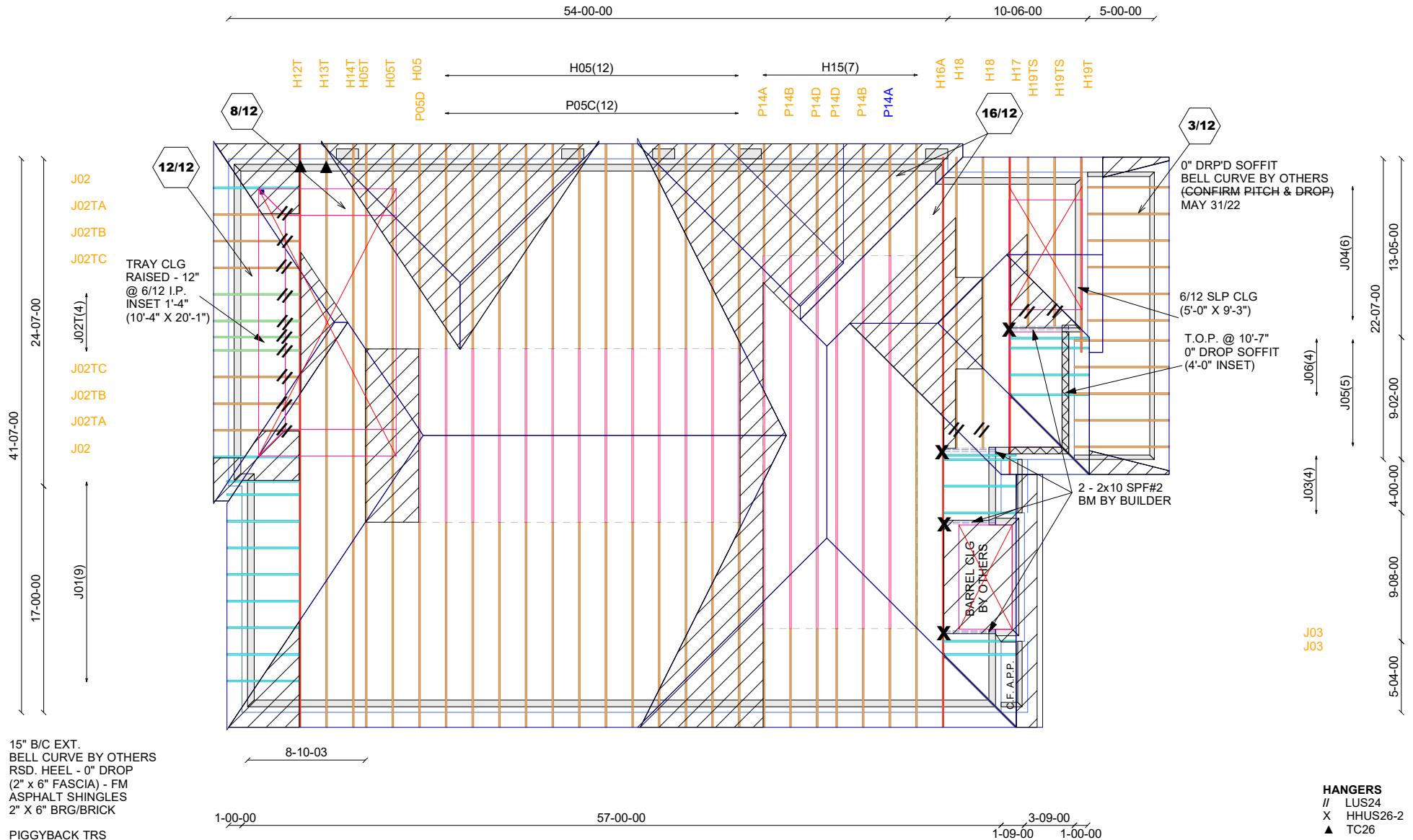




E22075300 - E22075325

Mitek V. 8.5.3.233

ALL CONVENTIONAL FRAMING TO CONFORM WITH PART 9 O.B.C. LATEST EDITION. ROOF RAFTERS THAT CROSS OVER TRUSSES TO BE 2X4 SPF #2 @ 24" O.C WITH A VERT. POST TO THE TRUSS UNDERNEATH AT EACH CROSS POINT. VERT. POSTS LONGER THAN 6' TO HAVE LATERAL BRACING SO THAT THE DISTANCE BETWEEN END POINTS & BETWEEN ROWS OF BRACING DOES NOT EXCEED 6'

CONVENTIONAL
FRAMING BY
OTHERS



Job Track: **45147**
Layout ID: **346377**
Plan Log: **118156**

Builder / Location:
GOLD PARK HOMES / VAUGHAN

Model / Elevation: "TIMBERLAND"
5011 / B LOT 67

Project: **PINE VALLEY PH 2**
Date: **7/20/2022** Designer: JBURROWS Ref L.I.: 343216

THESE DRAWINGS CONSTITUTE THE PROPERTY OF ALPA ROOF TRUSSES INC., SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY ALPA ROOF TRUSSES INC AND WILL BE RETRACTED BY ALPA ROOF TRUSSES INC IF UTILIZED FOR ANY OTHER PURPOSE.

EWP DESIGN INC.

(905) 832-2250

FAX (905) 832-0286

RESPONSIBILITIES AND SPECIFICATIONS

RESPONSIBILITIES

1. EWP DESIGN INC. is responsible for the design of trusses as individual components.
2. It is the responsibility of others to ascertain that the design loads utilized on each drawing meet or exceed the actual dead load imposed by the structure, the live load imposed by the intended use and the snow load imposed by local building code or authorities with jurisdictions.
3. All dimensions are to be verified by the owner, contractor, architect or other authorities with jurisdictions before truss fabrication.
4. EWP DESIGN INC. bears no responsibility for the erection of trusses. Persons erecting trusses are cautioned to seek professional advice regarding the temporary and permanent bracing for the system. Bracing shown on EWP DESIGN INC. drawing is specified for the truss as a component only and forms an integral part of the truss design.
5. It is the truss manufacturer's responsibility to ensure that trusses are manufactured in conformance with specifications of EWP DESIGN INC. as outlined below.

SPECIFICATIONS

1. Trusses designed by EWP DESIGN INC. conform to the relevant section of the Ontario Building Code of Canada (Part 9 or Part 4) or to the Canadian code for farm buildings, whichever applies to the building type, as indicated on the EWP DESIGN INC. drawings, and conform to the design procedures established by the Truss Plate Institute of Canada. Unit stresses used for truss designs are as per the edition of CSA-O86 shown on EWP DESIGN INC. drawings.
2. Lumber is to be the size, species and grade as specified on EWP DESIGN INC. drawings.
3. Moisture content of lumber shall not exceed 19% in service unless specified otherwise.
4. Metal connector plates shall be applied to both faces of truss at each joint and shall be positioned as specified.
5. Top chords of trusses are assumed to be continuously braced laterally by roof sheathing or by purlins at intervals not exceeding 12.5 times the thickness of top chord member.
6. Bottom chords shall be laterally braced at intervals not exceeding 3M (10') o.c., where rigid ceiling is not applied directly to the underside of chords.

THESE DRAWINGS CONSTITUTE THE PROPERTY OF EWP DESIGN INC., SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY THE ALPA LUMBER GROUP, AND WILL BE RETRACTED BY EWP DESIGN INC. IF UTILIZED FOR ANY OTHER PURPOSE.

346378

H05T

1

TRUSS DESC.

JT 45147

E22075301

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jul 25 12:11:30 2022 Page 1

ID:9a plwcon izmXpuR1McGqzT9hG-afLD0InXhD5qFj1IHCJmhr43MN5f5ohRsGWUx5yuY3

1-6-8

0-0

7-0-8

7-0-8

6-10-0

13-10-8

4-11-8

18-10-0

20-10-0

6-0-8

26-10-8

5-0-4

31-10-12

5-0-4

36-11-0

38-11-0

40-9-0

42-3-8

Scale = 1:69.9

1-6-8

5-8

39-10-0

1-6-8

0-0

7-0-8

7-0-8

6-10-0

13-10-8

4-11-8

18-10-0

20-10-0

6-0-8

26-10-8

5-0-4

31-10-12

5-0-4

36-11-0

38-11-0

40-9-0

TOTAL WEIGHT = 2 X 206 = 413 lb

[illegible]

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
346378	H12T	1		JT 45147	E22075302

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jul 25 12:11:33 2022 Page 1

ID:9a plwcon izmXpuR1McGqzT9hG- E0LfJpQz8TP6BmtzKsTIUIt2b0OI86YEk8YQyuY

Scale = 1:70.7

The drawing illustrates a roof truss system with various members and joints. Key dimensions include a total length of 39'-10" and a peak height of 8'-0". Members are labeled with alphanumeric codes (e.g., T1, W1, B1) and their respective sizes (e.g., 8x9, 4x6, 2x4). Joints are marked with letters (A, B, C, etc.) and numbers (1, 2, etc.). The truss is supported by a base with dimensions 1'-6" and 5'-8".

TOTAL WEIGHT = 237 lb

[illegible][illegible]

[illegible]

LUMBER				DESIGN CRITERIA						
N. L. G. A. RULES	CHORDS	SIZE	LUMBER	DESCR.	*** SPECIAL LOADS ANALYSIS ***					
A - B	2x4	DRY	No.2	SPF	GEOMETRY AND/OR BASIC LOADS CHANGED BY USER.					
B - D	2x6	DRY	No.2	SPF	LOADS WERE DERIVED FROM USER INPUT NO FURTHER MODIFICATIONS WERE MADE					
D - H	2x6	DRY	No.2	SPF	SPECIFIED LOADS:					
H - J	2x6	DRY	No.2	SPF	TOP CH.	LL = 21.0	PSF			
J - K	2x4	DRY	No.2	SPF		DL = 6.0	PSF			
X - A	2x6	DRY	No.2	SPF	BOT CH.	LL = 0.0	PSF			
M - K	2x6	DRY	No.2	SPF		DL = 7.4	PSF			
Y - U	2x6	DRY	No.2	SPF	TOTAL LOAD =	34.4	PSF			
U - P	2x6	DRY	No.2	SPF	SPACING = 24.0 IN./C					
P - L	2x6	DRY	No.2	SPF	LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM					
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF	GIRDER TYPE: CPrimeHip					
DRY: SEASONED LUMBER.				SIDE SETBACK = 3-10-8						
				END SETBACK = 3-10-8						
				END WALL WIDTH = 0-0						
				CORNER FRAMING TYPE: CONVENTIONAL						
				END JACK TYPE: CONVENTIONAL						
				APPLIED TO FRONT SIDE						
				- ADDTL LOADS BASED ON 55 % OF GSL.						
				LOADS APPLIED TO FIRST 19-3-8 OF SPAN						
				MEASURED FROM THE LEFT.						
				*** NON STANDARD GIRDER ***						
				ADDTL USER-DEFINED LOADS APPLIED TO ALL LOAD CASES.						
				THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC2015						
				THIS DESIGN COMPLIES WITH:						
				- PART 9 OF BCBC 2018 , ABC 2019						
				- PART 9 OF OBC 2012 (2019 AMENDMENT)						
				- CSA 086-14						
				- TPIC 2014						
				(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD						
				ALLOWABLE DEFL.(LL)= L/360 (1.33")						
				CALCULATED VERT. DEFL.(LL) = L/ 999 (0.27")						
				ALLOWABLE DEFL.(TL)= L/360 (1.33")						
				CALCULATED VERT. DEFL.(TL)= L/ 972 (0.49")						
				CANTILEVER DEFLECTION:						
				ALLOWABLE DEFL.(LL)= L/120 (0.19")						
				CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")						
				ALLOWABLE DEFL.(TL)= L/120 (0.19")						
				CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")						
				CSI: TC=0.59/1.00 (A-B:1) , BC=0.93/1.00 (R-S:1) , WB=0.83/1.00 (B-V:1) , SSI=0.32/1.00 (T-V:1)						
				DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS=1.00						
				COMPANION LIVE LOAD FACTOR = 1.00						

LATERAL BRACE(S) SHOWN SHALL BE
2X4 SPF#2



DESIGN CRITERIA

*** SPECIAL LOADS ANALYSIS ***

GEOMETRY AND/OR BASIC LOADS CHANGED BY USER.

LOADS WERE DERIVED FROM USER INPUT NO FURTHER MODIFICATIONS WERE MADE

SPECIFIED LOADS:

TOP	CH.	LL =	21.0	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	0.0	PSF
		DL =	7.4	PSF
TOTAL		DL =	34.4	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

GIRDER TYPE: CPrimeHip

SIDE SETBACK = 3-10-8

END SETBACK = 3-10-8

END WALL WIDTH = 0-0

CORNER FRAMING TYPE: CONVENTIONAL

END JACK TYPE: CONVENTIONAL

APPLIED TO FRONT SIDE

- ADDTL LOADS BASED ON 55 % OF GSL.

LOADS APPLIED TO FIRST 19-3-8 OF SPAN MEASURED FROM THE LEFT.

*** NON STANDARD GIRDER ***

ADDTL USER-DEFINED LOADS APPLIED TO ALL LOAD CASES.

