

This Installation Guide is intended to provide general information for a proper TRIFORCE® open joist installation. This Installation Guide must be used in conjunction with the manufacturer's Specifier Guide or Placement Guide. For further information or assistance, contact a Barrette Structural Distribution representative.

In keeping with its ongoing commitment to product development, Barrette Structural Distribution periodically updates its literature. Please visit our website (www.openjoisttriforce.com) to confirm that this version is the most recent.

Storage and Handling

1. Keep TRIFORCE® open joist bundles wrapped until the time of installation to protect them from bad weather.
2. Use wood filler to separate bundles.
3. Always store, stack and handle TRIFORCE® open joist vertically and level—never flat.
4. Do not store TRIFORCE® open joist in direct contact with the ground.
5. Be cautious when using forklift to avoid damage. If the ground is uneven in the storage area, reduce forklift speed to avoid "bouncing" the load.
6. When handling with a crane, use a spreader to pick up the load, if necessary, to minimize handling stresses. Keep TRIFORCE® open joist vertical.
7. Maintain stack height within safe limits.
8. Handling of TRIFORCE® open joists with a crane or forklift should be done by lifting from below the bottom of the bundle.
9. Do not stack other material on top of TRIFORCE® open joist bundles.
10. Bundle wrap can be slippery, especially when wet or icy. Avoid walking on material.

Installation Instructions

1. Except for trimming the joist length on the OSB end panel, chords should never be cut, drilled or notched.
2. Install TRIFORCE® open joist so that top and bottom flanges are within 1/2" of true vertical alignment.
3. Joists must be restrained at the ends to prevent rollover.
4. Apply concentrated loads only on top flanges. Do not suspend concentrated loads from bottom flanges, except for light loads such as ceiling fans or light fixtures.
5. TRIFORCE® open joists must be protected from bad weather prior to installation.
6. Joists should be used in dry conditions only.
7. Never install a damaged TRIFORCE® open joist.
8. If optional strongbacks are installed, they must be made of dry lumber.
9. End bearing must be a minimum of 1 1/2". Placement Guide may specify longer bearings.
10. To transfer a vertical load applied above the joist to a bearing, it may be necessary to add a rim board, squash blocks or blocking panels.
11. Joists must not be in direct contact with masonry or concrete.
12. **DO NOT WALK ON JOISTS** until properly braced. Serious injury may occur.
13. **DO NOT PILE** construction materials on joists until they are fully installed, braced and have subfloor installed.
14. When nailing into the joist flange, nails must be spaced at least 2 1/2" o.c.
15. Details on the following pages show only the installation requirements specific to TRIFORCE® open joists. For other installation requirements, refer to the building code or manufacturer's instructions.
16. Adhesives used for floor systems should comply with ASTM D3498-03 Standard Specification for Field-Gluing Plywood to Lumber Framing for Floor Systems. When gluing the subfloor to the joists, follow the instructions of the adhesive manufacturer.



Not permitted

Never notch, cut or drill a joist member.

Not Permitted



Joist Identification and Orientation



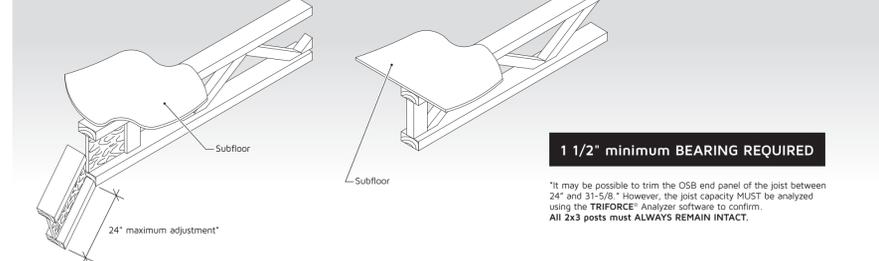
Bottom - Bas Abajo OJ418

Joist Orientation
Each TRIFORCE® open joist is marked to indicate a bottom flange. In order to achieve maximum shear capacity, the joist should be installed with proper orientation.

