



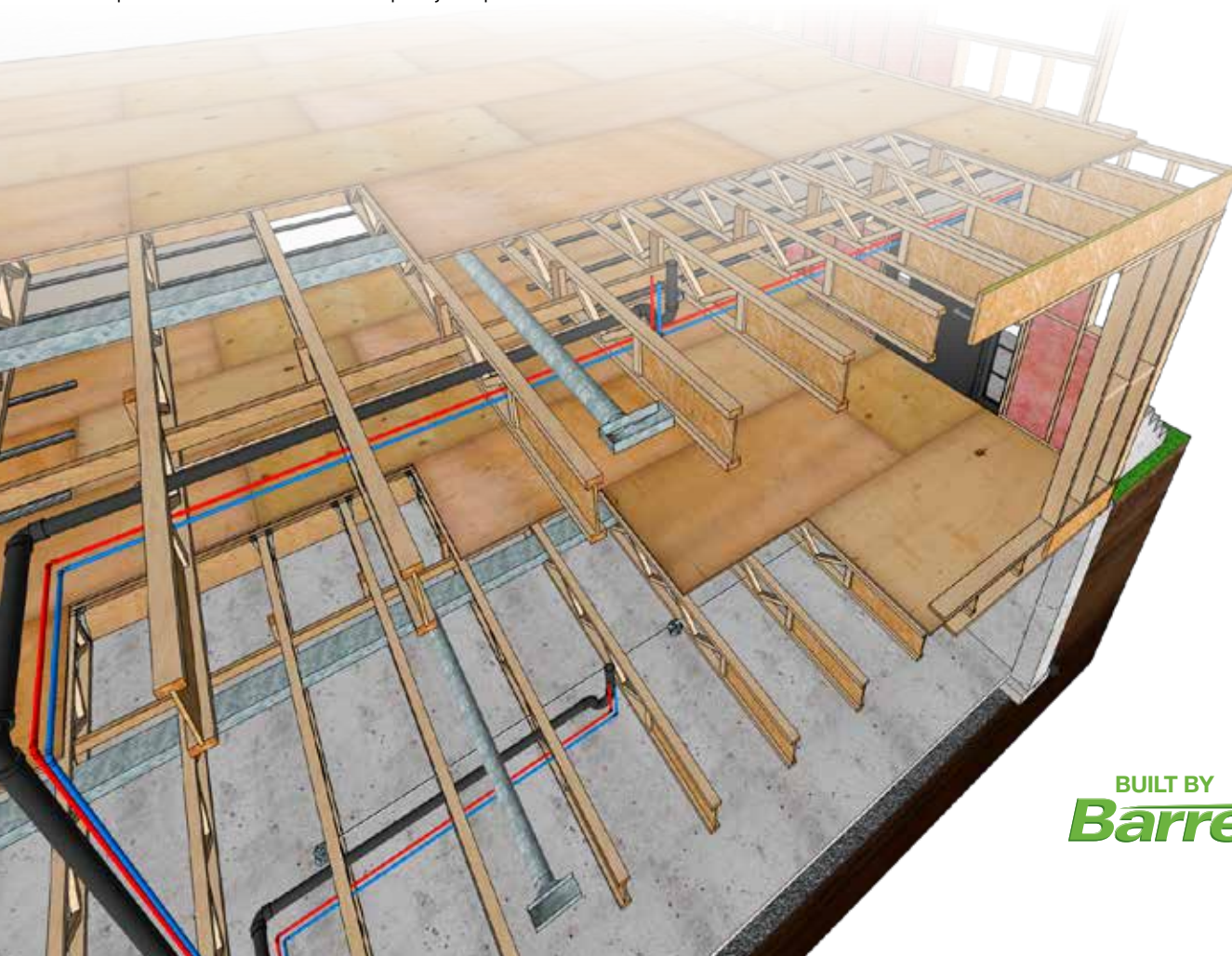
TRIFORCE®

OPEN JOIST



Barrette Structural Distribution Inc. manufactures **TRIFORCE®**, an engineered floor joist that features a triangulated configuration for strength with an open-web that provides easy installation of mechanical, plumbing and electrical. **TRIFORCE®** made-to-stock open joist is constructed entirely of wood and assembled using finger-joint technology.

