

## **Waukesha Pearce Industries (WPI) Komatsu Heavy Equipment Diesel Technician SkillBridge Internship Program**

**Program Length:** 12 Weeks (480 Hours Total) **Schedule:** Monday–Friday, up to 40 hours per week (flexible for field/shop needs) **Location:** WPI Dealership Facility **Target Participants:** Transitioning service members with mechanical aptitude, interest in heavy equipment repair, or military maintenance experience (vehicle/equipment repair MOS).

**Program Overview** This 12-week paid SkillBridge internship bridges military mechanical/logistics experience to civilian roles as Komatsu diesel technicians. Participants learn to perform preventive maintenance, diagnose faults, repair systems, and ensure equipment uptime using Komatsu factory procedures. Training includes computer-based instruction, hands-on shop work, field shadowing, and supervised with an assigned mentor. Emphasis is on safety, accuracy, professional communication, and translating military discipline/teamwork to dealership success.

Key features include:

- Dedicated mentor for weekly check-ins, guidance, and real-time feedback
- Progressive structure: Weeks 1–3 (Foundations & Safety), Weeks 4–7 (Core Systems), Weeks 8–11 (Advanced Repair & Diagnostics), Week 12 (Evaluation & Transition)
- Komatsu-specific training (manuals, KOMTRAX diagnostics, system fundamentals)
- Regular assessments, midpoint review, and final practical evaluation
- OSHA-compliant safety certifications (rigging, forklift operation if needed)

### **Week-by-Week Training Breakdown**

**Week 1 – Onboarding & Safety Foundations (40 hrs)** *Learning Objectives:* Complete admin setup, master safety protocols, and orient to WPI/Komatsu operations.

- HR/IT onboarding & setup (8 hrs)
- Comprehensive safety training (PPE, rigging, lockout/tagout, forklift operation, hazard ID) (16 hrs)
- System onboarding (Komatsu manuals, diagnostic software, KOMTRAX basics) (8 hrs)
- Facility/machine familiarization & shop tour (8 hrs) *Milestone:* Safety certification quiz & facility checklist completion.

**Week 2 – Tools, Professionalism & Preventive Maintenance Basics (40 hrs)** *Learning Objectives:* Use specialized tools safely, understand professionalism, and perform basic PM services.

- Specialized tools & equipment training (torque tools, diagnostic scanners, etc.) (8 hrs)
- Equipment/component cleaning procedures & best practices (8 hrs)
- Customer relations, workplace professionalism & communication (8 hrs)
- Exposure to parts department operations & parts ordering (8 hrs)

- Preventive maintenance (PM) fundamentals & initial PM clinic (8 hrs) *Milestone:* Complete basic PM service on a Komatsu machine under supervision.

**Week 3 – Advanced PM & Machine Familiarization (40 hrs)** *Learning Objectives:* Execute full PM services and deepen Komatsu machine knowledge.

- In-depth machine familiarization (Komatsu equipment families, components, applications) (12 hrs)
- Full preventive maintenance procedures & inspections (16 hrs)
- Basic troubleshooting & documentation (8 hrs)
- Mentor shadowing on live PM jobs (4 hrs) *Milestone:* Perform independent PM checklist with mentor review.

**Week 4 – Hydraulic Systems Fundamentals (40 hrs)** *Learning Objectives:* Understand and service hydraulic systems on Komatsu equipment.

- Hydraulic fundamentals & principles (fluid dynamics, components) (8 hrs)
- Specialized hydraulic tools & testing equipment (8 hrs)
- PM clinic focused on hydraulics (8 hrs)
- Attachment flow testing & calibration (8 hrs)
- Installation/adjustment of quick couplers & hydraulic attachments (8 hrs) *Milestone:* Test and adjust hydraulic flow on a machine.

**Week 5 – Hydraulic Troubleshooting & Repair (40 hrs)** *Learning Objectives:* Diagnose and repair common hydraulic issues.