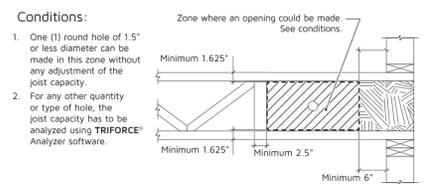
Identification OJ418

- Grades : 14 = 1.4E
15 = 1.5E
18 = 1.8E
20 = 2.0E
- Flange : 3 = 2x3
4 = 2x4

Detail 1



Openings in the OSB End Panel of a Joist

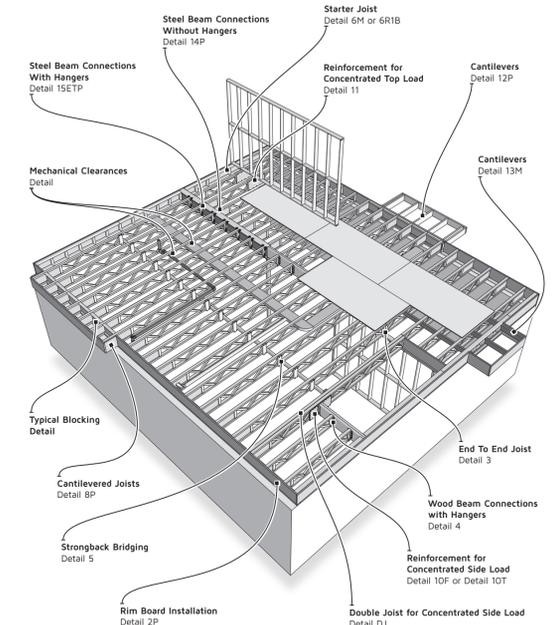


Mechanical Clearances

Maximum Size of Pipes, Ducts and Cable Trays Through Diagonal Web Members			
Depth	Round D	Square W x H	Rectangular W x L
11 1/2"	7 1/2"	5 1/2" x 5 1/2"	3" x 13"
14"	8 1/2"	6 1/2" x 6 1/2"	3" x 14", 6" x 8"
16"	9 1/2"	7 1/2" x 7 1/2"	3" x 15"

Standard Details

This section provides standard details for normal framing situations. For loads that are not uniformly distributed and/or for joists supported by bearings other than end bearings, joist capacity must be verified using the manufacturer's Analyzer software. The project designer and/or general contractor is responsible for determining if standard details apply.



Rim Board Installation

Standard Rim Board Sizes

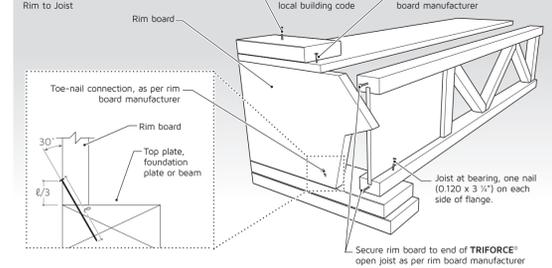
Depth (inches): 11 3/4, 14, 16.

A structural rim board is required when TRIFORCE® open joists are installed perpendicular to bearing walls.

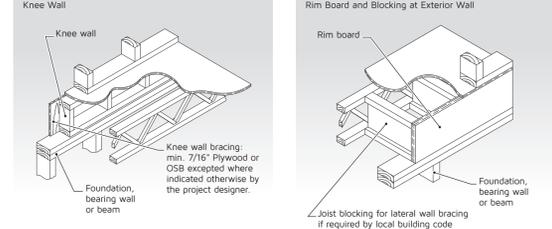
TRIFORCE® open joists should not be used as solo starter joists on exterior walls.

The vertical and/or horizontal loads to be transferred must be verified using the manufacturer's proprietary capacities.

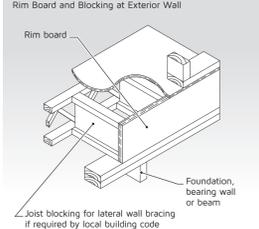
Detail 2P



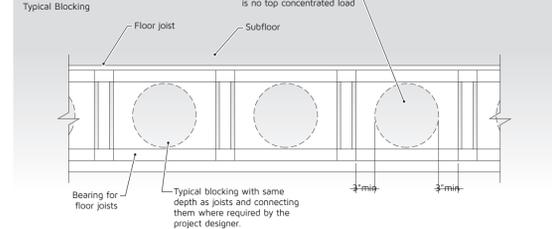
Detail 6M



Detail 6R1B

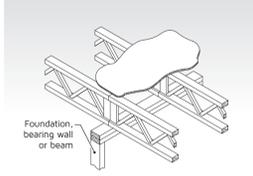


Detail TB



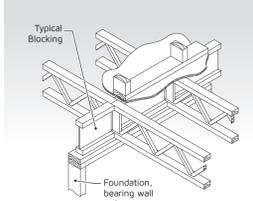
Detail 3

End To End Joist
Blocking not required between joists for detached one- and two-family dwellings, assigned to Seismic Design Category A, B or C or located where the mapped S_e < 0.4g