TRIFORCE® open joist is trimmable up to 2 feet at one end to accommodate dimension changes and out-of-square foundations. Individually tested and produced in a state-of-the-art robotic manufacturing facility, **TRIFORCE®** open joist has surpassed industry standards by establishing a new level of excellence in the engineering of floor systems, while optimizing the use of lumber in its components. The **TRIFORCE®** open joist provides... *Peace of mind underfoot!™*



BUILT BY
Barrette 

Peace of mind underfoot™

www.openjoisttriforce.com

Maximum Spans

Glued and nailed subfloor with strongbacks / ceiling optional $\Delta L \leq L/360$

Live Load			40 psf				40 psf				
Dead Load			15 psf				36 psf				
Spacing			12"	16"	19.2"	24"	12"	16"	19.2"	24"	
Subfloor ⁽⁹⁾			19/32"			23/32"	19/32"			23/32"	
Depth	Length	Series	Maximum span o.c. Required Strongback ⁽¹⁾								
11 7/8"	8' - 0"	OJ314	3x2	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None
	10' - 0"			10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	
	12' - 0"			12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	
	14' - 0"			14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	13' 3" None	
	16' - 0"			16' 0" None	16' 0" 1 2x4	16' 0" 1 2x4	15' 4" 1 2x4	16' 0" None	16' 0" 1 2x4	14' 10" None	-----
	18' - 0"	OJ315	3x2	18' 0" 1 2x4	18' 0" 1 2x6	18' 0" 1 2x6	16' 11" 1 2x6	18' 0" 1 2x4	18' 0" 1 2x6	16' 5" 1 2x4	-----
		OJ418S ⁽¹⁰⁾	4x2	18' 0" None	18' 0" 1 2x4	18' 0" 1 2x4	18' 0" 2 2x4	18' 0" None	18' 0" 1 2x4	18' 0" 1 2x4	16' 8" 1 2x4
		OJ415	4x2	20' 0" 2 2x4	20' 0" 1 2x6	20' 0" 2 2x6	19' 1" 2 2x6	20' 0" 2 2x4	20' 0" 1 2x6	19' 5" 2 2x6	-----
	20' - 0"	OJ418S ⁽¹⁰⁾	4x2	20' 0" 1 2x4	20' 0" 1 2x6	20' 0" 2 2x6	20' 0" 2 2x6	20' 0" 1 2x4	20' 0" 1 2x6	20' 0" 1 2x6	-----
22' - 0"	OJ418	4x2	22' 0" 1 2x6	22' 0" 2 2x6	22' 0" 2 2x8	20' 2" 1 2x8	22' 0" 1 2x6	22' 0" 2 2x6	20' 10" 2 2x6	-----	
14"	8' - 0"	OJ314	3x2	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None
	10' - 0"			10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	
	12' - 0"			12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	
	14' - 0"			14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	
	16' - 0"			16' 0" None	16' 0" None	16' 0" None	16' 0" None	16' 0" None	16' 0" None	14' 6" None	
	18' - 0"	OJ315	3x2	18' 0" None	18' 0" 1 2x6	18' 0" 1 2x6	18' 0" 1 2x6	18' 0" None	18' 0" 1 2x6	18' 0" 1 2x6	16' 1" None
		OJ315	3x2	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 2 2x6	18' 7" 1 2x6	20' 0" 1 2x6	19' 9" 1 2x6	-----	-----
		OJ418S ⁽¹⁰⁾	4x2	20' 0" None	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" None	20' 0" 1 2x6	20' 0" 1 2x6	-----
	22' - 0"	OJ415	4x2	22' 0" 1 2x6	22' 0" 1 2x6	22' 0" 2 2x6	21' 8" 1 2x8	22' 0" 1 2x6	22' 0" 1 2x6	21' 4" 2 2x6	-----
24' - 0"	OJ418	4x2	24' 0" 1 2x6	24' 0" 2 2x6	24' 0" 2 2x8	22' 11" 2 2x8	24' 0" 1 2x6	24' 0" 2 2x6	22' 4" 2 2x6	-----	
26' - 0"			26' 0" 2 2x6	26' 0" 2 2x8	24' 10" 2 2x8	-----	26' 0" 2 2x6	25' 1" 2 2x8	-----		
16"	8' - 0"	OJ314	3x2	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None	8' 0" None
	10' - 0"			10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	10' 0" None	
	12' - 0"			12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	12' 0" None	
	14' - 0"			14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	14' 0" None	
	16' - 0"			16' 0" None	16' 0" None	16' 0" None	16' 0" None	16' 0" None	16' 0" None	15' 6" None	
	18' - 0"	OJ315	3x2	18' 0" None	18' 0" None	18' 0" 1 2x6	18' 0" 1 2x6	18' 0" None	18' 0" None	18' 0" 1 2x6	17' 4" None
		OJ315	3x2	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	19' 5" 1 2x6	-----
		OJ418S ⁽¹⁰⁾	4x2	20' 0" None	20' 0" None	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" None	20' 0" None	20' 0" 1 2x6	20' 0" 1 2x6
	22' - 0"	OJ418	4x2	22' 0" None	22' 0" 1 2x6	22' 0" 1 2x6	22' 0" 1 2x6	22' 0" None	22' 0" 1 2x6	22' 0" 1 2x6	20' 2" 1 2x6
	24' - 0"			24' 0" 1 2x6	24' 0" 1 2x6	24' 0" 2 2x6	24' 0" 2 2x6	24' 0" 1 2x6	24' 0" 1 2x6	24' 0" 2 2x6	-----
	26' - 0"			26' 0" 1 2x6	26' 0" 2 2x6	26' 0" 1 2x8	25' 5" 2 2x8	26' 0" 1 2x6	26' 0" 2 2x6	25' 3" 1 2x8	-----
	28' - 0"			28' 0" 2 2x6	28' 0" 2 2x8	28' 0" 1 2x10	26' 3" 2 2x8	28' 0" 2 2x6	28' 0" 2 2x8	-----	-----
	30' - 0"	OJ420	4x2	30' 0" 2 2x8	30' 0" 2 2x10	28' 6" 2 2x10	-----	30' 0" 2 2x8	28' 8" 2 2x8	-----	-----

