



Excavator Operator Safety Course Outline



Prerequisites: This course shall have no formal pre-requisite.

Course Length: 3-4 hours – Course length shall vary depending on the number of delegates.
Total course time includes breaks.

Class Size: The maximum number of delegates that may be trained and tested per instructor shall be thirty-five (35) in the classroom session and thirty-five (35) in the practical session.

Course Objective

- To gain an understanding of inspection requirements and criteria.
- Trainees will understand general safety precautions utilized when working on, and in the vicinity of, excavators.
- Trainees will understand lift capacities and lift charts.
- Trainees will gain an understanding of general excavation hazards.
- Trainees will understand the basic components and operation of an excavator.
- Trainees will gain an understanding of soil classification.

Course Design

- Power Point© / Lecture / Audio Video / Visual Aids
- Practical Exercises

Successful Course Completion

- Requires a minimum score of 75% or better.
- Grades shall be calculated by dividing the number of questions answered correctly by the total number of exam questions.
- Delegates will have no more than thirty (30) minutes to complete the exam.
- Successful completion of practical session is mandatory.

Course Content Summary

- Classroom
- Practicals

Breaks: 10 minutes (approximately every hour)

Lunch: 1 Hour (if applicable)

Course Outline

General Safety

- Seat Belts
- Climbing on the Machine



Excavator Operator Safety

Course Outline



- Safety Messages
- Hazard Information
- Operator Responsibilities
- Danger Area
- Power Lines
- Fire Extinguisher
- Electrical Storms
- Restricted Visibility

Excavator Components

Inspections

- Criteria
 - Bucket
 - Pins and Bushings
 - Boom and Stick
 - Hydraulic Cylinders
 - Final Drive
 - Engine
 - Frame & Rotating Bearing
 - Cab
- Inspection Checklist

Lift Capacity

- Fundamentals
- Lift Charts

Excavating

- Avoid Undercutting
- Underground Utilities
- Soil Types
- Slope Operation

Machine Operation

- Operator Controls
- Engine Stopping

Work Tools

Excavator Attachments

- General



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- Vacuum Lifter

Practical Session

Practical training shall utilize an excavator similar to the type that the employee will operate.

Practical shall verify the following:

- Select and wear appropriate PPE during practical training
- Conduct proper pre-use inspection of excavator and equipment
- Demonstrate ability to remove the excavator out of service if it is unsafe to operate
- Controls the excavator using smooth starts & stops
- Show ability to react to unusual or emergency situations
- Move material in a safe and controlled manner
- Travel at adequate speeds
- Remain aware of surroundings and other workers while operating the excavator
- Demonstrate knowledge of safe parking

Training Center Provided Material

- Course Materials
- PPE

Delegate Requirements

- PPE
- Onsite Excavator

Reference Material / Documents

OSHA 29 CFR Subpart P Excavations 1926.650

OSHA 29 CFR Subpart O Material Handling Equipment 1926.602