

## Weyerhaeuser Engineered Wood Products Header-Off Span Table

For certain situations, a typical repair detail may not be sufficient or there may not be enough room to install the required repair materials. In such cases, the most common method of repairing the damaged joist is to install a header on either side of the damaged region and attach the header(s) to the adjacent, undamaged joists. This repair technique is typically referred to as **Header-Off**, **Headered-Off**, or **Head-Out**.

Table 1 and Table 2 below give the maximum allowable clear spans for both the damaged joist and the adjacent, undamaged joists. **Detail H2A** on page 3 and **Detail L3A** on page 4 provide supplementary information regarding the installation of a Header-Off repair.

**TABLE 1: TJI® JOIST HEADER-OFF<sup>[1][2]</sup>**

Joist Depth	TJI® Series	Maximum Allowable Clear Span							
		40 PSF Live Load / 10 PSF Dead Load				40 PSF Live Load / 20 PSF Dead Load			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9½"	110	14'-8"	13'-4"	12'-7"	10'-2"	14'-8"	12'-9"	10'-7"	8'-5"
	210	15'-4"	14'-0"	13'-2"	11'-4"	15'-4"	14'-0"	11'-9"	9'-5"
	230	15'-10"	14'-5"	13'-7"	12'-7"	15'-10"	14'-5"	13'-3"	10'-7"
11⅞"	110	17'-5"	15'-4"	12'-9"	10'-2"	16'-7"	12'-9"	10'-7"	8'-5"
	210	18'-3"	16'-8"	14'-2"	11'-4"	18'-3"	14'-2"	11'-9"	9'-5"
	230	18'-9"	17'-1"	15'-11"	12'-8"	18'-9"	15'-11"	13'-3"	10'-7"
	360	19'-10"	18'-0"	16'-3"	13'-0"	19'-10"	16'-3"	13'-6"	10'-9"
	560	22'-6"	20'-6"	19'-3"	15'-10"	22'-6"	19'-10"	16'-6"	13'-2"
14"	110	19'-9"	15'-4"	12'-9"	10'-2"	17'-1"	12'-9"	10'-7"	8'-5"
	210	20'-9"	17'-0"	14'-2"	11'-4"	18'-11"	14'-2"	11'-9"	9'-5"
	230	21'-4"	19'-2"	15'-11"	12'-8"	20'-11"	15'-11"	13'-3"	10'-7"
	360	22'-6"	19'-6"	16'-3"	13'-0"	21'-9"	16'-3"	13'-6"	10'-9"
	560	25'-7"	23'-2"	19'-10"	15'-10"	25'-7"	19'-10"	16'-6"	13'-2"
16"	210	22'-9"	17'-0"	14'-2"	11'-4"	18'-11"	14'-2"	11'-9"	9'-5"
	230	23'-7"	19'-2"	15'-11"	12'-8"	21'-3"	15'-11"	13'-3"	10'-7"
	360	24'-11"	19'-6"	16'-3"	13'-0"	21'-9"	16'-3"	13'-6"	10'-9"
	560	28'-3"	23'-10"	19'-10"	15'-10"	26'-6"	19'-10"	16'-6"	13'-2"

[1] See **General Notes** on page 2.

[2] See **Detail H2A** on page 3.

**TABLE 2: 1.5E TIMBERSTRAND® LSL JOIST HEADER-OFF<sup>[1][2]</sup>**

Joist Size	Joist Weight (plf)	Maximum Allowable Clear Span							
		40 PSF Live Load / 15 PSF Dead Load				40 PSF Live Load / 25 PSF Dead Load			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
1½" x 9½"	4.5	15'-2"	14'-0"	13'-3"	12'-5"	15'-2"	14'-0"	13'-3"	11'-4"
1½" x 11⅞"	5.6	18'-9"	17'-3"	16'-4"	13'-5"	18'-9"	17'-0"	14'-2"	11'-4"
1½" x 14"	6.6	21'-11"	20'-1"	16'-9"	13'-5"	21'-8"	17'-0"	14'-2"	11'-4"

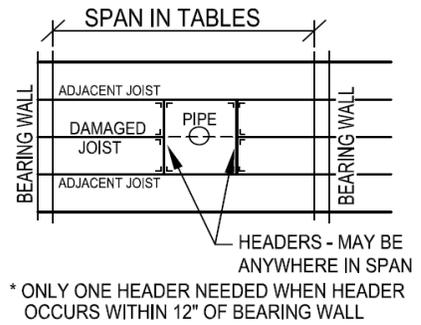
[1] See **General Notes** on page 2.

[2] See **Detail L3A** on page 4.