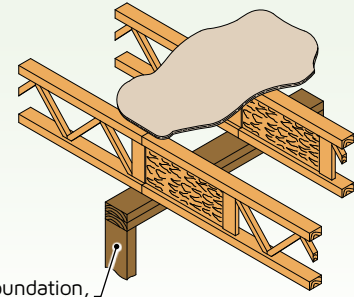
Notes:

- Strongbacks must be installed at mid-span to achieve the maximum spans indicated for the vibration criterion in section 9.23.4.3.(2) of the National Building Code of Canada (NBC). The 2x4's and 2x6's are considered to be in SPF #3/stud and the 2x8's and 2x10's, in SPF #1/#2.
- The spans are based on simple-span joists.
- The minimum bearing length is 1 1/2", spans values in bold indicate that web stiffeners are required at the OSB end panel.
- The maximum span is measured o.c. of bearings and is based on uniformly loaded joists.
- Dead load deflection is limited to L/360 and total load deflection is limited to L/240.
- Live load deflection is limited to L/360.
- Spans are based on limit states design and comply with NBC and CAN/CSA-O86 requirements.
- Refer to the appropriate sections of the Specifier Guide for installation guidelines and construction details.
- The considered subfloor is a standard 19/32" plywood or 1F20 OSB for 12", 16" and 19.2" o.c. spacing and standard 23/32" plywood or 1F24 OSB for 24" o.c. spacing and must be glued with adhesive per CAN/CGSB-71.26-M88 and nailed per NBC.
- S = Limited inventory. Please contact your representative to determine quantities.

Typical Details

Detail 3P1

End to End Joist

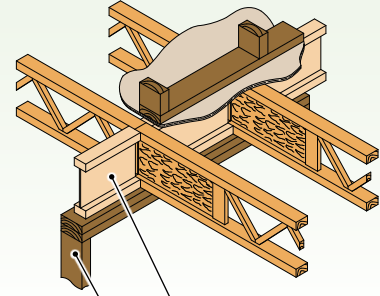


Foundation,
bearing wall
or beam

Blocking not required between joists for residential applications located in low to moderated seismic zones where $S_D(0.2) \leq 0.7$

