

**BOISE**<sup>SM</sup>

Building Solutions  
Engineered Wood Products

The SIMPLE FRAMING SYSTEM<sup>SM</sup> for Floors and Roofs

# ALLJoist<sup>®</sup>

## INSTALLATION GUIDE USA

*This Installation Guide is intended to provide general information for the designer and end-user. For further information, please refer to the ALLJOIST<sup>®</sup> Specifier Guide or contact your local distributor.*

## Introducing AJS<sup>™</sup> 140

Boise warrants its BCI<sup>®</sup> Joist, VERSA-LAM<sup>®</sup>, and ALLJOIST<sup>®</sup> products to comply with our specifications, to be free from defects in material and workmanship, and to meet or exceed our performance specifications for the normal and expected life of the structure when correctly stored, installed and used according to our Installation Guide.

For information about Boise's engineered wood products, including sales terms and conditions, warranties and disclaimers, visit our website at

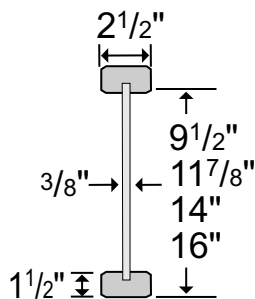
[www.BoiseBuilding.com/EWP](http://www.BoiseBuilding.com/EWP)

*Engineered to Build Reputations*

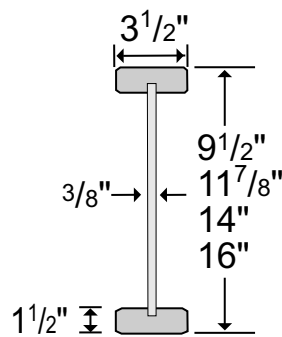
8<sup>th</sup> Edition USA

# Section Properties

## AJS™ 140 / 20



## AJS™ 25

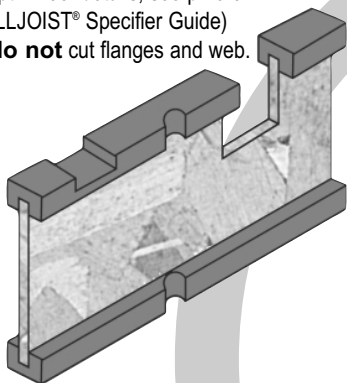


## WARNING

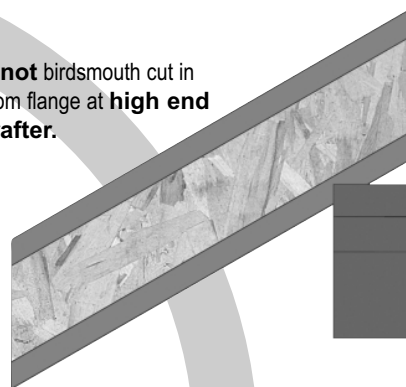
BCI® Joists, VERSA-LAM® and ALLJOIST® must be stored, installed and used in accordance with this Installation Guide, building codes and to the extent not inconsistent with this Installation Guide, usual and customary building practices and standards. VERSA-LAM®, ALLJOIST® and BCI® Joists must be wrapped, covered and stored off of the ground on stickers at all times prior to installation. VERSA-LAM®, ALLJOIST® and BCI® Joists are intended only for applications that assure no exposure to weather or the elements and an environment that is free from moisture from any source, or any pest, organism or substance which degrades or damages wood or glue bonds. Failure to correctly store, use or install VERSA-LAM®, ALLJOIST®, and BCI® Joist in accordance with this Installation Guide will void the limited warranty.

## DO NOT

**Do not** cut, notch or drill flanges (except in roof details, see p.25 of the ALLJOIST® Specifier Guide) and **do not** cut flanges and web.

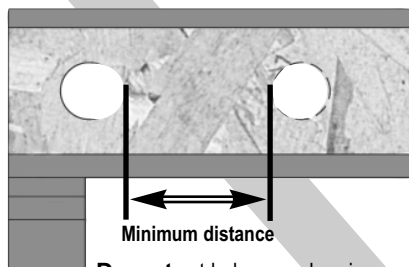


**Do not** birdsmouth cut in bottom flange at **high end of rafter**.



Minimum distance

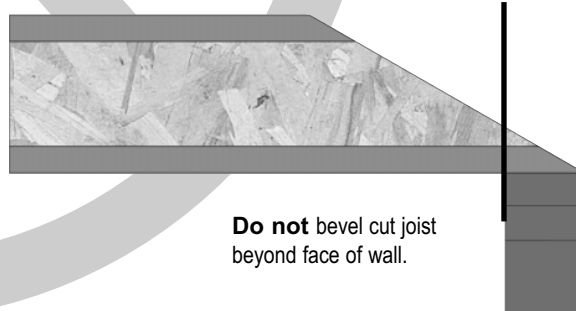
**Do not** cut holes near bearing support ( see hole cutting chart at pp.24 and 25 of the ALLJOIST® Specifier Guide for allowable distance ).



**Do not** hang joist by top flange or web.



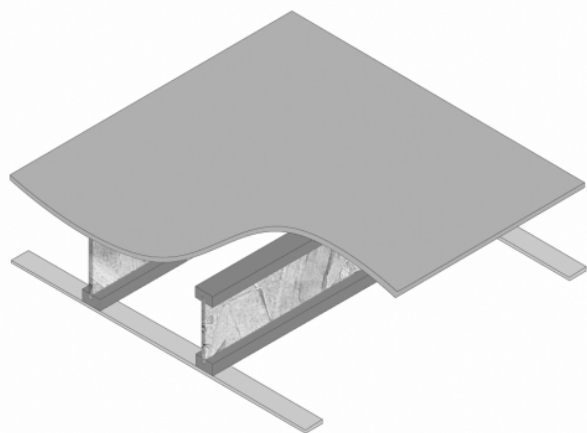
**Do not** bevel cut joist beyond face of wall.



# Recommendations for Higher Floor Performance

An increase in floor stiffness will reduce the deflection caused by service loads. Also, the type of subfloor, and the addition of bridging and other components, such as gypsum board, will increase the rigidity of the assembly.

## Minimum Criteria



## Improved Performance

Using a live load deformation of L/480

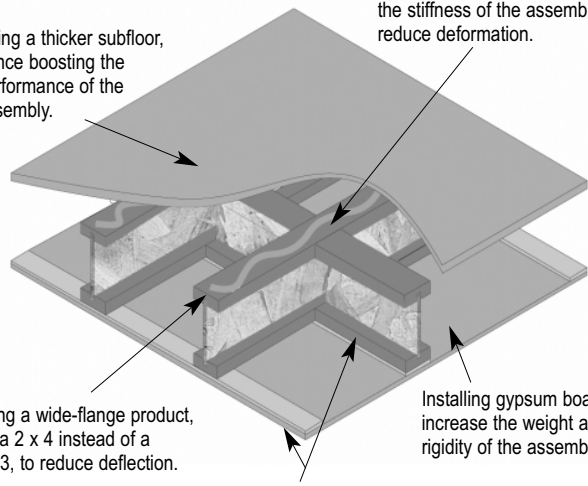
Using a thicker subfloor, hence boosting the performance of the assembly.

Gluing the subfloor to increase the stiffness of the assembly and reduce deformation.

Using a wide-flange product, i.e. a 2 x 4 instead of a 2 x 3, to reduce deflection.

Installing gypsum board to increase the weight and the rigidity of the assembly.

To increase the rigidity of the assembly, add 1 x 3 strapping and bridging at mid-span.



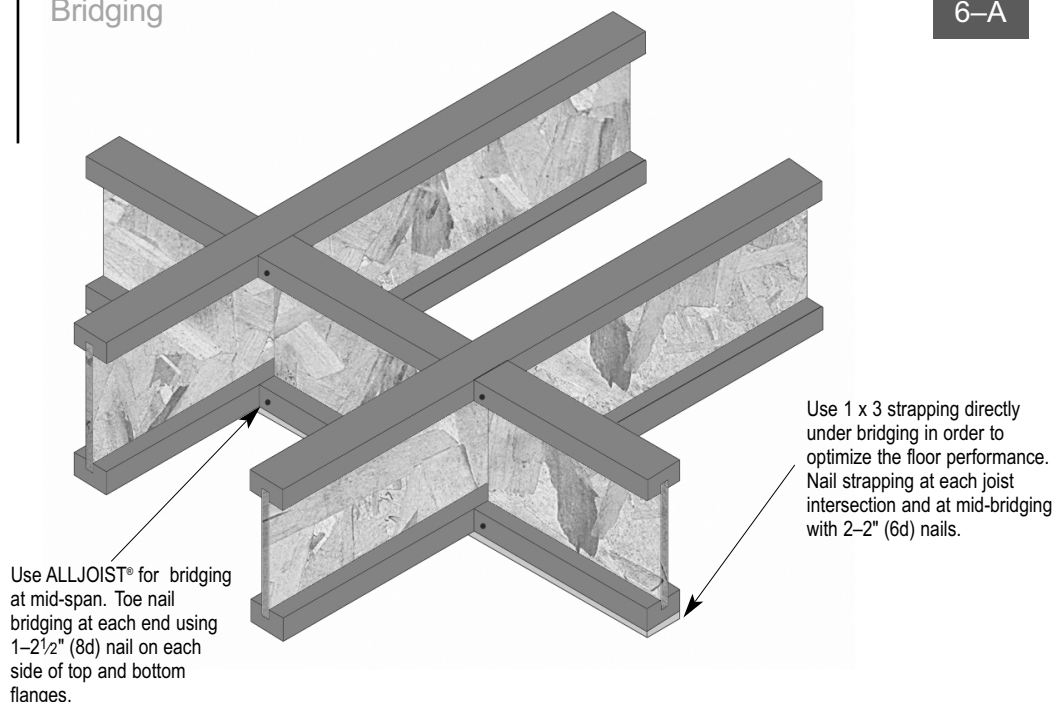
## Floor performance can be improved by:

- Reducing the spacing or using a deeper joist, will also reduce deformation and increase load sharing, thereby enhancing floor performance.
- Adding the weight of concrete toppings is another way of ensuring a high performance floor assembly.
- Using non load-bearing walls will also reduce the propagation of shock waves and boost floor performance. However, the contribution of non-bearing walls is difficult to quantify.

Each additional component increases the capacity of the floor to perform well under a dynamic load. By including those installation tips to increase floor performance in relation with consumer needs, you will ensure home owner satisfaction.

## Bridging

6-A



Use ALLJOIST® for bridging at mid-span. Toe nail bridging at each end using 1-2½" (8d) nail on each side of top and bottom flanges.

Use 1 x 3 strapping directly under bridging in order to optimize the floor performance. Nail strapping at each joist intersection and at mid-bridging with 2-2" (6d) nails.