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC2015

THIS DESIGN COMPLIES WITH:

- PART 9 OF CBC2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.33")

CALCULATED VERT. DEFL.(LL) = L/ 999 (0.27")

ALLOWABLE DEFL.(TL)= L/360 (1.33")

CALCULATED VERT. DEFL.(TL) = L/ 972 (0.49")

CANTILEVER DEFLECTION:

ALLOWABLE DEFL.(LL)= L/120 (0.19")

CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")

ALLOWABLE DEFL.(TL)= L/120 (0.19")

CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.59/1.00 (A-B:1) , BC=0.93/1.00 (R-S:1) , WB=0.83/1.00 (B-V:1) , SSI=0.32/1.00 (T-V:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00

COMP=1.00 SHEAR=1.00 TENS=1.00

COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI)	SHEAR (PLI)	SECTION (PLI)
	MAX MIN	MAX MIN	MAX MIN
MT20	650 371	1747 788	1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.90 (C) (INPUT = 0.90)

JSI METAL= 0.88 (U) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
346378	H17	1		JT 45147	E22075307

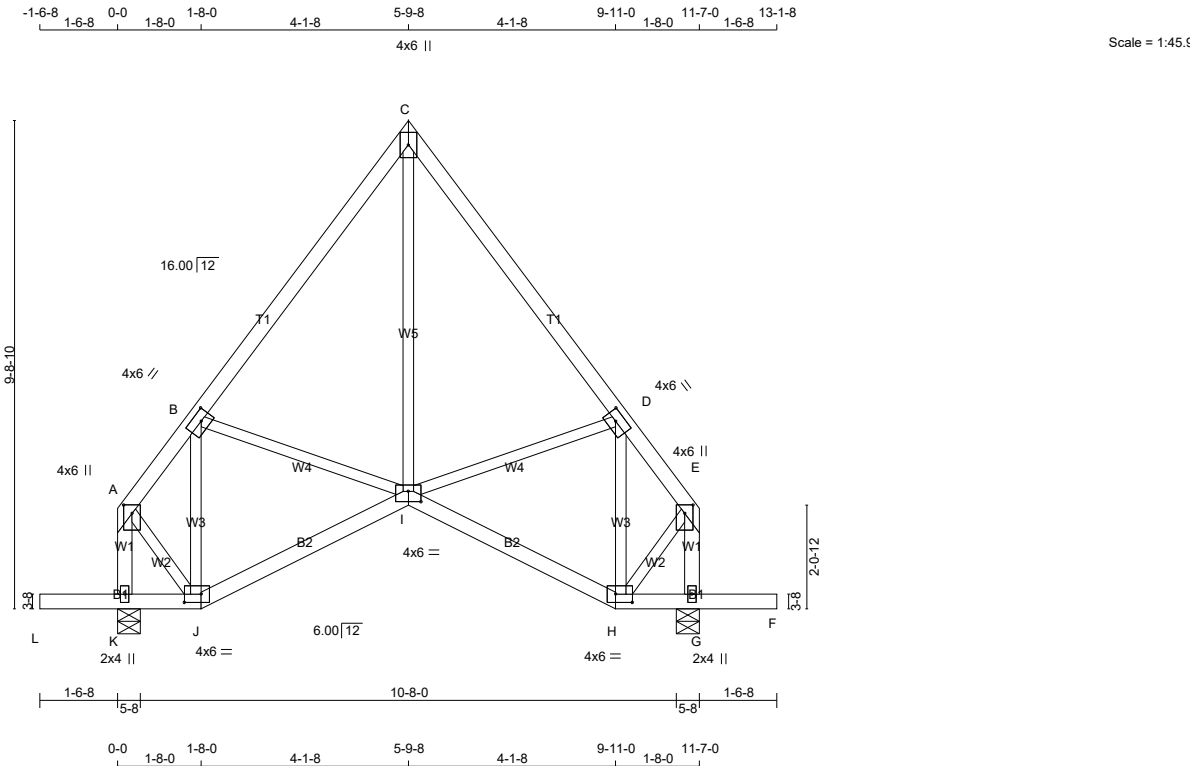
Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jul 25 12:11:43 2022 Page 1
 ID:9a plwcon izmXpuR1McGqzT9hG-h9d7lkxhdDk JjXoYR2pib6l daLeiMLm9qvryuY

Scale = 1:41.3

TOTAL WEIGHT = 135 lb

[illegible]



TOTAL WEIGHT = 66 lb

LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE	LUMBER	DESCR.	
A - C	2x4	DRY	No.2	SPF
C - E	2x4	DRY	No.2	SPF
K - A	2x4	DRY	No.2	SPF
G - E	2x4	DRY	No.2	SPF
L - J	2x4	DRY	No.2	SPF
J - I	2x4	DRY	No.2	SPF
I - H	2x4	DRY	No.2	SPF
H - F	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
DRY: SEASONED LUMBER.				

PLATES (table is in inches)						
JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	4.0	6.0	2.00	2.00
B	TMWW-t	MT20	4.0	6.0	2.00	2.50
C	TTW+p	MT20	4.0	6.0		
D	TMWW-t	MT20	4.0	6.0	2.00	2.50
E	TMVW+p	MT20	4.0	6.0	2.00	2.00
G	BMV1+p	MT20	2.0	4.0		
H	BBWW-I	MT20	4.0	6.0	2.00	4.00
I	BBWWW-p	MT20	4.0	6.0	2.50	3.00
J	BBWW-I	MT20	4.0	6.0	2.00	4.00
K	BMV1+p	MT20	2.0	4.0		

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS		FACTORED		MAXIMUM FACTORED		INPUT		REQRD	
JT	GROSS REACTION	VERT	HORZ	GROSS REACTION	DOWN	UP	IN-SX	BRG	IN-SX
K	707	0		707	0	0	5-8	1-8	
G	707	0		707	0	0	5-8	1-8	

UNFACTORED REACTIONS		1ST LCASE		MAX/MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL		
K	504	308 / 0	0 / 0	0 / 0	0 / 0	197 / 0	0 / 0		
G	504	308 / 0	0 / 0	0 / 0	0 / 0	197 / 0	0 / 0		

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) K, G

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING		TOTAL LOAD CASES: (4)							
C H O R D S		M E M B.		W E B S					
MAX. FACTORED		FORCE		MAX. FACTORED		FORCE		MAX. FACTORED	
FR-TO		FROM TO		LENGTH		FR-TO		LENGTH	
A-B	-295 / 0	-78.0	-78.0	0.14 (1)	6.25	I-C	0 / 284	0.06 (1)	
B-C	-370 / 0	-78.0	-78.0	0.16 (1)	6.25	I-D	0 / 6	0.00 (4)	
C-D	-370 / 0	-78.0	-78.0	0.16 (1)	6.25	H-D	-327 / 0	0.08 (1)	
D-E	-295 / 0	-78.0	-78.0	0.14 (1)	6.25	B-I	0 / 6	0.00 (4)	
K-A	-475 / 0	0.0	0.0	0.05 (1)	7.81	J-B	-327 / 0	0.08 (1)	
G-E	-475 / 0	0.0	0.0	0.05 (1)	7.81	A-J	0 / 300	0.07 (1)	
						H-E	0 / 300	0.07 (1)	
L-K	0 / 0	-96.5	-96.5	0.16 (1)	10.00				
K-J	0 / 0	-18.5	-18.5	0.12 (1)	10.00				
J-I	0 / 232	-18.5	-18.5	0.11 (4)	10.00				
I-H	0 / 232	-18.5	-18.5	0.11 (4)	10.00				
H-G	0 / 0	-18.5	-18.5	0.12 (1)	10.00				
G-F	0 / 0	-96.5	-96.5	0.16 (1)	10.00				

DESIGN CRITERIA

SPECIFIED LOADS:			
TOP	CH.	LL	= 21.0 PSF
		DL	= 6.0 PSF
BOT	CH.	LL	= 0.0 PSF
		DL	= 7.4 PSF
TOTAL LOAD		=	34.4 PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.39")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/360 (0.39")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.02")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 673 (0.03")

CSI: TC=0.16/1.00 (B-C:1) , BC=0.16/1.00 (F-G:1) , WB=0.08/1.00 (D-H:1) , SSI=0.12/1.00 (K-L:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES					
PLATE	GRIP(DRY)	SHEAR	SECTION		
	(PSI)	(PLI)	(PLI)		
	MAX	MIN	MAX	MIN	MAX
MT20	650	371	1747	788	1987

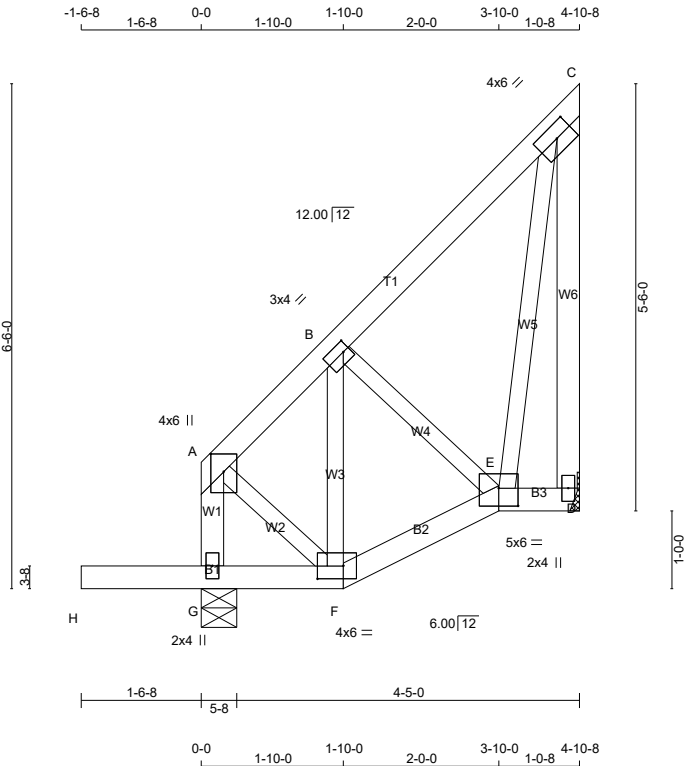
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.45 (J) (INPUT = 0.90)
JSI METAL= 0.16 (J) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2





Scale = 1:29.7

TOTAL WEIGHT = 4 X 32 = 129 lb

LUMBER					
N. L. G. A. RULES					
CHORDS		SIZE	LUMBER		DESCR.
G - A	2x4	DRY	No.2		SPF
A - C	2x4	DRY	No.2		SPF
D - C	2x4	DRY	No.2		SPF
H - F	2x4	DRY	No.2		SPF
F - E	2x4	DRY	No.2		SPF
E - D	2x4	DRY	No.2		SPF
ALL WEBS		2x3	DRY	No.2	SPF
DRY: SEASONED LUMBER.					

PLATES (table is in inches)						
JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	4.0	6.0	2.75	2.00
B	TMWW-t	MT20	3.0	4.0	1.50	1.00
C	TMVW-t	MT20	4.0	6.0	2.00	2.75
D	BMV1+p	MT20	2.0	4.0		
E	BBWW-l	MT20	5.0	6.0	2.75	3.00
F	BBWW-l	MT20	4.0	6.0	2.00	4.00
G	BMV1+p	MT20	2.0	4.0		

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG	
	VERT	HORZ	DOWN	HORZ	IN-SX	IN-SX	IN-SX	IN-SX
G	407	0	407	0	0	5-8	1-8	
D	212	0	212	0	0	MECHANICAL		

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT D. MINIMUM BEARING LENGTH AT JOINT D = 1-8.

UNFACTORED REACTIONS		MAX./MIN. COMPONENT REACTIONS					
JT	1ST LCASE COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
G	290	177 / 0	0 / 0	0 / 0	0 / 0	113 / 0	0 / 0
D	151	92 / 0	0 / 0	0 / 0	0 / 0	59 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) G

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING				TOTAL LOAD CASES: (4)			
C H O R D S				W E B S			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM TO			FR-TO		
G- A	-179 / 0	0.0	0.0 0.02 (1)	7.81	A- F	0 / 109	0.02 (1)
A- B	-99 / 0	-78.0	-78.0 0.09 (1)	6.25	F- B	-132 / 0	0.03 (1)
B- C	-52 / 0	-78.0	-78.0 0.09 (1)	6.25	B- E	-82 / 0	0.02 (1)
D- C	-202 / 0	0.0	0.0 0.10 (1)	7.81	E- C	0 / 130	0.03 (1)
H- G	0 / 0	-96.5	-96.5 0.16 (1)	10.00			
G- F	0 / 0	-18.5	-18.5 0.16 (1)	10.00			
F- E	0 / 95	-18.5	-18.5 0.03 (4)	10.00			
E- D	0 / 0	-18.5	-18.5 0.01 (4)	10.00			

DESIGN CRITERIA

SPECIFIED LOADS:			
TOP CH.	LL	=	21.0 PSF
	DL	=	6.0 PSF
BOT CH.	LL	=	0.0 PSF
	DL	=	7.4 PSF
TOTAL LOAD	=	34.4	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 569 (0.03")

CSI: TC=0.10/1.00 (C-D:1) , BC=0.16/1.00 (F-G:1) , WB=0.03/1.00 (C-E:1) , SSI=0.12/1.00 (G-H:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES				
PLATE	GRIP(DRY)	SHEAR	SECTION	
	(PSI)	(PLI)	(PLI)	
	MAX	MIN	MAX	MIN
MT20	650	371	1747	788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.17 (F) (INPUT = 0.90)
JSI METAL= 0.07 (F) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

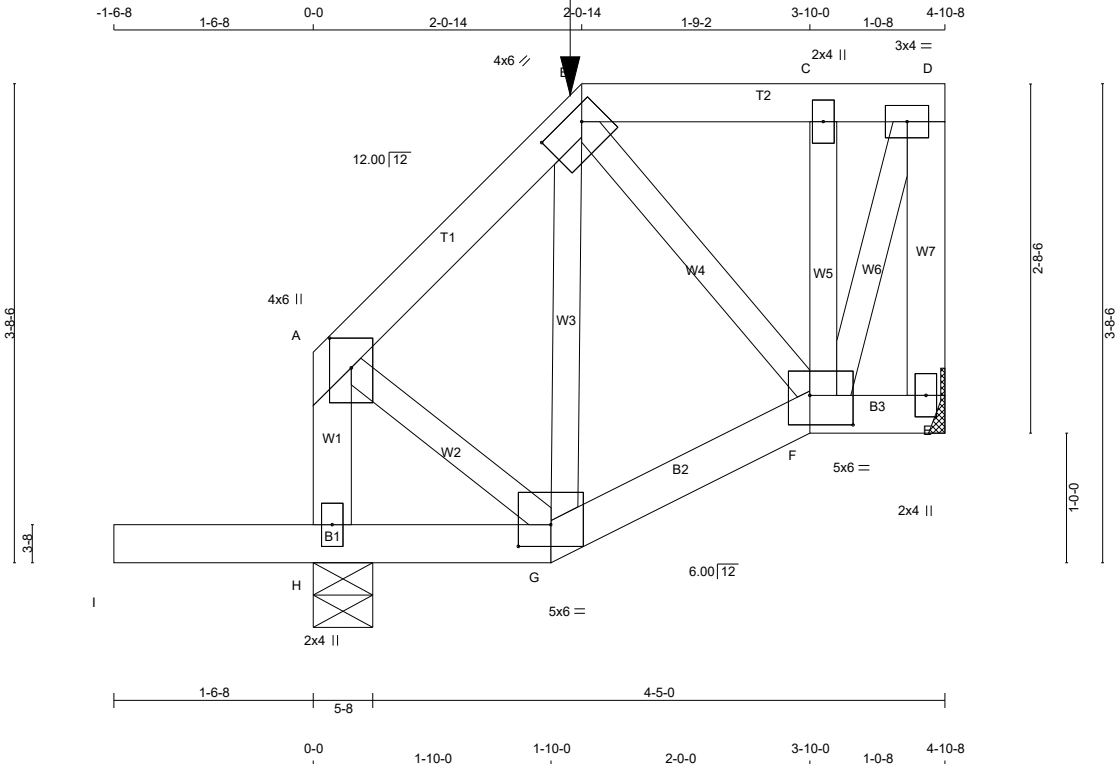


JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
346378	J02TA		1	TRUSS DESC. JT 45147	E22075314

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jul 25 12:11:53 2022 Page 1

ID:9a plwcon izmXpuR1McGqzT9hG-P5Evr92zGI?ZWGJl8XD96iX6vf0G PYp8LaCEGyuY2q



TOTAL WEIGHT = 2 X 28 = 56 lb

LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE	LUMBER	DESCR.	
A - B	2x4	DRY	No.2	SPF
B - D	2x4	DRY	No.2	SPF
E - D	2x4	DRY	No.2	SPF
H - A	2x4	DRY	No.2	SPF
I - G	2x4	DRY	No.2	SPF
G - F	2x4	DRY	No.2	SPF
F - E	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
DRY: SEASONED LUMBER.				