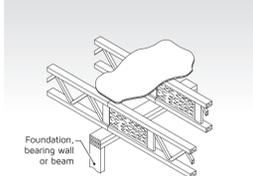
Detail 3B

End To End Joist with Bearing Wall Above



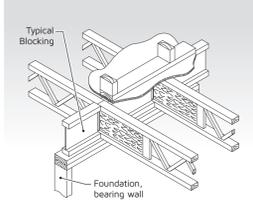
Detail 3P1

End To End Joist
Blocking not required between joists for detached one- and two-family dwellings, assigned to Seismic Design Category A, B or C or located where the mapped S_e < 0.4g



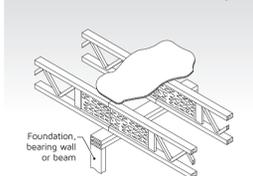
Detail 3P1B

End To End Joist with Bearing Wall Above



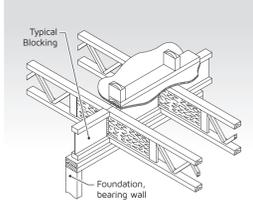
Detail 3P2

End To End Joist
Blocking not required between joists for detached one- and two-family dwellings, assigned to Seismic Design Category A, B or C or located where the mapped S_e < 0.4g



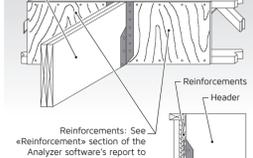
Detail 3P2B

End To End Joist with Bearing Wall Above



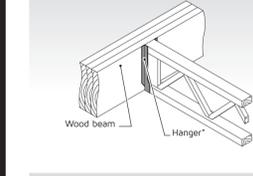
Detail 10F

Reinforcement for a Concentrated Side Load - Face Mount Hanger



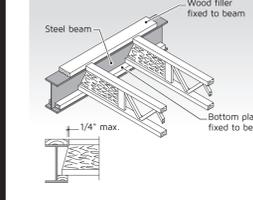
Detail 4

Wood Beam Connections with Hangers
Blocking not required between joists for detached one- and two-family dwellings, assigned to Seismic Design Category A, B or C or located where the mapped S_e < 0.4g



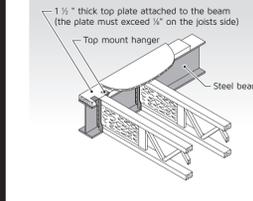
Detail 14P

Steel Beam Bottom Flange Bearing



Detail 15ETP

Steel Beam Connections With Top Plate and Hanger

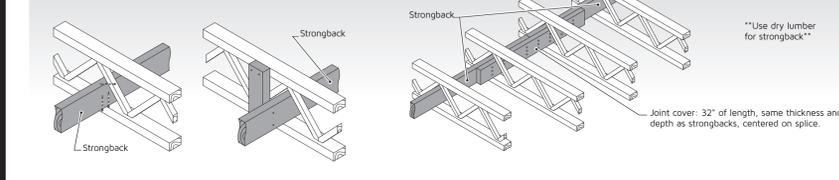


Detail 5

Strongback Bridging

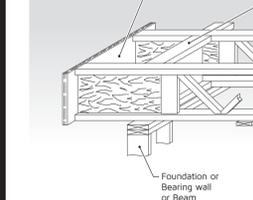
Use gun nails (0.122" x 3.25" or 3" screws to secure strongback at mid span of joist. If two strongbacks are specified, install the second one adjacent to the next closest diagonal web bay.

Option a1 (Good) Attached to diagonal web and chord
Option a2 (Better) Attached to block



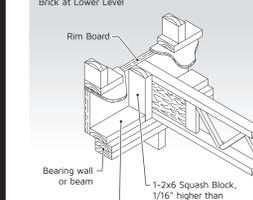
Detail 8P

Cantilevered Joist



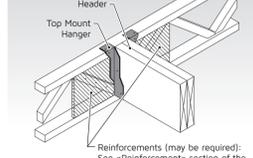
Detail 8BDG

Multiple Level Brick at Lower Level



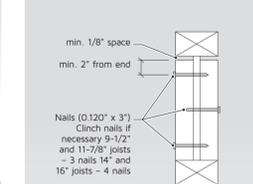
Detail 10T

Reinforcement for a Concentrated Side Load - Top Mount Hanger

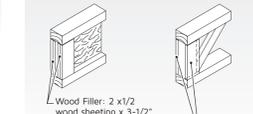


Lateral Bracing for a Single Joist with Hanger

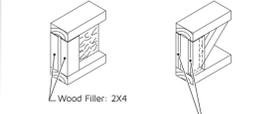
Only required if the hanger does not provide lateral support for the joist's top chord.



