



POWERED EQUIPMENT

Plan the Movement. Control the Machine. Protect the Crew.

POLICY STANDARD

Only trained and authorized employees may operate powered equipment. Equipment shall be inspected, used and maintained in accordance with the manufacturer, this policy and the applicable OSHA standard. Seat belts, guarding and safety interlocks shall be used. Employees shall stay clear of backing, swing, crush and raised-component hazards.

PHEIFER BROTHERS CONSTRUCTION CO., INC.

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Table of Contents

SECTION	TOPIC	PAGE
1	Purpose, Scope, Definitions and Responsibilities	3
2	Operator Authorization, Training and Fitness	4
3	Equipment Selection and Pre-Task Planning	5
4	Inspection, Defects and Maintenance	6
5	General Operating Rules	7
6	Backing, Spotters and Pedestrian Separation	8
7	Stability, Edges, Utilities and Structures	9
8	Attachments, Quick Couplers and Material Handling	10
9	Parking, Blocking and Hazardous Energy	11
10	Fueling, Batteries, Fire and Transport	12
11	Emergencies, Records and Program Review	13
12	Field Equipment Checklist	14
13	Test Your Knowledge	15

IMPORTANT DISTINCTION

This policy covers earthmoving and jobsite material-handling equipment such as skid-steer and compact-track loaders, loaders, excavators, backhoes, dozers, graders, rollers, compactors, forklifts/telehandlers and powered attachments. Cranes, aerial lifts, pile-driving rigs, commercial motor vehicles and specialized marine equipment remain subject to their separate programs and any more specific OSHA requirements.

Primary References

- 29 CFR 1926.20(b)(4) and (c) - unsafe equipment and qualified operators
- 29 CFR 1926.600-.602 - equipment, motor vehicles and material-handling equipment
- 29 CFR 1926.651 - excavations, edges and mobile-equipment warning systems
- 29 CFR 1910.178 - powered industrial trucks when applicable to the operation
- 29 CFR 1926 Subpart CC when equipment is used in a manner covered as a crane
- OSHA skid-steer loader safety guidance and manufacturer operating/maintenance instructions

1. Purpose, Scope, Definitions and Responsibilities

Purpose and Scope

- Prevent struck-by, caught-between, rollover, crushing, falling-load, hydraulic, electrical, fire and transportation incidents involving company-owned, rented or subcontractor-operated powered equipment.
- Applies at projects, yards, shops and staging areas. Site-specific, owner, manufacturer and regulatory requirements that are more protective shall be followed.

Definitions

- Operator: employee trained, evaluated as competent where required, and authorized for the specific equipment class and attachments.
- Qualified person: person with recognized knowledge, training and experience who can solve problems related to the work.
- Spotter: trained employee assigned to assist movement while remaining outside the machine path and maintaining reliable communication.
- Danger zone: backing path, travel path, swing radius, articulation point, pinch/crush zone, fall zone and area beneath raised equipment or loads.

Management / Program Administrator

- Provide compliant equipment, training, maintenance, inspections, manuals and enforcement; define authorization and recordkeeping.
- Evaluate rentals and attachments before use and coordinate responsibilities with controlling contractors and equipment owners.

Foreman

- Complete the JHA/traffic plan; verify operators, inspection, ground/structure capacity, utilities, exclusion zones and communication; stop unsafe operation.

Operator

- Inspect and operate only as trained; maintain control and clearance; wear the restraint; report defects and stop when conditions exceed training, visibility or equipment limits.

Employees / Spotters

- Stay out of danger zones, follow signals and never assume the operator sees them. Anyone may give an emergency stop signal.

2. Operator Authorization, Training and Fitness

Authorization

- Only employees qualified by training or experience and listed/recognized as authorized may operate. Authorization is limited to the equipment class, configuration and attachments evaluated.
- Possessing a driver's license or experience on a different machine does not establish competence. Unattended trainees may not operate.

Training and Evaluation

- Provide understandable classroom/online instruction, hands-on practice and a practical evaluation by a person with the knowledge, training and experience to train and evaluate.
- Cover controls, limitations, capacity, stability, visibility, alarms, restraints, ROPS/FOPS, interlocks, attachments, couplers, inspection, fueling, parking, hazardous energy, site traffic, utilities, slopes and emergencies.
- For powered industrial trucks governed by 29 CFR 1910.178, follow its truck- and workplace-specific training, certification, refresher and at-least-every-three-years evaluation requirements.

Refresher / Re-Evaluation

- Retrain or re-evaluate after unsafe operation, incident/near miss, assignment to a materially different machine or attachment, changed conditions, observed deficiency or knowledge gap.
- Operators shall review the operating manual and receive familiarization before first use of an unfamiliar make/model.

