

**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.
- Key Components.
- Types of Track Pads & Shoes.
- ROPS and FOPS.
- Wear Characteristics for Major Components.
- Frame.
- Radiator.
- Power Train.
- Engine.
- Turbocharger.
- Transmission.
- Hydraulic System.
- Operating Controls.
- Steering Controls.
- Blade Controls.
- Instrument Panels.
- Brakes and Braking System.
- Dismounting the Machine Safely.
- Check Your Knowledge

Lesson 3: Safety & Warning Symbols

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

**Lesson 4: Pre-Start Procedures**

- Goals and Objectives of this Lesson.
- Pre-Start Procedures.
- Checklist.
- Operator's Manual.
- Checks.
- Safety Warning Decals.
- Fluid Levels.
- Lubrication System.
- Electric Cables and Wiring.
- Lights.
- Operator's Safety.
- Housekeeping.
- Fire Prevention.
- Safety Decals.
- Lockout / Tag-Out.
- Proper Mount and Dismount.
- Seat and Seat Belt.
- Hydraulic Warnings.
- Battery Safety.
- Pre-Start Procedures.
- Check Your Knowledge.

Lesson 5: Starting Procedures

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

Lesson 6: After Starting Checks

- Goals and Objectives of this Lesson.
- After Starting Checks.
- Check Your Knowledge.

Lesson 7A: Operation & Safety

- Goals and Objectives of this Lesson.
- Planning Ahead.
- Inspecting the Jobsite.
- Planning the Job.

**Lesson 7A: Operation & Safety (Continued)**

- General Precautions.
- Traveling.
- Ridding the Machine.
- Rules of the Road.
- Using a Spotter.
- Adverse Weather Conditions.
- Backing up.
- Front and Rear Visibility.
- No Riders!
- Working in Congested Areas.
- Equipment Uses.
- Overhead Utilities.
- If an Electrical Contact Occurs.
- Underground Utilities.
- Master Switch.
- Steering.
- Blade Controls / Operation.
- Material Handling Techniques.
- Operating Techniques.
- Level Dozing.
- Rough Terrain.
- Slot Dozing.
- Stockpiles.
- Double Push Method.
- Slopes.
- Side-Hill Cuts.
- Side-by-Side Dozing.
- Trenching.
- Pushing Boulders.
- Compaction.
- Crossing Materials.
- Handling Wet / Dry Materials.
- Performing Finish Work.
- Carrying a Grade.
- Basements.
- Felling Trees.
- Stump Removal.
- Clearing Brush.
- Pushing Scrapers.
- Tips to Live By.
- Fatal Accident Description.
- Check Your Knowledge.



Lesson 7B: Ripping Techniques

- Goals and Objectives of this Lesson.
- Ripper Components.
- Ripper Utilization.
- Ripper Operation.
- Hydraulic Force.
- Selecting Shank Length.
- Ripping Tips.
- Initial Penetration.
- Best Shank Angle.
- After Penetration.
- Best Pitch Angle.
- Maximizing Tip Life.
- Estimating Shank Angle.
- Ripping Depth.
- Getting Better Traction.
- Decelerator Use.
- Proper Gear Selection.
- Ripping Hard Ground / Downgrade.
- Check Wear Components Often.
- Ripping Reminders.
- Check Your Knowledge.

Lesson 8: Machine Shutdown

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

Lesson 9: Advantages & Limitations

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

Lesson 10: Attachments

- Goals and Objectives of this Lesson.
- Attachments.
- Weight Distribution.
- Common Blade Types.
- Typical Attachments.
- Ripper Components.



Lesson 10: Attachments (Continued)

- Winch Components.
- Winch Operation.
- Check Your Knowledge.

Lesson 11: Load Securement & Tie-Down

- Goals and Objectives of this Lesson.
- Transporting on a Trailer.
- Working Load Limit.
- Ratchet Binders.
- Backing Up.
- During Transport.
- 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.