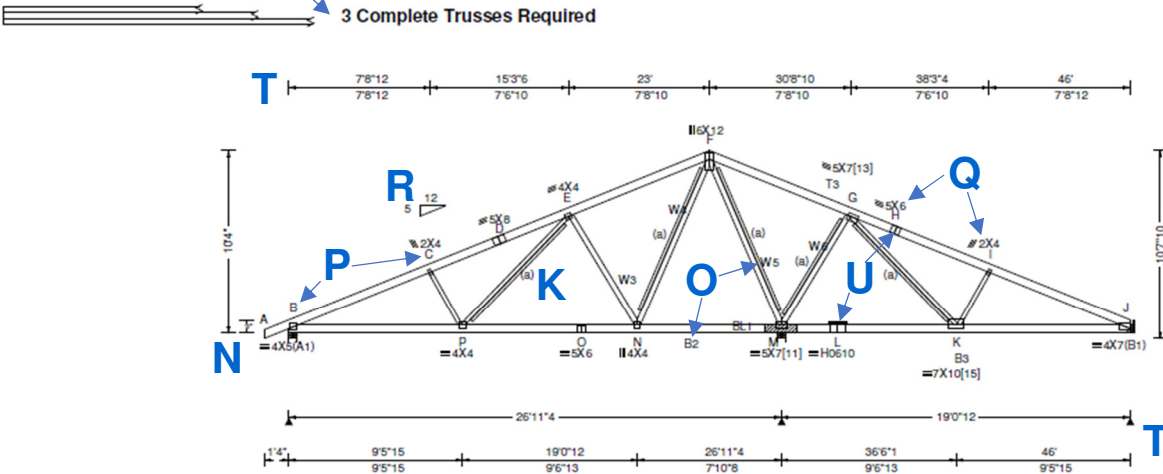


How To Read A Typical Alpine Component Drawing



SEON: 14103 FROM: COMN Ply: 3 Qty: 1 Job Number: Truss Label: T10 Cust: R9135 JRef:1WHV91350001 T28 DrwNo: ... / ... 01/21/2019



▲ Bearing Locations

Loc	Ht	/W
B	8'	/5'8"
M	8'	/5'8"
J	8'	/-

▲ Bearing Reactions (lbs)

Loc	/S	/L	/D	/F	/Hz	/U
B	/1611	/141	/219	/2832	/383	/868
M	/7820	/1372	/1258	/14675	/0	/1105
J	/4079	/675	/530	/7457	/0	/200

Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	551	-1339	F - G	1629	-80
C - D	556	-1058	G - H	41	-2889
D - E	562	-937	H - I	38	-3052
E - F	740	0	I - J	49	-3341

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - P	1134	-519	M - L	154	-436
P - O	367	-625	L - K	154	-436
O - N	367	-625	K - J	3010	-4
N - M	136	-708			

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
C - P	168	-546	F - M	377	-2040
P - E	847	-233	M - G	223	-2471
E - N	310	-1048	G - K	3997	-42
N - F	913	-325	K - I	171	-624