**Span values have not been evaluated for the effects of differential deflection and possible impacts on floor finishes. For a more detailed analysis, contact your Weyerhaeuser representative.**

## General Notes

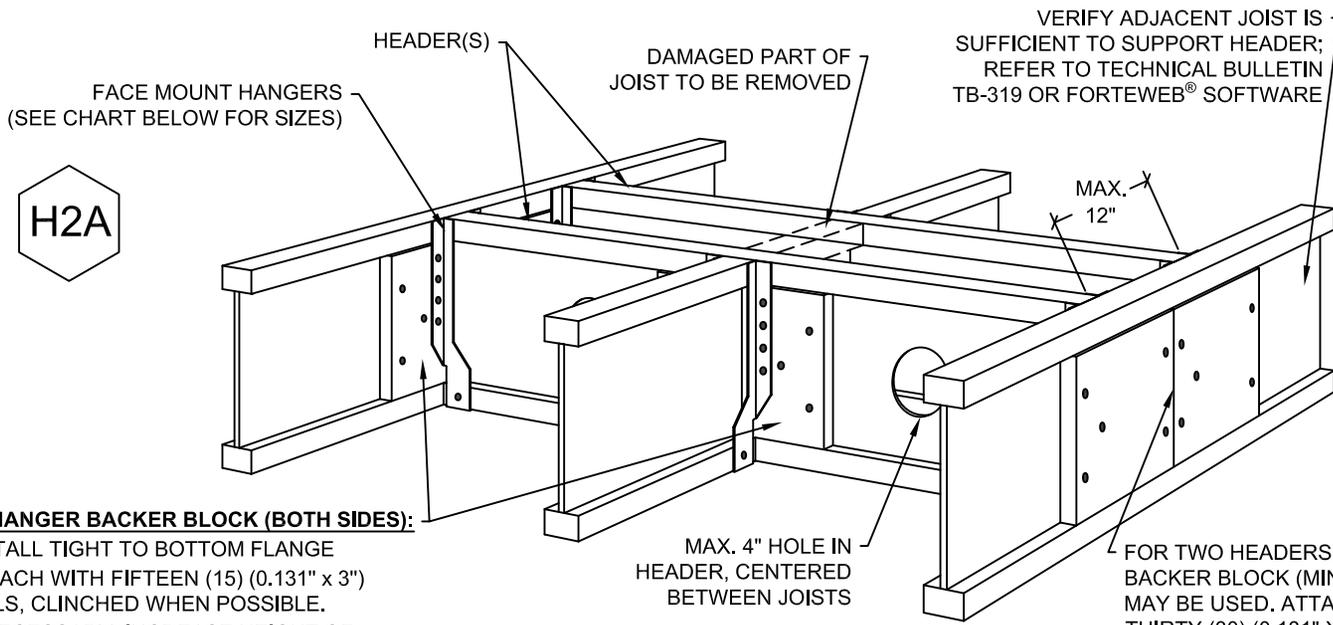
- Tables are based on:
  - Uniform loads.
  - Live load deflection criteria  $L/480$ .
  - More restrictive of simple or continuous span.
  - Clear distance between supports.
  - Minimum bearing length of  $1\frac{3}{4}$ " end (no web stiffeners for TJI® joists) and  $3\frac{1}{2}$ " intermediate.
- Glue-nailed floor sheathing assumed.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.
- Tables show maximum allowable clear span of damaged joist and adjacent joists for **Header-Off** repair.
  - Assumes worst case of moment, shear, reaction, and deflection controls.
- Verify existing holes in TimberStrand® LSL or TJI® joists are still acceptable prior to installing header.
- 12" maximum spacing between headers.
- Install additional framing in opening to support sheathing as required.



**For TJI® joists, see [TJ-4000](#) for additional information and installation details. For TimberStrand® LSL joists, see [TJ-8014](#).**

***If you have any questions, please contact your Weyerhaeuser representative.***

H2A



VERIFY ADJACENT JOIST IS SUFFICIENT TO SUPPORT HEADER; REFER TO TECHNICAL BULLETIN TB-319 OR FORTEWEB® SOFTWARE

**[TYP] HANGER BACKER BLOCK (BOTH SIDES):**

- INSTALL TIGHT TO BOTTOM FLANGE
- ATTACH WITH FIFTEEN (15) (0.131" x 3") NAILS, CLINCHED WHEN POSSIBLE.
- IF NECESSARY, INCREASE HEIGHT OF FILLER/BACKER BLOCK FOR FACE MOUNT HANGERS AND MAINTAIN 1/8" GAP BELOW TOP FLANGE OF JOIST.
- FILLER/BACKER BLOCK DIMENSIONS SHOULD ACCOMMODATE REQUIRED NAILING WITHOUT SPLITTING (MIN. LENGTH = 12").

MAX. 4" HOLE IN HEADER, CENTERED BETWEEN JOISTS

FOR TWO HEADERS, CONTINUOUS BACKER BLOCK (MIN. LENGTH = 24") MAY BE USED. ATTACH WITH THIRTY (30) (0.131" X 3") NAILS, CLINCHED WHEN POSSIBLE.