Detail 3P1B

End to End Joist with Bearing Wall Above

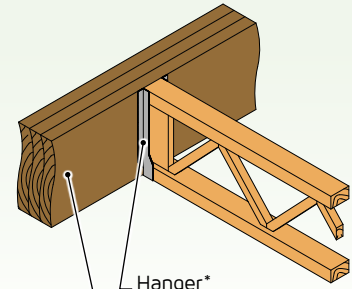


Typical
Blocking

Foundation, bearing
wall or beam

Detail 4

Wood Beam Connections with Hanger



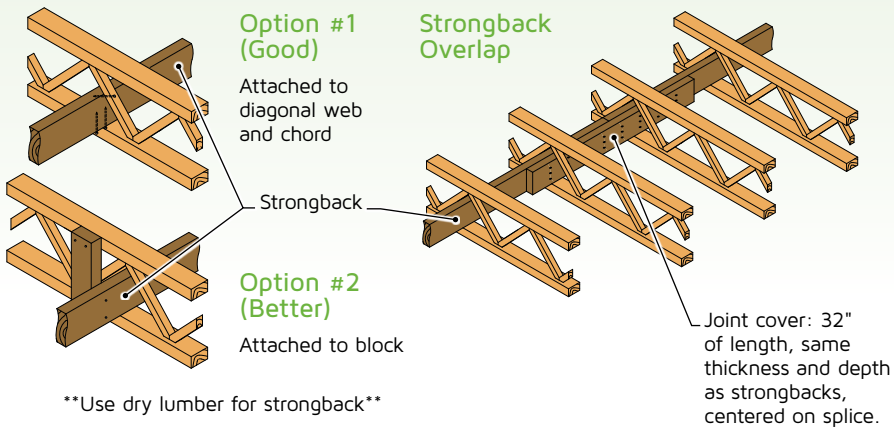
Hanger*

Wood beam

* top mount or face mount hangers

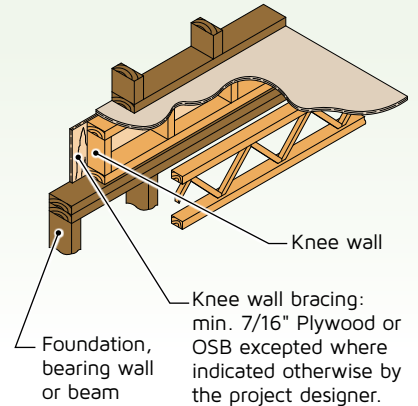
Detail 5

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.