# Maximum Floor Spans — Simple Spans

Allowable Stress Design — 100% Load Duration

Glued & Nailed Subfloor

## Notes:

- Spans are for simply supported spans.
- Minimum end bearing length is 1½", **except for bold spans which are 3½" bearing length.**
- Maximum spans are measured **in between the supports (clear span)** and are based on uniformly loaded joists.
- Total load deflection is limited to L/240.
- Allowable spans take into consideration the composite effect from the glued and nailed subfloor for deflection purposes only.
- The adhesives used should be approved for Field-gluing Plywood to Lumber Framing for Floor Systems. Apply per manufacturer's written instructions.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

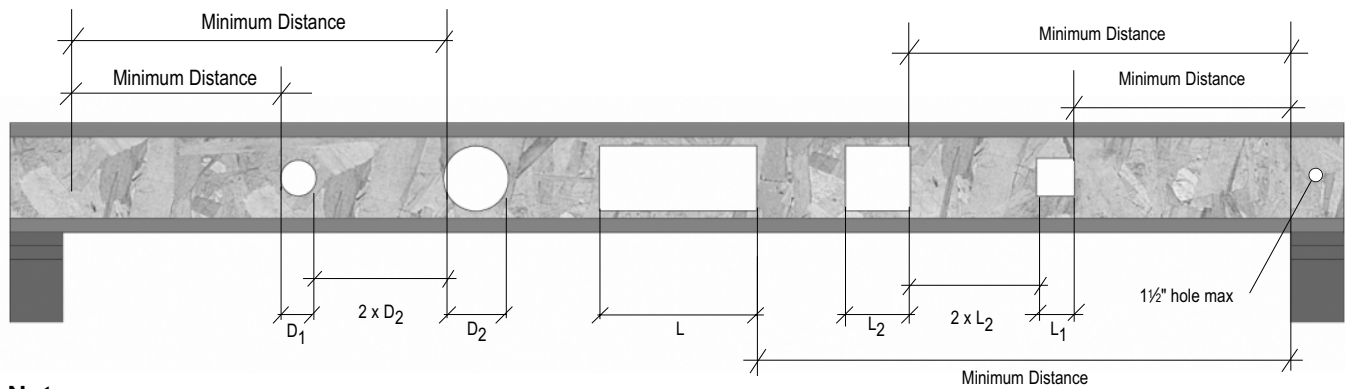
| ALLJOIST® |      | Live/Dead Load (psf) | Minimum Code Criteria<br>L/360 Live Load |         |         |         | Improved Performance<br>L/480 Live Load |         |         |         |
|-----------|------|----------------------|--|---------|---------|---------|---|---------|---------|---------|
|           |      |                      | 12"                                      | 16"     | 19.2"   | 24"     | 12"                                     | 16"     | 19.2"   | 24"     |
| AJS™ 140  | 9½"  | 40 / 10              | 19'-5"                                   | 17'-0"  | 15'-6"  | 13'-10" | 17'-7"                                  | 16'-1"  | 15'-3"  | 13'-10" |
|           |      | 40 / 15              | 18'-9"                                   | 16'-2"  | 14'-9"  | 13'-2"  | 17'-7"                                  | 16'-1"  | 14'-9"  | 13'-2"  |
|           |      | 40 / 20              | 17'-11"                                  | 15'-6"  | 14'-2"  | 12'-7"  | 17'-7"                                  | 15'-6"  | 14'-2"  | 12'-7"  |
|           |      | 40 / 30              | 16'-7"                                   | 14'-4"  | 13'-1"  | 11'-8"  | 16'-7"                                  | 14'-4"  | 13'-1"  | 11'-8"  |
|           | 11⅞" | 40 / 10              | 22'-5"                                   | 19'-4"  | 17'-8"  | 15'-9"  | 20'-11"                                 | 19'-2"  | 17'-8"  | 15'-9"  |
|           |      | 40 / 15              | 21'-4"                                   | 18'-5"  | 16'-10" | 15'-0"  | 20'-11"                                 | 18'-5"  | 16'-10" | 15'-0"  |
|           |      | 40 / 20              | 20'-5"                                   | 17'-8"  | 16'-1"  | 14'-5"  | 20'-5"                                  | 17'-8"  | 16'-1"  | 14'-5"  |
|           |      | 40 / 30              | 18'-11"                                  | 16'-4"  | 14'-11" | 13'-4"  | 18'-11"                                 | 16'-4"  | 14'-11" | 13'-4"  |
|           | 14"  | 40 / 10              | 24'-7"                                   | 21'-3"  | 19'-5"  | 17'-4"  | 23'-9"                                  | 21'-3"  | 19'-5"  | 17'-4"  |
|           |      | 40 / 15              | 23'-5"                                   | 20'-3"  | 18'-6"  | 16'-6"  | 23'-5"                                  | 20'-3"  | 18'-6"  | 16'-6"  |
|           |      | 40 / 20              | 22'-5"                                   | 19'-5"  | 17'-8"  | 15'-10" | 22'-5"                                  | 19'-5"  | 17'-8"  | 15'-10" |
|           |      | 40 / 30              | 20'-9"                                   | 17'-11" | 16'-4"  | 14'-7"  | 20'-9"                                  | 17'-11" | 16'-4"  | 14'-7"  |
|           | 16"  | 40 / 10              | 26'-6"                                   | 22'-11" | 20'-11" | 18'-8"  | 26'-4"                                  | 22'-11" | 20'-11" | 18'-8"  |
|           |      | 40 / 15              | 25'-3"                                   | 21'-10" | 19'-11" | 17'-9"  | 25'-3"                                  | 21'-10" | 19'-11" | 17'-9"  |
|           |      | 40 / 20              | 24'-2"                                   | 20'-11" | 19'-1"  | 17'-0"  | 24'-2"                                  | 20'-11" | 19'-1"  | 17'-0"  |
|           |      | 40 / 30              | 22'-4"                                   | 19'-4"  | 17'-8"  | 15'-9"  | 22'-4"                                  | 19'-4"  | 17'-8"  | 15'-9"  |
| AJS™ 20   | 9½"  | 40 / 10              | 20'-10"                                  | 19'-1"  | 18'-0"  | 16'-4"  | 18'-10"                                 | 17'-3"  | 16'-3"  | 15'-2"  |
|           |      | 40 / 15              | 20'-10"                                  | 19'-1"  | 17'-5"  | 15'-7"  | 18'-10"                                 | 17'-3"  | 16'-3"  | 15'-2"  |
|           |      | 40 / 20              | 20'-10"                                  | 18'-3"  | 16'-8"  | 14'-11" | 18'-10"                                 | 17'-3"  | 16'-3"  | 14'-11" |
|           |      | 40 / 30              | 19'-6"                                   | 16'-11" | 15'-5"  | 13'-9"  | 18'-10"                                 | 16'-11" | 15'-5"  | 13'-9"  |
|           | 11⅞" | 40 / 10              | 24'-9"                                   | 22'-8"  | 20'-10" | 18'-7"  | 22'-5"                                  | 20'-6"  | 19'-4"  | 18'-0"  |
|           |      | 40 / 15              | 24'-9"                                   | 21'-9"  | 19'-10" | 17'-9"  | 22'-5"                                  | 20'-6"  | 19'-4"  | 17'-9"  |
|           |      | 40 / 20              | 24'-1"                                   | 20'-10" | 19'-0"  | 17'-0"  | 22'-5"                                  | 20'-6"  | 19'-0"  | 17'-0"  |
|           |      | 40 / 30              | 22'-3"                                   | 19'-3"  | 17'-7"  | 15'-8"  | 22'-3"                                  | 19'-3"  | 17'-7"  | 15'-8"  |
|           | 14"  | 40 / 10              | 28'-1"                                   | 25'-1"  | 22'-10" | 20'-5"  | 25'-5"                                  | 23'-2"  | 21'-11" | 20'-5"  |
|           |      | 40 / 15              | 27'-7"                                   | 23'-10" | 21'-9"  | 19'-6"  | 25'-5"                                  | 23'-2"  | 21'-9"  | 19'-6"  |
|           |      | 40 / 20              | 26'-5"                                   | 22'-10" | 20'-10" | 18'-7"  | 25'-5"                                  | 22'-10" | 20'-10" | 18'-7"  |
|           |      | 40 / 30              | 24'-5"                                   | 21'-2"  | 19'-3"  | 17'-1"  | 24'-5"                                  | 21'-2"  | 19'-3"  | 17'-1"  |
|           | 16"  | 40 / 10              | 31'-1"                                   | 27'-0"  | 24'-7"  | 22'-0"  | 28'-1"                                  | 25'-8"  | 24'-3"  | 22'-0"  |
|           |      | 40 / 15              | 29'-9"                                   | 25'-9"  | 23'-6"  | 20'-10" | 28'-1"                                  | 25'-8"  | 23'-6"  | 20'-10" |
|           |      | 40 / 20              | 28'-5"                                   | 24'-7"  | 22'-5"  | 19'-11" | 28'-1"                                  | 24'-7"  | 22'-5"  | 19'-11" |
|           |      | 40 / 30              | 26'-4"                                   | 22'-9"  | 20'-7"  | 18'-5"  | 26'-4"                                  | 22'-9"  | 20'-7"  | 18'-5"  |
| AJS™ 25   | 9½"  | 40 / 10              | 22'-11"                                  | 21'-0"  | 19'-10" | 18'-6"  | 20'-9"                                  | 18'-11" | 17'-10" | 16'-8"  |
|           |      | 40 / 15              | 22'-11"                                  | 21'-0"  | 19'-10" | 18'-6"  | 20'-9"                                  | 18'-11" | 17'-10" | 16'-8"  |
|           |      | 40 / 20              | 22'-11"                                  | 21'-0"  | 19'-10" | 17'-9"  | 20'-9"                                  | 18'-11" | 17'-10" | 16'-8"  |
|           |      | 40 / 30              | 21'-9"                                   | 19'-10" | 18'-4"  | 16'-3"  | 20'-9"                                  | 18'-11" | 17'-10" | 16'-3"  |
|           | 11⅞" | 40 / 10              | 27'-3"                                   | 24'-11" | 23'-6"  | 21'-11" | 24'-8"                                  | 22'-6"  | 21'-3"  | 19'-9"  |
|           |      | 40 / 15              | 27'-3"                                   | 24'-11" | 23'-6"  | 21'-0"  | 24'-8"                                  | 22'-6"  | 21'-3"  | 19'-9"  |
|           |      | 40 / 20              | 27'-3"                                   | 24'-11" | 22'-8"  | 20'-1"  | 24'-8"                                  | 22'-6"  | 21'-3"  | 19'-9"  |
|           |      | 40 / 30              | 25'-10"                                  | 22'-11" | 20'-9"  | 18'-6"  | 24'-8"                                  | 22'-6"  | 20'-9"  | 18'-6"  |
|           | 14"  | 40 / 10              | 30'-11"                                  | 28'-2"  | 26'-8"  | 24'-2"  | 27'-11"                                 | 25'-6"  | 24'-1"  | 22'-5"  |
|           |      | 40 / 15              | 30'-11"                                  | 28'-2"  | 25'-10" | 23'-0"  | 27'-11"                                 | 25'-6"  | 24'-1"  | 22'-5"  |
|           |      | 40 / 20              | 30'-11"                                  | 27'-3"  | 24'-8"  | 22'-0"  | 27'-11"                                 | 25'-6"  | 24'-1"  | 22'-0"  |
|           |      | 40 / 30              | 29'-2"                                   | 25'-0"  | 22'-10" | 19'-6"  | 27'-11"                                 | 25'-0"  | 22'-10" | 19'-6"  |
|           | 16"  | 40 / 10              | 34'-2"                                   | 31'-3"  | 29'-6"  | 26'-1"  | 30'-11"                                 | 28'-3"  | 26'-7"  | 24'-9"  |
|           |      | 40 / 15              | 34'-2"                                   | 30'-8"  | 27'-10" | 24'-10" | 30'-11"                                 | 28'-3"  | 26'-7"  | 24'-9"  |
|           |      | 40 / 20              | 33'-11"                                  | 29'-2"  | 26'-7"  | 22'-9"  | 30'-11"                                 | 28'-3"  | 26'-7"  | 22'-9"  |
|           |      | 40 / 30              | 31'-5"                                   | 27'-0"  | 24'-5"  | 19'-6"  | 30'-11"                                 | 27'-0"  | 24'-5"  | 19'-6"  |

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# Hole Cutting Charts for Residential Application (40/30)



## Notes:

1. If more than one hole is to be cut, the length of uncut web between holes must be twice the longest dimension of the largest adjacent hole.
2. Holes may be positioned vertically anywhere in the web.
3.  $1\frac{1}{2}$  holes may be cut anywhere in the web. Provide at least 3" of clearance from other holes.

