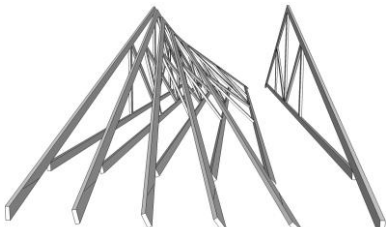




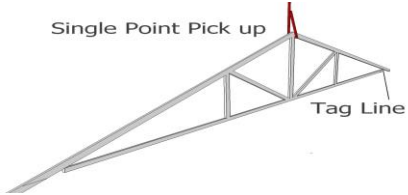
Disclaimer: While the recommendations for handling, erection, and bracing contained herein are technically sound, it is not intended that they be considered the only method for erecting and bracing a roof system. Neither should these recommendations be interpreted as superior to or a standard. This document is only valid within the province of Alberta and permission to use this document is only granted to members of the Western Wood Truss Association of Alberta and is otherwise invalid.

These recommendations 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 the use of a qualified building designer, builder, or erection contractor. These guidelines should not be considered to be the only method for erecting and bracing of a roof system. Thus the Western Wood Truss Association of Alberta and its members expressly disclaims any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein by building designers or by erection contractors. The examples of bracing in this document assume that the truss on-center spacing does not exceed 24", for wider truss spacing refer to the individual truss design diagrams provided with the truss package.

Warning: The consequences of improper handling, erecting, installation, restraining, and bracing can result in a collapse of the structure and serious personal injury or death. It is the responsibility of the contactor to ensure that proper PPE is used when handling and erecting trusses and to follow safe work practices.

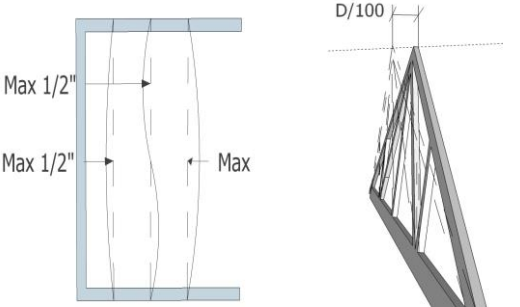


5-For spans of **20 feet or less**, a single pick up point may be used to lift the truss. A tag line should be used whenever a truss is lifted to avoid having it swing and do damage.



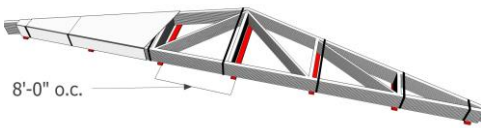
10-Tolerance- Each truss should not vary more than 1/2" from a straight line and be no more than the

Depth	D/100
12"	1 /8"
24"	1 /4"
36"	3 /8"
48"	1 /2"
60"	5 /8"
84"	7 /8"
96"	1" MAX

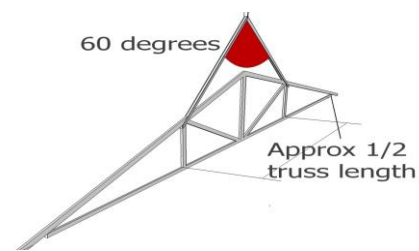


1-Delivery: Upon delivery of the trusses the builder should check the trusses to ensure that the package is complete and that there is no damage to the trusses. Count the trusses.

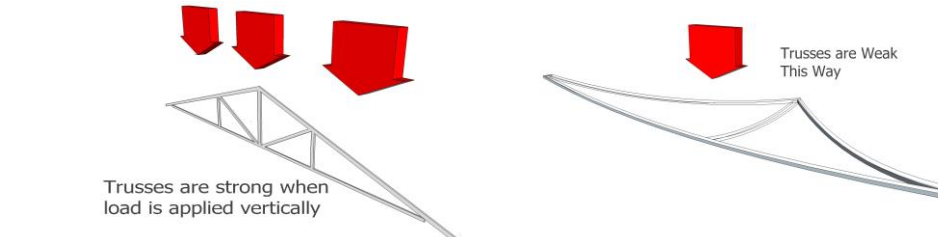
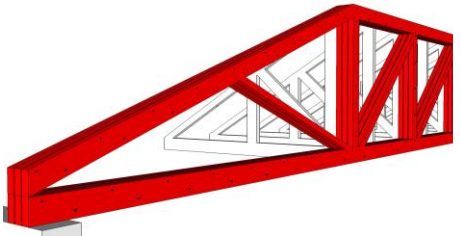
Storage: The contractor is responsible to ensure that the trusses are not in direct contact with the ground and be placed on blocking not to exceed 8' o.c. Bundles of trusses are to be covered to protect them from the environment.



