

JERR-DAN

Rotator JD50/60 Training Simulator

A practical, scalable training solution that helps Jerr-Dan operators build real skill using the physical belly-pack controller. The goal of the training simulator is to give operators more hands-on time, improve control confidence, and shorten the path to proficiency on real-world equipment.



Concept Image: Operator using belly-pack controller in front of a flat-screen display running the rotator training simulator.

Vision Brief and Preliminary ROM | May 18 2026 | Confidential

Prepared for Jerr-Dan by **ForgeFX Simulations** — Trusted **Oshkosh Corporation** Vendor

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SIMULATIONS

01 The Opportunity

Jerr-Dan's operator training program is effective, but it is limited by available equipment and classroom time. With multiple trainees sharing a small number of rotator units, hands-on practice is constrained and much of the session is spent waiting rather than learning.

At the same time, operators transitioning from bang-valve systems to proportional controls often face a skill gap. Developing the precision and coordination required for smooth operation takes consistent, repeatable practice. That level of repetition is difficult to achieve within the current training environment.

A simulator gives operators more time on the controls, supports safe skill development, and creates a consistent way to measure and improve performance.

02 The Concept

The proposed simulator connects the Jerr-Dan belly-pack controller directly to a PC-based 3D training environment displayed on a large screen. Operators use the same controls they already know, while the boom, load, and surrounding environment respond in real time.

The experience is designed to mirror actual operation as closely as possible, allowing operators to focus on control, coordination, and precision without the constraints of a live machine.

The initial simulator is intentionally designed around the existing Cone Rodeo training exercise already used during Jerr-Dan operator training programs, minimizing disruption while increasing operator repetition and engagement.



Concept visualization: Operator practices boom extension and load control using the Jerr-Dan belly-pack while navigating a cone-rodeo course in the simulator.

03 Proposed Phase 1 MVP Scope

ForgeFX recommends beginning with a focused Minimum Viable Product (MVP) designed to provide a practical and deployable proportional-control training tool while minimizing initial development cost and complexity.

The MVP is intended to support Jerr-Dan's existing Cone Rodeo training workflow by allowing operators to practice boom movement and load control using the physical Jerr-Dan belly-pack controller connected to a PC-based simulation environment.

The initial MVP focuses specifically on boom operation training rather than full vehicle operation or recovery simulation. Operators will guide a suspended load through variable cone layouts while developing smoother proportional control techniques and coordinated boom movement.

To minimize initial development cost and accelerate deployment, the MVP environment is intentionally streamlined and focused specifically on proportional boom operation training. The initial release does not include a fully interactive vehicle simulation, detailed recovery environments, advanced physics-based casualty interactions, or free-roam operational scenarios. Instead, the simulator concentrates on repeatable Cone Rodeo exercises that allow operators to build precision, coordination, and confidence using the real Jerr-Dan belly-pack controller.

Performance scoring will provide immediate operator feedback based on completion time, cone impacts, and overall control precision.

Platform

Standard PC, TV/Monitor display, and Jerr-Dan belly-pack controller.

Boom Simulation

Digital replica of the rotator boom with proportional lift, extension, swing, and winch controls.

Exercises

Variable series of cone layouts focused on boom coordination and load control.

Scoring

Basic scoring and grading based on precision and completion time.

Jerr-Dan will provide receiver/interface hardware, protocol documentation, signal mapping, or engineering support.

04 Deployment Options and ROM

ForgeFX recommends a phased deployment approach that allows Jerr-Dan to begin with a focused operator training simulator while maintaining a scalable path toward more advanced simulation capabilities in the future.

The MVP configuration is intentionally streamlined around proportional boom operation and Cone Rodeo training exercises. The Pro configuration expands the simulator into a broader digital training platform with enhanced visual fidelity, expanded simulation environments, and additional architectural support for future recovery and operational training modules.

The proposed simulator platform is intentionally designed to scale over time, allowing Jerr-Dan to expand training capabilities incrementally without replacing the initial investment. Each future phase builds upon the previous deployment while maintaining compatibility with the established hardware integration and training workflows.

OPTION 1 — MVP Simulator

A focused proportional-control training simulator centered on repeatable Cone Rodeo exercises using the physical Jerr-Dan belly-pack controller.

Included Features

- ForgeFX simulation framework
- Digital rotator boom replica
- Belly-pack digital integration
- Real-world controller integration
- Variable cone course layouts
- Basic scoring and grading UI
- Flat-screen PC deployment

Preliminary ROM: \$225,000

OPTION 2 — Pro Simulator

An expanded simulator configuration that introduces a more complete digital representation of the rotator vehicle, enhanced visual environments, and a stronger foundation for future simulator expansion.

Includes Everything in MVP, Plus:

- Full virtual rotator truck shell
- Enhanced digital training environment
- Expanded visual fidelity
- Variable/randomized course layouts
- Enhanced scoring and grading systems
- Expanded framework architecture supporting future recovery workflows and advanced training modules

Preliminary ROM: \$355,000

ROM pricing is preliminary and intended for budgeting and stakeholder planning purposes. Final pricing may vary depending on finalized scope, simulation fidelity requirements, hardware integration requirements, review cycles, deployment configuration, and future expansion objectives.

05 Why ForgeFX

ForgeFX Simulations has been building training simulators for heavy equipment manufacturers since 2001, including Komatsu, Caterpillar, and John Deere. We also have experience working within the Oshkosh family, supporting both JLG Industries and Pierce Manufacturing with simulation-based training solutions. This includes systems that integrate real equipment behavior, proportional control logic, and CAD-based models.

Our work focuses on building training tools that reflect how equipment operates, so users can develop real skills that transfer directly to the field.

Proven Across the Oshkosh Family

Deep expertise in heavy equipment operations, proportional control systems, CANopen/CAN bus hardware integration, and CAD-to-simulation pipelines for JLG Industries' Telehandlers, Scissor Lifts, and MEWPs, and Pierce Manufacturing's Ascendant 100 Heavy Duty Aerial Tower.



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