## Round Holes (40/30)

Minimum distance from inside face of any support to nearest edge of hole  
JOIST DEPTH (IN)

Table 1

| Span<br>(ft) | 9 1/2" |        |   |    | 11 1/8" |        |   |    | 14"   |       |        |    | 16"   |       |        |        |
|--------------|--------|--------|---|----|---------|--------|---|----|-------|-------|--------|----|-------|-------|--------|--------|
|              | 3      | 6      | 9 | 12 | 3       | 6      | 9 | 12 | 3     | 6     | 9      | 12 | 3     | 6     | 9      | 12     |
| 8            | 1'-0"  | 2'-6"  | - | -  | 1'-0"   | 1'-0"  | - | -  | 1'-0" | 1'-0" | 1'-0"  | -  | 1'-0" | 1'-0" | 1'-0"  | 1'-0"  |
| 10           | 1'-0"  | 3'-6"  | - | -  | 1'-0"   | 1'-0"  | - | -  | 1'-0" | 1'-0" | 1'-0"  | -  | 1'-0" | 1'-0" | 1'-0"  | 1'-6"  |
| 12           | 1'-6"  | 4'-6"  | - | -  | 1'-0"   | 2'-0"  | - | -  | 1'-0" | 1'-0" | 2'-6"  | -  | 1'-0" | 1'-0" | 1'-0"  | 3'-0"  |
| 14           | 2'-6"  | 6'-0"  | - | -  | 1'-0"   | 3'-0"  | - | -  | 1'-0" | 1'-0" | 3'-6"  | -  | 1'-0" | 1'-0" | 1'-6"  | 4'-0"  |
| 16           | 4'-0"  | 7'-0"  | - | -  | 1'-6"   | 4'-0"  | - | -  | 1'-0" | 2'-0" | 4'-6"  | -  | 1'-0" | 1'-0" | 2'-6"  | 5'-0"  |
| 18           | 5'-0"  | 8'-6"  | - | -  | 2'-6"   | 5'-0"  | - | -  | 1'-0" | 3'-0" | 5'-6"  | -  | 1'-0" | 1'-0" | 3'-6"  | 6'-0"  |
| 20           | 6'-0"  | 9'-6"  | - | -  | 3'-6"   | 6'-6"  | - | -  | 1'-6" | 4'-0" | 7'-0"  | -  | 1'-0" | 2'-0" | 4'-6"  | 7'-6"  |
| 22           | 7'-0"  | 10'-6" | - | -  | 4'-6"   | 7'-6"  | - | -  | 2'-6" | 5'-0" | 8'-0"  | -  | 1'-0" | 3'-0" | 5'-6"  | 8'-6"  |
| 24           | -      | -      | - | -  | 5'-6"   | 8'-6"  | - | -  | 3'-6" | 6'-0" | 9'-0"  | -  | 1'-6" | 4'-0" | 7'-0"  | 9'-6"  |
| 26           | -      | -      | - | -  | 7'-0"   | 10'-0" | - | -  | 4'-6" | 7'-6" | 10'-6" | -  | 2'-6" | 5'-0" | 8'-0"  | 11'-0" |
| 28           | -      | -      | - | -  | -       | -      | - | -  | 5'-6" | 8'-6" | 11'-6" | -  | 3'-6" | 6'-6" | 9'-0"  | 12'-0" |
| 30           | -      | -      | - | -  | -       | -      | - | -  | 7'-0" | 9'-6" | 12'-6" | -  | 5'-0" | 7'-6" | 10'-6" | 13'-6" |
| 32           | -      | -      | - | -  | -       | -      | - | -  | -     | -     | -      | -  | 6'-0" | 8'-6" | 11'-6" | 14'-6" |
| 34           | -      | -      | - | -  | -       | -      | - | -  | -     | -     | -      | -  | -     | -     | -      | -      |

## Rectangular Holes (40/30)

Minimum distance from inside face of any support to nearest edge of hole  
JOIST DEPTH (IN)

Table 2

| Span<br>(ft) | 9 1/2" |       |       |       | 11 1/8" |        |       |       | 14"    |       |       |       | 16"   |       |       |       |
|--------------|--------|-------|-------|-------|---------|--------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
|              | 5x8    | 5x10  | 5x12  | 5x14  | 7x10    | 7x12   | 7x14  | 7x16  | 10x12  | 10x14 | 10x16 | 10x18 | 12x14 | 12x16 | 12x18 | 12x20 |
| 8            | 2'-6"  | 2'-6" | 3'-0" | 3'-6" | 2'-0"   | 2'-6"  | 3'-0" | 3'-6" | 2'-6"  | 3'-0" | 3'-6" | -     | 3'-0" | 3'-6" | -     | -     |
| 10           | 3'-6"  | 3'-6" | 4'-0" | 4'-6" | 3'-0"   | 3'-6"  | 4'-0" | 4'-6" | 3'-6"  | 4'-0" | 4'-6" | -     | 4'-0" | 4'-6" | -     | -     |
| 12           | 4'-6"  | 5'-0" | 5'-6" | 5'-6" | 4'-6"   | 5'-0"  | 5'-0" | 5'-6" | 5'-0"  | 5'-6" | -     | -     | 5'-0" | 5'-6" | -     | -     |
| 14           | 6'-0"  | 6'-0" | 6'-6" | -     | 5'-6"   | 6'-0"  | 6'-6" | -     | 6'-0"  | 6'-6" | -     | -     | 6'-6" | -     | -     | -     |
| 16           | 7'-0"  | 7'-6" | 7'-6" | -     | 6'-6"   | 7'-0"  | 7'-6" | -     | 7'-0"  | 7'-6" | -     | -     | 7'-6" | -     | -     | -     |
| 18           | 8'-0"  | 8'-6" | -     | -     | 8'-0"   | 8'-6"  | -     | -     | 8'-6"  | -     | -     | -     | 8'-6" | -     | -     | -     |
| 20           | 9'-6"  | 9'-6" | -     | -     | 9'-0"   | 9'-6"  | -     | -     | 9'-6"  | -     | -     | -     | -     | -     | -     | -     |
| 22           | 10'-6" | -     | -     | -     | 10'-0"  | 10'-6" | -     | -     | 10'-6" | -     | -     | -     | -     | -     | -     | -     |
| 24           | -      | -     | -     | -     | 11'-6"  | -      | -     | -     | -      | -     | -     | -     | -     | -     | -     | -     |
| 26           | -      | -     | -     | -     | -       | -      | -     | -     | -      | -     | -     | -     | -     | -     | -     | -     |
| 28           | -      | -     | -     | -     | -       | -      | -     | -     | -      | -     | -     | -     | -     | -     | -     | -     |
| 30           | -      | -     | -     | -     | -       | -      | -     | -     | -      | -     | -     | -     | -     | -     | -     | -     |
| 32           | -      | -     | -     | -     | -       | -      | -     | -     | -      | -     | -     | -     | -     | -     | -     | -     |
| 34           | -      | -     | -     | -     | -       | -      | -     | -     | -      | -     | -     | -     | -     | -     | -     | -     |

## Notes:

1. Tables 1 and 2 are for uniformly loaded maximum loads of 40 psf live loads and 30 psf dead loads on simple span application.
2. Tables 3, 4 and 5 are for uniformly loaded maximum loads of 40 psf live loads and 15 psf dead loads on simple span application.
3. For other loading conditions or hole openings contact your ALLJOIST® distributor.
4. It may be possible to exceed the limitation of these tables by analyzing a specific situation with the BC CALC® software.

## Hole Cutting Charts for Residential Application (40/15)

## Round Holes (40/15)

Minimum distance from inside face of any support to nearest edge of hole

Table 3

| JOIST DEPTH • HOLE SIZE (IN) |       |        |   |    |       |        |   |    |       |       |        |    |       |       |        |        |
|------------------------------|-------|--------|---|----|-------|--------|---|----|-------|-------|--------|----|-------|-------|--------|--------|
| Span<br>(ft)                 | 9½"   |        |   |    | 11⅝"  |        |   |    | 14"   |       |        |    | 16"   |       |        |        |
|                              | 3     | 6      | 9 | 12 | 3     | 6      | 9 | 12 | 3     | 6     | 9      | 12 | 3     | 6     | 9      | 12     |
| 8                            | 1'-0" | 2'-0"  | - | -  | 1'-0" | 1'-0"  | - | -  | 1'-0" | 1'-0" | 1'-0"  | -  | 1'-0" | 1'-0" | 1'-0"  | 1'-0"  |
| 10                           | 1'-0" | 3'-0"  | - | -  | 1'-0" | 1'-0"  | - | -  | 1'-0" | 1'-0" | 1'-0"  | -  | 1'-0" | 1'-0" | 1'-0"  | 1'-0"  |
| 12                           | 1'-0" | 4'-0"  | - | -  | 1'-0" | 1'-0"  | - | -  | 1'-0" | 1'-0" | 1'-0"  | -  | 1'-0" | 1'-0" | 1'-0"  | 2'-0"  |
| 14                           | 1'-6" | 5'-6"  | - | -  | 1'-0" | 1'-6"  | - | -  | 1'-0" | 1'-0" | 2'-0"  | -  | 1'-0" | 1'-0" | 1'-0"  | 3'-0"  |
| 16                           | 2'-6" | 6'-6"  | - | -  | 1'-0" | 3'-0"  | - | -  | 1'-0" | 1'-0" | 3'-6"  | -  | 1'-0" | 1'-0" | 1'-0"  | 4'-0"  |
| 18                           | 3'-6" | 8'-0"  | - | -  | 1'-0" | 4'-0"  | - | -  | 1'-0" | 1'-0" | 4'-6"  | -  | 1'-0" | 1'-0" | 1'-6"  | 5'-0"  |
| 20                           | 4'-6" | 9'-0"  | - | -  | 1'-6" | 5'-0"  | - | -  | 1'-0" | 2'-0" | 5'-6"  | -  | 1'-0" | 1'-0" | 3'-0"  | 6'-6"  |
| 22                           | 6'-0" | 10'-6" | - | -  | 2'-6" | 6'-0"  | - | -  | 1'-0" | 3'-0" | 7'-0"  | -  | 1'-0" | 1'-0" | 4'-0"  | 7'-6"  |
| 24                           | 7'-0" | 11'-6" | - | -  | 3'-6" | 7'-6"  | - | -  | 1'-0" | 4'-6" | 8'-0"  | -  | 1'-0" | 1'-6" | 5'-0"  | 9'-0"  |
| 26                           | -     | -      | - | -  | 5'-0" | 8'-6"  | - | -  | 2'-0" | 5'-6" | 9'-0"  | -  | 1'-0" | 3'-0" | 6'-0"  | 10'-0" |
| 28                           | -     | -      | - | -  | 6'-0" | 10'-0" | - | -  | 3'-0" | 6'-6" | 10'-6" | -  | 1'-0" | 4'-0" | 7'-6"  | 11'-6" |
| 30                           | -     | -      | - | -  | -     | -      | - | -  | 4'-0" | 7'-6" | 11'-6" | -  | 1'-6" | 5'-0" | 8'-6"  | 12'-6" |
| 32                           | -     | -      | - | -  | -     | -      | - | -  | 5'-6" | 9'-0" | 13'-0" | -  | 3'-0" | 6'-0" | 9'-6"  | 14'-0" |
| 34                           | -     | -      | - | -  | -     | -      | - | -  | -     | -     | -      | -  | 4'-0" | 7'-0" | 11'-0" | 15'-0" |