- Hydraulic schematic reading & Komatsu manual navigation (8 hrs)
- Leak detection, pressure testing & component replacement (16 hrs)
- Hands-on repair exercises & troubleshooting scenarios (12 hrs)
- Mentor-led field/shadowing on hydraulic jobs (4 hrs) *Milestone:* Pass hydraulic diagnostic assessment (80%+ accuracy).

**Week 6 – Electrical & Electronic Systems (40 hrs)** *Learning Objectives:* Master electrical diagnostics and repairs.

- Electrical fundamentals & Komatsu wiring diagrams (8 hrs)
- Battery, charging, starting systems & troubleshooting (12 hrs)
- Sensors, controllers & basic electronics (KOMTRAX integration) (12 hrs)
- Hands-on electrical testing & repair (8 hrs) *Milestone:* Diagnose and repair sample electrical fault.

**Week 7 – Advanced Electrical & Diagnostics (40 hrs)** *Learning Objectives:* Use diagnostic tools for complex electrical issues.

- Komatsu diagnostic software & fault code interpretation (12 hrs)
- CAN bus systems & electronic controls (12 hrs)

- Integration with hydraulics/engines (8 hrs)
- Supervised troubleshooting on live machines (8 hrs) *Milestone:* Complete electrical systems assessment.

**Week 8 – Diesel Engine Systems (40 hrs)** *Learning Objectives:* Understand and service Komatsu diesel engines.

- Engine fundamentals (four-cycle theory, components) (8 hrs)
- Fuel systems, injection & emissions controls (12 hrs)
- Cooling, lubrication & turbocharger service (12 hrs)
- Basic engine disassembly/reassembly exercises (8 hrs) *Milestone:* Perform engine PM and basic diagnostics.

**Week 9 – Engine Troubleshooting & Powertrain Basics (40 hrs)** *Learning Objectives:* Diagnose engine faults and introduce powertrain.

- Advanced engine diagnostics & Komatsu procedures (12 hrs)
- Powertrain overview (transmissions, drivelines, final drives) (12 hrs)
- Undercarriage inspection & basic maintenance (8 hrs)
- Mentor shadowing on engine/powertrain jobs (8 hrs) *Milestone:* Midpoint performance review & improvement plan.

**Week 10 – Powertrain & Undercarriage Repair (40 hrs)** *Learning Objectives:* Service powertrain and undercarriage components.

- Transmission & torque converter service (12 hrs)
- Undercarriage components (tracks, rollers, idlers) inspection/repair (12 hrs)
- Brakes, steering & final drive maintenance (8 hrs)
- Supervised independent repairs (8 hrs) *Milestone:* 90%+ accuracy on supervised powertrain tasks.

**Week 11 – Full-System Integration & Field Application (40 hrs)** *Learning Objectives:* Integrate systems knowledge and apply in real scenarios.

- Comprehensive diagnostics & multi-system troubleshooting (12 hrs)
- Field service coordination & emergency repairs (12 hrs)
- Interdepartmental exposure (parts, service writers) (8 hrs)
- Independent task execution & quality checks (8 hrs) *Milestone:* Mock field service call & career development session (resume, interviews).

**Week 12 – Final Evaluation & Transition (40 hrs)** *Learning Objectives:* Demonstrate full competency and prepare for employment.

- Comprehensive final practical assessment (engine, hydraulic, electrical, powertrain) (16 hrs)
- Safety & tool proficiency review (8 hrs)

- Exit interview, program feedback & lessons learned (8 hrs)
- Employment consideration discussion & interview prep (8 hrs) *Milestone:* Program completion certificate & potential job offer discussion.

**Program Outcomes** Upon successful completion, participants will:

- Perform preventive maintenance, diagnose faults, and repair Komatsu heavy equipment systems safely and accurately.
- Proficiently use Komatsu manuals, diagnostic tools, and software.
- Demonstrate professional communication, teamwork, and customer-focused service.
- Execute independent repairs with high quality under minimal supervision.
- Be prepared for full-time diesel technician roles, with an opportunity for interview/hire at WPI based on performance and openings.