**HANGER BACKER BLOCK SIZES:**

- TJI® 110 - 5/8" or 3/4"
- TJI® 210 - 3/4" or 7/8"
- TJI® 230 - 7/8" or 1" net
- TJI® 360 - 7/8" or 1" net
- TJI® 560 - 2x\_

Depth	Joist	Simpson®	USP®
9½"	110	IUS1.81/9.5	IHFL17925
	210	IUS2.06/9.5	IHFL20925
	230	IUS2.37/9.5	IHFL23925
11⅞"	110	IUS1.81/11.88	IHFL17112
	210	IUS2.06/11.88	IHFL20112
	230	IUS2.37/11.88	IHFL23112
	360	IUS2.37/11.88	IHFL23112
	560	IUS3.56/11.88	IHFL35112
14"	110	IUS1.81/14	IHFL1714
	210	IUS2.06/14	IHFL2014
	230	IUS2.37/14	IHFL2314
	360	IUS2.37/14	IHFL2314
	560	IUS3.56/14	IHFL3514
16"	210	IUS2.06/16	IHFL2016
	230	IUS2.37/16	IHFL2316
	360	IUS2.37/16	IHFL2316
	560	IUS3.56/16	IHFL3516



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HEADER-OFF REPAIR DETAIL FOR DAMAGED TJI® JOISTS (SEE TB-319)

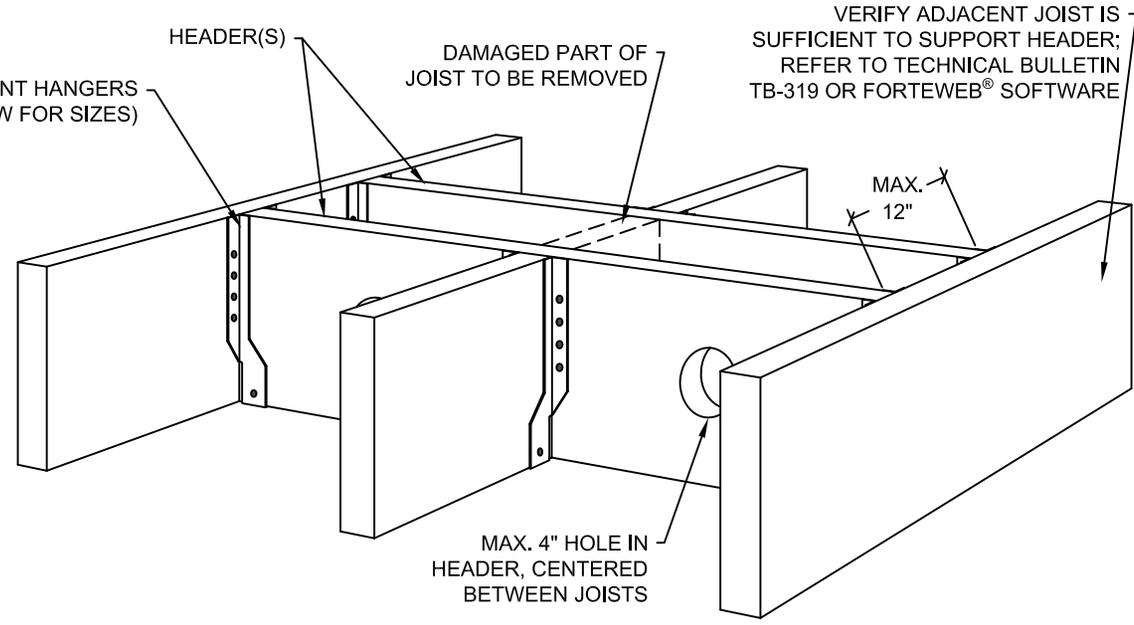
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DRAWING DATE: 2023-01-13

PROJECT #:  
SERVICE #:  
SHEET:

H2A

FACE MOUNT HANGERS  
(SEE CHART BELOW FOR SIZES)

L3A



VERIFY ADJACENT JOIST IS  
SUFFICIENT TO SUPPORT HEADER;  
REFER TO TECHNICAL BULLETIN  
TB-319 OR FORTEWEB® SOFTWARE

MAX. 4" HOLE IN  
HEADER, CENTERED  
BETWEEN JOISTS

MAX.  
12"

Depth	Simpson®	USP®
9½"	LUS210	JUS210
11⅞"	LUS210	JUS210
14"	U214	SUH214

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**HEADER-OFF REPAIR DETAIL FOR DAMAGED  
1.5E TIMBERSTRAND® LSL JOISTS (SEE TB-319)**

DRAWN BY: Weyerhaeuser PECS  
DRAWING DATE: 2023-01-13

PROJECT #:

SERVICE #:

SHEET:

L3A