## Square Holes (40/15)

Minimum distance from inside face of any support to nearest edge of hole

Table 4

| JOIST DEPTH • HOLE SIZE (IN) |       |        |   |    |       |        |   |    |       |        |        |    |       |        |        |        |
|------------------------------|-------|--------|---|----|-------|--------|---|----|-------|--------|--------|----|-------|--------|--------|--------|
| Span<br>(ft)                 | 9½"   |        |   |    | 11⅞"  |        |   |    | 14"   |        |        |    | 16"   |        |        |        |
|                              | 3     | 6      | 9 | 12 | 3     | 6      | 9 | 12 | 3     | 6      | 9      | 12 | 3     | 6      | 9      | 12     |
| 8                            | 1'-0" | 2'-0"  | - | -  | 1'-0" | 1'-0"  | - | -  | 1'-0" | 1'-0"  | 1'-0"  | -  | 1'-0" | 1'-0"  | 1'-0"  | 1'-6"  |
| 10                           | 1'-0" | 3'-0"  | - | -  | 1'-0" | 1'-0"  | - | -  | 1'-0" | 1'-0"  | 1'-6"  | -  | 1'-0" | 1'-0"  | 1'-0"  | 2'-6"  |
| 12                           | 2'-0" | 4'-0"  | - | -  | 1'-0" | 2'-0"  | - | -  | 1'-0" | 1'-0"  | 3'-0"  | -  | 1'-0" | 1'-0"  | 1'-6"  | 4'-0"  |
| 14                           | 3'-0" | 5'-6"  | - | -  | 1'-0" | 3'-0"  | - | -  | 1'-0" | 1'-6"  | 4'-0"  | -  | 1'-0" | 1'-0"  | 2'-6"  | 5'-0"  |
| 16                           | 4'-0" | 6'-6"  | - | -  | 2'-0" | 4'-6"  | - | -  | 1'-0" | 2'-6"  | 5'-0"  | -  | 1'-0" | 1'-6"  | 3'-6"  | 6'-6"  |
| 18                           | 5'-6" | 8'-0"  | - | -  | 3'-0" | 5'-6"  | - | -  | 1'-6" | 4'-0"  | 6'-6"  | -  | 1'-0" | 2'-6"  | 5'-0"  | 7'-6"  |
| 20                           | 6'-6" | 9'-0"  | - | -  | 4'-6" | 7'-0"  | - | -  | 2'-6" | 5'-0"  | 7'-6"  | -  | 1'-0" | 3'-6"  | 6'-0"  | 9'-0"  |
| 22                           | 7'-6" | 10'-6" | - | -  | 5'-6" | 8'-0"  | - | -  | 3'-6" | 6'-0"  | 9'-0"  | -  | 2'-0" | 4'-6"  | 7'-0"  | 10'-0" |
| 24                           | 9'-0" | 11'-6" | - | -  | 6'-6" | 9'-0"  | - | -  | 5'-0" | 7'-6"  | 10'-0" | -  | 3'-0" | 5'-6"  | 8'-6"  | 11'-6" |
| 26                           | -     | -      | - | -  | 8'-0" | 10'-6" | - | -  | 6'-0" | 8'-6"  | 11'-6" | -  | 4'-6" | 7'-0"  | 9'-6"  | 12'-6" |
| 28                           | -     | -      | - | -  | 9'-0" | 11'-6" | - | -  | 7'-0" | 9'-6"  | 12'-6" | -  | 5'-6" | 8'-0"  | 11'-0" | -      |
| 30                           | -     | -      | - | -  | -     | -      | - | -  | 8'-6" | 11'-0" | 14'-0" | -  | 6'-6" | 9'-0"  | 12'-0" | -      |
| 32                           | -     | -      | - | -  | -     | -      | - | -  | 9'-6" | 12'-0" | 15'-0" | -  | 7'-6" | 10'-6" | 13'-6" | -      |
| 34                           | -     | -      | - | -  | -     | -      | - | -  | -     | -      | -      | -  | 9'-0" | 11'-6" | 14'-6" | -      |

## Rectangle Holes (40/15)

Minimum distance from inside face of any support to nearest edge of hole

Table 5

[illegible]

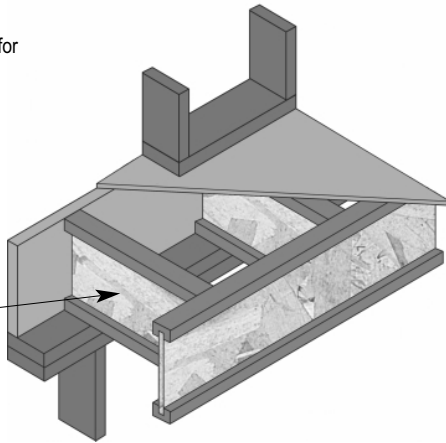
# End Bearing Details

## Exterior End-Wall Support

13-A

See Detail 14-A for rim board capacity

ALLJOIST® Blocking as required per governing building code.

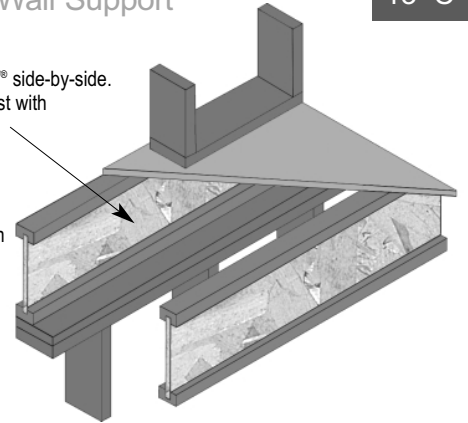


## Exterior End-Wall Support

13-C

Rim board and ALLJOIST® side-by-side.  
Nail rim board and rim joist with 2½" ( 8d ) nails at 6" o.c.

See detail 14-A for rim board capacity

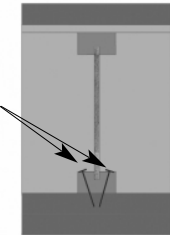


Detail 13-B has been deleted.

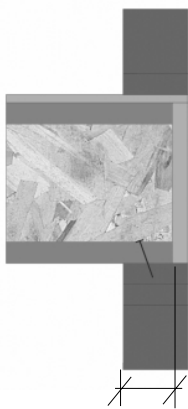
## Attachment at End

13-D

Nail each side with 1-3" (10d) nail.



1½" minimum end bearing length at all floor and roof details.



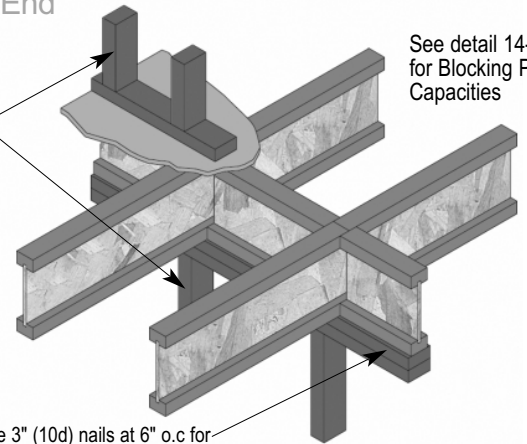
## Blocking Panel at Interior Bearing End to End

13-E

See detail 14-C for Blocking Panel Capacities

Load bearing walls

Use 3" (10d) nails at 6" o.c for ALLJOIST® Blocking Panel



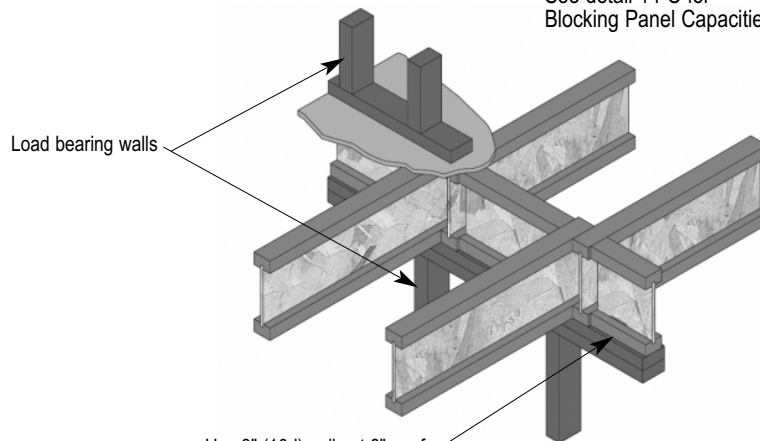
## Blocking Panel at Interior Bearing Side by Side

13-F

See detail 14-C for Blocking Panel Capacities

Load bearing walls

Use 3" (10d) nails at 6" o.c for ALLJOIST® Blocking Panel



# End Bearing Details

## Rim Board

14-A

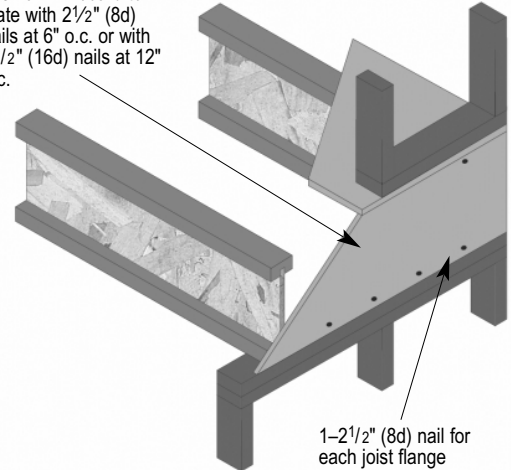
Maximum Vertical Load Transfer  
From Upper Wall (lbs/ft)

|                   | Thickness | Depth | Vertical Load Transfer Capacity <sup>(2)</sup> (plf) |
|-------------------|-----------|-------|--|
| BC RIM BOARD™     | 1"        | ≤ 16" | 3300 plf <sup>(6)</sup>                              |
| VERSA-RIM®        | 1 1/16"   | ≤ 16" | 4250 plf   |
| BC RIM BOARD™ OSB | 1 1/8"    | ≤ 16" | 4400 plf <sup>(6)</sup>                              |

### Notes:

1. Dimension lumber is not suitable for use as a rim board in ALLJOIST® floor systems.
2. Compression load capacity when set between a wall above and a support below. Rim boards are not intended for use as headers or beams across openings.
3. Install rim board to fully bear on the wall plate.
4. Rim board is to be full height of joist.
5. Rim board is an integral part of the floor diaphragm required to resist wind and seismic loads.

Toe nail rim board to plate with 2 1/2" (8d) nails at 6" o.c. or with 3 1/2" (16d) nails at 12" o.c.



## Squash Blocks

14-B

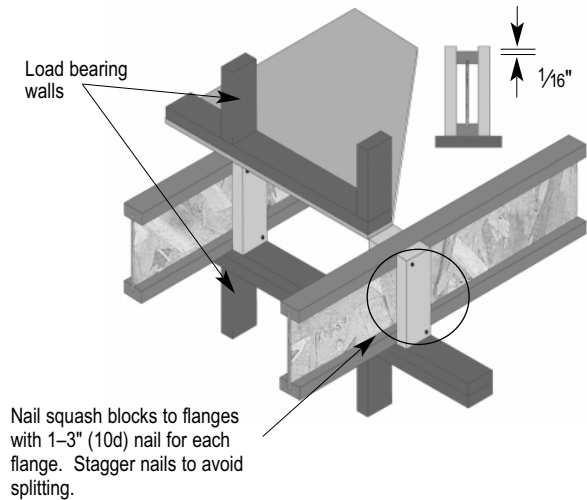
Maximum Vertical Load from Upper Wall (lbs/ft)  
for Each Squash Block

| Size  | Spacing of Each Squash Block (inches) |      |       |      |
|-------|---------------------------------------|------|-------|------|
|       | 12"                                   | 16"  | 19.2" | 24"  |
| 2 x 3 | 1590                                  | 1190 | 995   | 795  |
| 2 x 4 | 2230                                  | 1670 | 1390  | 1115 |
| 2 x 6 | 3500                                  | 2630 | 2190  | 1750 |

### Notes:

1. Squash blocks are to be in full contact with upper floor and lower wall plate.
2. Squash blocks are to be 1/16" higher than joist.
3. Capacities shown are for a single squash block per joist.
4. Squash blocks are to be SPF #2 or better.
5. Solid block all posts to bearing below with 2 x 4 (min) squash blocks.
6. Web stiffeners are not recommended for this detail.
7. Add blocking panel (not shown) at 8'-0" o.c. for lateral support.