Fitness for Duty

- Do not operate when impaired by alcohol, drugs, fatigue, illness, medication, vision/hearing limitation or emotional/physical condition that prevents safe control. Report concerns without unnecessary medical detail.
- No phones, earbuds or other distractions while operating. Radios shall be used only as necessary and without taking attention from travel or lifting.

Documentation

- Record operator, trainer/evaluator, date, equipment class, attachments, topics, practical result, restrictions and refresher actions. Keep authorization current and available to supervisors.

3. Equipment Selection and Pre-Task Planning

Select the Right Machine

- Use equipment and attachments approved by the manufacturer and rated for the load, reach, grade, surface and task. Do not exceed capacity charts, lift points, hydraulic limits or tire/track ratings.
- Evaluate visibility, turning/swing radius, ground pressure, overhead clearance, emissions, noise, lighting, weather, traffic and emergency access.

Pre-Task Plan / JHA

- Identify travel routes, loading/unloading points, pedestrians, public traffic, blind areas, excavation edges, soft ground, slopes, overhead/underground utilities, structures, water, railroads and simultaneous operations.
- Establish exclusion zones, spotter/signals, staging, lighting, barriers, wheel wash, communication and stop-work triggers before movement begins.
- Coordinate with the controlling contractor and affected employers; communicate route or phase changes before work resumes.

Ground and Supporting Surfaces

- A competent/qualified person, as applicable, verifies that soil, ramps, mats, haul roads, bridge decks, falsework, barges, floors and temporary works can support equipment, dynamic forces and loads.
- Do not operate on covers, vaults, culverts, trenches, ice, uncompacted fill or unknown surfaces until capacity and protection are established.

Manufacturer Information

- Keep the current operating manual and load/capacity information available. Labels and warning devices must remain legible.
- Do not modify, drill, weld, add counterweight, alter controls or defeat limiting devices without written manufacturer or qualified approval allowed by the governing standard.

Stop-Work Triggers

- Stop for unverified capacity, unknown utility, unstable edge/ground, lost visibility or communication, people in the danger zone, defect, weather beyond limits, unexpected movement or task outside authorization.

4. Inspection, Defects and Maintenance

Pre-Use / Shift Inspection

- Inspect before each shift or first use, after operator change when conditions warrant, after assembly/attachment change, after repair, impact or extended shutdown, and as the manufacturer requires.
- Check brakes, steering, horn, lights, alarm/camera, mirrors, tires/tracks, wheels/lugs, steps/handholds, glass, wipers, fire extinguisher, seat and seat belt, ROPS/FOPS, guards, interlocks, controls and warning labels.
- Check engine, battery, fuel, exhaust, hydraulic hoses/cylinders, leaks, pins, retainers, attachment and quick-coupler engagement. Test functions from the operator position with the area clear.

Defects

- Immediately report leaks, cracks, missing pins/guards, faulty alarm, damaged restraint, control drift, brake/steering problems, interlock failure or any condition affecting safe use.
- Unsafe equipment shall be tagged/locked out or removed from the work area and shall not be used until corrected and released by an authorized person. Production need is not justification for continued use.

Maintenance

- Follow manufacturer intervals and procedures. Only authorized, trained personnel may service or repair equipment.
- Clean and inspect enough to reveal defects. Use correct parts, fluids and fasteners; restore guards and test safety systems before return to service.
- Never use hands to search for hydraulic leaks. Use cardboard/wood and obtain immediate medical care for suspected fluid-injection injury.

Interlocks and Guards

- Never bypass, jumper, tape, disable or rely on a defective seat bar, door switch, restraint, alarm, limiter, guard or interlock.
- An interlock problem requires removal from service—not a workaround.

Records

- Document inspections and corrective actions when required by the standard, company, owner or manufacturer. Retain maintenance and repair records for lifecycle/trend review.

5. General Operating Rules

Before Starting

- Walk around; confirm personnel are clear; adjust seat/mirrors; buckle the seat belt; close required doors/bars; verify controls neutral and brake applied; sound horn when needed.
- Start and operate only from the designated operator position. Do not reach into the cab from outside or bypass the normal entry sequence.

During Operation

- Maintain control, safe speed and stopping distance. Slow for curves, grades, congestion, poor visibility, rough/icy surfaces and changing loads.
- Keep body inside the protective structure. Use three points of contact on clean steps/handholds; never jump from the machine.
- Travel with attachments/load as low as practical and positioned per manufacturer. Avoid sudden starts, stops, turns or raised-load travel.

