



Lesson 1: Goals & Objectives of this Lesson

- Safe Productivity.
- Introduction.
- Goals and Objectives.
- What is a professional?

Lesson 2: Components & Control Identification

- Goals and objectives of this Lesson.
- Operator's Manual.
- Basic Machine Parts.
- Key Components.
- Buckets.
- ROPS / FOPS.
- Articulated Joint.
- Wear Characteristics for Major Components.
- Frame.
- Engine.
- Transmission / Torque Converter.
- Crawler Track Components.
- Over-the-Tire Track Components.
- Common Track Configurations.
- Attachments.
- Hydraulic System.
- Wear Characteristics.
- Engine.
- Front / Rear Differentials.
- Hydraulic Systems.
- Hydraulic Warning.
- Tire Life.
- Bucket Control.
- Parking Brake.
- Transmission Control Lever.
- Operating Controls.
- Bucket Control.
- Pedals.
- Steering.
- Brakes / Braking System.
- Check Your Knowledge.

**Lesson 3: Safety & Warning Symbols**

- Goals and Objectives of this Lesson.
- Basics of Safety.
- Safety Alerts.
- Safe Environment.
- Medication Warning.
- Personal Protective Equipment (PPE).
- Operator's Station Safety.
- Safety Warning Decals.
- Fire Prevention.
- Refueling Safety.
- Pinch Points.
- No Riders.
- Hand Signals.
- Operator Fatigue.
- Responsibility.
- Check Your Knowledge.

Lesson 4: Pre-Start Procedures

- Goal and Objectives of this Lesson.
- Checks.
- Proper Mount / Dismount.
- Operator's Station.
- Pre-Start Procedures.
- Lockout / Tag-Out.
- ROPS.
- Seat Belt.
- Safety Terms / Warnings.
- Hydraulic Warning.
- Battery Safety.
- Review.
- Check Your Knowledge.

Lesson 5: Starting Procedures

- Goals and Objectives of this Lesson.
- Machine Start-Up.
- Master Switch.
- Pre-Start Procedures.
- Checks.
- Starting the Engine - Warm Weather.
- Check Gauges.
- Cold Weather Start.
- Jump Starting.
- Final Start-Up Safety Reminders.
- Check Your Knowledge.

**Lesson 6: After Starting Checks**

- Goals and Objectives of this Lesson.
- Operator's Manual.
- Check Gauges Regularly.
- After Engine Start.
- What to Check For.
- Check Your Knowledge.

Lesson 7: Operation and Safety

- Goals and Objectives of this Lesson.
- Before You Operate.
- Inspecting the Jobsite.
- Planning the Job.
- General Precautions.
- Traveling.
- Rules of the Road.
- Using a Spotter.
- Load Handling Effects.
- Overloading Effects.
- Effects of Speed.
- Ground Obstructions.
- Overhead Obstructions.
- General Precautions.
- Material Handling Tips.
- Loading the Bucket.
- Emptying the Bucket.
- Excavation / Digging.
- Ground Obstructions.
- Scraping / Cleaning.
- Filling / Back Filling.
- Working on an Incline.
- Traveling.
- Ridding the Machine.
- Adverse Weather Conditions.
- Backing Up.
- Visibility.
- No Riders!
- Working in Congested Areas.
- Equipment Uses.
- Overhead Utilities.
- Underground Utilities.
- Master Switch.
- Tips to Live By.
- Description of Fatal Accident.
- Filling the Bucket.

**Lesson 7: Operation and Safety (Continued)**

- Operating Techniques.
- Loading Trucks.
- Backfilling a Ditch.
- Load and Carry Operations.
- Check Your Knowledge.

Lesson 8: Machine Shutdown

- Goals and Objectives of this Lesson.
- Parking.
- Proper Shutdown Procedures.
- Prevent Vandalism.
- Check Your Knowledge.

Lesson 9: Advantages and Limitations

- Goals and Objectives of this Lesson.
- Know Your Machine.
- Operator's Manual.
- Machine Dimensions.
- Capacities and Limitations.
- Tipping and Operating Capacities.
- Check Your Knowledge.

Lesson 10: Attachments

- Goals and Objectives of this Lesson.
- Descriptions.
- Weight Distribution.
- Common Sized Buckets.
- Types of Buckets.
- Attachments.
- Check Your Knowledge.

Lesson 11: Load Securement and Tie-Down

- Goals and Objectives of this Lesson.
- Transporting on a Trailer.
- Work Load Limit.
- Ratchet Binders.
- Towing.
- Service Link.
- Check Your Knowledge.



Lesson 12: Preventive Maintenance

- Goals and Objectives of this Lesson.
- Instruction to Preventive Maintenance.
- Benefits of a Good Program.
- Setting Up the Program.
- Keeping Records.
- Component Failure Modes and Warning Signs.
- Engine Failure.
- Lubrication.
- Transmission.
- Final Drives.
- Spot Check.
- Pre-Service.
- Equipment Inspection Form.
- Check Your Knowledge.