Load bearing walls



## Blocking Panels

14-C

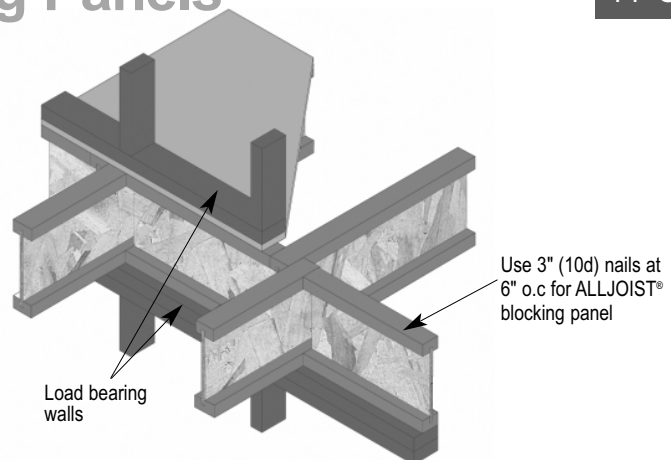
Blocking Panel (lbs/ft)  
Maximum Vertical Load Transfer

|         |      |
|---------|------|
| 9 1/2"  | 2200 |
| 11 7/8" | 1900 |
| 14"     | 1300 |
| 16"     | 1100 |

### Notes:

1. Blocking panels are to be used in dry conditions only.
2. Blocking panels are to be in full contact with upper floor and lower wall plate.
3. Blocking panels must be adequately designed to act as a load transfer point for gravity loads from floor and roof above.

Load bearing walls

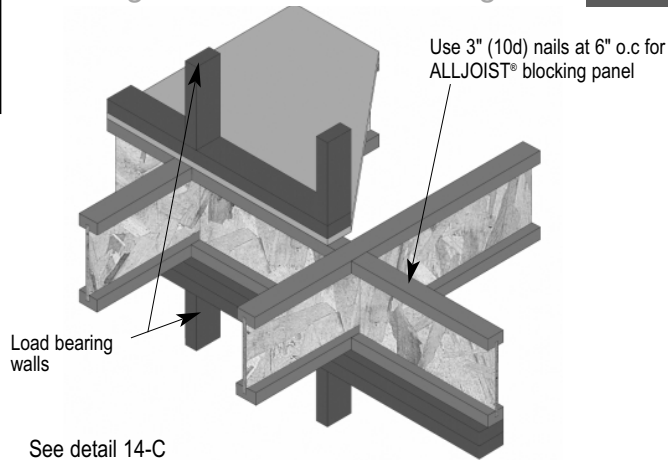




# Interior Supports

## Blocking Panel at Interior Bearing

15-A



See detail 14-C for blocking panel capacities

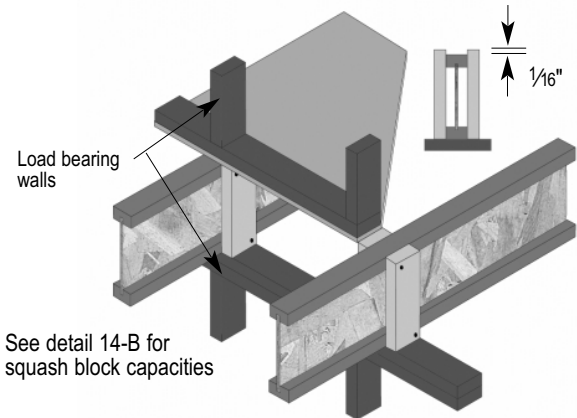
Note :

Squash blocks and blocking panels are not required when top wall is a non load-bearing wall.

## Squash Blocks at Interior Bearing

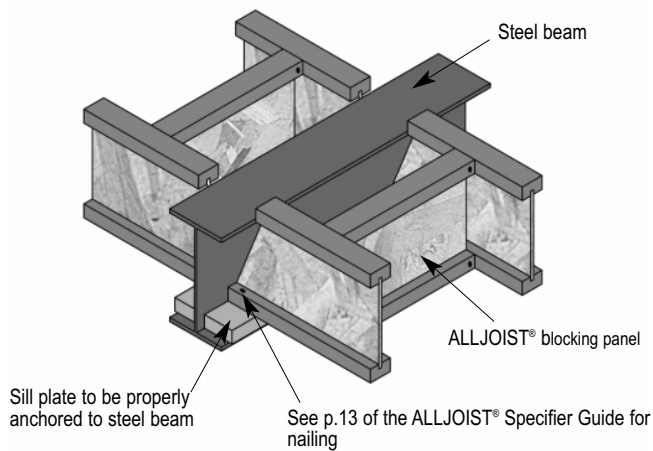
15-B

- Web stiffeners are not recommended for load transfer from wall above to wall below.

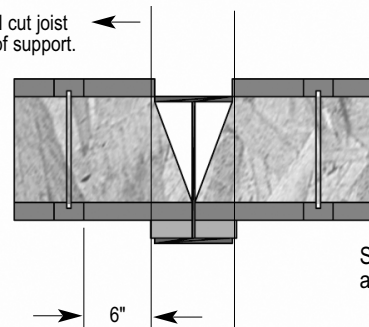


## Connection on Steel Beam Bottom Flange

15-C



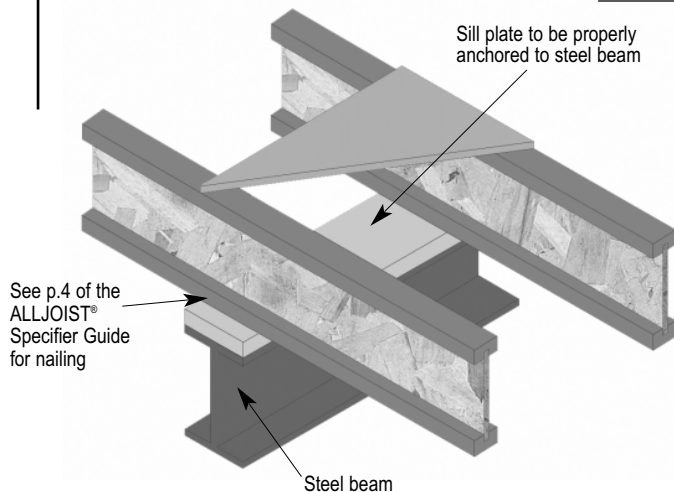
Do not bevel cut joist beyond face of support.



See detail 12-A for allowable bevel cut.

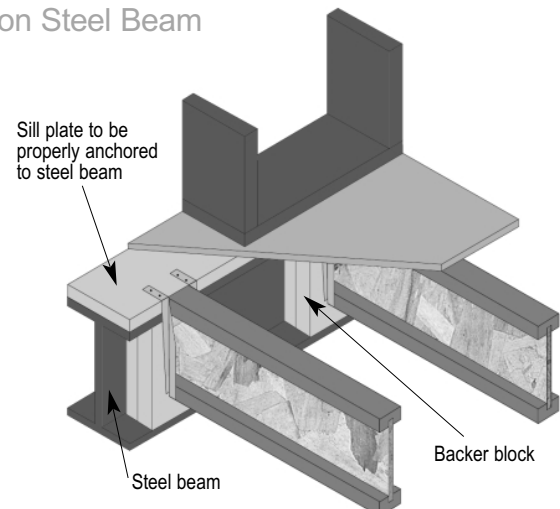
## Connection on Steel Beam

15-D



## Connection with Hanger on Steel Beam

15-E

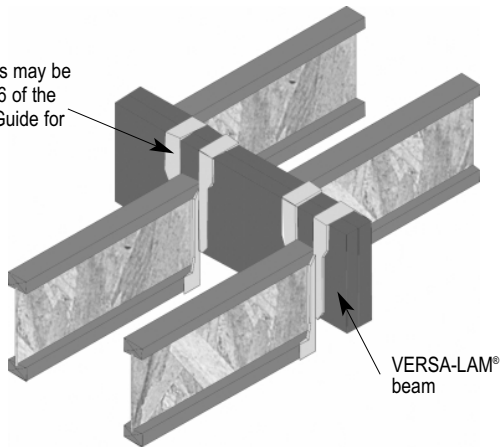


# Interior Supports & Web Stiffeners

## Joist to beam connection Step down

16-A

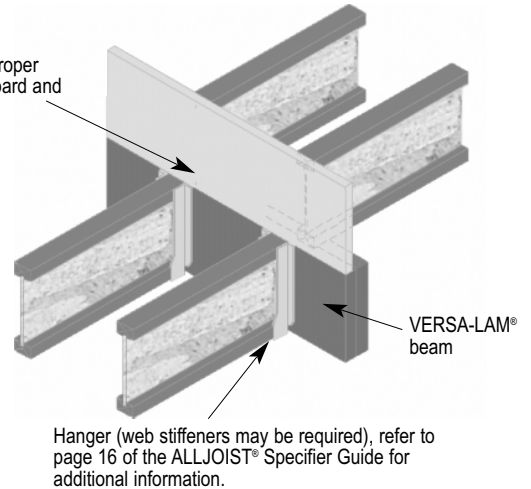
Hanger (web stiffeners may be required), refer to p.16 of the ALLJOIST® Specifier Guide for additional information.



## Joist to beam connection Step down

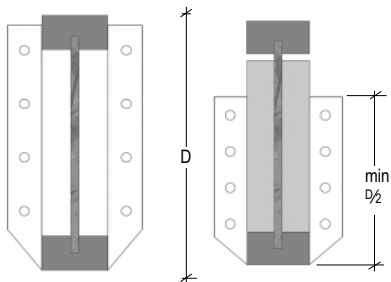
16-B

See detail 14-A for proper connection for rim board and ALLJOIST®



## Lateral Support at End Bearing

16-C



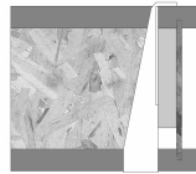
Web stiffeners are not required when top flange is restrained against rotation.

Minimum hanger size shall be half of joist depth.

## Hanger Connections

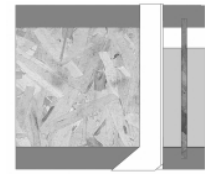
16-D

- Backer blocks shall be at least 12" long per hanger.
- Nails shall be clinched when possible.
- Verify capacity and fastening requirements of hangers and connectors.



### Top Mount

Spacing shall be located at bottom flange level.  
Backer block is not required when load transfer is less than 250 lbs



### Face Mount

Spacing shall be located at top flange level with backer blocks on both sides.

## Web Stiffeners

16-E

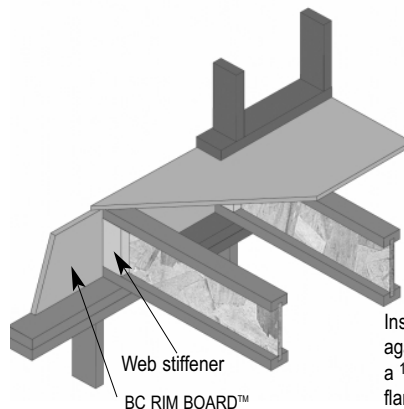
### Web Stiffener

Stiffeners are required on both sides of the web:

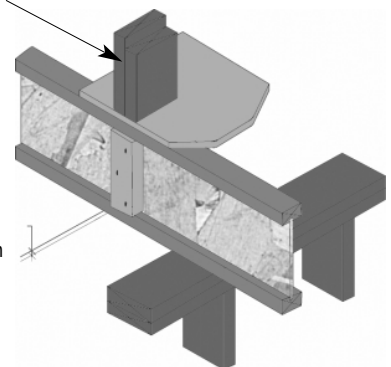
- Hangers with side nailing.
- Any hanger with sides not containing the top flange of the joist.
- Web stiffener nailed with 3-3" (10d) nails for 9½" and 11⅞" joists, and 5-3" (10d) nails for 14" and 16" joists.

#### Web Stiffener Requirements

AJS® 20 Series: 1"x2⅝" min. panel.  
AJS® 140 Series: 1"x2⅝" min. panel.  
AJS® 25 Series: 1½"x3½" min. panel or 2x4 stud.