6-Trusses up to **30 feet in length** should be lifted using two pick up points located so that the distance between them is approximately one-half the length of the truss. The angle between the two cables should be 60 degrees or less to reduce the tendency for the truss to buckle laterally during the lift. A tag line should be fastened to one end to prevent the truss from swinging and causing damage to other parts of the work or to the truss itself.

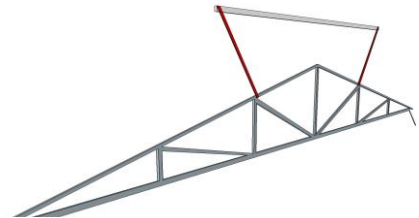


11-Girders-Multiple Ply Girder Trusses should be attached prior to erection when possible, and fully braced to a solid structure before other trusses are attached to them. Multi-Ply Girders must be attached together before any load can be applied. The fastening schedule is provided on the Truss Design Diagrams. Ensure that there is sufficient bearing length for girders.

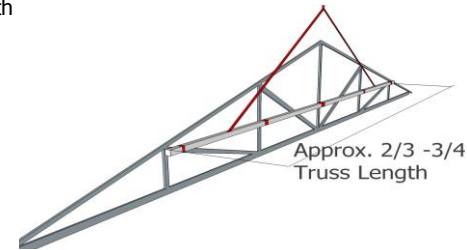


2-Handling: The truss erector or builder shall take the necessary precautions to ensure that erection procedures do not damage the trusses and thus reduce their load carrying capacity by avoiding lateral bending

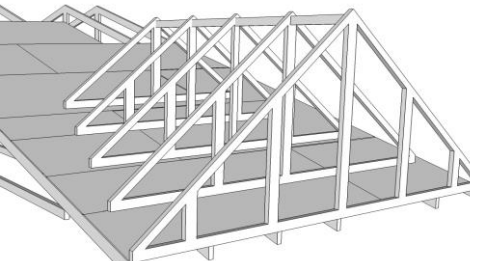
7-A spreader bar and short cable slings should be used to lift trusses in the **30 to 60 foot range**. The cable slings may be vertical but it is recommended that they be "toed-in" to prevent the truss from folding during the lift. Two tag lines should be used to control the raising of trusses of this size.



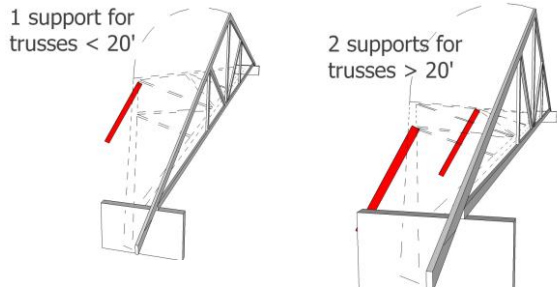
8-Trusses above **60 feet in length** should be lifted with a strongback 2/3 to 3/4 the length of the truss. The truss should be securely tied to it at 10 foot intervals or less. For flat trusses, the strongback should be tied to the top chord. Pitched trusses should be positioned high enough on the strongback to prevent overturning of the truss. Two tag lines should be used to control the truss during lifting.



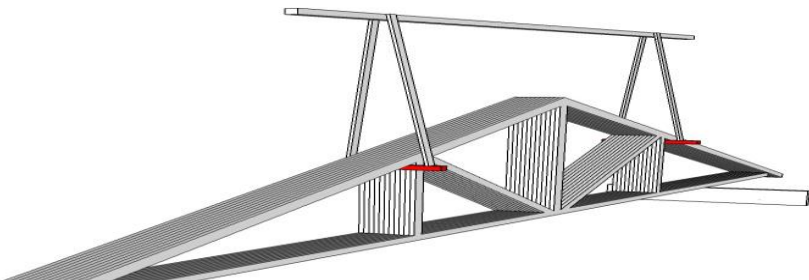
12-Valley Sets-Top chords of trusses must always be restrained from lateral movement. When valley sets or conventional framing is installed on top of the main trusses, the top chords of these trusses must be restrained from lateral movement by sheathing or purlins as specified on the structural drawings or truss design drawings.