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
A	TMVW+p	MT20	4.0	6.0	2.75 2.00
B	TTWW-h	MT20	4.0	6.0	1.25 4.00
C	TMW+w	MT20	2.0	4.0	
D	TMVW-t	MT20	3.0	4.0	
E	BMV1+p	MT20	2.0	4.0	
F	BBWWW-p	MT20	5.0	6.0	2.75 4.00
G	BBWW-l	MT20	5.0	6.0	2.00 3.00
H	BMV1+p	MT20	2.0	4.0	

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

		FACTORED		MAXIMUM FACTORED		INPUT		REQRD	
		GROSS REACTION		DOWN		BRG		BRG	
JT	VERT	HORZ				IN-SX	IN-SX		
E	323	0	323	0	0	MECHANICAL			
H	488	0	488	0	0	5-8	1-8		

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT E. MINIMUM BEARING LENGTH AT JOINT E = 1-8.

UNFACTORED REACTIONS

		1ST LCASE	MAX./MIN. COMPONENT REACTIONS				
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
E	230	142 / 0	0 / 0	0 / 0	0 / 0	88 / 0	0 / 0
H	348	210 / 0	0 / 0	0 / 0	0 / 0	138 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) H

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING

TOTAL LOAD CASES: (4)

C H O R D S				W E B S			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM TO			FR-TO		
A- B	-143 / 0	-78.0 -78.0	0.06 (1)	6.25	G- B	-137 / 0	0.03 (1)
B- C	-112 / 0	-111.3 -111.3	0.06 (1)	6.25	B- F	0 / 3	0.00 (4)
C- D	-120 / 0	-111.3 -111.3	0.03 (1)	6.25	F- C	-183 / 0	0.03 (1)
E- D	-309 / 0	0.0 0.0	0.04 (1)	7.81	F- D	0 / 301	0.07 (1)
H- A	-252 / 0	0.0 0.0	0.03 (1)	7.81	A- G	0 / 122	0.03 (1)
I- H	0 / 0	-96.5 -96.5	0.17 (1)	10.00			
H- G	0 / 0	-26.4 -26.4	0.17 (1)	10.00			
G- F	0 / 123	-26.4 -26.4	0.05 (4)	10.00			
F- E	0 / 0	-26.4 -26.4	0.01 (4)	10.00			

FACTORED CONCENTRATED LOADS (LBS)									
JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
B	2-0-14	-59	-59	---	FRONT	VERT	TOTAL	---	C1

CONNECTION REQUIREMENTS

1) C1: A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

DESIGN CRITERIA

SPECIFIED LOADS:				
TOP	CH.	LL	=	21.0 PSF
		DL	=	6.0 PSF
BOT	CH.	LL	=	0.0 PSF
		DL	=	7.4 PSF
TOTAL LOAD		=	34.4 PSF	

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

GIRDER TYPE: CPrimeHip
LEFT SETBACK = 2-0-14
RIGHT SETBACK = 0-0
END SETBACK = 3-8-8
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDTL LOADS BASED ON 55 % OF GSL.

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 576 (0.03")

CSI: TC=0.06/1.00 (A-B:1) , BC=0.17/1.00 (G-H:1) , WB=0.07/1.00 (D-F:1) , SSI=0.13/1.00 (H-I:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00

COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE RIGHT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES					
PLATE	GRIP(DRY)	SHEAR	SECTION		
	(PSI)	(PLI)	(PLI)		
	MAX MIN	MAX MIN	MAX MIN		
MT20	650	371	1747	788	1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.80 (D) (INPUT = 0.90)
JSI METAL= 0.11 (F) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

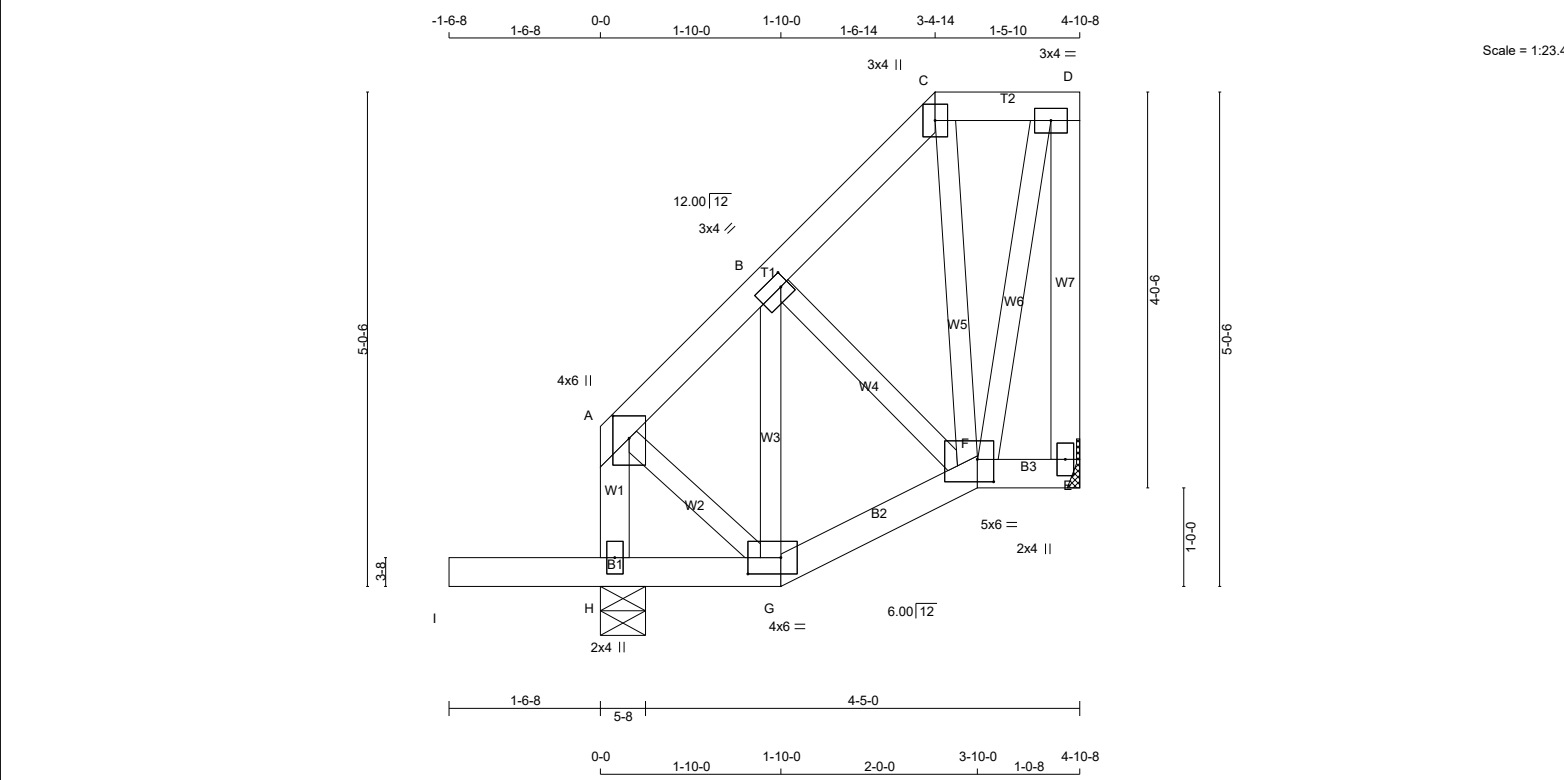


JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
346378	J02TB		1	TRUSS DESC. JT 45147	E22075315

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jul 25 12:11:54 2022 Page 1

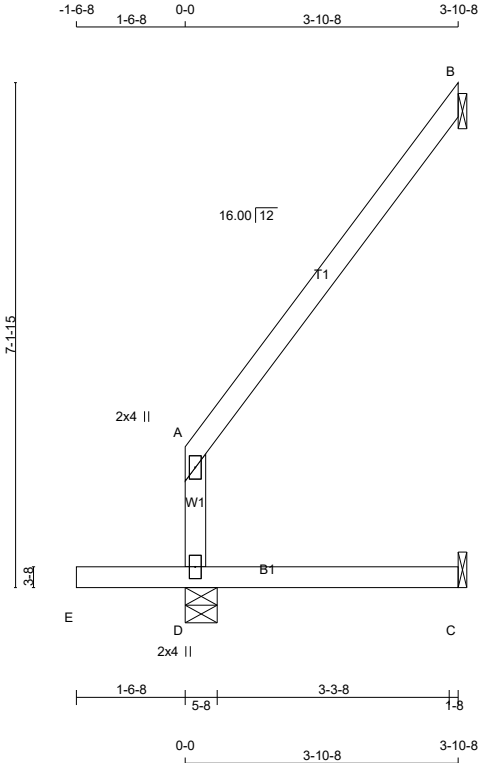
ID:9a plwcon izmXpuR1McGqzT9hG-tHnH3V3b1b7Q8PtvhFkOfv3Hr3MljtQzN?KlmiyuY2p



TOTAL WEIGHT = 2 X 32 = 64 lb

LUMBER										DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER										DESIGN CRITERIA																								
N. L. G. A. RULES										BEARINGS										SPECIFIED LOADS:																								
CHORDS					SIZE					LUMBER					DESCR.					TOP CH.					LL = 21.0 PSF																			
A - C					2x4					DRY					No.2					SPF					DL = 6.0 PSF																			
C - D					2x4					DRY					No.2					SPF					BOT CH.					LL = 0.0 PSF														
E - D					2x4					DRY					No.2					SPF					DL = 7.4 PSF																			
H - A					2x4					DRY					No.2					SPF					TOTAL LOAD = 34.4 PSF																			
I - G					2x4					DRY					No.2					SPF																								
G - F					2x4					DRY					No.2					SPF																								
F - E					2x4					DRY					No.2					SPF																								
ALL WEBS EXCEPT										2x3					DRY					No.2					SPF																			
DRY: SEASONED LUMBER.																				LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM																								
PLATES (table is in inches)																				THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015																								
JT TYPE					PLATES					W					LEN					Y					X																			
A					TMVW+p					MT20					4.0					6.0					2.75					2.00														
B					TMWW-t					MT20					3.0					4.0					1.50					1.00														
C					TTW+p					MT20					3.0					4.0																								
D					TMVW-t					MT20					3.0					4.0																								
E					BMV1+p					MT20					2.0					4.0																								
F					BBWWW-p					MT20					5.0					6.0					2.75					2.00														
G					BBWW-l					MT20					4.0					6.0					2.00					4.00														
H					BMV1+p					MT20					2.0					4.0																								
										BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) H										THIS DESIGN COMPLIES WITH: - PART 9 OF BCBC 2018 , ABC 2019 - PART 9 OF OBC 2012 (2019 AMENDMENT) - CSA 086-14 - TPIC 2014																								
										BRACING										DESIGN ASSUMPTIONS -OVERHANG NOT TO BE ALTERED OR CUT OFF.																								
										TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT. MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED.										(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD																								
										ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.										ALLOWABLE DEFL.(LL)= L/360 (0.19") CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00") ALLOWABLE DEFL.(TL)= L/360 (0.19") CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")																								
										LOADING										CANTILEVER DEFLECTION: ALLOWABLE DEFL.(LL)= L/120 (0.19") CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02") ALLOWABLE DEFL.(TL)= L/120 (0.19") CALCULATED VERT. DEFL.(TL) = L/ 561 (0.03")																								
										TOTAL LOAD CASES: (4)										CSI: TC=0.05/1.00 (D-E:1) , BC=0.16/1.00 (G-H:1) , WB=0.03/1.00 (D-F:1) , SSI=0.12/1.00 (H-I:1)																								
										CHORDS										WEBS																								
MEMB.					MAX. FACTORED FORCE (LBS)					FACTORED VERT. LOAD (PLF)					LC1 MAX CSI (LC)					MAX. UNBRAC LENGTH					MEMB.					MAX. FACTORED FORCE (LBS)					MAX CSI (LC)									
FR-TO										FROM TO															FR-TO																			
A- B					-96 / 0					-78.0					-78.0					0.04 (1)					6.25					G- B					-115 / 0					0.02 (1)				
B- C					-79 / 0					-78.0					-78.0					0.04 (1)					6.25					B- F					-33 / 0					0.01 (1)				
C- D					-41 / 0					-78.0					-78.0					0.03 (1)					6.25					C- F					-60 / 0					0.02 (1)				
E- D					-202 / 0					0.0					0.0					0.05 (1)					7.81					F- D					0 / 151					0.03 (1)				
H- A					-179 / 0					0.0					0.0					0.02 (1)					7.81					A- G					0 / 91					0.02 (1)				
I- H					0 / 0					-96.5					-96.5					0.16 (1)					10.00																			
H- G					0 / 0					-18.5					-18.5					0.16 (1)					10.00																			
G- F					0 / 80					-18.5					-18.5					0.03 (4)					10.00																			
F- E					0 / 0					-18.5					-18.5					0.01 (4)					10.00																			
										COMPANION LIVE LOAD FACTOR = 1.00										TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .																								
										NAIL VALUES										PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI) MAX MIN MAX MIN MAX MIN MT20 650 371 1747 788 1987 1873																								
										PLATE PLACEMENT TOL. = 0.250 inches										PLATE ROTATION TOL. = 5.0 Deg.																								
										JSI GRIP= 0.31 (D) (INPUT = 0.90) JSI METAL= 0.06 (F) (INPUT = 1.00)																																		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



Scale = 1:32.7

TOTAL WEIGHT = 6 X 16 = 95 lb

LUMBER					
N. L. G. A. RULES					
CHORDS	SIZE		LUMBER	DESCR.	
D - A	2x4	DRY	No.2	SPF	
A - B	2x4	DRY	No.2	SPF	
E - C	2x4	DRY	No.2	SPF	

DRY: SEASONED LUMBER.