<p>Conforms To: NBCC 2015 Design Criteria: Commercial TPIC Std: TPIC 2014 CSA Std: CSA 086-14</p> <p>Ground Snow Load: 64.74 Rain Load: 12.53 Cb: 0.80 Cs: 1.00 Cw: 1.00 If: 1.00 Slippery Roof: N Wind Exposed: N</p>	<p>Loading Criteria (psf) TCCL: 64.32 TCCL: 5.00 BCCL: 10.00 BCDL: 7.00</p> <p>Des Ld: 86.32 Lumber Duration: 1.00 Plate Duration: 1.00 Spacing: 24.0" Load Sharing: Yes PT/IT/RT: 4sx/10%/ 5 deg Roller Pressed Plate Type: Wave-Canada, HS-Canada</p>	<p>Wind Criteria q: 14.2 Ref Ht: 19.68 Calc'd Int. Press: 7.67 Exposure: Open BLDG Cat: 2 Ceiling Attached: Yes TCCL: 5.00 BCDL: 7.00 Duration of Load: 1.15</p>	<p>Defl/CSI Criteria PP Deflection in loc L/defl L/D VERT(LL): 0.226 L 999 360 VERT(TL): 0.270 L 845 360 HORZ(LL): -0.030 I - - HORZ(TL): -0.036 I - 1.00 Creep Factor: 1.0 Overhang: Non-removable Max TC CSI: 0.45 Max BC CSI: 0.89 Max Web CSI: 0.90 VIEW Ver: 18.02.00A.1126.20</p>
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<p>Lumber Top Chord 2x6 SPF #1/#2 :T3 2x6 SPF 1650Fb-1.5E: Bot Chord 2x6 SPF #1/#2 :B2 2x6 SPF 1650Fb-1.5E: :B3 2x6 SPF 2100Fb-1.8E: Webs 2x3 SPF #1/#2 :W3, W4, W5, W6 2x4 SPF #1/#2: :Rt Splice Block 2x3 SPF #1/#2:</p> <p>Bracing (a) 2x6 #3 or better "T" brace, 90% length of web member. Attach to each web ply w/3.0" nails @ 6" oc. Bracing material supplied by Erection Contractor.</p> <p>Nailnote Nail Schedule: 3.0" common nails TOP CHORD: 2 ROWS @ 16.00" o.c. (Each Row) BOT CHORD: 2 ROWS @ 13.25" o.c. (Each Row) Webs : 1 Row @ 4" o.c. Repeat nailing as each layer is applied. Use equal spacing between rows and stagger nails in each row to avoid splitting.</p> <p>Plating Notes See A-100, Specification Note 7.E for standard plate positioning. See A-100, Special Engineering Note 1 for handling instructions. Plates designed for fabrication using seasoned lumber.</p>	<p>Special Loads Comm.Ld[3SL]-1 (Lumber Dur.Fac.=1.00 / Plate Dur.Fac.=1.00) From S/ L/ W/ D plf To S/ L/ W/ D plf TC: -1.33 129/ 0/ 0/10 46.00 129/ 0/ 0/10 BC: 0.00 0/10/ 0/14 46.00 0/10/ 0/14 BC: 720/71/0/99 lb Conc. Load at 28.94,30.94,32.94,34.94,36.94,38.94,40.94,42.94,44.94</p> <p>Plate Shift Table</p> <table border="1"> <thead> <tr> <th>JT</th> <th>Plate</th> <th>Chord</th> <th>JT</th> <th>Plate</th> <th>Chord</th> </tr> <tr> <th>No</th> <th>Size</th> <th>Shift</th> <th>Bite</th> <th>No</th> <th>Size</th> <th>Shift</th> <th>Bite</th> </tr> </thead> <tbody> <tr> <td>[11]</td> <td>5X7</td> <td>S</td> <td>2.75</td> <td>[13]</td> <td>5X7</td> <td>5.00</td> <td>R 2.00</td> </tr> <tr> <td>[15]</td> <td>7X10</td> <td>S</td> <td>2.75</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Purlins In lieu of structural panels or rigid ceiling use purlins to laterally brace chords as follows: Chord Spacing(in oc) Start(ft) End(ft) BC 75 0.00 46.00 Apply purlins to any chords above or below fillers at 24" OC unless shown otherwise above. Purlins to be attached to permanent building bracing. Design of purlin, purlin attachment & permanent bracing system as per Project Engineer of Record.</p>	JT	Plate	Chord	JT	Plate	Chord	No	Size	Shift	Bite	No	Size	Shift	Bite	[11]	5X7	S	2.75	[13]	5X7	5.00	R 2.00	[15]	7X10	S	2.75					<p>Loading Component is designed for unbalanced loading per Part 4 of NBCC current edition.</p> <p>Bearing Block(s) Brg blocks: 3.0" common nails brg x-loc #blocks length/blk #nails/blk 2 26.708' 1 21" 38 Brg block to be same size and species as chord. Refer to drawing C>NNALSP1014 for more information.</p> <p>Additional Notes Interaction equation as per Clause 6.5.10 of CSA-O86-14. Trusses to be properly anchored at supports, by others, to withstand the indicated vertical and horizontal reactions. Warning: Component is designed to bear at specific locations. Note: This truss is not designed with any additional loads due to snow build up that may occur on the top chord due to drifting or sliding snow from adjacent or nearby structures. Special note: Loading to be verified by project Engineer or authority having jurisdiction prior to fabrication.</p>
JT	Plate	Chord	JT	Plate	Chord																											
No	Size	Shift	Bite	No	Size	Shift	Bite																									
[11]	5X7	S	2.75	[13]	5X7	5.00	R 2.00																									
[15]	7X10	S	2.75																													

Preliminary-Not for Construction

How To Read A Typical Alpine Component Drawing



A) Conforms To

Building Code, TPIC (Truss Plate Institute of Canada) and CSA O86 versions used for design. Component Design Criteria used (Residential, Commercial, Farm or Floor).

B) Design Criteria

- **Roof Design: Commercial (Part 4), Residential (Part 9) & Farm Design B1) Ground Snow Load**

Ground Snow Load (S_s) & Associated Rain Load (S_r), all in psf. Basic roof snow load factor (C_b), slope reduction factor (C_s), wind exposure factor (C_w), importance factor (I_f), and options for unobstructed Slippery Roof or Wind Exposed conditions.