Joists with 3X2 chords

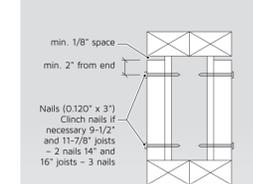


Joists with 4X2 chords

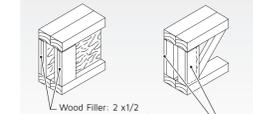


Lateral Bracing for a Double Joist with Hanger

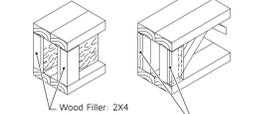
Only required if the hanger does not provide lateral support for the joist's top chord.



Joists with 3X2 chords

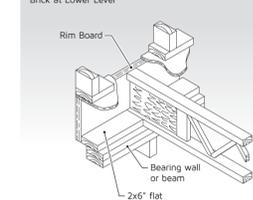


Joists with 4X2 chords



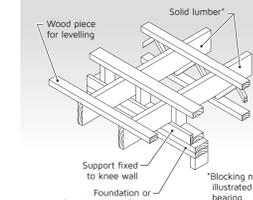
Detail 8BD

Multiple Level Brick at Lower Level



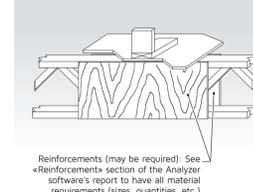
Detail 13M

Cantilever Perpendicular to Open Joist



Detail 11

Reinforcement for a Concentrated Top Load



Barrette Structural Distribution Inc. Manufacturer's Product Warranty

Products manufactured by Barrette Structural Distribution Inc. (hereafter: "Barrette Structural Distribution") are guaranteed for the life of the structure against all manufacturing defects and faulty materials, for which manufacturer's original warranty applies.

This limited lifetime warranty is applicable if the products manufactured by Barrette Structural Distribution have been correctly stored, protected from climatic conditions such as sunlight, humidity, rain or wind, installed and used in accordance with the relevant product manufacturer's guidelines and applicable standards and codes, either as floor joists or roof trusses, whichever is the case.

This warranty does not cover perceived problems of design or defects caused by:

- prolonged exposure to water or climatic conditions, including but not limited to, fire, flooding, natural disasters or any other cause beyond the control of Barrette Structural Distribution;
- defective structure due to several factors, including but not limited to, poor construction practices, and incorrect installation methods;
- damage to the structure before, during or after installation;
- failure to respect installation instructions, current building codes and norms, and best practices installation techniques;
- the modification of joists or roof trusses after the proposed original installation;
- the presence of mold, spore, rot or termites or any other element likely to degrade the installed product;
- the application of a preservative treatment or any other coating not approved by Barrette Structural Distribution;
- defective ventilation, repeated exposure to water or humid conditions;
- excessive loads or tension not allowed for by Barrette Structural Distribution or abnormal or non-compliant use of the product contrary to the use to which it was intended or use contrary to Barrette Structural Distribution's guidance and/or instructions, or under unforeseeable conditions by Barrette Structural Distribution.

IN THE CASE OF PROBLEMS WITH MANUFACTURING FAULTS COVERED BY THIS WARRANTY, BARRETTE STRUCTURAL DISTRIBUTION WILL PAY REASONABLE COSTS FOR LABOUR AND MATERIALS TO REPAIR OR REPLACE ONLY THE PRODUCT UNDER ITS WARRANTY. THESE COSTS MUST NOT EXCEED BY MORE THAN THREE TIMES THE INITIAL PURCHASE COST OF THE PRODUCT INVOLVED IN THE CLAIM. THESE REMEDIES ARE THE SOLE AND EXCLUSIVE REMEDIES FOR ANY BREACH OF WARRANTY. TO THE MAXIMUM EXTENT PERMITTED BY LAW, BARRETTE STRUCTURAL DISTRIBUTION IS NOT RESPONSIBLE FOR ANY DIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY.

IN THE EVENT OF A CLAIM, THE RESPONSIBILITY OF BARRETTE STRUCTURAL DISTRIBUTION IS LIMITED TO THAT WHICH HAS BEEN OUTLINED IN THIS WARRANTY. BARRETTE STRUCTURAL DISTRIBUTION MAY NOT BE HELD RESPONSIBLE FOR ANY OTHER DAMAGE WHATSOEVER. THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES AND REPRESENTATIONS ABOUT THE PRODUCT.

Warranty claims must be made in writing as soon as the manufacturing defect is discovered and in any case not more than thirty (30) days after such discovery.

BARRETTE STRUCTURAL DISTRIBUTION INC.
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To obtain further information, please contact your representative.

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