Seat Belts / Protective Structures

- Wear the manufacturer-provided seat belt/restraint whenever operating. ROPS/FOPS and doors/screens shall be in place unless the manufacturer expressly permits removal for the task.
- If rollover begins, remain belted in the protective zone; do not jump. Report any rollover or protective-structure impact before reuse.

Riders and Personnel Lifting

- No riders unless the manufacturer provides an approved seat and restraint. Never carry people in a bucket, on forks, steps, drawbar, counterweight or attachment.
- Do not elevate personnel with equipment unless an approved personnel platform and the equipment, procedure, training and applicable standard expressly allow it.

Visibility and Clearance

- Look in the direction of travel. Use mirrors/cameras as aids—not substitutes for direct view, a spotter or separation.
- Maintain clearance from people, equipment, traffic, structures, overhead hazards and suspended loads. Never swing or pass a load over people.

6. Backing, Spotters and Pedestrian Separation

Plan to Eliminate Backing

- Use one-way routes, pull-through parking, turnarounds and staging that minimize reverse travel. Separate workers with barriers, distance and designated walkways.
- Where rear view is obstructed, comply with the applicable reverse-alarm or observer requirement and the project internal traffic-control plan.

Before Movement

- Operator circles/checks the machine, confirms the route and sounds the horn or agreed warning. Do not move until all workers are clear or acknowledged.
- The foreman assigns a spotter when blind areas, congestion, tight clearance, edge hazards or public/crew interface cannot otherwise be controlled.

Spotter Rules

- Wear required high-visibility apparel; stand where visible and outside the travel, swing and pinch zones; never walk backward in the machine path or between the machine and a fixed object.
- Use one designated spotter and agreed hand/radio signals. Any person may signal emergency stop; only the designated spotter directs routine movement.
- If eye/radio contact is lost, the operator stops, secures the machine and does not resume until communication and clearance are restored.

Pedestrians

- Never approach or enter the danger zone without operator acknowledgement and a stopped/secured machine. Make eye contact; do not rely on noise, alarm or assumptions.
- Keep unauthorized workers and the public outside barricades. High-visibility clothing does not replace physical separation.

Swing and Articulation

- Barricade or control excavator swing radius and articulated-machine pinch points. Avoid positioning anyone between equipment and walls, trucks, barriers or materials.

7. Stability, Edges, Utilities and Structures

Slopes and Stability

- Follow manufacturer grade, orientation, load and travel limits. Assess soil, cross-slope, drop-offs, ruts, ice, water and load shift before entry.
- Keep loads low, avoid side-hill travel when possible, turn gradually and never coast in neutral. Do not use a raised attachment as a counterbalance.
- If stability is uncertain, stop and obtain a qualified plan, alternate equipment, benching/mats or another control.

Excavations / Edges

- The excavation competent person establishes equipment setback based on soil, depth, surcharge and protective system. Two feet is the minimum spoil/material rule—not an automatic safe equipment setback.
- Use barricades, stop logs or warning systems where mobile equipment approaches an edge and the operator lacks a clear view. Do not undermine tracks, outriggers or haul roads.

Overhead Utilities

- Identify lines and required clearance before work. Use the Electrical Safety/Utility-Strike and, where lifting applies, Crane policy.
- After contact: remain in the cab unless fire or another immediate danger requires escape; warn everyone away; call emergency services/utility. If exiting is unavoidable, jump clear without touching machine and ground together, then shuffle/hop away.

Underground Utilities

- Verify locates, tolerance zone and potholing/positive identification. Use a spotter and task-specific controls; stop after any contact or unknown obstruction.

Bridge Decks / Temporary Works / Water

- Qualified approval is required before loading bridge decks, falsework, cofferdams, barges or temporary structures. Account for machine weight, load, impact, braking and concentrated track/outrigger forces.
- Provide edge/fall/drowning controls and recovery planning. Follow Working Over/Near Water and Cofferdam policies.

8. Attachments, Quick Couplers and Material Handling

Attachment Approval

- Use only compatible manufacturer-approved attachments, adapters, hydraulic circuits and guarding. Confirm equipment configuration capacity; attachments change weight, center of gravity, reach, visibility and rated load.
- Train the operator for grapples, hammers, augers, compactors, forks, magnets, buckets and other powered attachments before use.

Connecting / Disconnecting

- Park level in a controlled area; lower/support the attachment; neutralize controls; set brake; shut down and relieve stored pressure as required.
- Keep hands/body out of pinch points. Use tools and manufacturer procedure; cap/clean couplings and control hose movement.