B2) Wind Criteria

Includes wind design reference velocity pressure (q) in psf, design reference height (h) in ft. Calculated internal pressure² (p_i) in psf. Building terrain Exposure condition (Open, Rough or Intermediate). Building Category (Cat. 1 = Closed, Cat. 2 = Partially Enclosed, Cat. 3 = Open). Ceiling Attached condition impacts top & bottom chord wind load distribution. Top & bottom chord dead loads in psf for wind design. Duration of Load Factor for lumber resistance adjustments for wind load cases.

- **Floor Design: Commercial (Part 4) Design B3) Floor Live Load & Vibration Criteria Ground**

Design floor live load. Vibration check results and vibration design assumptions.

C) Loading Criteria

Chord Live Loads (TCLL² & BCLL), Dead Loads (TCDL & BCDL) and Total Design Load, all in psf. Load Duration Factors for lumber & plate resistance adjustments. On-center component spacing. Load Sharing for lumber system factor resistance adjustments. Plate placement tolerances for Translation (sixteenths of an inch), Ineffective Teeth (%) and Rotation (in degrees). Plate type(s).

D) Deflection / CSI Criteria

Panel Point (PP) deflection for the absolute maximum vertical & horizontal Live Load (LL) and Total Load (TL) deflections in inches, and the locations, the span/deflection (L/def) ratio & the permissible limits (L/D) used for the design. Dead Load Creep Factor used in the component analysis. Overhang design as either removable or non-removable. Maximum CSI (Combined Stress Index = combined maximum axial & bending stress with the associated component type) acting on a member. Software version number.

Roof Design: Part 4, Part 9 & Farm

Conforms To: Bldg Code: NBCC 2015 Design Criteria: Commercial TPIC Std: TPIC 2014 CSA Std: CSA 086-14	Loading Criteria (psf) TCLL: 64.32 TCDL: 5.00 BCLL: 10.00 BCDL: 7.00	Wind Criteria q: 14.2 Ref Ht: 19.68 Calc'd Int. Press: 7.67 Exposure: Open BLDG Cat: 2 Ceiling Attached: Yes TCDL: 5.00 BCDL: 7.00 Duration of Load: 1.15
Ground Snow Load: 64.74 Rain Load: 12.53 C _b : 0.80 C _s : 1.00 C _w : 1.00 I _f : 1.00 Slippery Roof: N Wind Exposed: N	Des Ld: 86.32 Lumber Duration: 1.00 Plate Duration: 1.00 Spacing: 24.0 " Load Sharing: Yes PT/IT/RT: 4sx/10%/ 5 deg Roller Pressed Plate Type: Wave-Canada, HS-Canada	B2

Floor Design: Part 4

Conforms To: Bldg Code: NBCC 2015 Design Criteria: Floor TPIC Std: TPIC 2014 CSA Std: CSA 086-14	Loading Criteria (psf) TCLL: 40.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00	Vibration Criteria: Checked: Passes Sub-Floor Material: OSB Thickness: 0.750 Connection: nailed and glued Gypsum Ceiling: 0.500 " Strapping: none Strap Spacing: 0.0 " Strongback Size: 2x8
Floor Live Load: 40.00 C _b : N/A C _s : N/A C _w : N/A I _f : N/A Slippery Roof: N/A Wind Exposed: N/A	Des Ld: 70.00 Lumber Duration: 1.00 Plate Duration: 1.00 Spacing: 19.2 " Load Sharing: Yes PT/IT/RT: 2sx/ 5%/ 0 deg Roller Pressed Plate Type: Wave-Canada, HS-Canada	B3

How To Read A Typical Alpine Component Drawing



E) Bearings & Reactions

E1) Commercial (Part 4), Residential (Part 9) & Floor Design

Bearing Location specified by the joint label, bearing height, and bearing width along the length of the truss. Bearing Reactions in lbs (total of all plies):

- **S** = Maximum Unfactored **Snow** load portion of the vertical reaction²
- **L** = Maximum Unfactored **Live** load portion of the vertical reaction
- **D** = Maximum Unfactored **Dead** load portion of the vertical reaction
- **F** = Maximum Total **Factored** vertical reaction¹
- **H_z** = Maximum Factored **Horizontal** reaction¹
- **U** = Maximum Factored **Uplift** vertical reaction¹

E2) Farm Design

Bearing Location specified by the joint label, bearing height, and bearing width along the length of the truss and bearing reactions in lbs (total of all plies):

- **R_u** = Maximum Total Unfactored vertical **Reaction**²
- **U** = Maximum Factored **Uplift** vertical reaction¹
- **R_f** = Maximum Total Factored vertical **Reaction**¹
- **H_z** = Maximum Factored **Horizontal** reaction¹

F) Maximum Member Reactions

Maximum Factored Tension (+) and Compression (-) forces¹ in lbs per ply for each top chord, bottom chord and web, where member forces exceed 375 lbs per ply.

