

Engineered Wood Floor Hydraulic Releveling JHA

Worked instructional example

Work and worksite

A specialist lifting crew will make one prescribed releveling lift of a surveyed wood floor in an unoccupied building bay. The engineer-designed bearing and lifting-support arrangement is already erected and accepted. Identified hydraulic cylinders and their pump advance the floor through monitored stages with mechanically secured load holds. Work ends at accepted temporary-support handover before structural repair or permanent support changes. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- Current US engineering documents identify the complete load path, lifting points, receiving foundation, permitted movement, connected-element isolation and required mechanical support at every hold. No crew-selected lift increment or pressure is supplied.
- The actual cylinders, pump, hoses, couplers, gauges and bearing attachments have compatible current instructions. Protected operating and observation positions remain outside unsupported-load and pinch exposures.
- Framing-alteration coverage is partial: designed hydraulic floor lifting only. Support design/erection, whole-building relocation, occupied lifting, emergency stabilization, member repair and removal of retained support are excluded.

Questions before work

- What actual observations and limits permit the next movement stage?
- How will mechanical restraint secure the load immediately without a worker entering beneath hydraulic support?
- Who accepts the final mechanically supported state before hydraulics are unloaded?

Task Hazard Control

1 Release the surveyed lifting stage

Hazard: Lifting an unknown load or connected structure can damage the building or overload the receiving foundation.

Control: Lifting lead matches the surveyed floor, affected connections, isolated services and erected support acceptance to the engineer's issued lift stage. Confirm actual movement and load limits, observer locations, hold points and emergency stop responsibilities. Obtain disposition for changed framing or cracks; an existing shore release is not permission to raise the floor.

Verification: Lead records the applicable lift stage and resolved structure, support and isolation evidence.

Reasoning: Floor movement needs a separate engineered basis from stationary load support.

2 Inspect the complete hydraulic arrangement

Hazard: An incompatible hose, unstable cylinder or eccentric bearing can fail under pressure or eject a component.

Control: Inspect the identified cylinders, pump, couplers, gauges and approved attachments under their current manuals and the lifting design. Verify capacity, support contact, centered load transfer and protected hose routing. Check required inspection evidence and remove defects. Prepare connections and any instructed commissioning only in the accepted safe load state; no field-welded or improvised attachment is permitted.

Verification: Operator verifies the matched system, bearing arrangement and resolved inspection findings.

Reasoning: The system limit is not established by its largest component.

3 Establish observation and mechanical hold readiness

Hazard: Poor communication or an unavailable mechanical support method can leave a raised floor supported only by fluid pressure.

Control: Restrict the bay and set protected operator and observer positions, clear routes and one effective stop signal. Verify the design's blocking/restraint method can secure each raised stage immediately from safe positions. Prepare actual monitoring references and mechanical components before pressurizing. Do not start if support placement would require anyone beneath a hydraulically supported load.

Verification: Lead rehearses stop communication and verifies safe mechanical-hold access and monitoring readiness.

Reasoning: Mechanical support must be achievable before movement creates the need for it.

Complete the work and hand over

4 Lift only through the prescribed monitored stage

Hazard: Uneven or excessive movement can split framing, destabilize supports or damage connected construction.

Control: Assigned operators follow the actual pump/cylinder method and engineer's coordinated movement sequence. Observe prescribed floor, connection and foundation response from protected positions. Maintain mechanical restraint and secure the raised load at once as required. Stop for response outside acceptance, loss of signals, pressure abnormality or support movement; do not increase pressure to overcome unexplained resistance.

Verification: Named observers record movement and support response at each required hold point.

Reasoning: Pressure indication alone cannot establish acceptable structural movement.

5 Transfer onto accepted mechanical support

Hazard: Premature hydraulic release or entry near loaded bearings can cause sudden descent and crushing.

Control: Verify the engineer-specified mechanical supports and restraint are fully engaged and accepted before the prescribed load transfer. Control lowering or pressure release by the actual system procedure while observers remain clear. Hold any unsettled or slipping contact for engineering disposition. Hydraulic cylinders provide lifting force; they are not permanent spacers or the final load-holding arrangement.

Verification: Lead records mechanical-support acceptance and verifies the intended load state after transfer.

Reasoning: A contact point is not proof that the full mechanical load path is secure.

6 Isolate hydraulics and hand over restrictions

Hazard: Trapped pressure or an uncommunicated support restriction can expose the next crew during disconnecting or repair.

Control: Keep accepted mechanical support in place. Authorized personnel verify the actual safe hydraulic state before permitted disconnection; never loosen a coupler to bleed trapped pressure or search for leaks by hand. Secure equipment and contained fluid waste. Transfer lift observations, support identity, continuing monitoring and open holds; later alteration and support removal require their separate releases.

Verification: Receiving lead confirms the mechanically supported state and continuing work restrictions.

Reasoning: The handover must describe what now supports the floor, not only how far it moved.

Pause and reassess

- The issued lift sequence, support/foundation acceptance, isolation or safe mechanical-hold method is unresolved.
- Movement, pressure, bearing or foundation response differs from criteria, a leak appears or communication is lost.
- Anyone would enter beneath hydraulic support, a mechanical hold cannot be accepted or retained supports would be changed without release.

Improve the controls

Needs improvement: The shore is tight; raise it until the floor looks level.

More useful: Use the separate issued lifting stage with actual movement references, coordinated operators and engineering hold points.

Needs improvement: Leave the hydraulic pressure on overnight.

More useful: Transfer the load onto accepted mechanical support and verify it before unloading and securing the hydraulic system.

Decisions that change the analysis

How is this different from temporary-shore erection?

That resource erects stationary support and expressly excludes floor raising. Here an already accepted lifting arrangement produces controlled building movement, requires immediate mechanical holds and transfers the load off hydraulics. Joist replacement and wall removal occur only under separately accepted load isolation.

What must the crew record for actual use?

Record the actual work boundary, governing documents, responsible people, acceptance criteria, control findings and unresolved actions. Communicate restrictions and obtain required project authorization; this fictional example records no completed inspection or installed-control acceptance.

Training needs

- Identified hydraulic lifting-system instruction covering compatibility, load limits, gauges, controlled movement and verified pressure release.
- Engineer-issued staged-lift reading, movement monitoring, mechanical support transitions, stop communication and support-state handover.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

Enerpac hydraulic cylinders, L1608 Rev. J, November 2024

https://literature.enerpac.com/pdf/L1608_j.pdf

Enerpac RC106 current document database

<https://literature.enerpac.com/viewModel.aspx?Id=17350&model=RC106®Id=3&where=contains>

OSHA 1926.305: jack support, operation and inspection

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.305>

References reviewed October 13, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.