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
A	TMV+p	MT20	2.0	4.0	
D	BMV1+p	MT20	2.0	4.0	

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG	
	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX	
D	366	0	366	0	0	5-8	1-8	
B	129	0	129	0	0	1-8	1-8	
C	27	0	30	0	0	1-8	1-8	

SEE MITEK STANDARD DETAIL MSD2015-H FOR CONNECTION TO JOINT(S) B , C

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED		MAX./MIN. SNOW		LIVE		PERM.LIVE		WIND		DEAD		SOIL	
D	261		158 / 0		0 / 0		0 / 0		0 / 0		104 / 0		0 / 0	
B	90		70 / 0		0 / 0		0 / 0		0 / 0		20 / 0		0 / 0	
C	22		0 / 0		0 / 0		0 / 0		0 / 0		22 / 0		0 / 0	

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D, B

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING

TOTAL LOAD CASES: (7)

C H O R D S				W E B S			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM TO			FR-TO		
D- A	-173 / 0	0.0	0.0	0.11 (1)	7.81		
A- B	-17 / 0	-78.0	-78.0	0.15 (1)	6.25		
E- D	0 / 0	-96.5	-96.5	0.18 (7)	10.00		
D- C	0 / 0	-18.5	-18.5	0.08 (4)	10.00		

CANTILEVER ANALYSIS HAS BEEN CONSIDERED IN THIS DESIGN

PATTERN-LOADING CHECK APPLIED TO THIS TRUSS.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL	=	21.0	PSF
		DL	=	6.0	PSF
BOT	CH.	LL	=	0.0	PSF
		DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF	

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.15/1.00 (A-B:1) , BC=0.18/1.00 (D-E:7) ,
WB=0.00/1.00 (n/a:0) , SSI=0.14/1.00 (D-E:7)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES		PLATE GRIP(DRY) (PSI)		SHEAR (PLI)		SECTION (PLI)	
		MAX	MIN	MAX	MIN	MAX	MIN
MT20		650	371	1747	788	1987	1873

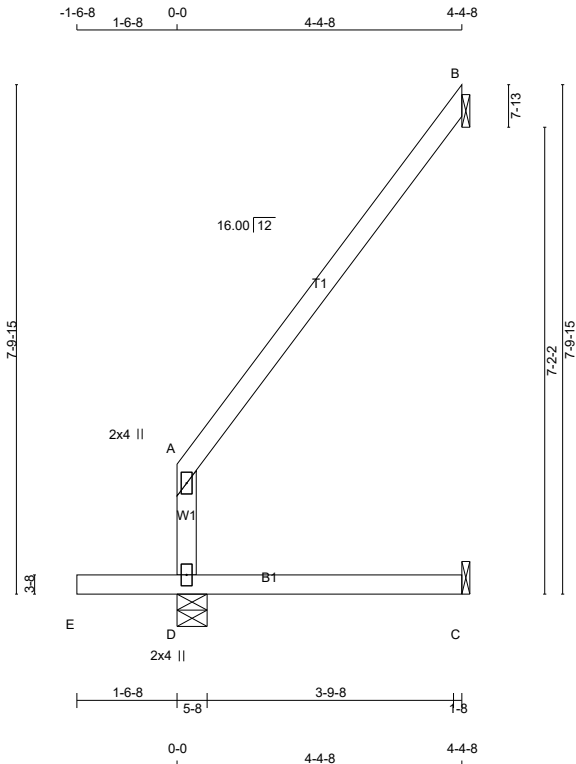
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.15 (A) (INPUT = 0.90)
JSI METAL= 0.08 (A) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2





TOTAL WEIGHT = 4 X 17 = 69 lb

LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE		LUMBER	DESCR.
D - A	2x4	DRY	No.2	SPF
A - B	2x4	DRY	No.2	SPF
E - C	2x4	DRY	No.2	SPF
DRY: SEASONED LUMBER.				

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
A	TMV+p	MT20	2.0	4.0	
D	BMV1+p	MT20	2.0	4.0	

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

JT	FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG	
	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX	
D	396	0	396	0	0	5-8	1-8	
B	145	0	145	0	0	1-8	1-8	
C	30	0	34	0	0	1-8	1-8	

SEE MITEK STANDARD DETAIL MSD2015-H FOR CONNECTION TO JOINT(S) B , C

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED		MAX/MIN. SNOW		LIVE		PERM.LIVE		WIND		DEAD		SOIL	
	SNOW	LIVE	SNOW	LIVE	SNOW	LIVE	SNOW	LIVE	SNOW	LIVE	SNOW	LIVE	SNOW	LIVE
D	282	170 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	112 / 0	0 / 0	112 / 0	0 / 0	0 / 0	0 / 0
B	100	78 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	22 / 0	0 / 0	22 / 0	0 / 0	0 / 0	0 / 0
C	24	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	24 / 0	0 / 0	24 / 0	0 / 0	0 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING

TOTAL LOAD CASES: (7)

MEMB.	C H O R D S		F A C T O R E D		W E B S		F A C T O R E D	
	MAX. FORCE (LBS)	VERT. (PLF)	LOAD (PLF)	LC1 MAX (LC)	MAX. UNBRAC LENGTH	MEMB. FR-TO	MAX. FORCE (LBS)	MAX (LC)
D-A	-196 / 0	0.0	0.0	0.15 (1)	7.81			
A-B	-21 / 0	-78.0	-78.0	0.18 (1)	6.25			
E-D	0 / 0	-96.5	-96.5	0.19 (7)	10.00			
D-C	0 / 0	-18.5	-18.5	0.10 (4)	10.00			

CANTILEVER ANALYSIS HAS BEEN CONSIDERED IN THIS DESIGN

PATTERN-LOADING CHECK APPLIED TO THIS TRUSS.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL	=	21.0	PSF
		DL	=	6.0	PSF
BOT	CH.	LL	=	0.0	PSF
		DL	=	7.4	PSF
TOTAL	LOAD	=	34.4	PSF	

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.18/1.00 (A-B:1) , BC=0.19/1.00 (D-E:7) ,
WB=0.00/1.00 (n/a:0) , SSI=0.14/1.00 (D-E:7)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10
COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES		PLATE GRIP(DRY)		SHEAR (PSI)		SECTION (PLI)	
		MAX	MIN	MAX	MIN	MAX	MIN
MT20		650	371	1747	788	1987	1873

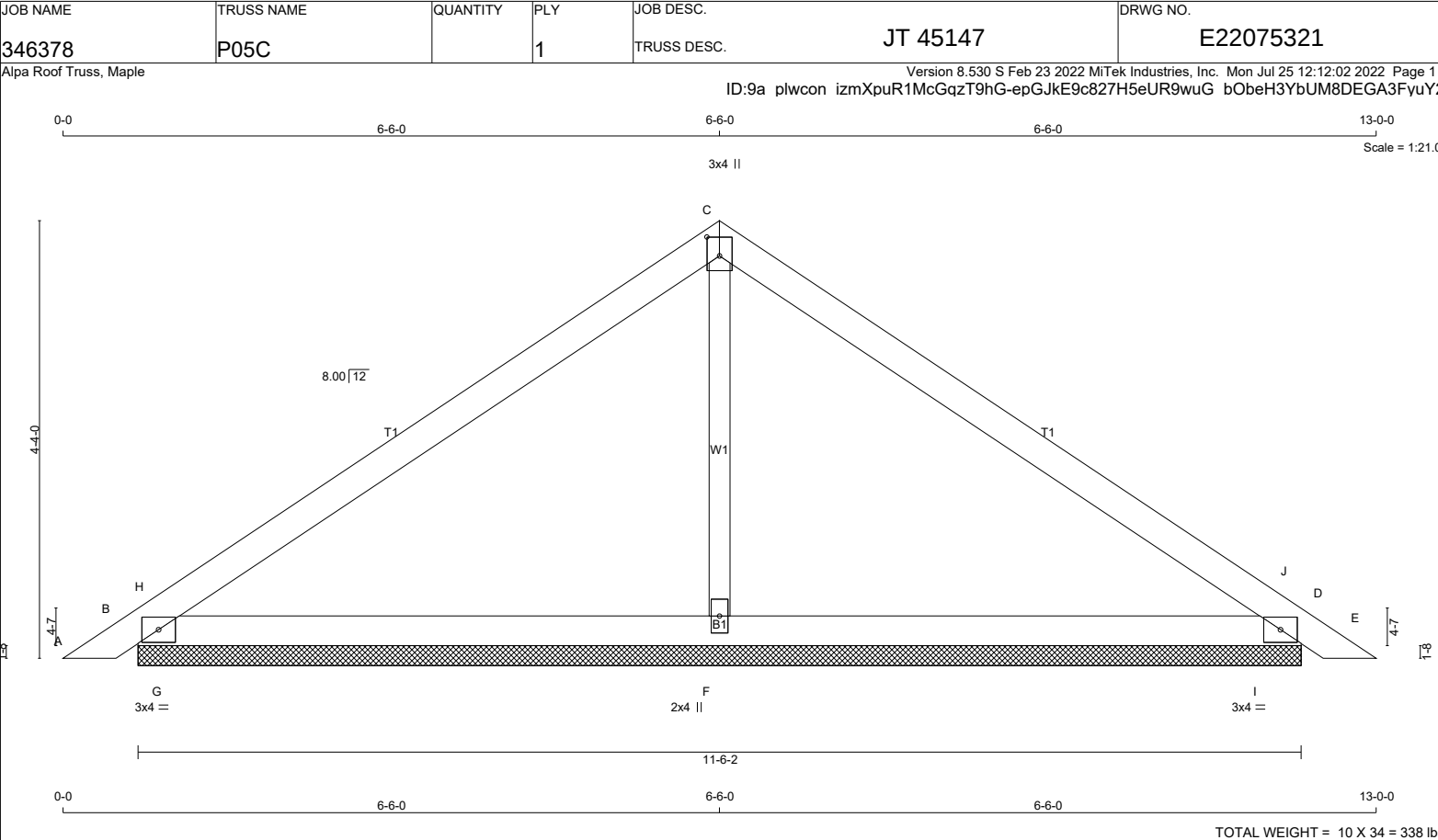
PLATE PLACEMENT TOL. = 0.250 inches

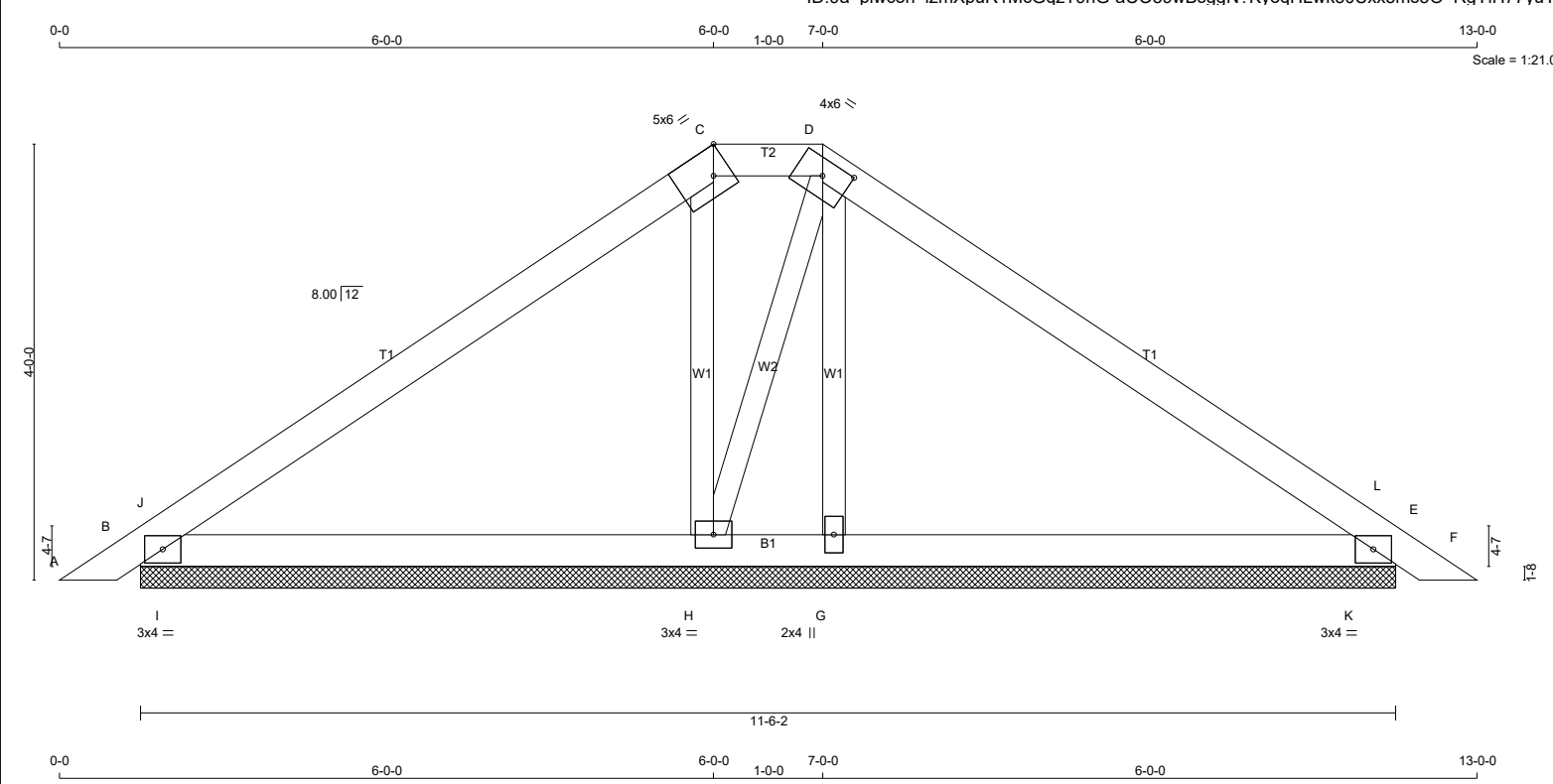
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.17 (A) (INPUT = 0.90)
JSI METAL= 0.09 (A) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2







TOTAL WEIGHT = 39 lb

LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE	LUMBER	DESCR.	
A - C	2x4	DRY	No.2	SPF
C - D	2x4	DRY	No.2	SPF
D - F	2x4	DRY	No.2	SPF
B - E	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
DRY: SEASONED LUMBER.				