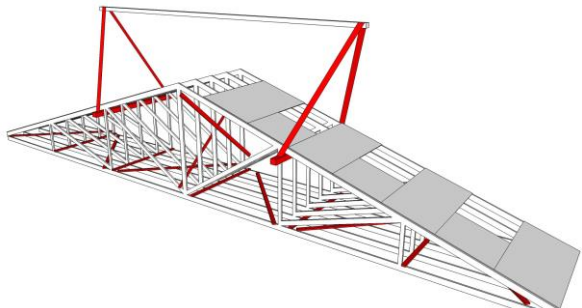
3-Single trusses can be installed by hand. Trusses less than 20' can be supported near the peak and spans up to 30' at the quarter points. If there are interior partitions, trusses may be laid flat.



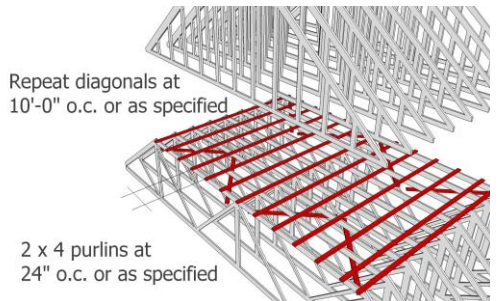
4-Ideally when mechanical means are used, the trusses should be lifted in banded sets and lowered onto supports. When this method is used, extreme caution must be exercised when breaking the metal straps. Trusses may domino, lose lateral stability, or totally collapse. If temporary braces and supports are not in place before releasing the banding lifting trusses singly should be avoided, but if necessary an appropriate spreader bar should be used with slings of sufficient strength and placed in a "toed-in" position. The "toed-in" position will prevent the truss from folding.



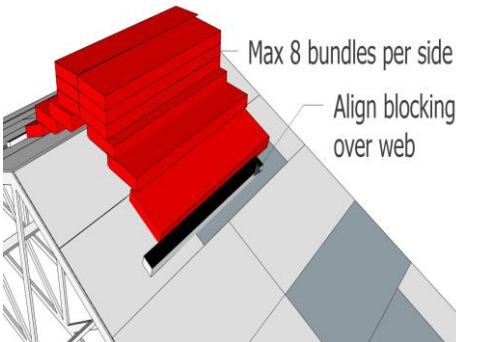
9-It is a good practice to lift long trusses in **modules**. Install the bracing before lifting. Use spreader bars to distribute the load instead of single pick-up points.



13-Piggy-Back Trusses-It is important that the flat top chord of a Piggy-Back Truss be restrained and braced similar to any truss top chord. Use rows of 2X4 bracing ≤ the spacing indicated on the Truss Design Diagram or structural sheathing. Install diagonal bracing to the underside of the top chord at 45° over a minimum of 3 trusses and repeat at 10'-0" intervals or as specified.



14-Construction Loads-DO NOT place any construction loads on trusses until they are entirely braced. DO NOT exceed the maximum height of materials:
Gypsum Board- 10"
Wood Sheathing- 12"
Asphalt Shingles- 4 bundles
Concrete/Clay Tiles- 4 tiles
Place materials over as many trusses as possible, and never stack materials where the weight is located at the mid-point of the top chord panel, cantilevers, or overhangs. Try to position materials over load bearing walls where possible.



Warnings
All trusses are laterally unstable until properly braced. Adequate restraint is necessary at all stages of construction.
Complete stability is not achieved until the bracing and decking is completely installed and properly fastened.
Fall protection anchors attached to the trusses must not be used until the trusses are completely installed, including bracing.



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Permanent bracing is designed and specified for the structural safety of the building. It is the responsibility of the building designer or an authority other than the truss designer to indicate size, location, and attachments for all permanent bracing. Typical applications of permanent bracing to be specified by the building designer as indicated.