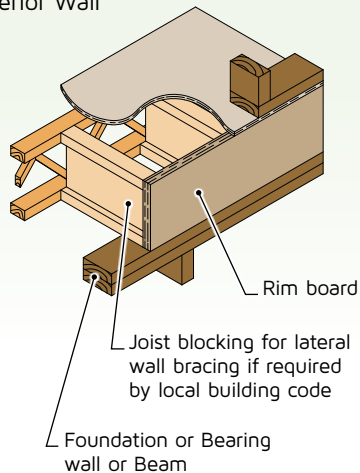
Detail 6M

Knee Wall



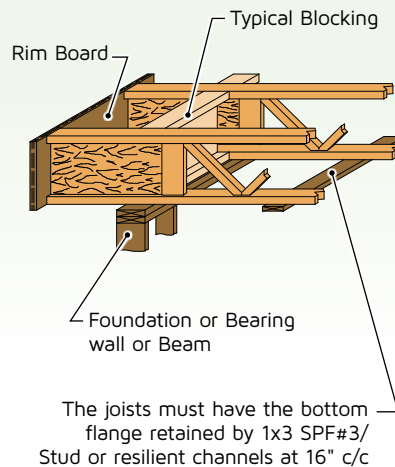
Detail 6R1B

Rim Board and Blocking at Exterior Wall



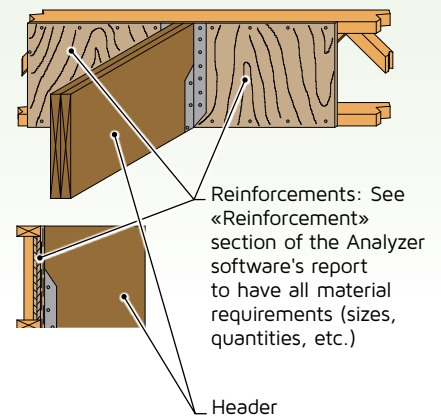
Detail 8P

Cantilevered Joist



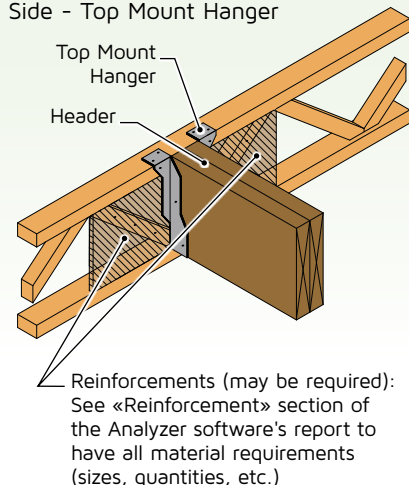
Detail 10F

Reinforcement for a Concentrated Side Load - Face Mount Hanger



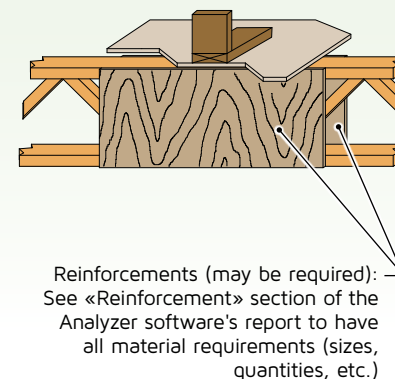
Detail 10T

Reinforcement for a Concentrated Side - Top Mount Hanger



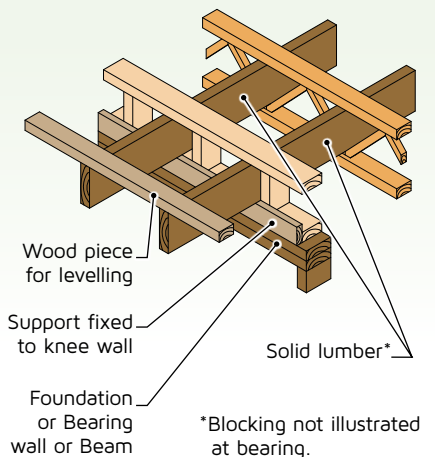
Detail 11

Reinforcement for a Concentrated Top Load



Detail 13M

Cantilever Perpendicular to Open Joist

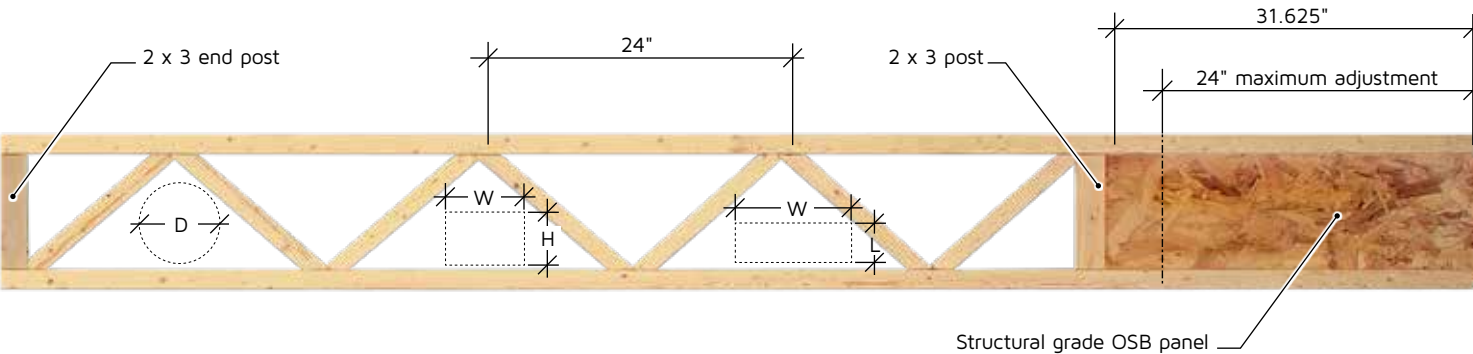


Available Joist Sizes

TRIFORCE® open joist is produced in several depths and lengths to fulfill floor framing needs. Lengths are offered in two foot increments due to their 24" trimmability.

Depth	Series	Weight lbs/ft	8	10	12	14	16	18	20	22	24	26	28	30
11 7/8"	OJ314	2.80	✓	✓	✓	✓	✓							
	OJ315	2.80						✓						
	OJ415	3.35							✓					
	OJ418	3.35						S	S	✓				
14"	OJ314	2.85	✓	✓	✓	✓	✓							
	OJ315	2.85						✓	✓					
	OJ415	3.45								✓				
	OJ418	3.45							S		✓	✓		
16"	OJ314	2.95	✓	✓	✓	✓	✓							
	OJ315	2.95						✓	✓					
	OJ418	3.55							S	✓	✓	✓		
	OJ420	3.55											✓	✓

✓ = In stock
S = Limited inventory. Please contact your representative to determine quantities.



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 7/8"	7 1/4"	5 3/4" x 5 3/4"	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"



NRC - CMRC
CCMC-13474-R

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Total Quality. Assured.
Fire-Resistant Assemblies
Spec ID #35685

TRIFORCE
BUILT BY Barrette