PLATES (table is in inches)				
JT	TYPE	PLATES	W	LEN Y X
B	TMB1-l	MT20	3.0	4.0
C	TTW-h	MT20	5.0	6.0 Edge 2.00
D	TTWW-h	MT20	4.0	6.0 1.75 3.00
E	TMB1-l	MT20	3.0	4.0
G	BMW1+w	MT20	2.0	4.0
H	BMW1-t	MT20	3.0	4.0

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS		FACTORED GROSS REACTION		MAXIMUM FACTORED GROSS REACTION		INPUT BRG		REQRD BRG	
JT		VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX	
B		372	0	372	0	0	11-6-2	1-8	
E		382	0	382	0	0	11-6-2	1-8	
H		282	0	282	0	0	11-6-2	1-8	
G		178	0	178	0	0	11-6-2	1-8	

UNFACTORED REACTIONS		1ST LCASE		MAX./MIN. COMPONENT REACTIONS	
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND
B	263	172 / 0	0 / 0	0 / 0	0 / 0
E	270	179 / 0	0 / 0	0 / 0	0 / 0
H	201	124 / 0	0 / 0	0 / 0	0 / 0
G	129	64 / 0	0 / 0	0 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, E, H, G

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT. OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

LOADING		TOTAL LOAD CASES: (4)	
CHORDS		WEBS	
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. FACTORED FORCE (LBS)
FR-TO		FROM TO	MEMB. MAX. FACTORED FORCE (LBS)
A- B	0 / 13	-78.0 -78.0 0.03 (1)	10.00 H- C -126 / 0 0.03 (1)
B- J	-50 / 31	-78.0 -78.0 0.13 (1)	6.25 H- D -49 / 0 0.01 (1)
J- C	-167 / 0	-78.0 -78.0 0.27 (1)	6.25 G- D -69 / 0 0.02 (1)
C- D	-133 / 0	-78.0 -78.0 0.01 (1)	6.25 I- J -515 / 0 0.00 (1)
D- L	-186 / 0	-78.0 -78.0 0.27 (1)	6.25 K- L -513 / 0 0.00 (1)
L- E	-53 / 10	-78.0 -78.0 0.13 (1)	6.25
E- F	0 / 13	-78.0 -78.0 0.03 (1)	10.00
B- I	0 / 130	-18.5 -18.5 0.23 (1)	10.00
I- H	0 / 130	-18.5 -18.5 0.23 (1)	10.00
H- G	0 / 148	-18.5 -18.5 0.17 (1)	10.00
G- K	0 / 146	-18.5 -18.5 0.23 (1)	10.00
K- E	0 / 146	-18.5 -18.5 0.23 (1)	10.00

DESIGN CRITERIA

SPECIFIED LOADS:
TOP CH. LL = 21.0 PSF
DL = 6.0 PSF
BOT CH. LL = 0.0 PSF
DL = 7.4 PSF
TOTAL LOAD = 34.4 PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF CBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.27/1.00 (D-L:1) , BC=0.23/1.00 (G-K:1) , WB=0.03/1.00 (C-H:1) , SSI=0.40/1.00 (B-I:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES
PLATE GRIP(DRY) SHEAR SECTION (PSI) (PLI) (PLI)
MAX MIN MAX MIN MAX MIN
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.31 (E) (INPUT = 0.90)
JSI METAL= 0.08 (E) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2



JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
346378	P14A	1		JT 45147	E22075323

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jul 25 12:12:06 2022 Page 1

ID:9a plwcon izmXpuR1McGqzT9hG-WbWqabD7CHdjaFnCOmyC8RZA?uRGXHDk8sEOC0yuY2

0-0 2-0-0 2-0-0 8-0-7 10-0-7 7-11-3 17-11-9 8-0-7 26-0-0 2-0-0 28-0-0

Scale = 1:45.4

6x7 // C
18.00
2.8-0
2.6-7
6-1
A
B
T1
W1
N
3x4 =
2x4 ||
M
4x6 =
L
3x8 =
K
5x8 =
J
2x4 ||
3x4 =
H
6-1
I
T1
W1
G
6x7 //

4x6 = D
T2
W1
B1
3x8 = 2x4 || E F
T3
W1
B2
W2
W2
W2

27-0-8

0-0 2-0-0 2-0-0 8-0-7 10-0-7 7-11-3 17-11-9 8-0-7 26-0-0 2-0-0 28-0-0

TOTAL WEIGHT = 2 X 92 = 183 lb

LUMBER

N. L. G. A. RULES

CHORDS

SIZE

LUMBER

DESCR.

A - C

2x4

DRY

No.2

SPF

C - E

2x4

DRY

No.2

SPF

E - G

2x4

DRY

No.2

SPF

G - I

2x4

DRY

No.2

SPF

B - L

2x4

DRY

No.2

SPF

L - H

2x4

DRY

No.2

SPF

ALL WEBS

2x3

DRY

No.2

SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT

TYPE

PLATES

W

LEN

Y

X

B

TMB1-I

MT20

3.0

4.0

1.50

2.75

C

TTWW-h

MT20

6.0

7.0

2.00

4.25

D

TMWW-t

MT20

4.0

6.0

E

TS-t

MT20

3.0

8.0

F

TMW+w

MT20

2.0

4.0

G

TTWW-h

MT20

6.0

7.0

1.75

4.00

H

TMB1-I

MT20

3.0

4.0

1.50

2.75

J

BMW1+w

MT20

2.0

4.0

K

BMWWW1-t

MT20

5.0

8.0

L

BS-t

MT20

3.0

8.0

M

BMWW1-t

MT20

4.0

6.0

N

BMW1+w

MT20

2.0

4.0

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

FACTORED

MAXIMUM FACTORED

INPUT

REQRD

GROSS REACTION

GROSS REACTION

BRG

BRG

JT

VERT

HORZ

DOWN

HORZ

UPLIFT

IN-SX

IN-SX

B

133

0

133

0

-2

27-0-8

(11-1-0)8

N

361

0

361

0

0

27-0-8

(11-1-0)8

M

832

0

832

0

0

27-0-8

(11-1-0)8

K

851

0

851

0

0

27-0-8

(11-1-0)8

J

369

0

369

0

0

27-0-8

(11-1-0)8

H

120

0

120

0

-5

27-0-8

(11-1-0)8

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

PROVIDE ANCHORAGE AT BEARING JOINT B FOR 150 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT H FOR 150 LBS FACTORED UPLIFT

UNFACTORED REACTIONS

1ST LCASE

MAX./MIN. COMPONENT REACTIONS

JT

COMBINED

SNOW

LIVE

PERM.LIVE

WIND

DEAD

SOIL

B

88

90 / 0

0 / 0

0 / 0

0 / 0

0 / -2

0 / 0

N

264

121 / 0

0 / 0

0 / 0

0 / 0

143 / 0

0 / 0

M

592

368 / 0

0 / 0

0 / 0

0 / 0

225 / 0

0 / 0

K

605

378 / 0

0 / 0

0 / 0

0 / 0

227 / 0

0 / 0

J

270

126 / 0

0 / 0

0 / 0

0 / 0

144 / 0

0 / 0

H

80

83 / 0

0 / 0

0 / 0

0 / 0

0 / -4

0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, N, M, K, J, H

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE Laterally RESTRAINED.

1 LATERAL BRACE(S) AT 1/2 LENGTH OF C-M, D-K, G-K.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

WEBS

MEMB.

MAX. FACTORED

FACTORED

VERT. LOAD LC1

MAX

MAX.

MEMB.

MAX. FACTORED

MAX

FORCE

FORCE

TO

FORCE

UNBRAC

FORCE

FORCE

(LBS)

(PLF)

CS1 (LC)

LENGTH

FR-TO

(LBS)

CS1 (LC)

FR-TO

FROM

TO

LENGTH

FR-TO

FROM

TO

LENGTH

A-B

0 / 10

-78.0

-78.0

0.01 (1)

10.00

N-C

-226 / 0

0.04 (1)

B-C

-97 / 0

-78.0

-78.0

0.03 (1)

6.25

C-M

-22 / 0

0.01 (1)

C-D

-23 / 0

-78.0

-78.0

0.68 (1)

6.25

M-D

-677 / 0

0.11 (1)

D-E

0 / 0

-78.0

-78.0

0.68 (1)

10.00

D-K

-26 / 0

0.01 (1)

E-F

0 / 0

-78.0

-78.0

0.68 (1)

10.00

K-F

-684 / 0

0.11 (1)

F-G

0 / 1

-78.0

-78.0

0.68 (1)

10.00

K-G

-38 / 0

0.02 (1)

G-H

-81 / 0

-78.0

-78.0

0.03 (1)

6.25

J-G

-234 / 0

0.04 (1)

H-I

0 / 10

-78.0

-78.0

0.01 (1)

10.00

B- N

0 / 55

-18.5

-18.5

0.19 (4)

10.00

N- M

0 / 45

-18.5

-18.5

0.24 (4)

10.00

M- L

0 / 24

-18.5

-18.5

0.24 (4)

10.00

L- K

0 / 24

-18.5

-18.5

0.24 (4)

10.00

K- J

0 / 35

-18.5

-18.5

0.24 (4)

10.00

J- H

0 / 46

-18.5

-18.5

0.19 (4)

10.00

DESIGN REQUIRES

SPECIFIED LOADS:

TOP

CH.

LL

=

21.0

PSF

DL

=

6.0

PSF

BOT

CH.

LL

=

0.0

PSF

DL

=

7.4

PSF

TOTAL

LOAD

=

34.4

PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:

- PART 9 OF BCBC 2018 , ABC 2019

- PART 9 OF OBC 2012 (2019 AMENDMENT)

- CSA 086-14

- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.68/1.00 (C-D:1) , BC=0.24/1.00 (M-N:4) , WB=0.11/1.00 (F-K:1) , SSI=0.29/1.00 (C-D:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS=1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE

GRIP(DRY)

SHEAR

SECTION

(PSI)

(PLI)

(PLI)

MAX MIN

MAX MIN

MAX MIN

MT20

650

371

1747

788

1987

1873

PLATE PLACEMENT TOL. = 0.250 inches

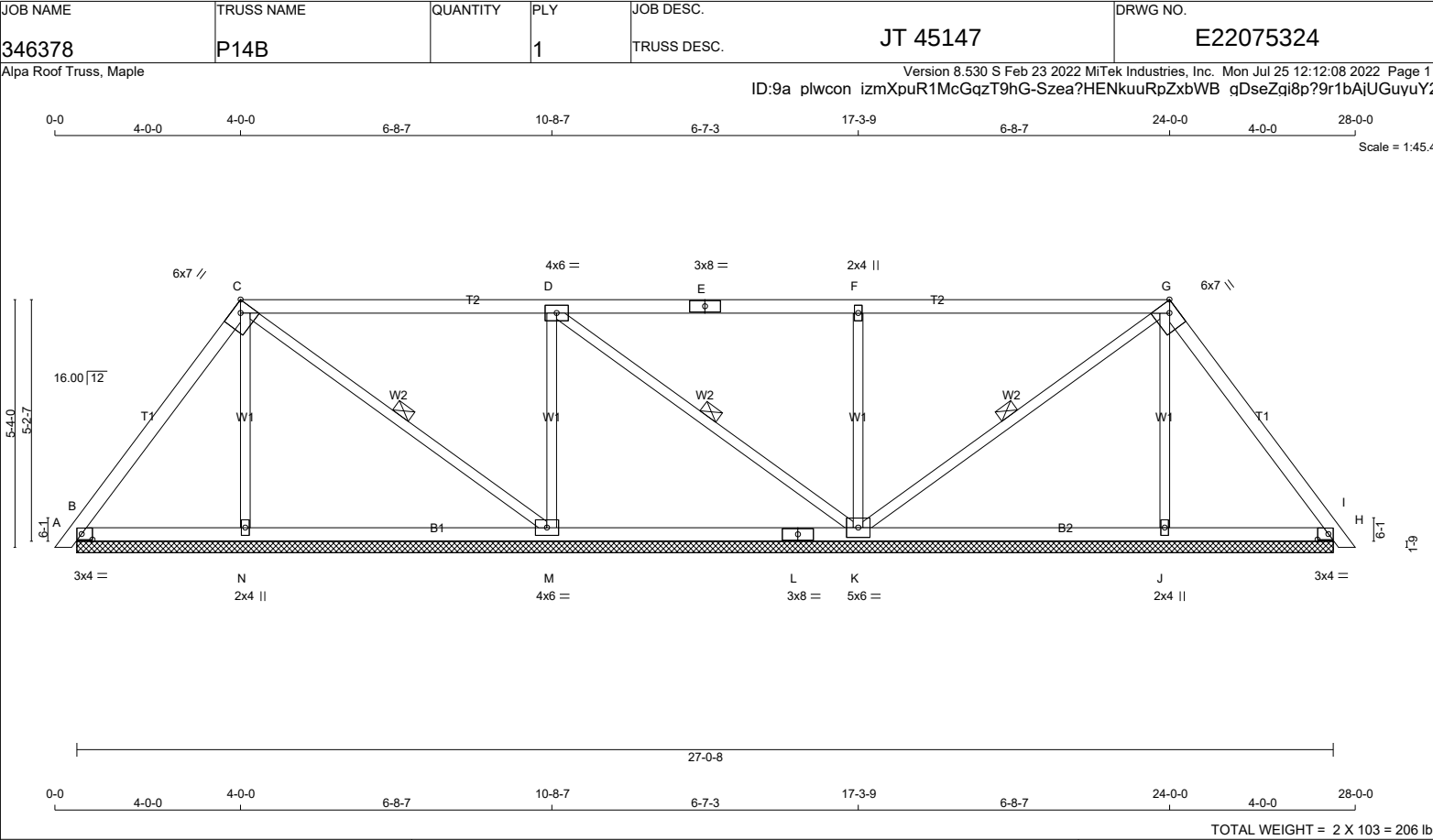
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.88 (C) (INPUT = 0.90)

JSI METAL= 0.63 (E) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE
2X4 SPF#2





LUS — Double-Shear Joist Hangers

SIMPSON
Strong-Tie

All LUS hangers have double-shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections.