Point load from above (see note 3)



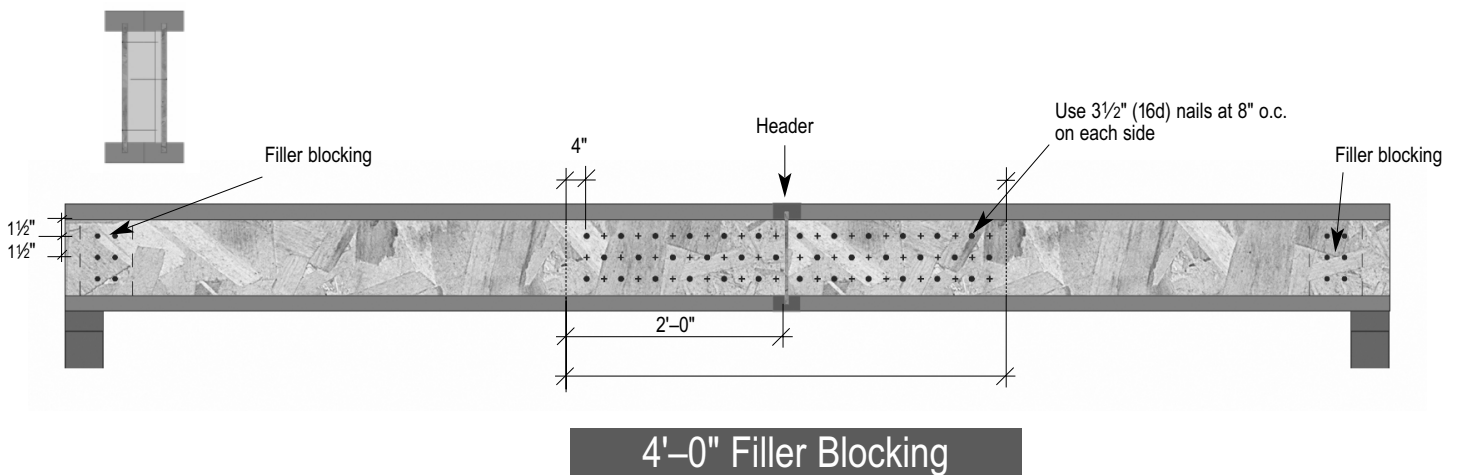
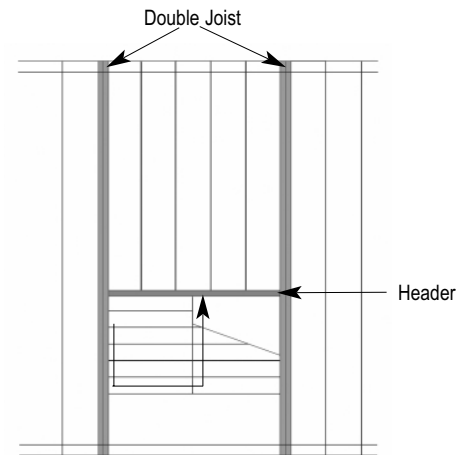
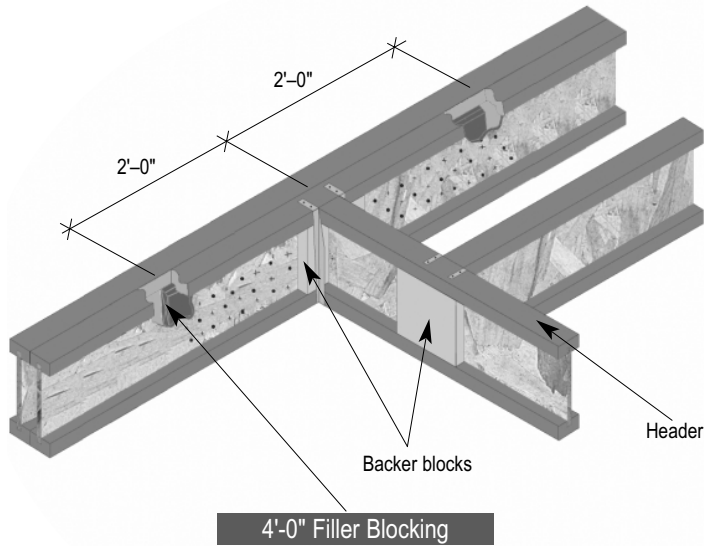
Install web stiffeners tight against top flange and with a 1/8" gap between bottom flange.

#### Notes:

1. Web stiffeners are required when joist hangers do not laterally support the top flange of the joist.
2. Web stiffeners are required to prevent buckling of web as loads are being transferred to end reactions or when concentrated loads are being transferred along the span.
3. Web stiffeners are required when point load exceeds 1500 lbs.
4. Verify adequacy of joist to carry concentrated load.

# Double Joist with one Header

17-A



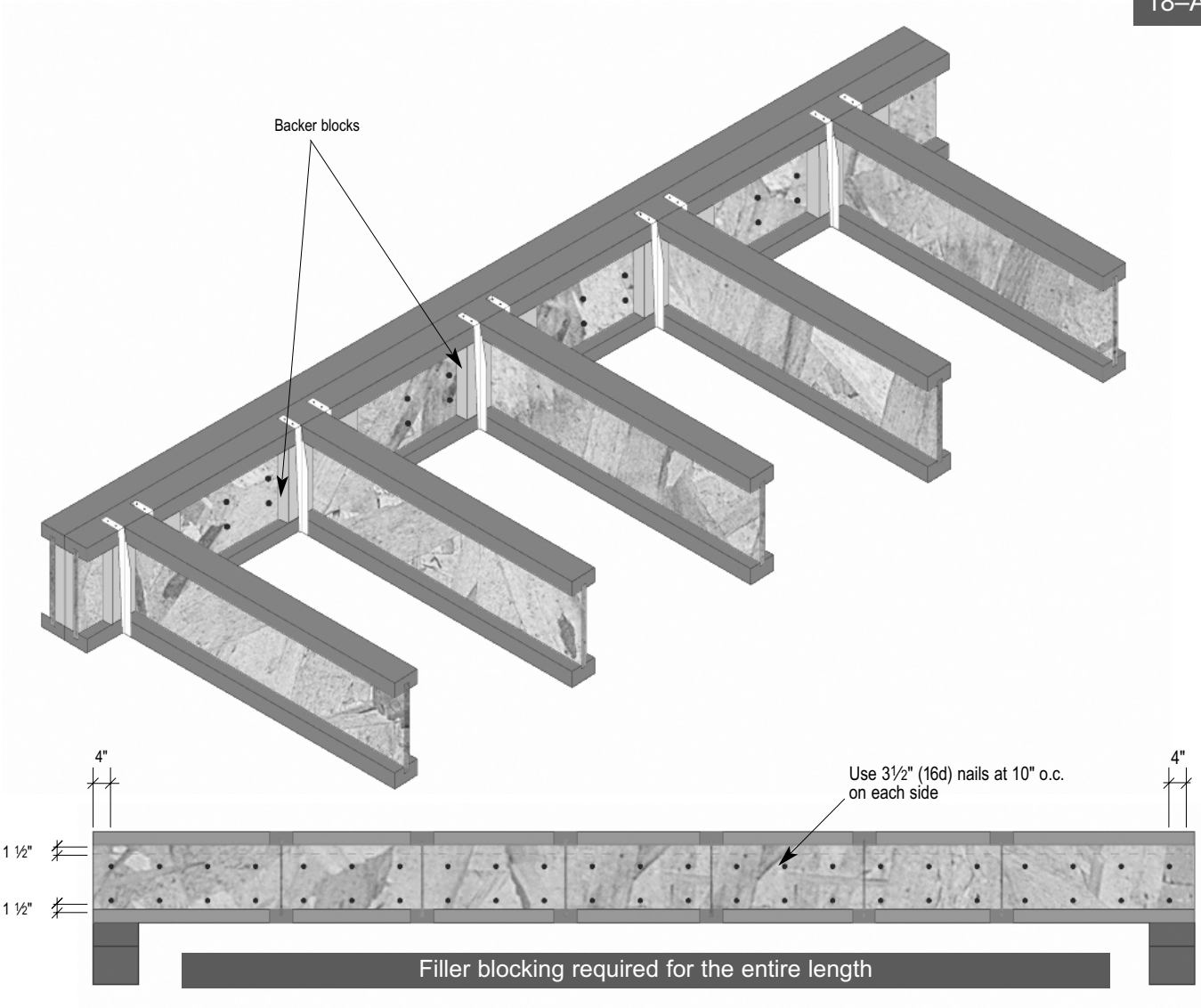
| ALLJOIST® |         | Filler Blocking       | Rows of Nails on each side | Backer Block | Number of Nails                    | Maximum Load |
|-----------|---------|-----------------------|----------------------------|--------------|------------------------------------|--------------|
| AJS™ 10   |         |                       | Use 3 1/2" (16d) nails     |              | Use 2 1/2" (8d) nails              |              |
|           | 9 1/2"  | 2 x 6 + 5/8" Plywood  | 2                          | 1 1/8" OSB   | Same amount as required per hanger | 2320 lbs     |
|           | 11 1/8" | 2 x 8 + 5/8" Plywood  | 3                          | 1 1/8" OSB   |                                    | 3520 lbs     |
|           | 14"     | 2 x 10 + 5/8" Plywood | 4                          | 1 1/8" OSB   |                                    | 4071 lbs     |
| AJS™ 20   | 16"     | 2 x 10 + 5/8" Plywood | 4                          | 1 1/8" OSB   |                                    | 4071 lbs     |
| AJS™ 25   |         |                       | Use 3 1/2" (16d) nails     |              | Use 3" (10d) nails                 |              |
|           | 9 1/2"  | 2-2 x 6               | 2                          | 2 x 6        | Same amount as required per hanger | 2320 lbs     |
|           | 11 1/8" | 2-2 x 8               | 3                          | 2 x 8        |                                    | 3520 lbs     |
|           | 14"     | 2-2 x 10              | 4                          | 2 x 10       |                                    | 4071 lbs     |
|           | 16"     | 2-2 x 10              | 4                          | 2 x 10       |                                    | 4071 lbs     |

Plywood can be replaced by OSB.

Note: Filler blocking will be required for the entire length if the maximum load applied exceeds the maximum load shown in the above table.

# Double Joist with More than One Header

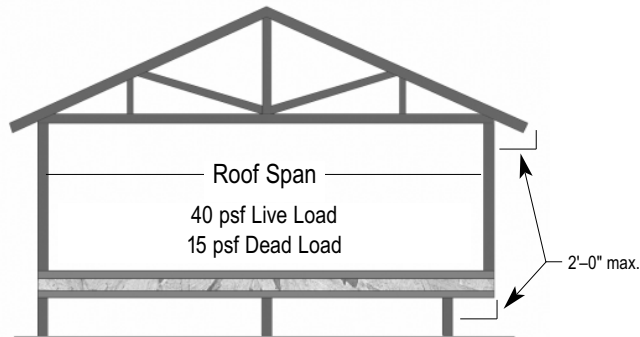
18-A



| ALLJOIST® |         | Filler Blocking       | Rows of Nails on each side | Backer Block | Number of Nails                    |
|-----------|---------|-----------------------|----------------------------|--------------|------------------------------------|
| AJS™ 10   | 9 1/2"  | 2 x 6 + 5/8" Plywood  | 2                          | 1 1/8" OSB   | Use 2 1/2" (8d) nails              |
|           | 11 7/8" | 2 x 8 + 5/8" Plywood  | 3                          | 1 1/8" OSB   | Same amount as required per hanger |
| AJS™ 20   | 14"     | 2 x 10 + 5/8" Plywood | 3                          | 1 1/8" OSB   |                                    |
| AJS™ 20   | 16"     | 2 x 10 + 5/8" Plywood | 3                          | 1 1/8" OSB   |                                    |
| AJS™ 25   | 9 1/2"  | 2-2 x 6               | 2                          | 2 x 6        | Use 3" (10d) nails                 |
|           | 11 7/8" | 2-2 x 8               | 3                          | 2 x 8        | Same amount as required per hanger |
|           | 14"     | 2-2 x 10              | 3                          | 2 x 10       |                                    |
|           | 16"     | 2-2 x 10              | 3                          | 2 x 10       |                                    |

