

Precast Building Beam Seat Erection JHA

Worked instructional example

Work and worksite

A qualified crew will erect an identified horizontal precast building beam onto released column corbels or bearing seats. The actual erection design governs lifting, bearing pads and temporary lateral or torsional restraint before crane release. Permanent connections and floor loading are separately released. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- Beam, seats, current design, support release and lifting method are identified. The responsible engineer specifies bearing, pad configuration and temporary stability; no generic bearing length or shim recipe is supplied.
- Qualified lifting and erection personnel use protected access and verified exclusion and crane-release hold points. A column release alone does not release every beam seat.
- The precast column, beam and girder erection link 238120-24 is partial: horizontal building-beam erection onto released bearing seats only. Column erection, wall panels, hollow-core planks, bridge girders, field strand cutting and permanent connection completion require separate analyses.

Questions before work

- Which actual records release the beam seats and their support structure for this identified erection load?
- How does the designed bearing and temporary lateral or torsional restraint remain effective before crane release?
- Who verifies the beam-specific support findings, and what later connections and floor loads remain held?

Task Hazard Control

1 Establish the beam and seat release

Hazard: An unready column corbel, incorrect beam or assumed bearing detail can leave a heavy horizontal member without the designed support or stability.

Control: Erection lead identifies the beam, current erection design and actual seat-support release records. Obtain the responsible engineer's bearing-pad, orientation and temporary stability requirements and confirm the planned pickup and crane-release hold points. Resolve revisions or missing support evidence before moving the member; keep permanent connections and subsequent loading separately assigned.

Verification: Lead verifies beam, seats, current design and support-release evidence.

Reasoning: Released columns do not automatically establish beam-seat readiness.

2 Prepare the receiving seats and protected crew positions

Hazard: Misplaced pads, debris, exposed access or people under the landing path can cause poor bearing, falls or crushing.

Control: Crew prepares the seats and specified bearing components from the planned protected access, following the actual design. Check for damage or changed geometry and hold discrepancies for responsible technical review. Set the landing exclusion, communication and crew positions clear of pinch points; do not improvise stacked shims or alter a corbel to obtain fit.

Verification: Lead checks seats, pads, protected access and landing exclusion.

Reasoning: Prepared bearings reduce intervention beside a suspended member.

3 Rig and lift the identified horizontal beam

Hazard: Incorrect pickup, twisting or workers guiding from a crush path can damage the beam or cause an uncontrolled suspended load.

Control: Qualified rigging personnel use the beam's accepted lifting points, equipment and orientation method, with the crane operator and assigned signal person following the planned lift. Complete required rigging and crane checks and keep people outside the suspended-load path except permitted essential erection roles under the applicable plan. Stop for unexpected beam response or lost communication.

Verification: Qualified crew verifies pickup configuration and the controlled lift response.

Reasoning: Horizontal members require their own handling and stability plan.

Complete the work and hand over

4 Land on the designed bearing seats

Hazard: An uneven landing, trapped hand or incomplete contact can damage a pad, displace the member or leave an unstable beam.

Control: Assigned crew directs the controlled landing from protected positions while the crane retains the prescribed support. Establish the beam orientation and bearing configuration through the actual design and permitted adjustment method. Keep hands outside closing gaps. Hold an offset, damaged component or unexpected fit for technical direction rather than forcing the member down or releasing the crane early.

Verification: Observer reports required bearing and orientation findings to the lead.

Reasoning: Arrival alone does not prove the intended bearing condition.

5 Establish temporary stability before unrigging

Hazard: A beam resting vertically on seats may still roll, slide or move laterally when crane support is removed or later work begins.

Control: Crew installs and verifies the temporary restraints and required connection-stage condition specified by the responsible erection design, while prescribed crane support remains. Erection lead obtains all required seat and stability findings at the actual crane-release hold point. Keep support in place if evidence is incomplete; do not substitute a visual impression of straightness or another beam's bracing detail.

Verification: Responsible personnel verify actual support and restraint before crane release.

Reasoning: Bearing and lateral or torsional stability require separate verification.

6 Unrig and hand over the supported beam

Hazard: Removing a necessary restraint or assuming floor-load readiness can destabilize the member after the erection crew leaves.

Control: After the actual release decision, qualified crew removes rigging through the protected method and checks for displacement or unresolved concerns. Record seat, pad and restraint findings and maintain the designed load and access restrictions. Transfer permanent connection work and later deck or floor loading to identified leads; keep temporary restraints under assigned control until their separate engineered release.

Verification: Receiving lead confirms open connections, restraint ownership and load holds.

Reasoning: Crane release does not release every later structural load.

Pause and reassess

- Beam identity, current bearing and stability details or required seat-support release evidence are missing or inconsistent.
- Beam handling, seat geometry, pad condition or landing fit differs from the accepted design.
- Temporary restraint, protected access, exclusion, communication or the crane-release findings cannot be maintained.

Improve the controls

Needs improvement: Both ends are on concrete; unhook it.

More useful: Responsible erection personnel verify the actual bearing and temporary lateral or torsional stability requirements at the crane-release hold point.

Needs improvement: Use whatever shims make the beam level.

More useful: Hold an unexpected fit and obtain the responsible engineer's bearing and adjustment direction before changing the support arrangement.

Decisions that change the analysis

Can floor planks be placed once the beam is unrigged?

Only after the separately required structural and erection release for those loads is obtained. This operation hands over a beam in its accepted erection-stage support condition with continuing restrictions. Permanent connections, temporary stability and the next loading sequence must follow the actual design; crane release alone is not evidence that floor construction may proceed.

What must the crew record for actual use?

Record beam and seat identities, design revisions, support-release basis, lifting roles and actual pad, bearing and temporary-restraint findings. Document crane-release evidence, responsible decision, fit or damage concerns, open connections and load holds; identify later restraint-release ownership without inventing support acceptance.

Training needs

- Beam-specific precast erection and rigging instruction, including identified pickup points, orientation, communication and protected landing roles.
- Instruction on the actual seat, bearing-pad and temporary stability design, crane-release hold points and recognition of unexpected support or component conditions.

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

References and adaptation

PCI Building Engineering Resources: Connections and bearing design

https://www.pci.org/PCIMS/PCI/Design_Resources/Building_Engineering_Resources/Connections.aspx

OSHA 1926.704 Precast concrete

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.704>

OSHA 1926.1417 Crane operation requirements

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1417>

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.