Material: 18 gauge

Finish: G90 galvanized

Design:

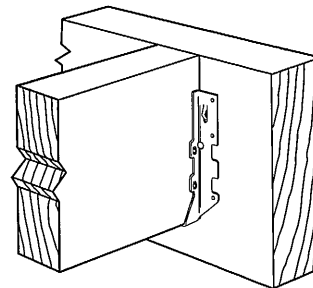
- Factored resistances are in accordance with CSA O86-14 and CSA O86:19.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

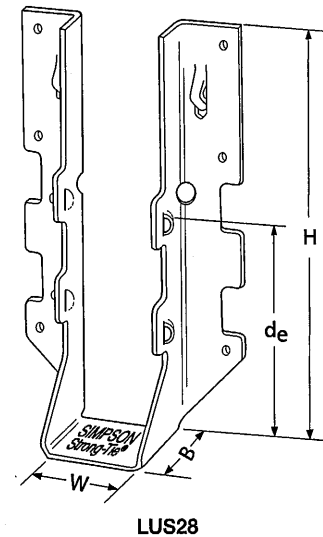
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire,
10d = 0.148" x 3" long common wire
- Double-shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

- These hangers cannot be modified

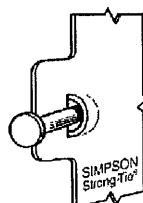


Typical LUS
Installation



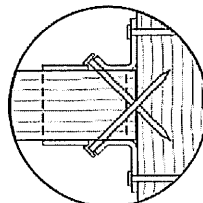
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _o ¹	Face	Joist	D.Fir-L		S-P-F	
								Uplift (K _o =1.15)	Normal (K _o =1.00)	Uplift (K _o =1.15)	Normal (K _o =1.00)
LUS24	18	1⅞	3⅞	1¼	1⅝	(4) 10d	(2) 10d	710	1630	645	1155
LUS24-2	18	3⅞	3⅞	2	1⅝	(4) 16d	(2) 16d	835	2020	590	1435
LUS26	18	1⅞	4¾	1¼	3⅝	(4) 10d	(4) 10d	1420	2170	1290	1630
LUS26-2	18	3⅞	4¾	2	4	(4) 16d	(4) 16d	1720	2595	1545	1920
LUS26-3	18	4⅝	4¾	2	3¼	(4) 16d	(4) 16d	1720	2595	1545	2340
LUS28	18	1⅞	6⅝	1¼	3¾	(6) 10d	(6) 10d	1420	2520	1290	1790
LUS28-2	18	3⅞	7	2	4	(6) 16d	(4) 16d	1720	3325	1545	2575
LUS28-3	18	4⅝	6¼	2	3¼	(6) 16d	(4) 16d	1720	3325	1545	2375
LUS210	18	1⅞	7⅞	1¼	3⅞	(8) 10d	(4) 10d	1420	2785	1290	2210
LUS210-2	18	3⅞	9	2	6	(8) 16d	(6) 16d	2580	4500	2320	3195
LUS210-3	18	4⅝	8⅞	2	5¼	(8) 16d	(6) 16d	2580	3345	2320	2375

1. d_o is the distance from the seat of the hanger to the highest joist nail.



Dome double-shear nailing prevents tabs breaking off (available on some models).

US Patent
5,603,580



Double-shear nailing top view.



This technical bulletin is effective until December 31, 2024, and reflects information available as of July 1, 2022. This information is updated periodically and should not be relied upon after December 31, 2024. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2022 Simpson Strong-Tie Company Inc. • P.O. Box 10789, Pleasanton, CA 94588

T-SPECLUS22 7/22 exp. 12/24

(800) 999-5099
strongtie.com

HHUS — Double-Shear Joist Hangers

SIMPSON
Strong-Tie

All HHUS hangers have double-shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: 14 gauge

Finish: G90 galvanized

Design:

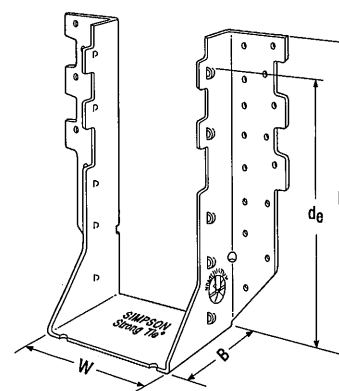
- Factored resistances are in accordance with CSA O86-14 and CSA O86:19.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

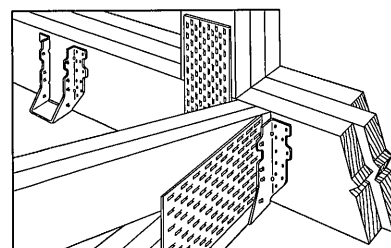
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double-shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

- See current catalogue for options



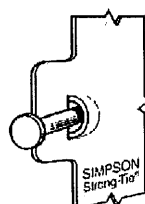
HHUS410



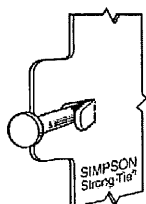
Typical HHUS Installation
(Truss designer to provide fastener quantity for connecting multiple members together)

Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
		W	H	B	d _g ¹	Face	Joist	D-Fir-L		S-P-F	
								Uplift (K _o =1.15)	Normal (K _o =1.00)	Uplift (K _o =1.15)	Normal (K _o =1.00)
HHUS26-2	14	3⅞	5⅞	3	3⅞	(14) 16d	(6) 16d	2850	7335	2065	5205
HHUS28-2	14	3⅞	7½	3	6⅞	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS210-2	14	3⅞	9⅞	3	8	(30) 16d	(10) 16d	4670	9660	4235	7000
HHUS210-3	14	4⅞	9	3	7⅞	(30) 16d	(10) 16d	4670	9670	4235	6865
HHUS210-4	14	6⅞	8⅞	3	7⅞	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS46	14	3⅞	5⅞	3	3⅞	(14) 16d	(6) 16d	2540	7335	2065	5205
HHUS48	14	3⅞	7⅞	3	6⅞	(22) 16d	(8) 16d	3765	8945	2267	6345
HHUS410	14	3⅞	9	3	8	(30) 16d	(10) 16d	4670	9855	4235	7000
HHUS5.50/10	14	5½	9	3	8	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS7.25/10	14	7¼	9	3⅞	7⅞	(30) 16d	(10) 16d	4670	10155	3370	7210

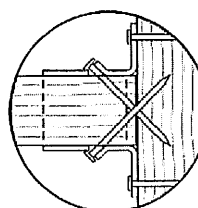
1. d_g is the distance from the seat of the hanger to the highest joist nail.



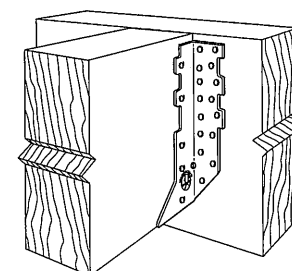
Dome double-shear nailing prevents tabs breaking off (available on some models).
US Patent 5,603,580



Double-shear nailing side view. Do not bend tab back.



Double-shear nailing top view.



Typical HHUS Installation



This technical bulletin is effective until December 31, 2024, and reflects information available as of July 1, 2022. This information is updated periodically and should not be relied upon after December 31, 2024. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2022 Simpson Strong-Tie Company Inc. • P.O. Box 10789, Pleasanton, CA 94588

T-SPECHHUS22 7/22 exp. 12/24

(800) 999-5099
strongtie.com

TC — Truss Connectors

SIMPSON

Strong-Tie

The TC truss connector is an ideal connector for scissor trusses and can allow horizontal movement up to 1¼". The TC also attaches trusses to top plates or sill plates to resist uplift forces, and is typically used on one or both ends of truss as determined by the building designer.

Material: 16 gauge

Finish: G90 galvanized

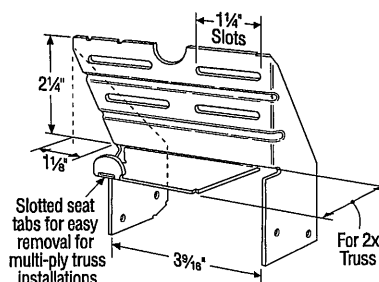
Design: Factored resistances are in accordance with CSA O86-14 and CSA O86:19

Installation:

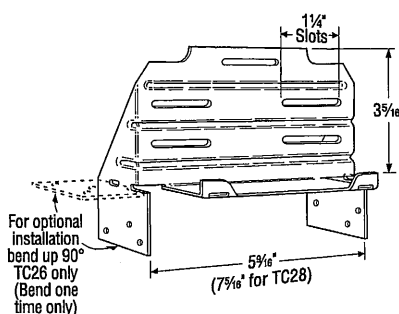
- Use all specified fasteners.
- Nails: 10d = 0.148" dia. x 3" long common wire, 10d x 1½" = 0.148" dia. x 1½" long.
- Drive 10d nails into the truss at the inside end of the slotted holes (inside end is towards the centre of the truss) and clinch on the back side. Do not seat these nails into the truss — allow room under the nail head for movement of the truss with respect to the wall.

Optional TC Installation:

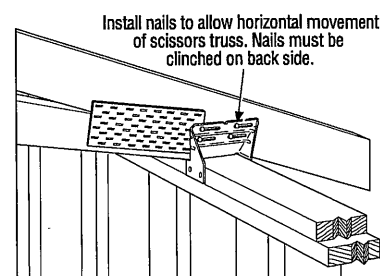
- Bend one flange up 90°. Drive specified nails into the top and face of the top plates or install Titen® screws into the top and face of masonry wall. See optional load tables and installation details.



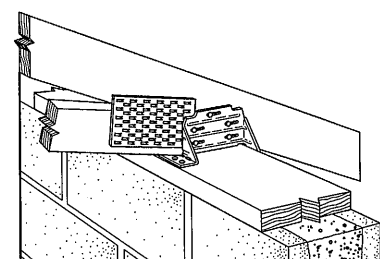
TC24
US Patent 4,932,173



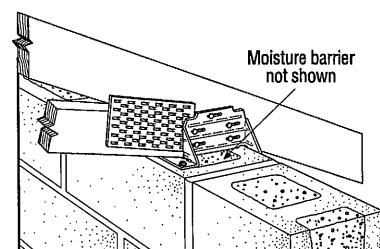
TC26
(TC28 Similar)



Typical TC24 Installation



Optional TC26 Installation for Grouted Concrete Block using a Wood Nailer
(8", 10", 12" Wall Installation Similar)



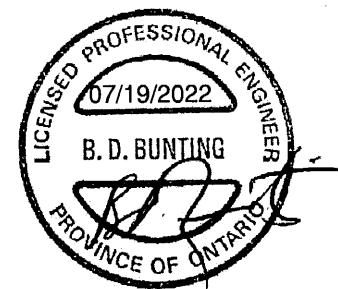
Optional TC26 Installation for Grouted Concrete Block using Titen Screws

Model No.	Fasteners		Factored Resistance	
	Truss	Wall Plates	D.Fir-L	S-P-F
			Uplift (K ₀ =1.15)	Uplift (K ₀ =1.15)
			lb.	lb.
TC24	(4) 10d	(4) 10d	605	430
TC26	(5) 10d	(6) 10d	1015	720
TC28	(5) 10d	(6) 10d	1015	720

Optional TC Installation Table

Model No.	Fasteners		Factored Resistance	
	Truss	Wall Plates	D.Fir-L	S-P-F
			Uplift (K ₀ =1.15)	Uplift (K ₀ =1.15)
			lb.	lb.
TC26	(5) 10d	(6) 10d x 1½"	810	660
	(5) 10d	(6) 10d	930	660

1. Factored resistances have been increased 15% for earthquake or wind loading; no further increase allowed; reduce where other loads govern.
2. Grout strength is 15 MPa minimum.
3. Optional TC26 installation with 10d nails requires minimum 3" top plate thickness.
4. TC26 fastened to grouted concrete block with (6) — ¾" x 2¼" Titen screws has a factored uplift resistance of 275 lb.

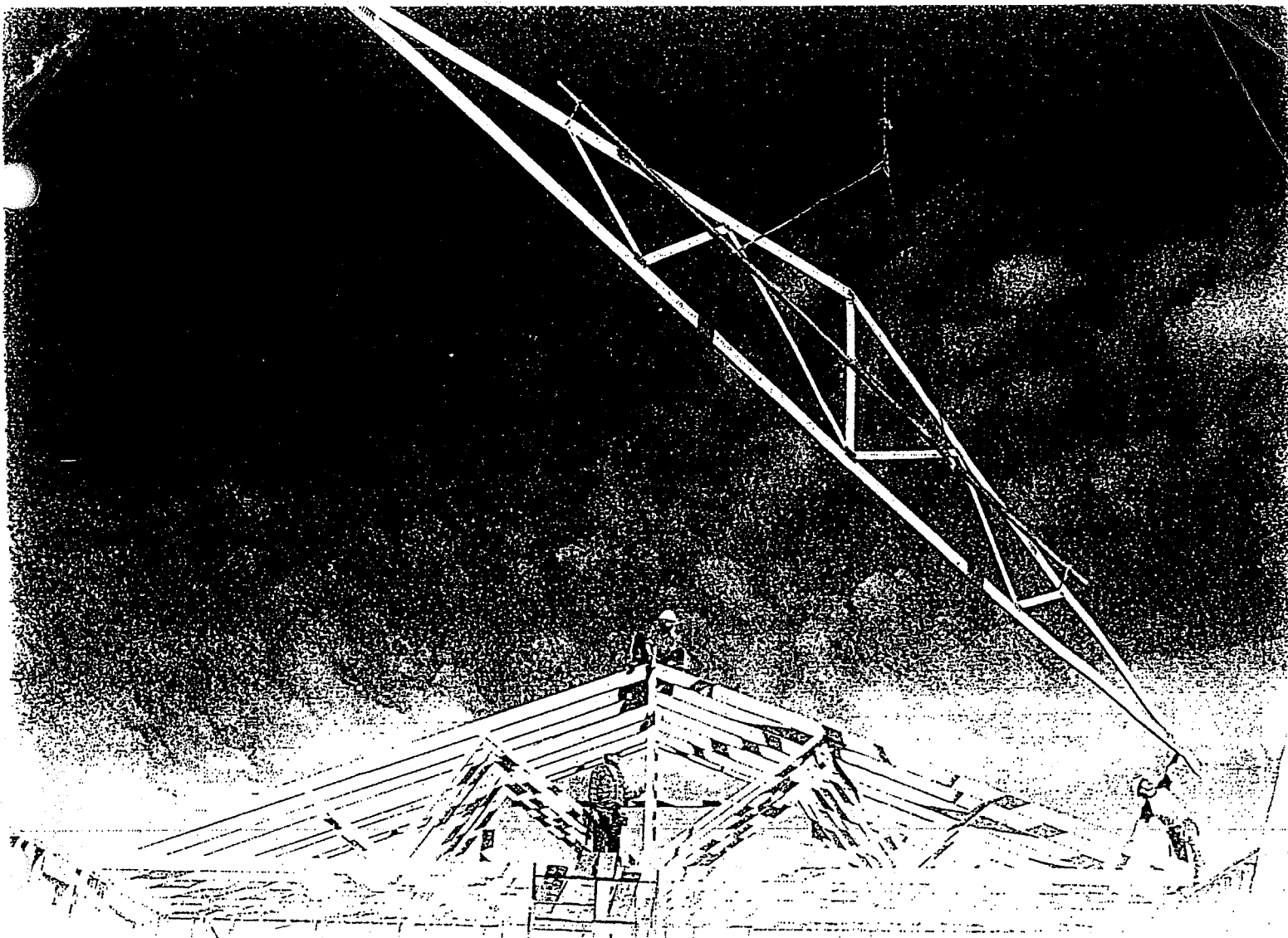


This technical bulletin is effective until December 31, 2024, and reflects information available as of July 1, 2022. This information is updated periodically and should not be relied upon after December 31, 2024. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2022 Simpson Strong-Tie Company Inc. • P.O. Box 10789, Pleasanton, CA 94588

T-SPECTC22 7/22 exp. 12/24

(800) 999-5099
strongtie.com



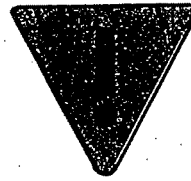
Wood Truss Installation

**A Guide to proper handling, erecting and bracing
metal plate connected wood trusses**

Table of Content

Warning.....	4
1 Unloading & Lifting.....	5
2 Job Site Handling.....	5
3 Hoisting.....	6
4 Beginning the Erection Process.....	7
5 Erection Tolerance.....	8
6 Bracing.....	8
7 Bracing Requirements for 3 Planes of Roof.....	9
8 Stacking Materials.....	10
Caution Notes.....	11

Warning



General

Familiarity with the Construction Design Documents, the Truss Design Drawings, and Truss Placement Plans (if required by the Construction Design Documents) is required to properly erect, brace, and connect the trusses to the building system.

