Chapter 10: Roof Truss Legalese

Truss plates are produced from sheet steel which is galvanized to ASTM A 653 specifications. The galvanized coating is suitable for use with non-corrosive lumber treatments, including most sodium borate-based preservatives.

This galvanizing is not suitable for direct contact with ACQ treated lumber. A waterproof barrier, such as polyethylene roof underlayment (Vycor or similar), must be placed between any truss plates and ACQ treated lumber. An application example is where the truss heel is attached to a treated wood post. The entire truss plate must be covered with barrier, and care shall be taken not to rip or damage barrier when drilling or installing any fasteners.

In lieu of a waterproof barrier, exposed truss plate surface may be painted as recommended by ANSI/TPI 1-2002 Section 6.51:
Epoxy-Polyamide Primer (SSPC-Paint 22)
Coal-Tar Epoxy-Polyamide Black or Dark Red Paint (SSPC-Paint 16)
Basic Zinc Chromate-Vinyl Butyral Wash Primer (SSPC-Paint 27) and cold applied Asphaltic Mastic (Extra Thick Film) Paint (SSPC-Paint 12).

The 2001 National Design Standards (NDS) advises:

C. Contractor shall be responsible for the handling, erection, and temporary bracing of trusses in a good workmanlike manner and in accordance with the recommendations set forth in Wood Truss Council of America's (WTCA) "Job Site Warning Poster" and WTCA's Truss Technology in Building "Always Diagonally Brace for Safety" and "Web Member Permanent Bracing: Brace it for Stability".

D. Trusses shall be set and secured level and plumb, and in correct location. Each truss shall be held in correct alignment until specified permanent bracing is installed.

E. Cutting and altering of trusses is not permitted. If any truss should become broken, damaged, or altered, written concurrence and approval by a licensed design professional is required.

F. Concentrated loads shall not be placed on top of trusses until all specified bracing has been installed and decking is permanently nailed in place. Specifically avoid stacking full bundles of plywood or other concentrated loads on top of trusses.

G. Truss Submittals and any supplementary information provided by the Truss Manufacturer shall be provided by the Contractor to the individual or organization responsible for the installation of the Trusses.

H. Trusses shall be permanently braced in a manner consistent with good building practices and in accordance with the requirements of the Building Structural System Design Documents. Trusses shall furthermore be anchored or restrained to prevent out-of-plane movement so as to keep all truss members from simultaneously buckling together in the same direction. Such permanent lateral bracing shall be accomplished by: (a) anchorage to solid end walls; (b) permanent diagonal bracing in the plane of the web members; or (c) other suitable means. (pp. T-23 to T-26 of NDS 2001)

Temporary Truss Bracing

The following is from the 2001 NDS:

The erection of wood trusses is inherently dangerous and requires, above all, careful planning and communication between the erection contractor and the installation crew. Construction accidents can happen, but planning the actions of all construction personnel involved beforehand greatly reduces the probability of an accident.

The wood truss industry provides several recommendations to help the contractor use safe practices during the truss installation. These recommendations should accompany the truss drawings and truss placement plan that are submitted to the contractor for approval and use during construction. However, the contractor has the ultimate responsibility for job site safety.

Post Frame Truss Installation & Bracing

The following pages are reprinted by Wood Truss Council of America (WTCA) permission. Visit their website for further information:

http://www.woodtruss.com

For more information visit the Truss Plate Institute's website:

http://www.tpinst.org/

These websites have many other great educational brochures on wood truss construction.

See following pages for principles on temporary bracing.

B10 Post Frame Truss Installation and Bracing
Armazón de Poste Instalación de Truss y Arriostre

RECOMMENDATIONS FOR HANDLING, INSTALLING AND TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES IN POST-FRAME CONSTRUCTION

RECOMENDACIONES PARA MANEJAR, INSTALAR, Y ARRISTRAR PROVISIONALMENTE DE LAMINAS DE METAL CONECTADAS A LOS TRUSSES DE MADERA EN CONSTRUCCION DE ARMAZON DE POSTE

⚠ See BCSI-B1 for information on truss unloading, jobsite handling, jobsite storage, hoisting and lifting. Heed all warnings and caution notes.

Vea BCSI-B1 para información sobre descargar, manejar en la obra, almacenar en la obra, y levantando los trusses. Sigue todas las advertencias.

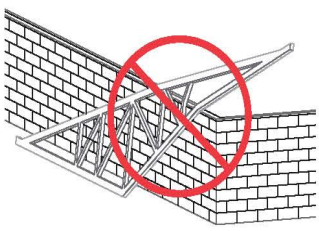
TRUSS STORAGE
ALMACENAJE DE TRUSS

⊘ Do not unload trusses on rough terrain or uneven surfaces which could cause damage to the truss.

