



## TRUSS TERMINOLOGY

**BEARING WIDTH** The width dimension of the member providing support for the truss (usually 3½" or 5½"). Bearing must occur at a truss joint location.

**CANTILEVER** That structural portion of a truss which extends beyond the support. The cantilever dimension is measured from the outside face of the support to the heel joint. Note that the cantilever is different from the overhang.

**CAMBER** An upward vertical displacement built into a truss bottom chord to compensate for deflection due to dead load.

**CHORDS** The outer members of a truss that define the envelope or shape.

**TOP CHORD** An inclined or horizontal member that establishes the upper edge of a truss. This member is subjected to compressive and bending stresses.

**BOTTOM CHORD** The horizontal (and inclined i.e. scissor trusses) member defining the lower edge of a truss, carrying ceiling loads where applicable. This member is subject to tensile and bending stresses. (On a simply supported non-cantilevered truss).

**CLEAR SPAN** The horizontal distance between inside faces or supports.

**CONNECTOR PLATE** A galvanized steel plate with teeth punched out on one side, which is hydraulically pressed or rolled into both sides of a joint to fasten chord and web members together.

**GIRDER** A main truss supporting secondary trusses framing into it.

**HEEL** The joint in a pitched truss where top and bottom chords meet.

**JOINT** The point of intersection of a chord with the web or webs or an attachment of pieces of lumber (eg. splice).

**LATERAL BRACE** A permanent member connected to a web or chord member at right angle to the truss to restrain the member against a buckling failure or the truss against overturning.

**OVERHANG** The extension of the top chord beyond the heel joint.

**PANEL** The chord segment between two adjacent joints.

**PANEL POINT** The point of intersection of a chord with the web or webs.

**PEAK** Highest point on a truss where the sloped top chords meet.

**PLATE** Either horizontal 2x member at the top of a stud wall offering bearing for trusses or a shortened form of connector plate, depending on usage of the word.

**PLUMB CUT** Top chord cut to provide for vertical (plumb) installation of fascia.

**SCARF CUT** For pitched trusses only - the sloping cut of upper portion of the bottom chord at the heel joint.

**SLOPE (PITCH)** The units of horizontal run, in one unit of vertical rise for inclined members. (Usually expressed as 3:12, 5:12, etc.)

**TIE** A temporary bottom chord brace, may be omitted if ceiling is attached directly to bottom chord and provides adequate lateral support.

**TRUSS** A pre-built structural member capable of supporting a load over a given span. A truss consists of one or more triangles in its construction.

**PITCHED TRUSS** Any truss in which the top chord is sloped and the bottom chord is horizontal.

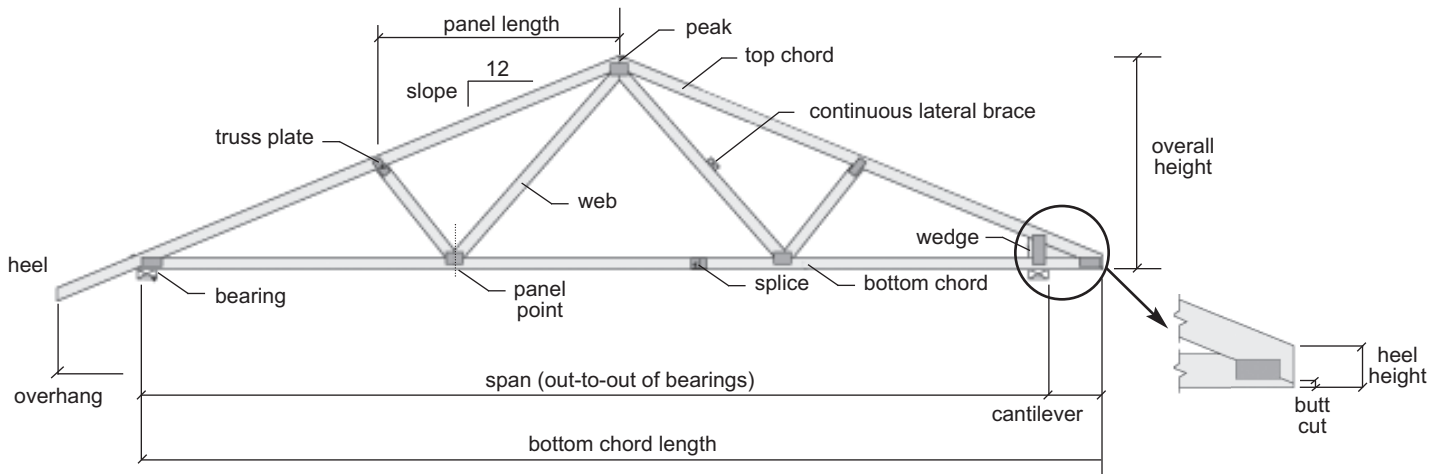
**FLAT TRUSS** A truss which has the top chord parallel to the bottom chord over the entire length of the truss.