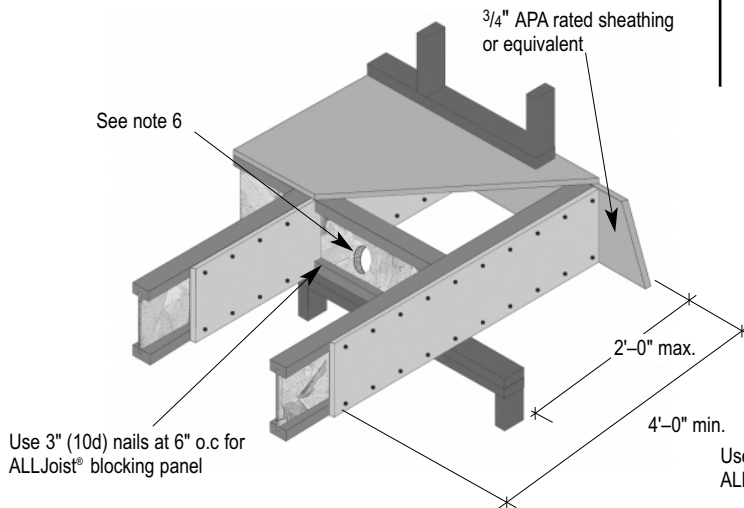
Plywood can be replaced by OSB

# Load-Bearing Cantilever



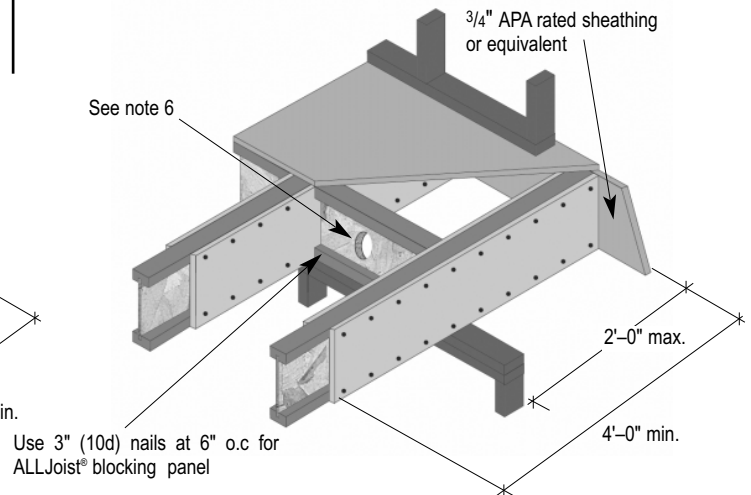
## Plywood Reinforcement

19-A



## Double Plywood Reinforcement

19-B



## Reinforcement Requirements

| Roof Live Load     |         | 20 psf |     |       | 30 psf |     |       | 40 psf |     |       | 50 psf |     |       |
|--------------------|---------|--------|-----|-------|--------|-----|-------|--------|-----|-------|--------|-----|-------|
| Joist Spacing o.c. |         | 12"    | 16" | 19.2" | 12"    | 16" | 19.2" | 12"    | 16" | 19.2" | 12"    | 16" | 19.2" |
| Joist Depth        | 9 1/2"  | 24'    | 0   | 0     | 0      | 0   | 0     | 1      | 0   | 1     | X      | 0   | X     |
|                    |         | 26'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 28'    | 0   | 0     | 1      | 0   | 1     | X      | 0   | 1     | X      | 1   | X     |
|                    |         | 30'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 32'    | 0   | 0     | X      | 0   | X     | X      | 1   | X     | X      | X   | X     |
|                    |         | 34'    |     |       |        |     |       |        |     |       |        |     |       |
|                    | 11 7/8" | 36'    | 0   | X     | X      | 0   | X     | X      | X   | X     | X      | X   | X     |
|                    |         | 24'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 26'    | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     |
|                    |         | 28'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 30'    | 0   | 0     | 0      | 0   | 0     | 1      | 0   | 1     | 1      | 0   | 1     |
|                    |         | 32'    |     |       |        |     |       |        |     |       |        |     |       |
|                    | 14"     | 34'    | 0   | 0     | 0      | 0   | 0     | 1      | 0   | 1     | X      | 0   | X     |
|                    |         | 36'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 24'    | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     |
|                    |         | 26'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 28'    | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     |
|                    |         | 30'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 32'    | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | X     |
|                    |         | 34'    |     |       |        |     |       |        |     |       |        |     |       |
|                    |         | 36'    | 0   | 0     | 0      | 0   | 0     | 0      | 0   | X     | 0      | 1   | X     |
|                    |         |        |     |       |        |     |       |        |     |       |        |     |       |

### Reinforcement Legend:

- 0 = No reinforcement required.
- 1 = Reinforcement required on one side of joist.
- 2 = Reinforcement required on both sides of joist.
- X = Reinforcement will not work. Reduce spacing of joist and recheck.

### Notes:

- Use 3/4" APA rated sheathing 4/8 4-ply or more for exterior exposure or equivalent. Install full depth of joist with face grain parallel to joist. Plywood reinforcement to bear fully on wall plate. Nail plywood to top and bottom joist flanges with 2 1/2" (8d) nails at 6" o.c. When reinforcing both sides, stagger nails to avoid splitting.
- Minimum bearing length 3 1/2".
- Provide full depth blocking between joists.
- Use 4'-0" length of plywood, minimum.
- Maximum cantilever length is 2'-0".
- Edge of hole shall be at a minimum of 3" from end of blocking panel.

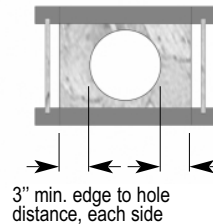
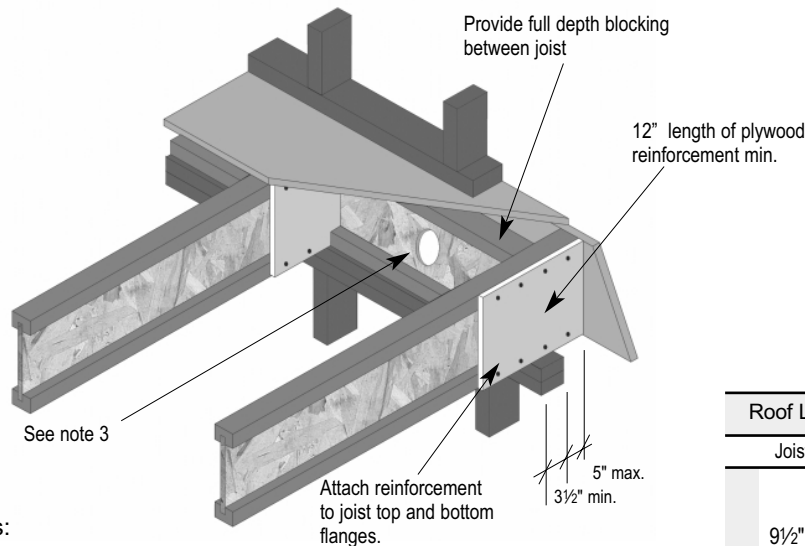


Table assumes a 40 psf live load and a 15 psf dead load on the floor and an 80 plf wall dead load, and a 15 psf roof dead load.

# Load-Bearing Cantilever (Brick Ledge)

## Brick Ledge with Blocking Panels

20-A



### Notes:

1. Use  $\frac{3}{4}$ " APA rated sheathing  $\frac{48}{24}$  4 ply or more for exterior exposure or equivalent. Install full depth of joist with face grain parallel to joist. Plywood reinforcement to bear fully on wall plate. Nail plywood to top and bottom joist flanges with  $2\frac{1}{2}$ " (8d) nails at 3" on center except  $9\frac{1}{2}$ " joists, install nails at  $2\frac{1}{2}$ " on center.
2. Provide full depth blocking between joists.
3. Edge of hole shall be at a minimum of 3" from end of blocking panel.

## Reinforcement Requirements

| Roof Live Load     |      |                 |     | 20 psf |     |       | 30 psf |     |       | 40 psf |     |       | 50 psf |     |       |
|--------------------|------|-----------------|-----|--------|-----|-------|--------|-----|-------|--------|-----|-------|--------|-----|-------|
| Joist Spacing o.c. |      |                 |     | 12"    | 16" | 19.2" | 12"    | 16" | 19.2" | 12"    | 16" | 19.2" | 12"    | 16" | 19.2" |
| Joist Depth        | 9½"  | Roof Truss Span | 24' | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     | 0      | 1   | 1     |
|                    |      |                 | 26' | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     | 0      | 1   | 2     |
|                    |      |                 | 28' | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     | 0      | 1   | 2     |
|                    |      |                 | 30' | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     | 1      | 1   | 2     |
|                    |      |                 | 32' | 0      | 0   | 1     | 0      | 1   | 1     | 0      | 1   | 2     | 1      | 2   | 2     |
|                    |      |                 | 34' | 0      | 0   | X     | 0      | 1   | X     | 0      | 1   | X     | 1      | 2   | X     |
|                    | 36'  |                 | 0   | X      | X   | 0     | X      | X   | 1     | X      | X   | 1     | X      | X   |       |
|                    | 11⅞" |                 | 24' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     |
|                    |      |                 | 26' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     |
|                    |      |                 | 28' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     |
|                    |      |                 | 30' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     |
|                    |      |                 | 32' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     |
|                    |      |                 | 34' | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     | 0      | 1   | 1     |
|                    | 14"  |                 | 36' | 0      | 0   | 0     | 0      | 0   | 1     | 0      | 1   | 1     | 0      | 1   | X     |
|                    |      |                 | 24' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     |
|                    |      |                 | 26' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     |
|                    |      |                 | 28' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     |
|                    |      |                 | 30' | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 1     |
|                    |      | 32'             | 0   | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 1   |       |
|                    |      | 34'             | 0   | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 1   | 0     | 0      | 1   |       |
|                    |      | 36'             | 0   | 0      | 0   | 0     | 0      | 0   | 0     | 0      | 1   | 0     | 1      | X   |       |

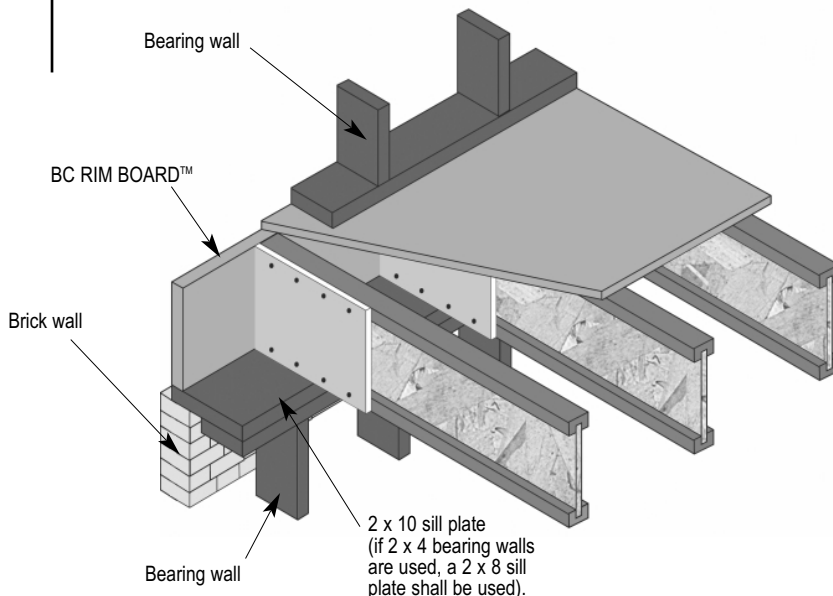
Table assumes a 40 psf live load and a 15 psf dead load on the floors, an 80 plf wall load, and a 15 psf dead load on the roof.