All of the care and quality involved in the design and manufacture of wood trusses can be jeopardized if the trusses are not properly handled, erected, and braced.

The consequences of improper handling, erecting, and bracing may be a collapse of the structure, which at best is a substantial loss of time and materials, and at worst is a loss of life. The majority of truss accidents occur during truss installation and not as a result of improper design or manufacture.

Prior to truss erection, the builder/erector shall meet with the erection crew for a safety and planning meeting, making sure each crew member understands his or her roles and responsibilities during the erection process.

Temporary Erection Bracing

Trusses are not marked in any way to identify the frequency, or location of temporary erection bracing.

All temporary bracing shall comply with the latest edition of *Commentary and Recommendations for Handling, Installing & Bracing Metal Plate Connected Wood Trusses* (HIB), published by the Truss Plate Institute, and/or as specified in the Construction Design Documents prepared by the building designer.

Permanent Truss Bracing

Permanent bracing for the roof or floor trusses is the responsibility of the building designer and should be shown on the Construction Design Documents. Permanent bracing locations for individual compression members of a wood truss are shown on the Truss Design Drawings, and shall be installed by the building or erection contractor. This bracing is needed for the proper performance of individual trusses within the roof or floor system. The design and connection of the bracing to the truss and then to the overall building system is the responsibility of the building designer, and is in addition to the permanent bracing plan, which is also specified by the building designer.

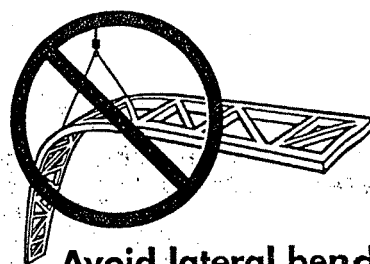
Special Design Requirements

Special design requirements, such as wind bracing, portal bracing, seismic bracing, diaphragms, shear walls, or other load transfer elements and their connections to wood trusses must be considered separately by the building designer, who shall determine size, location, and method of connections for all bracing as needed to resist these forces.

1 Unloading & Lifting

Never handle trusses flat

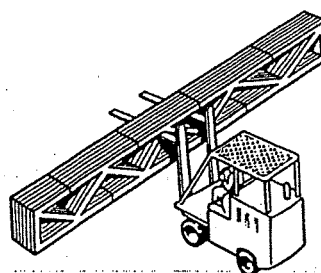
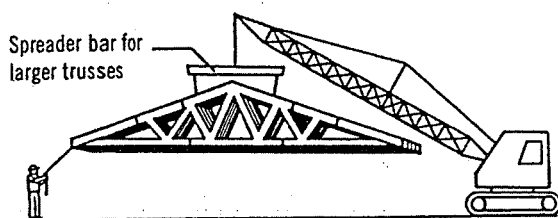
Beginning with the unloading process, and throughout all phases of construction, care must be taken to avoid lateral bending of trusses, which can cause damage to the lumber and metal connector plates at the joints.



Avoid lateral bending

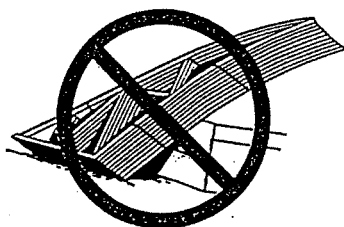
- Use special care in windy weather.
- If using a crane within 10 feet of an electric line, contact the local power company.
- If using a crane within 5 miles of an airport, contact the airport 30 days prior to erection to learn about any safety regulations that must be followed.

2 Job Site Handling



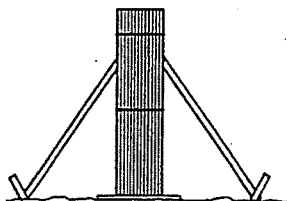
All trusses should be picked up at the top chords in a vertical position only

Proper banding and smooth ground allow for unloading of trusses without damage. This should be done as close to the building site as possible to minimize handling. Do not break banding until installation begins. Hand erection of trusses is allowed, provided excessive lateral bending is prevented.



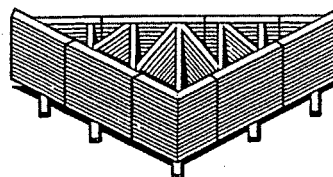
Do not store unbraced bundles upright

If trusses are stored vertically they shall be braced in a manner that will prevent tipping or topping. Generally cutting of the banding is done just prior to installation.



Do not store on uneven ground

If trusses are stored horizontally, blocking should be used on eight to ten foot centers, or as required, to minimize lateral bending and moisture gain.

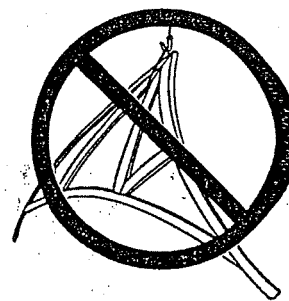


Care should be exercised when removing banding to avoid damaging trusses.

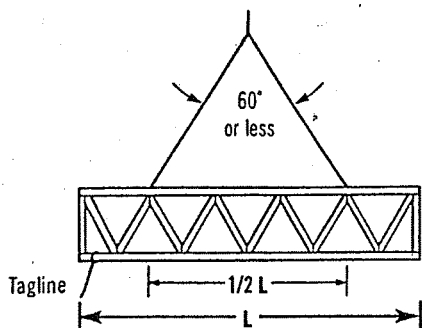
During long term storage, trusses shall be protected from the environment in a manner that provides for adequate ventilation of the trusses. If tarpaulins or other material is used, the ends shall be left open for ventilation. Plastic is not recommended, since it can trap moisture.

3 Hoisting

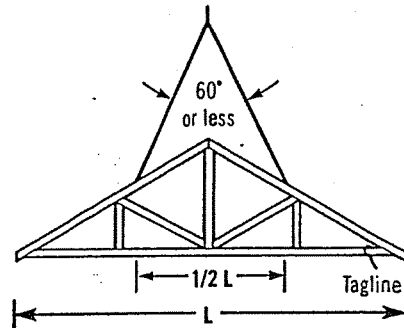
All trusses that are erected one at a time shall be held safely in position by the erection equipment until such time as all necessary bracing has been installed and the ends of the trusses are securely fastened to the building.



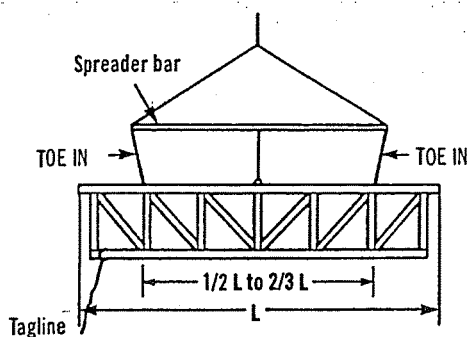
Avoid lateral bending



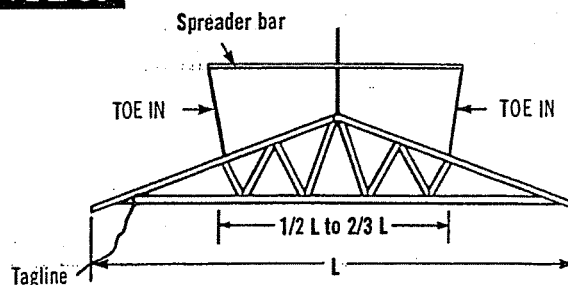
$L \leq 30'$



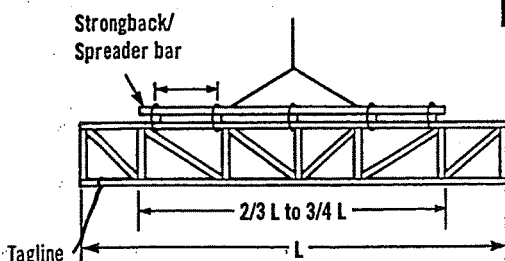
Truss sling is acceptable where these criteria are met.



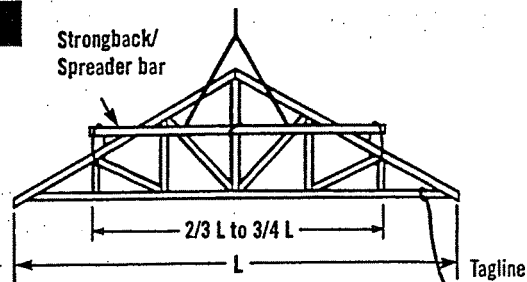
$30' < L \leq 60'$



Use spreader bar in all other cases. It should be noted that the lines from the ends of the spreader bar "TOE IN"; if these lines should "TOE OUT" the truss may fold in half.



$L > 60'$



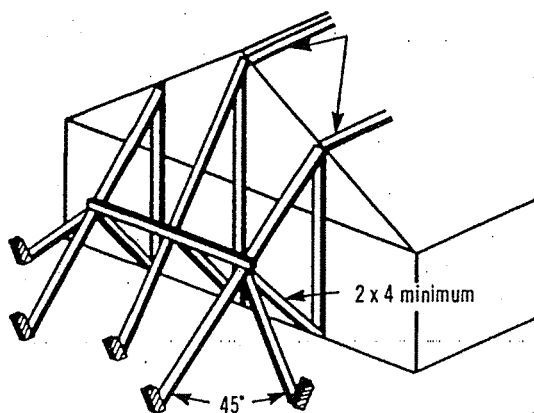
For lifting trusses with spans in excess of 60 feet, it is recommended that a strongback/spreader bar be used as illustrated. The strongback/spreader bar should be attached to the top chord and web members at intervals of approximately 10 feet. Further, the strongback/spreader bar should be at or above the mid-height of the truss to prevent overturning. The strongback/spreader bar can be of any material with sufficient strength to safely carry the weight of the truss and sufficient rigidity to adequately resist bending of the truss.

4 Beginning the Erection Process

It is important for the builder or erection contractor to provide substantial bracing for the first truss erected. The two or more trusses making up the rest of the first set are tied to and rely upon the first truss for stability. Likewise, after this first set of trusses is adequately cross-braced, the remaining trusses installed rely upon this first set for stability. Thus, the performance of the truss bracing system depends to a great extent on how well the first group of trusses is braced.

Ground Brace - Exterior

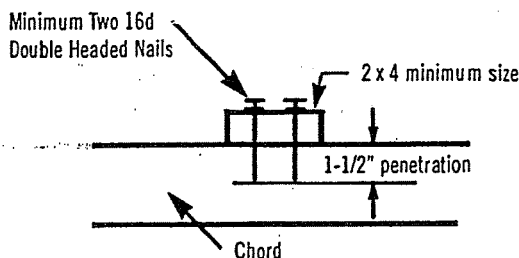
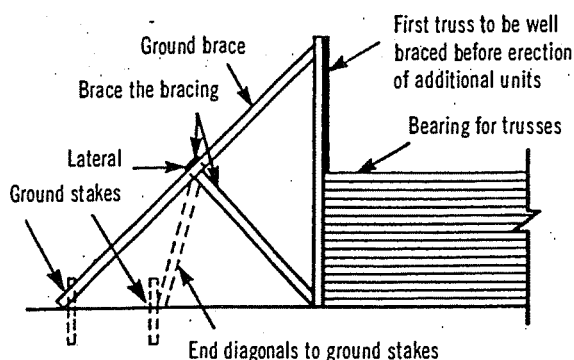
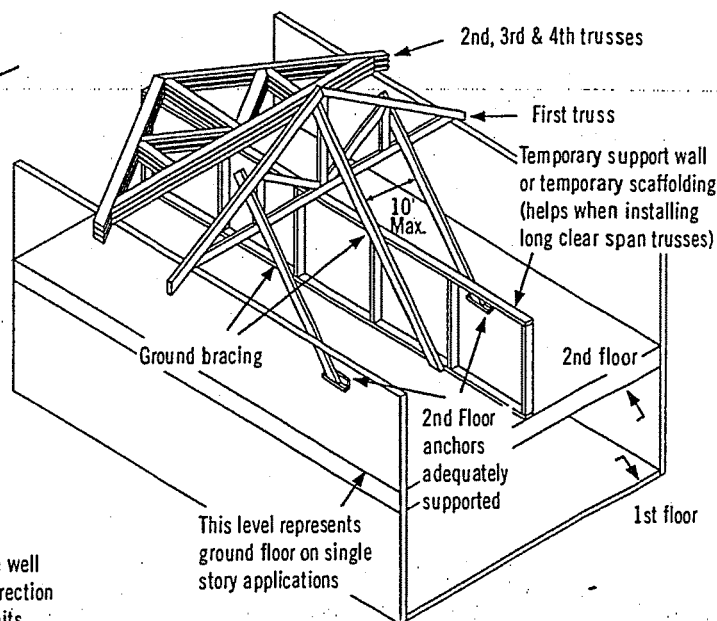
One satisfactory method ties the first unit of trusses off to a series of braces that are attached to a stake driven into the ground and securely anchored. The ground brace itself should be supported as shown below or it is apt to buckle. Additional ground braces in the opposite direction, inside the building, are also recommended.



Note: Locate ground braces for first truss directly in line with all rows of top chord continuous lateral bracing (either temporary or permanent).