G) Lumber

Size, Species, and Grade for each member used in the analysis.

H) Bracing

Web bracing requirements are noted and referenced by a letter in parenthesis on the component drawing.

I) Nailnote & Multiple Ply Trusses

The number of plies and the fastener lamination requirements for multiple ply trusses are indicated.

Part 4, Part 9 & Floor

▲ Bearing Locations						
Loc	Ht	/ W				
B	8'	/ 5"8				
M	8'	/ 5"8				
J	8'	/ -				
▲ Bearing Reactions (lbs)						
Loc	/ S	/ L	/ D	/ F	/ H _z	/ U
B	/ 1611	/ 141	/ 219	/ 2832	/ 383	/ 868
M	/ 7820	/ 1372	/ 1258	/ 14675	/ 0	/ 1105
J	/ 4079	/ 675	/ 530	/ 7457	/ 0	/ 200

Farm

▲ Maximum Reactions (lbs)						
Loc	Ht	/ W	/ R _u	/ U	/ R _f	/ H _z
R	14'	/ 6"	/ 43333	/ 4097	/ 52556	/ 460
S	14'	/ 6"	/ 43333	/ 4097	/ 52556	/ 0

How To Read A Typical Alpine Component Drawing



J) Plating Notes & Plate Shift Table

Plating specifications. Plate Shift Table indicates special plate placement requirements by joint number, plate size at the given joint, plate shift in inches and direction (L-Left, R-Right, S-Symmetrical, O-Outer edge or flush), and chord bite in inches.

K) Purlins

Purlin, structural panel and rigid ceiling requirements to laterally brace top and bottom chords.

L) Loading & Special Loads

The Special Loads summary shown on the Component Drawing is from the load case that results in the highest member CSI (refer to item D above for the definition of CSI).

L1) Commercial (Part 4), Residential (Part 9) & Floor Design

Loading conditions and a summary of Special Loads applied for the indicated load case.

Special Loads are Unfactored² uniform (plf) and concentrated loads (lbs) for the Snow (S), Live (L), Wind (W) and Dead (D) load types applied. Companion load combination factors are applied for combinations with both snow and live loads applied. Load locations are specified horizontally from the left heel and are in feet.

L2) Farm Design

Special Loads are Total Unfactored² uniform (plf) and concentrated loads (lbs) for all loads applied. Load locations are specified horizontally from the left heel and are in feet.

Part 4, Part 9 & Floor

Special Loads

Comm.Ld[3SL]- 1

(Lumber Dur.Fac.=1.00 / Plate Dur.Fac.=1.00)

From S/ L/ W/ D plf To S/ L/ W/ D plf

TC: -1.33 129/ 0/ 0/10 46.00 129/ 0/ 0/10

BC: 0.00 0/10/ 0/14 46.00 0/10/ 0/14

BC: 720/71/0/99 lb Conc. Load at 28.94,30.94,32.94,34.94

Farm

Special Loads

----- (Lumber Dur.Fac.=1.00 / Plate Dur.Fac.=1.00)

TC: From 114 plf at 0.00 to 114 plf at 0.04

TC: From 164 plf at 0.04 to 164 plf at 5.07

TC: From 114 plf at 5.07 to 114 plf at 16.45

TC: From 164 plf at 16.45 to 164 plf at 20.00

BC: From 14 plf at 0.00 to 14 plf at 20.00

BC: 100 lb Conc. Load at 10.04,14.87

M) Additional Notes & Other Notes

Important design notes, warnings, specifications and requirements as part of the truss component design. This also includes Bearing Block and Hanger notes.

N) Heel Height

The vertical measurement of the component from the bottom of the bottom chord to the top of the top chord at the outside edge of the heel.

O) Member Label

The member number (e.g. T# = Top Chord, B# = Bottom Chord, W# = Web) as specified by the member label in the Lumber note (refer to item G above).

How To Read A Typical Alpine Component Drawing



P) Joint Label

All joints of the component are identified by a unique letter or double letter combination.

Q) Connector Plate

Size and orientation of connector plate. Orientation indicates direction of slots on connector.

R) Slope

The vertical rise in inches for every 12 inches of horizontal run.

S) Overall Component Height

The vertical dimension including the overhang of the component.

T) Component Span & Panel Dimensions

Horizontal measurements that provide both panel point dimensions and the running total of component span based on out-to-out dimensions of the top and bottom chord of the component.

U) Panel Splice

The location within top chord and/or bottom chord panels where two chord members are joined together by a connector plate.

Notes:

¹ Includes Importance Factor adjustments

² Importance Factor adjustments are not included in the load magnitude shown but are applied internally by the software based on the Importance Factor (If) indicated on the component drawing (refer to item **B1** above).