### Reinforcement Legend:

- 0 = No reinforcement required.
- 1 = Reinforcement required on one side of joist.
- 2 = Reinforcement required on both sides of joist.
- X = Reinforcement will not work. Reduce spacing of joist and recheck.

## Brick Ledge Without Blocking Panels

20-B



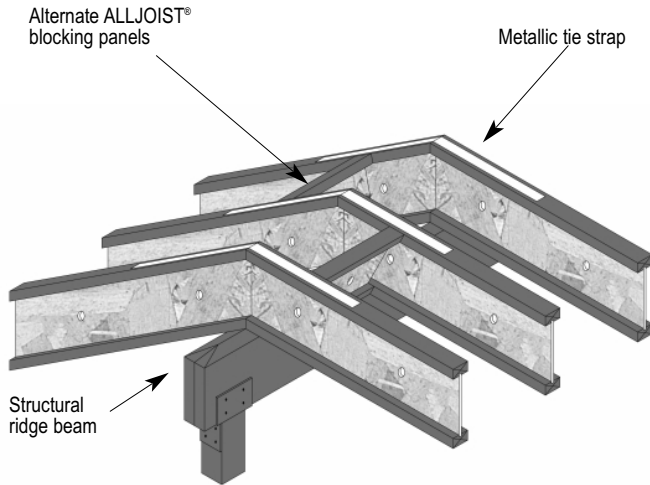
### Notes:

1. Use  $\frac{3}{4}$ " APA rated sheathing  $\frac{48}{24}$  4 ply or more for exterior exposure or equivalent. Install full depth of joist with face grain parallel to joist. Plywood reinforcement to bear fully on wall plate. Nail plywood to top and bottom joist flanges with  $2\frac{1}{2}$ " (8d) nails at 3" on center except  $9\frac{1}{2}$ " joists, install nails at  $2\frac{1}{2}$ " on center.
2. Minimum bearing length  $3\frac{1}{2}$ ".
3. Sill plate shall be properly nailed to wall.
4. See detail 13-D for joist connection.
5. See detail 14-A for rim board connection.

# Roof Details

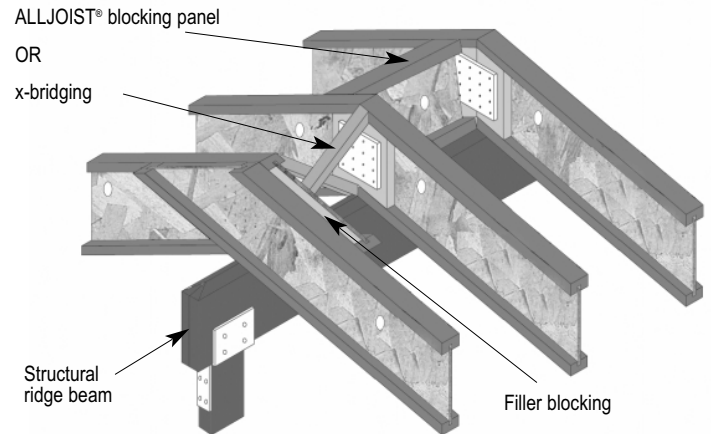
## Ridge Detail

25-A



## Ridge Detail

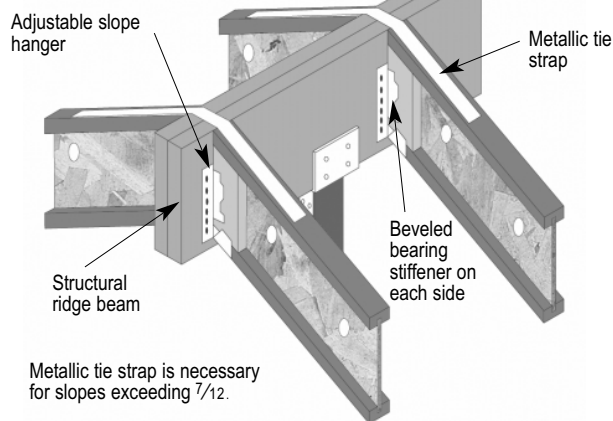
25-B



Metallic tie strap is necessary for slopes exceeding  $7/12$ .

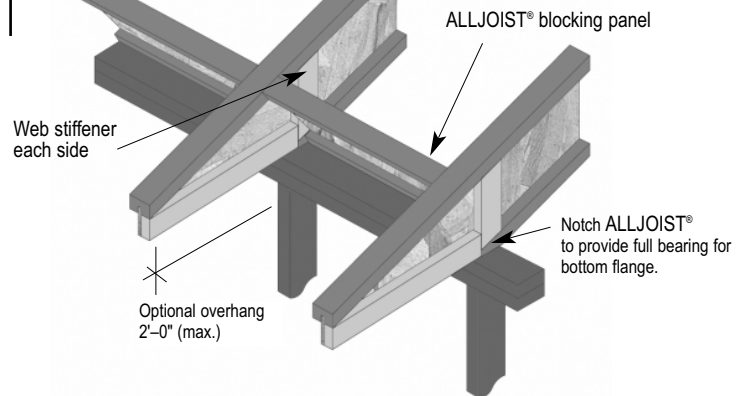
## Ridge Rafter Connection

25-C



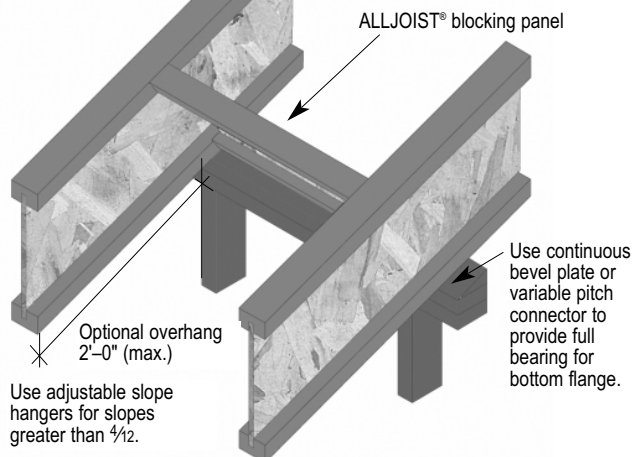
## Notched Bottom Flange, Cantilever (Low end of rafter only)

25-D



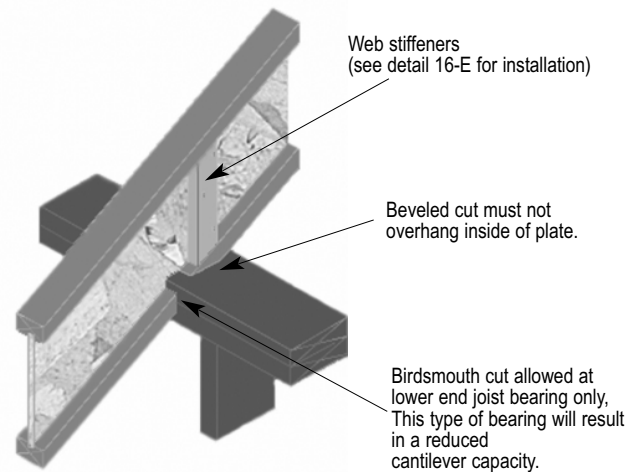
## Cantilever Roof Joist

25-E



## Birdsmouth Cut Sloped Bearing Condition

25-F

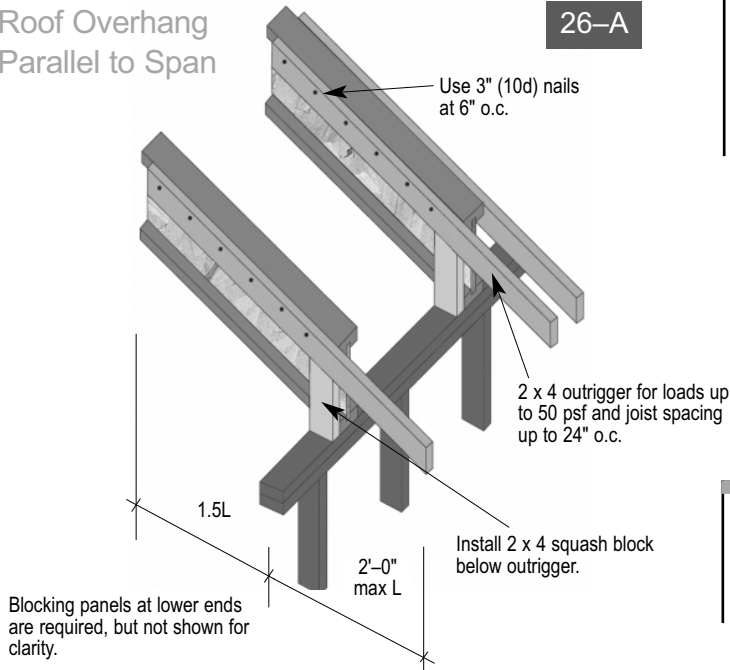


Check for proper code ventilation requirements when using ALLJOIST® as roof systems.

# Roof Details

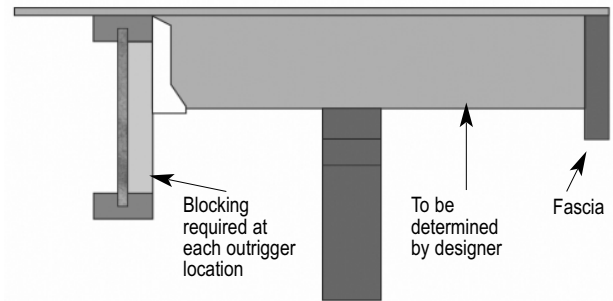
## Roof Overhang Parallel to Span

26-A



## Roof Overhang Perpendicular to Span

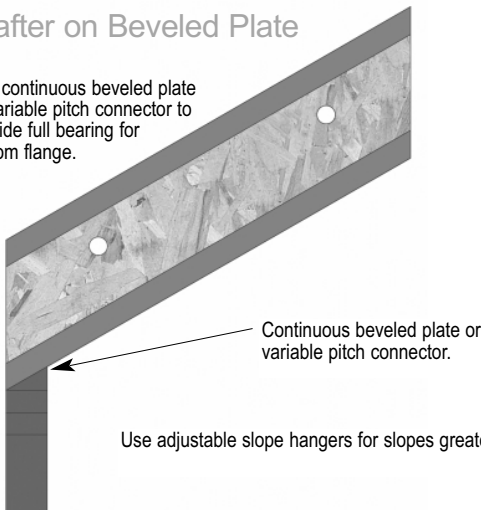
26-B



## Rafter on Beveled Plate

26-C

Use continuous beveled plate or variable pitch connector to provide full bearing for bottom flange.



## Conversion Table & Cutting Lengths for Sloped Roofs

Slope Conversion Table

| Slope<br>« in 12 » | Slope<br>Factor | Pd Length per Joist Depth |      |      |      |
|--------------------|-----------------|---------------------------|------|------|------|
|                    |                 | 9½"                       | 11⅞" | 14"  | 16"  |
| 3                  | 1.031           | 2½"                       | 3"   | 3⅝"  | 4⅛"  |
| 4                  | 1.054           | 3¼"                       | 4"   | 4¾"  | 5⅜"  |
| 5                  | 1.083           | 4"                        | 5"   | 5⅞"  | 6¾"  |
| 6                  | 1.118           | 4¾"                       | 6"   | 7"   | 8"   |
| 7                  | 1.158           | 5⅝"                       | 7"   | 8¼"  | 9⅜"  |
| 8                  | 1.202           | 6⅜"                       | 8"   | 9⅜"  | 10¾" |
| 9                  | 1.250           | 7¼"                       | 9"   | 10½" | 12"  |
| 10                 | 1.302           | 8"                        | 10"  | 11¾" | 13⅜" |
| 11                 | 1.357           | 8¾"                       | 11"  | 12⅞" | 14¾" |
| 12                 | 1.414           | 9½"                       | 11⅞" | 14"  | 16"  |

