





SIMULATIONS







MOVING SAFETY FORWARD

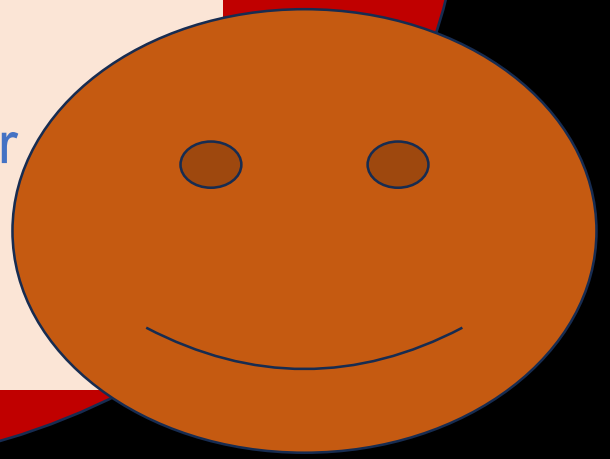
Goals For Today

- Explain what simulator training can—and cannot—do
- Connect simulator practice to safer equipment operation
- Show how repetition and feedback build operator skill
- Identify a simple path from simulator practice to field evaluation

What is equipment simulation

A controlled, computer-based environment that recreates equipment controls and operating situations

- Allows practice without moving a real machine or exposing people and property to the same risks
- Can be used for initial familiarization, refresher practice, and targeted skill development
- Examples: loader, excavator, track loader, motor grader, and other equipment-specific modules



A Safer Place To Learn

New operators can become familiar with controls before climbing into a live machine

Practice responses to hazards without risking a collision, rollover, struck-by event, or property damage

Instructors can pause, explain, reset, and repeat a scenario

Errors become coaching opportunities instead of real-world incidents



MOVING SAFETY FORWARD

Practice without putting equipment at risk

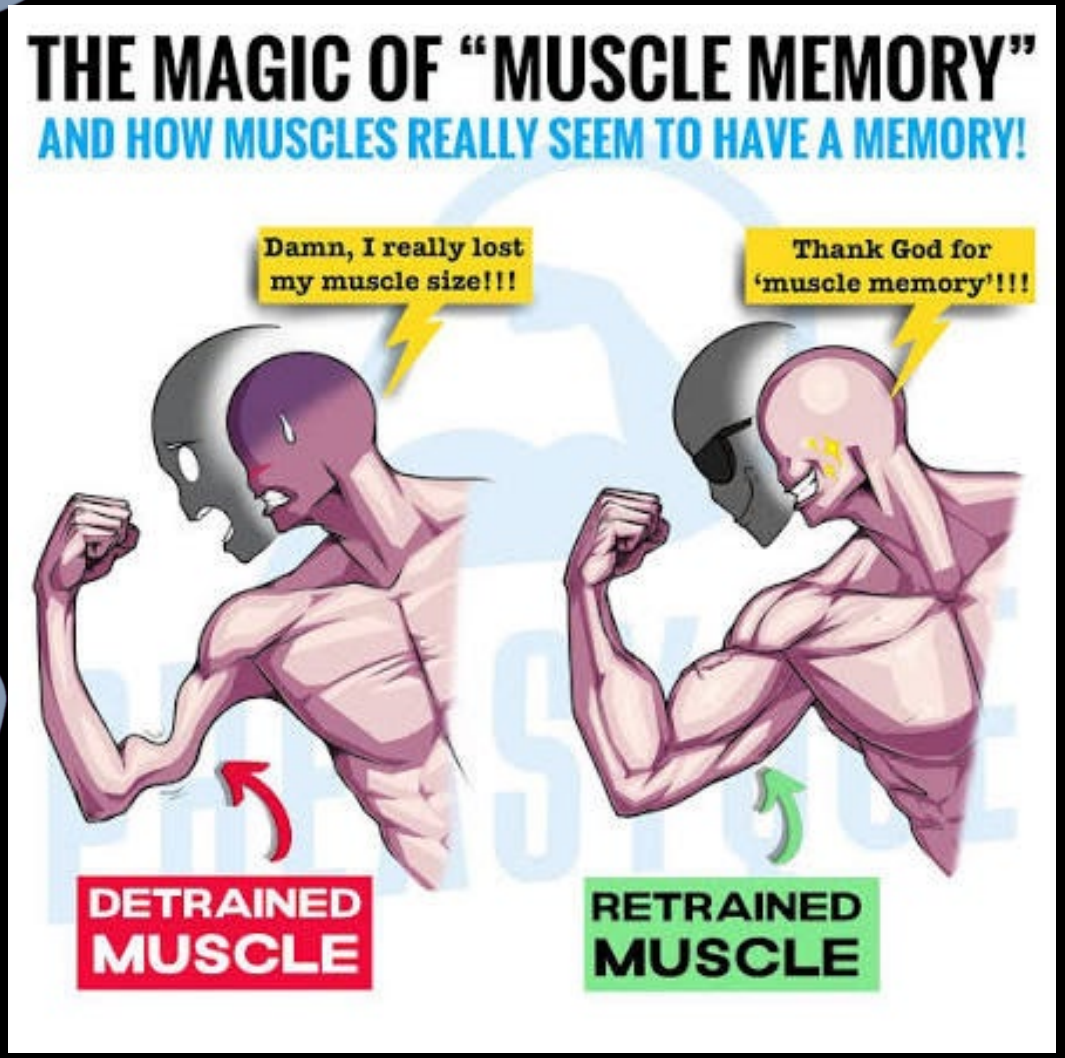


- No fuel, wear on tires or tracks, or unnecessary engine hours during simulator practice
- No need to reserve a machine or shut down production just to learn basic controls
- Less exposure to damage caused by unfamiliarity or poor control inputs
- Field time can focus on machine behavior, site conditions, and job-specific tasks

MOVING SAFETY FORWARD

Repetition builds muscle memory

- Repeat starts, stops, turns, positioning, and control sequences
- Practice at a pace that matches the learner—not the production schedule
- Build consistency before adding speed, complexity, or distractions
- Revisit weak areas instead of repeating skills already mastered



Immediate feedback

- Many programs provide scores, prompts, or performance indicators
- Instructors can identify patterns: overcorrection, poor positioning, missed checks, or rough control
- Feedback can be specific: what happened, why it matters, and what to try next
- Track progress across sessions rather than relying only on memory or confidence

MOVING SAFETY FORWARD

Learn from mistakes without consequences

- Try a maneuver, see the result, and reset to try it correctly
- Practice what-if situations that are too dangerous to stage in the real world
- Develop hazard recognition and decision-making—not just joystick or pedal familiarity
- Normalize asking questions and learning from errors

Confidence with good habits

- Familiarity can reduce the mental load of locating and using controls
- Learners can focus more attention on surroundings, clearances, and the task
- Confidence should grow alongside safe habits: checks, communication, speed control, and awareness
- Overconfidence is a risk—simulator success must be verified on real equipment



MOVING SAFETY FORWARD

What a simulator cannot replace

- Real machine feel, vibration, traction, terrain, weather, and changing site conditions
- The full consequences of equipment mass, momentum, visibility, and environmental variation
- Hands-on pre-use inspection, maintenance awareness, and jobsite communication
- Required operator qualification, employer procedures, or applicable training requirements



MOVING SAFETY FORWARD

Closing

- Practice in a controlled environment.
- Build skills through repetition.
- Verify competence on the real machine.



MOVING SAFETY FORWARD

QUESTIONS

gsmith@kentcountyroads.net