**WEBS** Members that join the top and bottom chords to form the triangular patterns that give truss action. The members are subject only to axial compression or tension forces (no bending).



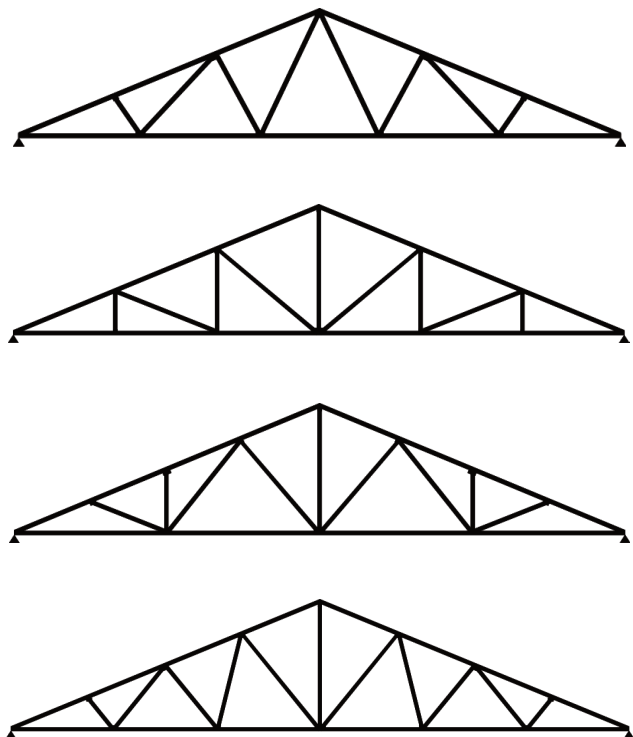
## TRUSS CONFIGURATIONS

**TRUSS TERMS** The terms below are typically used to describe the various parts of a metal plate connected wood truss. The truss profile, span, heel height, overall height, overhang and web configuration depend on the specific design conditions and will vary by application.



**TWO BASIC TYPES OF TRUSSES** The *pitched* or *common truss* is characterized by its triangular shape. It is most often used for roof construction. Some common trusses are named according to their web configuration, such as the King Post, Fan, Fink or Howe truss. The chord size and web configuration are determined by span, load and spacing. All truss designs are optimized to provide the most economical application. The *parallel chord* or *flat truss* gets its name from having parallel top and bottom chords. This type is often used for floor construction.

### STANDARD ROOF TRUSS CONFIGURATIONS



### PARALLEL CHORD



4X2 FLOOR TRUSS WITH CHASE



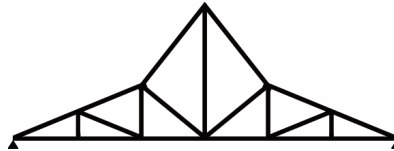
2X4 FLOOR OR ROOF TRUSS  
(CAN DESIGN WITH A CHASE AS WELL)



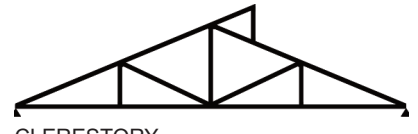
**TRUSS CONFIGURATIONS** The following examples represent some of the possible variations on the basic types of trusses. The only limit to the design is your imagination.