Ground Brace - Interior

Another satisfactory method where height of building or ground conditions prohibit bracing from the exterior is to tie the first truss rigidly in place from the interior at the floor level, provided the floor is substantially completed and capable of supporting the ground bracing forces. Securely fasten the first truss to the middle of the building. Brace the bracing similar to exterior ground bracing shown at left. Set trusses from the middle toward the end of the building. Properly cross-brace the first set of trusses before removing floor braces and setting remaining trusses.

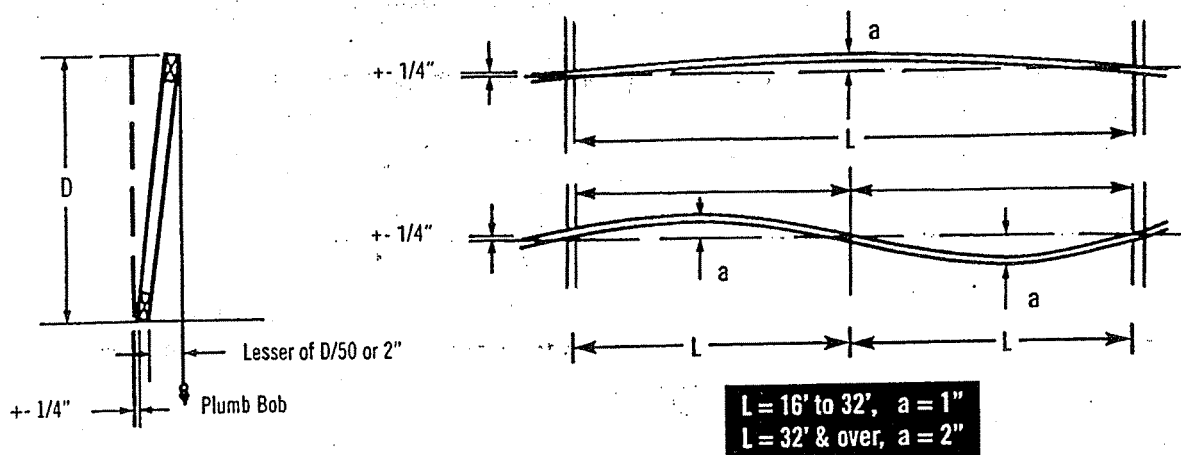


Inadequate size of bracing material or inadequate fastening is a major cause of erection dominoing.

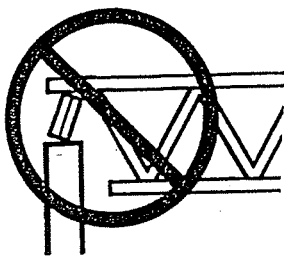
5 Erection Tolerance

Complying with erection tolerances is critical to achieving an acceptable roof or floor line, and to accomplishing effective bracing. Setting trusses within tolerance the first time will prevent the need for the hazardous practice of respacing or adjusting trusses when roof sheathing or roof purlins are installed. Trusses leaning or bowing can cause nails to miss the top chords when sheathing is applied, and create cumulative stresses on the bracing, which is a frequent cause of dominoing.

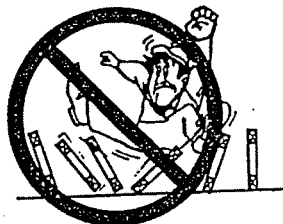
When sheathing, make sure nails are driven into the top chord of the trusses.



6 Bracing



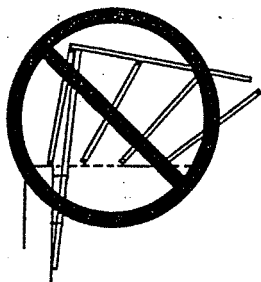
Do not install trusses on temporarily connected supports



Do not walk on unbraced trusses



Do not walk on trusses or gable ends lying flat

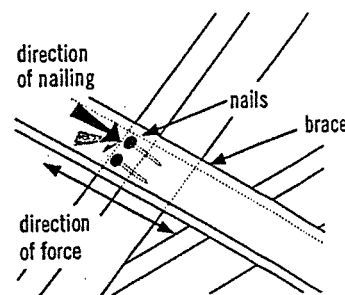


Nails in withdrawal (parallel to force)

All anchors, hangers, tie-downs, seats, bearing ledgers, etc., that are part of the supporting structure shall be accurately and properly placed and permanently attached before truss installation begins. No trusses shall ever be installed on anchors or ties that have temporary connections to the supporting structure.

Nailing scabs to the end of the building to brace the first truss is not recommended.

All nailing of bracing should be done so that nails are driven perpendicular to the direction of force, as shown at right.



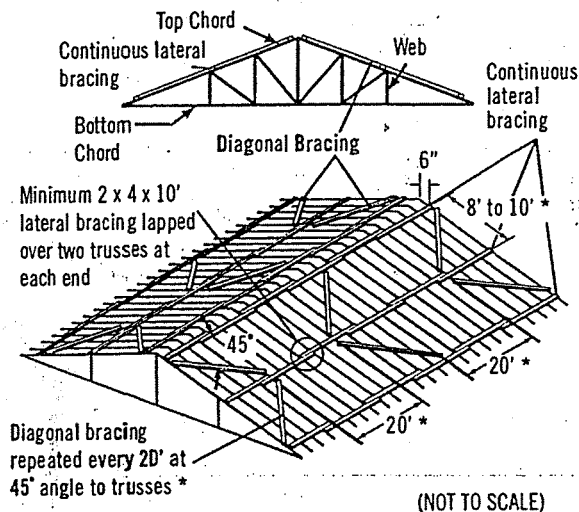
Well nailed (perpendicular to force)

7 Bracing Requirements for 3 Planes of Roof

Temporary erection bracing must be applied to three planes of the roof system to ensure stability: Plane 1) Top Chord (sheathing), Plane 2) Bottom Chord (ceiling plane), and Plane 3) Web Member plane or vertical plane perpendicular to trusses.

1) Top Chord Plane

Most important to the builder or erection contractor is bracing in the plane of the top chord. Truss top chords are susceptible to lateral buckling before they are braced or sheathed.

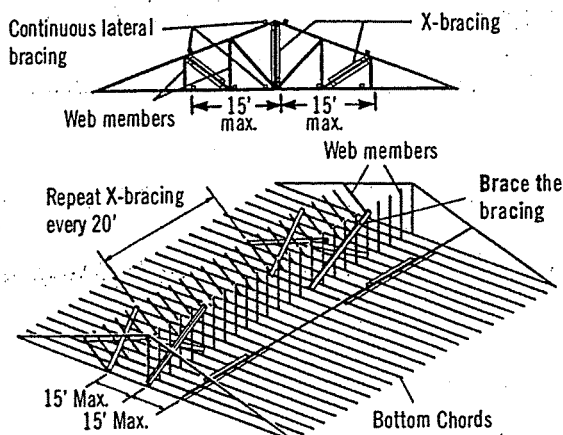


Exact spacing between trusses should be maintained as bracing is installed to avoid the hazardous practice of removing bracing to adjust spacing. This act of "adjusting spacing" can cause trusses to topple if connections are removed at the wrong time.

3) Web Member Plane

"X" bracing, as shown, is critical in preventing trusses from leaning or dominoing. Repeat as shown to create a succession of rigid units.

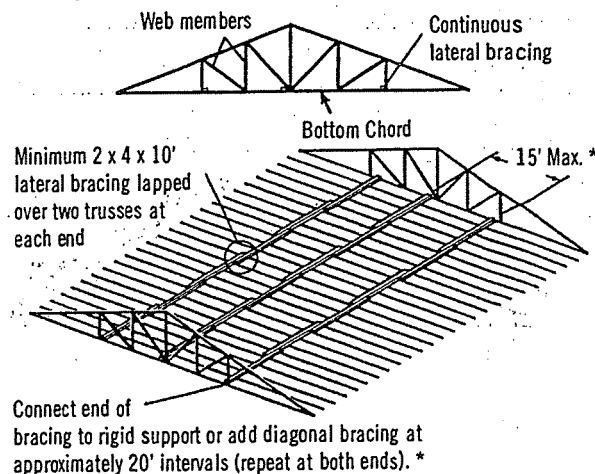
X-bracing should be installed on vertical web members wherever possible, at or near lateral bracing. Plywood or OSB may be substituted for X-bracing.



Note: Top chords and some web members are not shown, in order to make drawings more readable.

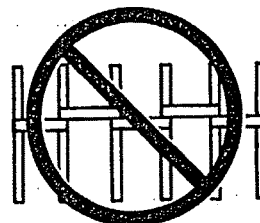
2) Bottom Chord Plane

In order to hold proper spacing on the bottom chord, temporary bracing is recommended on the top of the bottom chord.

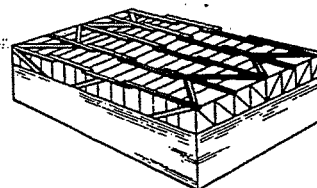


* Long spans, heavy loads or other spacing configurations may require closer spacing between lateral bracing and closer intervals between diagonals. Consult the building designer or HIB and DSB (Recommended Design Specification for Temporary Bracing of Metal-Plate Connected Wood Trusses) for details.

Diagonal or cross-bracing is very important!



Do not use short blocks to brace individual trusses without a specific bracing plan detailing their use

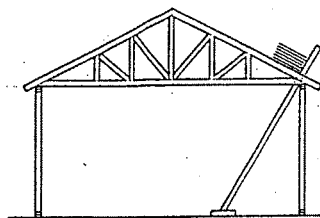
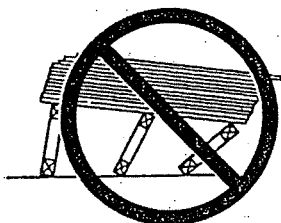


Bracing requirements using the same principles apply to parallel chord trusses

8 Stacking Materials

Do not proceed with building completion until all bracing is securely and properly in place

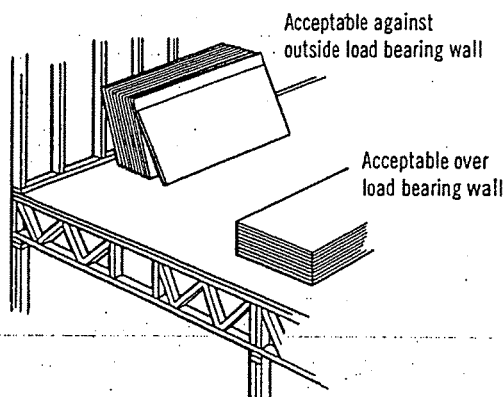
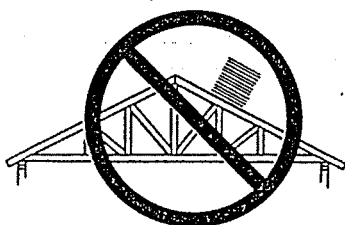
Never stack materials on unbraced or inadequately braced trusses



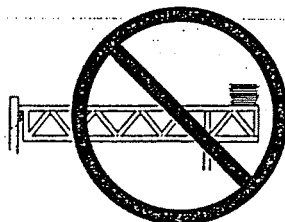
Platform must be rigidly braced

Proper distribution of construction materials is a must during construction.

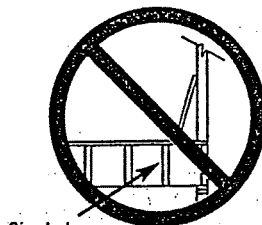
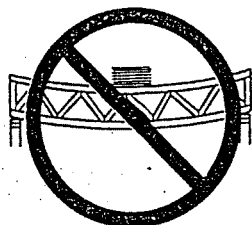
Never stack materials near a peak



Never stack materials on the cantilever of a truss

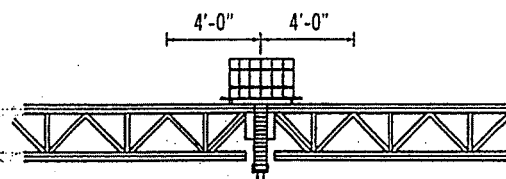


Always stack materials over two or more trusses.



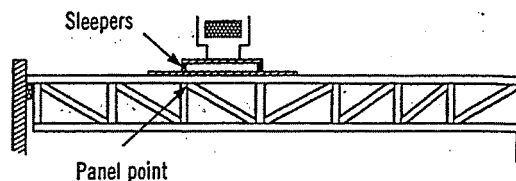
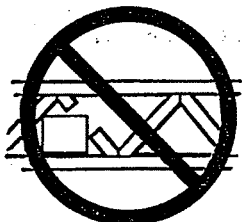
Single truss

Never overload small groups or single trusses. Position load over as many trusses as possible.



Roofing and mechanical contractors are cautioned to stack materials only along outside supporting members or directly over inside supporting members. Trusses are not designed for dynamic loads (i.e., moving vehicles). Extreme care should be taken when loading and stacking construction materials (rolled roofing, mechanical equipment, etc.) on the roof or floor system.

Never cut any structural member of a truss.



Sleepers for mechanical equipment should be located at panel points (joints) or over main supporting members, and only on trusses that have been designed for such loads.

Caution Notes

Errors in building lines and/or dimensions, or errors by others shall be corrected by the contractor or responsible construction trade subcontractor or supplier **before** erection of trusses begins.

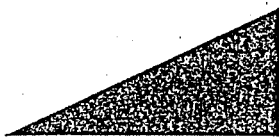
Cutting of nonstructural overhangs is considered a part of normal erection and shall be done by the builder or erection contractor.

Any field modification that involves the cutting, drilling, or relocation of any structural truss member or connector plate shall not be done without the approval of the truss manufacturer or a licensed design professional.

The methods and procedures outlined are intended to ensure that the overall construction techniques employed will put floor and roof trusses safely in place in a completed structure. These recommendations for bracing wood trusses originate from the collective experience of leading technical personnel in the wood truss industry, but must, due to the nature of responsibilities involved, be presented only as a guide for use by a qualified building designer, builder, or erection contractor. Thus, the Wood Truss Council of America expressly disclaims any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein.

[Selected text and figures referenced or reproduced from HIB and DSB by permission of the Truss Plate Institute, Madison, WI.]

THE CANADIAN WOOD TRUSS ASSOCIATION



L'ASSOCIATION CANADIENNE DES FABRICANTS DE FERMES DE BOIS

1400 Blair Place, Suite 210, Ottawa, ON K1J 9B8
Tel.: 613-747-5544 Fax: 613-747-6264



Wood Truss Council of America

One WTCA Center
6300 Enterprise Lane, Madison, WI 53719-1140
Tel.: 608-274-4849 Fax: 608-274-3329
wtca@woodtruss.com www.woodtruss.com