

Engineer-Issued TJI Compression Flange Repair JHA

Worked instructional example

Work and worksite

A specialist repair crew will install one producer/engineer-issued bonded reinforcement assembly at an inadvertent top-compression-flange notch in an identified single-ply TJI floor joist. The bay is unloaded and stably supported, with both bonding interfaces accessible from a released platform. Prepared specified wood reinforcement, WEST SYSTEM Six10 adhesive and prescribed screws form the repair; loading remains held through actual cure and technical acceptance. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- The producer/engineer confirms current TB-832 applicability: one allowable compression-zone notch in a properly designed single-ply floor joist, uniform loading and undamaged adjacent joists. Roof joists, fire-resistance-rated assemblies and conditions outside the accepted repair are excluded.
- Current repair documents specify reinforcement identity/orientation, prepared geometry, holes, screws, adhesive and inspection/cure criteria. Clean, dry, unweathered bonding faces and protected access are required before material is dispensed. Before opening or using adhesive, verify actual supplied current SDS for both Six10 components; hold material use if either is missing.
- Framing-repair coverage is partial: this accepted top-flange bonded reinforcement only. New notch cutting, flange replacement, generic sistering, truss-plate pressing, adhesive substitution, structural diagnosis and shore removal are excluded.

Questions before work

- Which producer/engineer record confirms that this exact damage qualifies for the specified repair?
- How will the required bond faces and screw positions be inspected before concealment?
- What actual environmental and acceptance evidence keeps load off until the repair is released?

Task Hazard Control

1 Confirm the specific repair applicability

Hazard: An unsuitable notch repair can conceal damage or transfer load through a product condition the bulletin does not cover.

Control: Repair lead matches the identified single-ply floor joist and surveyed notch to the actual producer/engineer disposition. Confirm damage zone, loads, adjacent-member condition and all applicable bulletin limitations. Hold conflicting geometry, weathered material or additional damage for technical review; a downloaded repair table is not an approval for an unidentified joist.

Verification: Lead records the matched member, current disposition and resolved applicability conditions.

Reasoning: A proprietary contingency repair is bounded to its stated product and damage conditions.

2 Protect unloaded support and repair access

Hazard: Workers can fall, disturb support or load the damaged member while preparing a concealed joint.

Control: Verify the separately accepted support and load-isolation state. Establish the released platform, access route and exclusion below; do not climb or stand on the joist. Prevent adjacent crews or stock from reloading the bay. Maintain visibility and safe tool reach to every required contact face and fastening point throughout installation.

Verification: Lead verifies stable support, protected positions and effective loading restrictions.

Reasoning: Bond preparation is unsafe if the member's load state can change unnoticed.

3 Match prepared wood and bond surfaces

Hazard: Wrong reinforcement orientation or contaminated contact faces can prevent the intended bond and weaken the assembly.

Control: Identify the specified prepared EWP reinforcement and predrilled screw arrangement against the issued detail. Check condition and fit without cutting a larger notch or forcing the joist. Prepare the accepted surfaces by the actual repair and adhesive method, keeping wood clean, dry and unweathered. Control any preparation residue; hold damaged faces or an unaccepted gap for disposition.

Verification: Installer records reinforcement identity, orientation, fit and bond-face readiness.

Reasoning: Adhesive cannot compensate for an unaccepted reinforcement or substrate condition.

Complete the work and hand over

4 Dispense the specified adhesive under control

Hazard: Uncured resin or hardener can injure skin and eyes or cause sensitization; incorrect dispensing can leave an incomplete bond.

Control: Before opening or using adhesive, obtain and review actual supplied current SDS for both Six10 components; hold material use if either is missing. Use the exact Six10 cartridge, compatible applicator/static mixer and current instructions. Arrange ventilation, assessed chemical-resistant protection, washing and contained waste. Follow instructed dispensing and application to all specified contact surfaces. Do not substitute another adhesive, thin the product or use a curing nozzle's resistance as a reason to force the gun.

Verification: Operator checks material identity, dispenser condition and complete prescribed bond-face application.

Reasoning: The repair's specified adhesive system is part of its technical basis.

5 Seat reinforcement and complete prescribed screws

Hazard: Wrong fastening order, poor seating or excess force can leave dry interfaces, split wood or trap fingers.

Control: Install the prepared reinforcement in the actual detail's screw sequence while the joist stays unloaded and supported. Use compatible tools and safe hand positions. Inspect required contact and squeeze-out evidence and all scheduled screw locations before concealment. Stop for splitting, failed seating or incomplete bond evidence; add no unscheduled screws or crew-selected clamping pressure.

Verification: Named checker records interface engagement and required screw findings at the repair hold point.

Reasoning: Visible screw heads alone cannot establish the concealed bonded assembly.

6 Protect cure and transfer technical acceptance

Hazard: Early loading, contamination or an undocumented cure condition can activate a repair before its required release.

Control: Maintain load isolation, support and the actual environmental protection through the governing repair and adhesive cure requirements. Record material, installation and cure observations; reconcile any conflicting instructions with the producer/engineer before release. Collect uncured waste without skin contact and transfer unresolved holds. A hard-looking bead or elapsed generic time is not structural acceptance or permission to remove support.

Verification: Receiving lead confirms cure records, technical review status and continuing load restrictions.

Reasoning: The completed joint remains held until its actual acceptance process is satisfied.

Pause and reassess

- Member identification, specific repair applicability, support/load isolation or exact materials cannot be confirmed.
- Bond faces are wet, weathered or contaminated, fit differs, screws split wood or dispensing/contact evidence is unacceptable.
- Cure conditions change, another adhesive is proposed or concealment/loading would occur before required checks and acceptance.

Improve the controls

Needs improvement: Any construction adhesive and sister board will do.

More useful: Match the specific producer/engineer repair, prepared reinforcement, Six10 system and prescribed screws.

Needs improvement: The epoxy bead feels hard; remove the support.

More useful: Maintain unloaded support through actual cure evidence and designated technical acceptance; support removal is separately released.

Decisions that change the analysis

Does this duplicate joist replacement or connector retrofit?

Joist replacement removes a damaged solid-sawn member. Connector retrofit adds metal hardware; the truss press embeds toothed plates. This repair bonds specified wood reinforcement at a qualified TJI compression-flange notch and requires bond and cure evidence. It supplies no general joist-repair design.

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

- Issued TJI repair-detail reading covering applicability, reinforcement orientation, specified adhesive, screw sequence and concealed bond checks.
- Two-part epoxy handling, compatible dispensing equipment, skin/eye exposure prevention, protected cure and loading-restriction 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

Weyerhaeuser TB-832: top compression-flange repair, May 2025
<https://www.weyerhaeuser.com/application/files/4517/5630/8004/TB-832.pdf>

WEST SYSTEM Six10 adhesive and current instructions
<https://www.westsystem.com/products/six10-thickened-epoxy-adhesive/>

WEST SYSTEM current component safety-data-sheet library
<https://www.westsystem.com/safety/safety-data-sheets/>

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.