



## WHEELED EXCAVATOR OUTLINE



### Objectives

- Course information list.

### Lesson 1: Components

- Introduction.
- Operator's Manual.
- Key Components.
- Engine Compartment.
- Boom / Stick.
- Bucket.
- Wear Components.
- Undercarriage.
- Frame.
- Cooling System.
- Engine.
- Turbocharger.
- Hydraulic System / Warning.
- ROPS / FOPS.
- Hydraulic Control Levers.
- Operating Controls.
- Telescopic Boom Controls.
- Typical Travel Controls.
- Forward / Reverse Controls.
- Outrigger Controls.
- Oscillating Axle Controls.
- Instrument Panels / Gauges.
- Check Your Knowledge Questions.

### Lesson 2: Safety

- Introduction.
- Basics of Safety.
- Common Accident Causes.
- Safe Environment.
- Medication Warning.
- Personal Protective Equipment.
- Operator's Station Safety.
- Fire Prevention.
- Safety Warning Decals.
- Refueling Safety.
- Pinch Points / Moving Parts.
- Never Allow Riders.
- Night Operations.
- Backing.
- Operator Fatigue.
- You Are Responsible For Safety.
- Check Your Knowledge.



## WHEELED EXCAVATOR OUTLINE



### Lesson 3: Pre-Start Inspection

- Introduction.
- Pre-Start Inspection Video
- Pre-Start Procedures.
- Checklist.
- Basic Checks.
- Tire / Wheels.
- Inspect Bucket.
- Fluid Levels.
- Electric Cables / Wiring.
- Battery Safety.
- Lubrication System.
- Radiator / Pivot Pin Check.
- Radiator / Checks
- Hydraulic Fluid Warning / Hydraulic Fluid Injury.
- Lights.
- Pre-Mount Safety Check.
- Proper Mount / Dismount
- Housekeeping.
- Fire Prevention / In The Event Of A Fire.
- Portable Fire Extinguishers.
- Operator's Station.
- Lockout / Tagout – Impaired Equipment.
- Seat / Seat Belt.
- Check Your Knowledge.

### Lesson 4: Start-Up

- Introduction.
- Before You Start The Engine.
- Machine Start-Up.
- Master Switch.
- Start-Up Checks.
- Seat Belt Check.
- Warm Weather Start.
- Check The Gauges.
- Proper Warm Up.
- Cold Weather Start.
- Safe Ether Use.
- Jump Starting.
- Safety Reminders.
- Check Your Knowledge.



## WHEELED EXCAVATOR OUTLINE



### **Lesson 5: After Start-Up**

- Introduction.
- After Start Checks.
- Check Your Knowledge.

### **Lesson 6: Operation**

- Introduction.
- Operation.
- Competent Person.
- Before You Operate.
- Inspecting The Job Site.
- Planning The Job.
- General Precautions.
- Traveling.
- Traveling Down A Slope.
- Traveling Up A Slope.
- Slope / Rough Terrain – Caution
- Working On An Incline / Slope.
- Parking On A Slope.
- Overhangs / Undercuts.
- Embankments.
- Embankment Failure / Fatal Accident.
- Soil Classifications.
- Excavation Requirements.
- General Excavation / Stick And Bucket Digging.
- Maximizing Power And Motion.
- Using A Spotter.
- Hand Signals.
- Trench Protective Systems.
- Trench Development.
- Trench Boxes.
- Installation And Movement.
- Spoilage Placement.
- Truck Loading.
- Same Level Loading.
- Loading From Above.
- Backfilling.
- Lifting.
- Adverse Weather Conditions.
- Backing.
- Visibility / Front And Rear
- Never Allow Riders.
- Working In Congested Areas.
- Congested Areas / Pedestrians.
- Common Excavator Uses.

### **Lesson 6: Operation (Continued)**



## WHEELED EXCAVATOR OUTLINE



- Overhead Utilities.
- If Equipment Contacts Power line.
- Working Near Utilities.
- Underground Utilities.
- Check Your Knowledge.

### **Lesson 7: Shutdown**

- Introduction.
- Parking Your Equipment.
- Parking Disabled Equipment.
- End Of The Day.
- Machine Shutdown.
- Proper Shutdown Procedure.
- Prevent Vandalism.
- Check Your Knowledge.

### **Lesson 8: Advantages**

- Introduction.
- Know Your Machine.
- Operator's Manual.
- Machine Dimensions.
- Capacities And Limitations.
- Advantages.
- Center Of Gravity.
- Check Your Knowledge.

### **Lesson 9: Attachments**

- Introduction.
- Attachments.
- Weight Distribution.
- Typical Attachments.
- Check Your Knowledge.

### **Lesson 10: Tie-Down**

- Introduction.
- Transporting On A Trailer.
- Working Load Limit (WLL)
- Ratchet Binder.
- Check Your Knowledge.



## WHEELED EXCAVATOR OUTLINE



### **Lesson 11: Preventive Maintenance**

- Introduction.
- Benefits Of A Good PM Program.
- Setting Up The PM Program.
- Preventive Maintenance Records.
- Component Failure Modes And Warnings.
- Engine Failures.
- Lubrication.
- Transmission.
- Final Drives.
- Equipment Spot Check.
- Pre-Service.
- Equipment Inspection Form.

### **Lesson 12: Hand Signals**

- Introduction.
- Extend / Retract Telescopic Boom.
- Arm / Stick – Inward / Outward.
- Close / Open Bucket.
- Raise / Lower Boom.
- Raise / Lower Load Vertically.
- Stop / Emergency Stop.
- Swing.
- Retract / Extend Telescopic Arm / Stick.
- Move Slowly.
- Move Load In / Out Horizontally.
- Left / Right Turn.
- Travel Forward / Backward.
- This Distance To Go.
- Stop Engine.