to practice skills while others are assessed

3 - DURING LAB PERFORMANCE:

- Present student with questions that have real life job applications.
- What should you be sure to do to keep yourself and others safe?
- What are some important things to know about working around traffic?
- What are some important things to know about working around electrical?
- Present student with real life job scenarios and ask for solutions.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks
- Send student to the next station when available

***Student must receive at least 8  to complete this lab station.* (80%)**

INSTRUCTOR GUIDE 4

1 - Students participate in driving activities maneuvering around barricades and operating in forward, reverse, left, and right.

- Explained the pre-check and safety concerns.
- Entered equipment using 3 points of contact.
- Demonstrate the use of a seatbelt.
- Demonstrate start engine
- Demonstrate the engage/disengage hydraulic lock
- Properly and safely moved equipment forward.
- Properly and safely moved equipment in reverse.
- Properly and safely moved equipment to the left.
- Properly and safely moved equipment to the right.
- Properly and safely moved equipment around barricades.
- Engage hydraulic lock
- Demonstrate stop engine
- Exit equipment using 3 points of contact.

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:

- Allow students to practice skills while others are assessed with an additional spotter or instructor available.

3 - DURING LAB PERFORMANCE:

- How is driving or operating affected by the materials being moved?
- How is driving or operating affected by the slope?
- What is the safe speed for the environment and/or materials being moved?
- Being aware of surroundings/area and assessing for hazards.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks

***Student must receive at least 12  to complete this lab station.* (80%)**

INSTRUCTOR GUIDE 5

1 - Students will participate in operations and maneuvering. Students will move materials (approach, pickup/load, maneuver, deliver)

- Lift and lower the boom
- Lift and lower the stick
- Open and close the bucket
- Rotate excavator a full 360 degrees
- Pickup material
- Deliver and offload material

2 - PRACTICE SKILLS PRIOR TO ASSESSMENT:


- Allow students to practice skills while others are assessed with an additional spotter or instructor available.

3 - DURING LAB PERFORMANCE:

- Best bucket/stick/boom angle and height when approaching material?
- Think about the ground surface and how it affects the operation. Discuss
- When raising or lowering bucket/stick/boom- discuss the needed angle of the bucket.
- Discuss hazards of material movement.
- Present students with real-life job scenarios and ask for solutions.

4 - ONCE ALL STUDENTS HAVE COMPLETED THE TASKS

- Check off skills with completed tasks
- Send student to the next station when available

***Student must receive at least 7  to complete this lab station.* (80%)**

LAB PLANNING SHEET

- Identify a location. Are liability forms needed?
- Identify dates.
- Notify IC of lab plans.
- Identify an instructor. (IC can help with this if needed)
- Send instructor lab sheets to the instructor for the course prep.
- Secure equipment. If equipment is needed contact IC for suggestions.
- Plan lunch for participants (vendors?)
- Acquire:
 - Class 2 vests
 - Hardhats
 - Gloves
 - Ear protection
 - Tinted safety glasses
 - Waters with coolers for days of the event
 - Clipboards
 - Pens
 - Diesel fuel for both days
 - Cones and flags for obstacle course
- Provide College banners/tents
- Prepare/print
 - Sign-in sheet for both days
 - Lab sheets for students (provided by IC)
 - Lab sheets for instructors (provided by IC)
 - Certificates of completion issued by the College
- Distribute student survey QR code