Quick-Coupler Verification

- After coupling, visually verify from a safe position that the locking pins/wedge are fully engaged and any manual pin/retainer is installed. Indicator position alone is not enough when direct verification is possible.
- Perform the manufacturer-required ground-level curl/crowd or pressure test with the area clear before lifting or traveling. Recheck after attachment change and if impact/movement suggests loosening.
- Stop immediately for incomplete engagement, damaged pin, unusual movement or failed indicator/interlock. Never work beneath an attachment to inspect engagement.

Loads and Lifting

- Know load weight, center, lifting point and equipment capacity at the actual radius/height. Secure unstable material; keep people out of the fall zone.
- Forks shall be correctly spaced/locked and loads stable; do not exceed rated capacity or use damaged pallets. Lower elevated loads when unattended.
- If earthmoving equipment is configured/used to hoist suspended loads and the activity is covered by OSHA Subpart CC, follow the Crane and Hoisting policy, including operator and rigging requirements.

Prohibited Practices

- No side-loading, dragging beyond design, makeshift attachments, chains around bucket teeth, workers under raised attachments, or hands/feet used to align moving components.

9. Parking, Blocking and Hazardous Energy

Normal Parking

- Park on stable level ground when practicable, away from traffic and edges. Lower bucket, blade, forks or attachment fully; neutralize controls; set parking brake; shut down and remove/control key.
- Chock wheels/tracks when parked on an incline or when needed to prevent movement. Secure against unauthorized use.

Before Leaving the Operator Position

- Follow the manufacturer. At minimum lower attachments/load, neutralize, set brake and stop the engine when the operator is dismounted or equipment is unattended.
- Do not stand between an idling machine and a fixed object or leave a raised load while outside the protected position.

Servicing / Repair

- Apply the Hazardous Energy Control policy: identify electrical, hydraulic, pneumatic, mechanical, gravity, thermal and stored-pressure sources; shut down, isolate, lock/tag, dissipate and verify zero energy.
- Raised blades, buckets, booms, dump bodies and lift arms shall be fully lowered or supported by manufacturer-approved devices or substantial rated blocking before anyone enters beneath or between them.
- Jacks, hydraulics or cylinders alone are not supports. Keep blocking on firm surfaces and protect against shifting.

Skid-Steer / Compact Loader

- Use the approved lift-arm support exactly as directed. Install from a safe position; never reach through, under or around raised arms without protection.
- Do not bypass seat-bar, door, presence-sensing or control-lock interlocks for cleaning, maintenance or operation.

Stored Pressure / Motion

- Cycle controls only as the manufacturer directs after isolation; bleed accumulators and relieve line pressure before disconnecting. Block articulation joints and rotating parts.
- Verify isolation by an authorized try/test before work. Restore guards, account for tools/personnel and communicate before re-energization.

10. Fueling, Batteries, Fire and Transport

Fueling

- Shut off engine; set brake; eliminate ignition sources; no smoking; use approved containers/nozzles and bond/ground where required. Do not overfill.
- Maintain extinguisher and spill supplies. Clean spills promptly, protect drains/water and report releases under the emergency/environmental plan. Never refuel a hot machine when it creates ignition risk.

Batteries / Charging

- Protect against acid, arc and explosion; wear assessed PPE; ventilate charging; keep ignition sources away; use insulated tools and correct polarity/procedure.
- Only trained personnel service electric/hybrid high-voltage systems. Isolate energy and follow manufacturer emergency guidance after damage, immersion, overheating or smoke.

Fire

- Inspect fuel, oil and hydraulic leaks and accumulated debris. Keep exhaust/after-treatment away from combustibles and observe regeneration restrictions.
- For fire: stop, lower equipment if safe, shut down, evacuate upwind and call emergency services. Use an extinguisher only when trained, escape is maintained and the fire is incipient.

Loading / Unloading for Transport

- Use a level controlled area, rated trailer/ramps and spotter as needed. Align straight, use low speed and prohibit persons beside/below ramps.
- Lower attachments, articulate/secure as required, set brake, shut down and use DOT/manufacture-compliant tiedowns at approved points. Secure loose attachments and verify height/width/weight/route.

Towing / Recovery

- Use rated recovery points, devices and a planned exclusion zone. Do not use improvised hitch points, damaged chains/straps or stand within recoil/failure zones.
- Obtain qualified assistance for rollover, unstable ground, utilities, traffic or water recovery; do not create a second incident.

