

## Quick Reference Guide

March 2021  
Version 21.0

### Chapter 1 - Installing Laminate Beam

Beam Preparation	<ol style="list-style-type: none"><li>1. Refer to House Plan and mark beam location on concrete foundation wall</li><li>2. Remove any protective cover on beam and check for “UP” designation</li><li>3. Determine required length of beam<ol style="list-style-type: none"><li>a. Measure from back edge of beam pockets – TWICE!</li><li>b. Subtract 1” from measured length</li><li>c. Mark beam at that length and score both faces of beam ½” deep with circular saw</li></ol></li></ol>
Move Beam to Pockets	<ol style="list-style-type: none"><li>4. Attach a temporary 2x4 (long enough to extend at least 6” past outside edge of foundation) to middle of beam with 16d duplex nails</li><li>5. Carefully move beam to the pockets<ol style="list-style-type: none"><li>a. Assign person to hold end of 2x4 and stabilize beam during beam set</li><li>b. Position beam along a long wall so both ends of the beam rest on the short wall foundations (or sill plates, if present)</li><li>c. Carefully jockey the ends of the beam to slide the beam toward the pockets</li><li>d. Slowly position the scored end over its pocket</li><li>e. Carefully move beam until unscored end drops into its pocket</li></ol></li><li>6. Cut beam to length<ol style="list-style-type: none"><li>a. Elevate scored end of beam 6-12” with pieces of scrap 2x4 on the foundation</li><li>b. Trim beam with reciprocating saw using score marks as guide</li><li>c. Carefully remove pieces of 2x4 scrap, one piece at a time, to lower beam into pocket</li></ol></li></ol>
Complete Beam Installation	<ol style="list-style-type: none"><li>7. Position beam with ½” gap between end of beam and back of pocket</li><li>8. Align beam with marks on concrete wall</li><li>9. Stabilize beam by nailing the long 2x4 from Step 4 to sill plate (or drill hole and attach to foundation bolt)</li><li>10. Raise beam to be flush with top of sill plates on both short walls using steel shims</li><li>11. Cut scrap treated lumber, wedge between beam and concrete side of pocket. Secure permanently</li><li>12. Refer to House Plan and attach support posts to underside of beam with 1½” lag screws and washers<ol style="list-style-type: none"><li>a. Position plate to be flush with <u>finished side</u> of basement</li><li>b. Set bottom of posts on concrete pad and roughly plumb.<ol style="list-style-type: none"><li>i. Do not anchor at this time</li><li>ii. REQUIREMENT: Threaded adjustment screw/plate must be on the concrete pad</li></ol></li></ol></li></ol>
Straighten and Secure Beam	<ol style="list-style-type: none"><li>13. Attach Beam String Jigs, one near each end of the beam</li><li>14. Tightly stretch a string line between both jigs and secure</li><li>15. If beam is bowed, nail additional 2x4 braces—between joist locations, 2” from outside edge of sill plate</li><li>16. Using gauge block between string and beam, adjust braces until beam is straight</li><li>17. Plumb posts, check for straight/level, anchor to concrete w/1¾” Tapcon® concrete screws and ¼”x1” fender washers —four per post</li><li>18. Cut and install (with wording right-side up) I-joists at each end of the long walls and over each of the posts</li><li>19. Check I-joists for crown and adjust beam as needed until each I-joist is straight along its top edge</li><li>20. Remove adjustment pins from support posts</li><li>21. Leave string from Step 14 in place to confirm beam location during I-joist installation</li></ol>

## Quality Points

### Chapter 1 – Installing Laminate Beam

- Verify beam is in correct location (according to House Plan) and correct orientation (top edge is up)
- Top of beam is “slightly” to  $\frac{1}{8}$ ” below the top of sill plates at each end (sill plates will settle slightly from house weight during construction, beam will not)
- Beam is perpendicular to top of foundation (use a framing square) and tightly, permanently wedged in place
- All required support posts:
  - are installed threaded side down, in proper location (according to House Plan) and flush to finished side of beam
  - Are secured to underside of beam with  $1\frac{1}{2}$ ” lag screws and washers
  - Are secured to support pad with four  $\frac{1}{4}$ ”x $1\frac{3}{4}$ ” Tapcon® concrete screws and  $\frac{1}{4}$ ”x1” fender washers
  - Are plumbed in two directions and all posts are in alignment (site at BOTTOM of posts or use a string)
- Beam is straightened side to side (no bow) using string and secured at each post
- Each supporting I-joist is nailed ( $3\frac{1}{4}$ ” collated nails) to sill plates at both ends and to beam, one nail on each side of I-joist at each location. Wording on the face of the I-joists is right-side up. Double check for if straightness (no bow) by sighting along BOTTOM flange of I-joist
- Beam is level using string and checking any supporting I-joists installed by sighting the TOP flange for any crown. If crown up, lower beam posts or beam shims until level, if crown down then raise beam posts or beam shims until level