No descargue trusses en terreno escabroso o superficies irregulares que pueden causar daño a el truss.

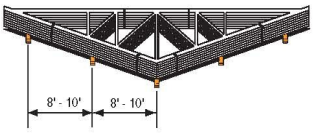
⊘ Walking on trusses which are lying flat is extremely dangerous and should be strictly prohibited.

Caminar arriba de trusses que están acostados planos es extremamente peligroso y debe ser estrictamente prohibido.



☑ Trusses stored horizontally should be blocked up off the ground to prevent excessive lateral bending and lessen moisture gain from the ground.

Trusses guardados horizontalmente deben ser bloqueados levantados de el terreno para prevenir que se doblen lateralmente y reducir la cantidad de aqua que absorben de el terreno.



⊘ Do not break banding on truss bundles until installation begins. Care should be exercised in banding removal to avoid shifting of individual trusses.

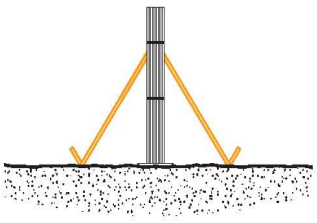
No quiebre las tiras de los bultos de trusses hasta que empieze la instalación. Deberia usar cuidado en remover las tiras para evitar que se muevan los trusses individuales.

☑ Always wear gloves and safety glasses when cutting and/or handling banding.

Siempre use guantes y lentes de seguridad cuando este cortando y/o manejando las tiras de los trusses.

⊘ Do not store bundles upright (vertical) unless properly braced to prevent toppling.

No guarde bultos parados (verticales) a menos que esten arristrados apropiadamente para prevenir que se caigan.



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BCSI-B10 SUMMARY SHEET ***RESUMEN BCSI-B10***

WARNINGS AND RESPONSIBILITIES

It is the responsibility of the Erection/Installation Contractor to properly receive, unload, store, handle, install, and brace metal plate connected wood trusses to protect life and property. The Erection/Installation Contractor must exercise the same high degree of safety awareness as with any other structural material. It is the responsibility of the Erection/ Installation Contractor to determine if the installation crew has the needed equipment and training to safely erect the proposed roof construction, and to determine that the trusses to be installed are undamaged.

Temporary bracing schedules in Table 1, B10-1 were developed for an assumed load of the truss weight, plus two workers and their equipment at a given time assumed to weigh 250 lbs. each. Bracing schedules do not provide for wind loads or for accidental overload, materials stacked on trusses during erection, or loads due to misuse or negligence.

These recommendations are based upon the collective experience of leading technical personnel in the wood truss and post frame industry, but must, due to the nature of responsibilities involved, be presented only as a guide for use by a qualified Building Designer or Erection/ Installation Contractor. It is not intended that these recommendations be interpreted as superior to the project Architect's or Engineer's design specification for handling, installing and bracing wood trusses and it does not preclude the use of other equivalent methods for bracing and providing stability for the walls and columns as may be determined by the Contractor. Thus, WTCA and TPI expressly disclaim any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein.

ADVERTENCIAS Y RESPONSABILIDADES

Es la responsabilidad de el contratista de Errección/Instalación recibir apropiadamente, descargar, guardar, manejar, instalar y arriostrar trusses de madera conectados con lámina de metal para proteger vida y propiedad. El contratista de errección/ instalación debe ejercer el mismo grado alto de conocimiento de seguridad como con cualquier otro material de estructura. Es la responsabilidad de el contratista de errección/instalación determinar si la cuadrilla de instalación tiene el equipo necesitado y la formación para montar seguramente el propuesto construcción de techo, y determinar que los trusses que se van a instalar no esten dañados.

Horarios de arriostramiento provisional en la Tabla 1, B10-1 fueron desarrollados para una carga suponida de el peso de el truss, mas dos trabajadores y su equipo a cualquier hora a pesar 250 libras cada uno. Horarios de arriostramiento no proveen para cargas con viento o por sobrecargas accidentales, materiales apilados arriba de los trusses durante la errección, o cargos debidas a mal uso u por negligencia.

Estas recomendaciónes son basades en la experiencia colectiva de personal tecnica en la industria de trusses de madera armazón de poste, pero debido a la naturaleza de las reponsabilidades enrevesadas, debe presentarse solamente como una guia para el uso por un diseñador de edificio u contratista de intalación cualificados. No es la intención que estas recomendaciónes se interpreten como superior a el diseño para manejar, instalar y arriostrar trusses de madera de el arquitecto u ingeniero de el proyecto y no excluye el uso do otros metodos equivalentes para arriostrar y proveer establidad para las paredes y columnas como puede ser determinado por el contratista. Asi, de este modo WTCA y TPI niegan claramente responsabilidad por daño que surge de el uso, aplicación, o dependencia en estas recomendaciónes y información contenida en estos documentos.