11. Emergencies, Records and Program Review

Immediate Stop and Secure

- Stop for contact/near contact, rollover, dropped attachment/load, brake/steering failure, uncontrolled movement, injury, fire, hydraulic injection, utility strike or entry of a person into the danger zone.
- Lower/secure equipment if safe, isolate energy, protect the scene, call 911/utility as applicable and notify the foreman. Do not move equipment except for rescue or to eliminate an immediate hazard.

Medical / Rescue

- Never improvise rescue beneath suspended equipment, near energized lines, in water or within unstable excavation/structure. Use the site emergency plan and trained resources.
- Treat suspected hydraulic injection as a surgical emergency even if the wound appears minor. Obtain immediate emergency medical evaluation and identify the fluid.

Incident Follow-Up

- Preserve photos, inspection/training/maintenance records, equipment configuration, attachment/coupler condition, alarms/cameras and witness information.
- Remove equipment from service until inspection and written/authorized release. Rebrief affected crews and correct traffic, ground, training or equipment deficiencies.

Records

- Maintain operator authorization/evaluations, inspections as required, maintenance/repair, equipment/attachment manuals, JHAs, lift/ground evaluations, incidents and corrective actions.
- Subcontractors provide evidence of competent operators and compliant equipment; Pheifer Brothers still addresses hazards affecting its employees.

Program Review

- Review at least annually and after incidents, recurring defects, new equipment/attachments, regulatory or manufacturer changes. Printed copies are uncontrolled unless formally issued.
- This policy does not address every hazard. Employees shall use good judgment, follow training and stop/report unforeseen conditions.

Enforcement

- Unauthorized operation, bypassing safety devices, refusing restraints, carrying riders, entering danger zones or directing work past a stop condition is subject to corrective action.

12. Field Equipment Checklist

VERIFY	EXPECTATION
Authorization	Operator authorized for equipment class and attachments; manual available
JHA / route	Task, traffic, pedestrians, edges, utilities, slopes and simultaneous work addressed
Ground / structure	Soil, ramp, bridge deck, falsework, barge or temporary surface capacity verified
Controls / safety	Brakes, steering, horn, lights, alarm/camera, restraint, ROPS/FOPS and interlocks work
Machine condition	Leaks, tires/tracks, glass, steps, guards, pins, hoses and warning labels acceptable
Attachment / coupler	Compatible; pins/wedge/retainer visually verified; ground-level test completed
Separation	Exclusion zones, walkways, swing radius and backing controls established
Spotter / signals	Need determined; spotter positioned safely; signals/radio and stop command understood
Load / stability	Weight, capacity, center, travel position, grade and edge setback acceptable
Emergency	Power-line, rollover, fire, spill, injection injury and emergency contacts reviewed
Parking / service	Lower, neutral, brake, key control, chocks, lockout and rated blocking available

PROJECT / LOCATION:	DATE / SHIFT:
EQUIPMENT / ID:	OPERATOR:
ATTACHMENT / COUPLER:	FOREMAN:
DEFECTS / TAG NUMBER:	CORRECTIVE ACTION:
GROUND / ROUTE / EXCLUSION ZONE:	SPOTTER / COMMUNICATION:

13. Test Your Knowledge

Circle the best answer. Review missed questions with your foreman.

1. Who may operate powered equipment? A. Anyone with a driver's license B. A trained and authorized operator for that equipment/attachment C. Any employee after watching once	2. What should happen when a safety interlock fails? A. Remove the equipment from service B. Tape the switch down C. Continue at low speed
3. Before working beneath raised lift arms, what is required? A. A spotter only B. Hydraulic pressure C. Lower them or use approved/rated support and hazardous-energy control	4. When may a rider be carried? A. On a bucket edge B. Only in a manufacturer-approved seat with restraint C. When travel is short
5. What is required after attaching with a quick coupler? A. Visually verify engagement/retainer and perform the manufacturer test B. Trust the cab light only C. Lift high to test	6. What must an operator do after losing spotter contact? A. Back slowly B. Sound the horn and continue C. Stop until communication and clearance are restored
7. How should attachments be carried while traveling? A. Fully raised B. As low as practical and per manufacturer C. At eye level	8. What should be done with an unsafe defect? A. Tag/lock out or remove the machine until corrected B. Note it at week's end C. Let the next operator decide
9. What does a two-foot excavation spoil rule establish for equipment? A. A universal equipment setback B. Permission to park at the edge C. Nothing; a competent person establishes a safe equipment setback	10. Who may give an emergency stop signal? A. Only the foreman B. Anyone who recognizes danger C. Only the spotter

EMPLOYEE: _____

DATE: _____

ANSWER KEY: 1-B | 2-A | 3-C | 4-B | 5-A | 6-C | 7-B | 8-A | 9-C | 10-B