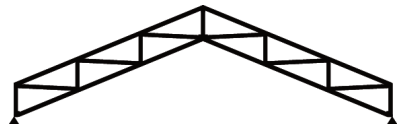
SCISSORS



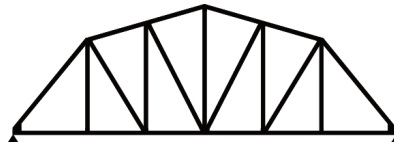
POLYNESIAN



CLERESTORY



VAULTED PARALLEL CHORD



GAMBREL



CANTILEVERED MANSARD W/PARAPETS



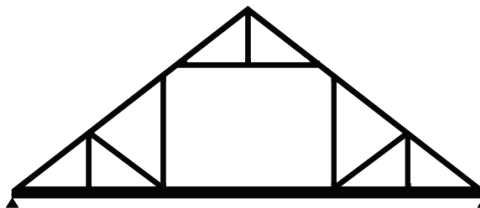
VAULT



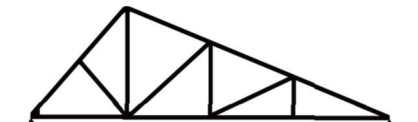
HIP



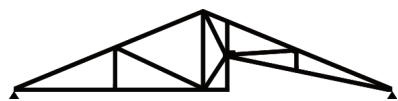
FLAT VAULT



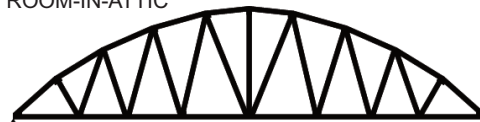
ROOM-IN-ATTIC



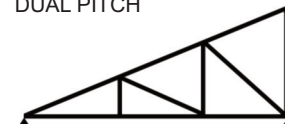
DUAL PITCH



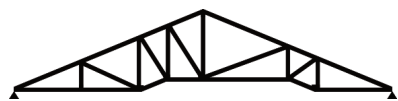
STUDIO VAULT



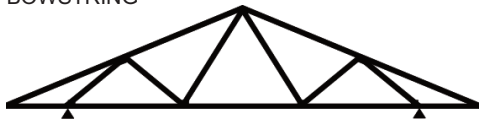
BOWSTRING



MONO



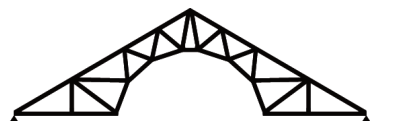
TRAY OR COFFER



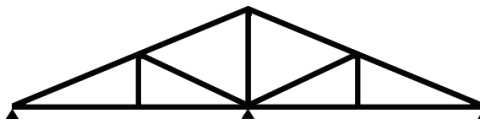
DOUBLE CANTILEVER



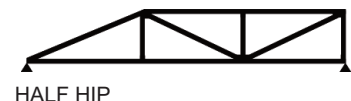
HALF SCISSORS



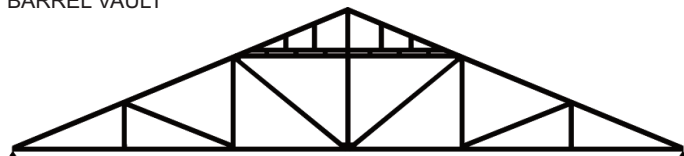
BARREL VAULT



TRI-BEARING



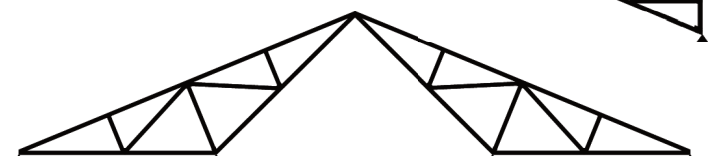
HALF HIP



MULTI-PIECE



SLOPING FLAT



DOUBLE INVERTED

**A WORD ABOUT TRUSS SHAPES** Although we have tried to show a few basic truss shapes in the preceding pages; space does not permit the inclusion of all the possible shapes or styles.

Only single span cases have been illustrated; however, many of the shapes shown are suitable for multi-span conditions.

A single truss supported at three or more bearing points is not uncommon also not recommended.

The flexibility of the All-Fab truss system is one of its main advantages. In fact, our computer software programs can handle just about any shape that a designer could imagine.