15-Bracing-It is critical to install both temporary bracing to prevent collapse and permanent bracing to ensure that the trusses can support the required loads. Trusses may collapse during construction, even when there are no permanent loads applied, due to the weight of the trusses themselves.

16-Bracing the First Truss or Gable-The first trusses installed must be braced securely and directly to the ground or a permanent structure. The braces must align with the temporary Top Chord Bracing.

Min 2x4, Align with Top chord Bracing

17-Set the first trusses by creating a rigid module of trusses by installing diagonal members on the Top Chords, Bottom Chords, and Webs.

18-If installing a Hip System, install the perpendicular trusses to act as Gable Bracing.

19-Bracing-Minimum lumber used for lateral restraint and diagonal bracing is 2X4 graded lumber or as specified by the building designer. Attach to each truss with at least 2-3" common nails or 2-3"pneumatic (0.131"x3") nails.

20-Web Member Plane
Permanent Building Stability Bracing
Diagonal web bracing is specified by the building designer to distribute and resist loading to adjacent trusses and to transfer forces into the building structure.

21-Top Chord Bracing-Permanent Top Chord Bracing is achieved via rigid sheathing or purlin strapping as designed by the building designer. The Top Chord may require permanent diagonal bracing as specified by the building designer.

Purlins as specified By the building Designer

22-Until the Permanent Top Chord Bracing is installed Temporary Top Chord Bracing should be installed at the peak and heel of the truss and at a maximum of 10'-0" o.c. Long span trusses may require bracing at closer intervals. Diagonal bracing should be installed at 8'-0" of truss run (4 trusses at 24"o.c.) with no more than 20'-0" between the diagonals and at both ends of the building.

Max :
20'-0"

23-Bottom Chord Bracing-Unless specified otherwise bottom chord bracing shall be installed at 10'-0" intervals with diagonal bracing installed over 8'-0" (4 trusses at 2'-0" o.c.) with no more than 20'-0" between diagonals and at both ends of the building.

10'-0" o.c.
20'-0" o.c.

24-Permanent Web Lateral Bracing-Web Bracing is required to prevent buckling of the webs and is critical to be installed as per the truss design diagram. A Lateral Brace itself must be restrained so that it does not move relative to the trusses. An unrestrained Lateral Brace could allow a "domino" failure where all the webs nailed to the brace move in the same direction.

25-Continuous Lateral Bracing (CLB) is to be attached as specified per the truss design drawings including the dimension and location. It is the Building Designers responsibility to specify how the CLB is anchored.

20' between diagonals

26-(CLB) requires diagonal bracing at an angle of less-than-or equal to 45° to the CLB and positioned so that it crosses the web in close proximity to the CLB. Attach the diagonal brace as close to the top and bottom chords as possible and to each web it crosses. Each diagonal brace should cross over at least 3 trusses. Repeat diagonals at the ends of the truss run or as specified on the truss design diagram. Alternate the direction of the diagonals. Diagonals may be installed on the backside of the web centered at the CLB or 2 pieces on the same side of the web as shown.

2 x 4 with 2 16 nails
Diagonal on opposite side

2 x 4 with 2 16 nails
Diagonals on same side

27-For trusses requiring more than 1 row of CLB install diagonal for every row of CLB.

28-As an alternative to lapping the CLB, it may be spliced if approved. Toe nail each CLB into the web and attach a splice with a min. 8 nails/side

2 X 4 Scab over CLB Splice
Toe-nail each CLB into truss
Attach scab with min. 16 3 1/2" nails or as specified

29- If it is not possible to install CLB as specified on the truss design drawings on 3 or more trusses which have identical web configurations, contact the Truss Designer for an alternate bracing detail.

In some instances a "L" brace, "T" brace, "I" brace, or "Scab" brace may be specified. These braces shall be fastened to the web as specified by the Truss Designer. Scab braces can only be applied to a single truss and may be required to be attached with 3" structural screws.

The length of these braces must be at least 90% of the web length.

L-Brace Scab Brace I-Brace T-Brace

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DO NOT Permit cutting, drilling, or damage to any of the truss chords or webs; remove webs; make field repairs without approval of the manufacturer or a Structural Engineer; overload trusses with construction materials; or erect damaged trusses. Notify the manufacturer or the Site Engineer.