LIMITATIONS OF RECOMMENDATIONS
LIMITACIONES DE RECOMENDACIONES

☑ The recommendations and guidelines presented for temporary bracing are limited to post-frame buildings using metal plate connected wood trusses with the following characteristics:

Las recomendaciónes y directriz presentados para arriostrar provisionalmente son limitadas a edificos de armazón de poste usando trusses de madera conectados con láminas de metal con las siguientes caracteristicas:

1. Trusses are used in an engineered building system.
   Los trusses so usan en un sistema de edificio ingenierado.
2. Columns (laminated columns, posts) are embedded in the ground or attached to a foundation using the method specified by the Building Designer.
   Columnas (laminadas, postes) están clavados en el terreno o agregados a una fundación usando el metodo especificado por el diseñador de edificio.
3. End-walls have columns which extend to the top chord of the gable end truss with adequate contact between the top chord and column for a structural connection.
   Paredes de extremo tienen columnas que extienden a la parte mas alta de cuerda de el truss hastial con contacto adecuado entre la cuerda de arriba y la columna para una conección estructural.
4. End trusses are stabilized against rollover by connecting the top and bottom chords to the endwall columns or engineered bracing system.
   Trusses de extremo son establizados contra movimiento por conectando la cuerda superior y inferior a las columnas de la pared de extremo o un sistema de arriostramiento de ingenieria.
5. Side-wall columns extend above the mid-height of the truss heel at the connection of the column and the truss.
   Columnas de paredes de lado extienden sobre la media-altura de el talón de truss en la conección de la columna y el truss.
6. Truss heels are connected to columns or headers (beams, girders) to resist rollover at the heel.
   Talónes de truss están conectados a las columnas o cabezero (vigas, travesaños) para resistir movimiento en el talón.
7. Trusses have flat bottom chords and are spaced 4' to 12' on-center.
   Trusses tienen cuerdas planas inferiores y están espaciados 4 pies a 12 pies en el centro.
8. Purlins are attached directly to the top chord.
   Las vigas de soporte (purlins) están agregadas directamente a la cuerda superior.

MECHANICAL INSTALLATION
INSTALACION MECANICA

⚠ Buildings under construction are vulnerable to high winds, and present a safety hazard. It is the responsibility of the Erection/Installation Contractor to recognize adverse weather conditions and take prompt and appropriate action to protect life and property.

Edificios bajo construcción son vulnerables a vientos altos, y presentan un peligro de seguridad. Es la responsabilidad de el contratrista de errección/instalación reconocer condiciónes adversos de tiempo y tomar acción para proteger vida y propiedad.

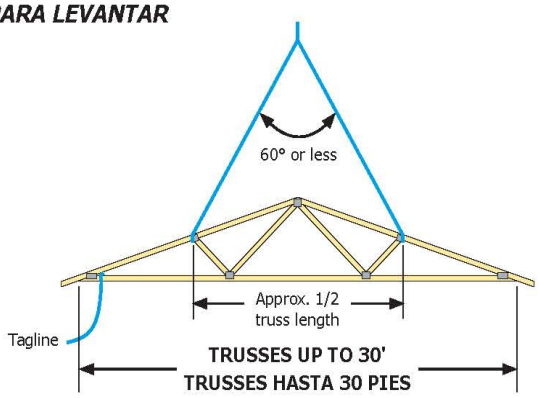
⚠ Do not lift bundled trusses by the bands. Do not use damaged trusses. Do not attach cables, chains, or hooks to the web members.

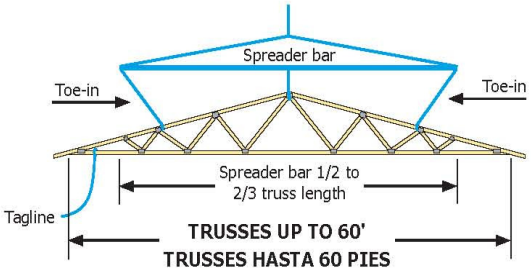
No levante bultos de trusses por las tiras. No use trusses dañados. No sujete o amarre cables, cadenas o ganchos a los miembros secundarios.

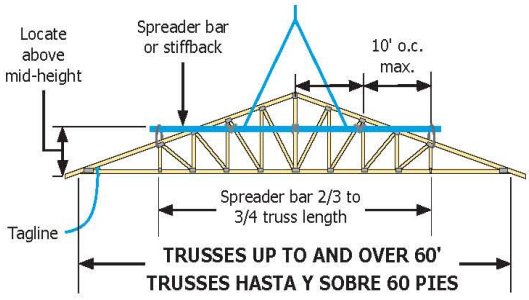
⚠ Do not lift trusses with spans greater than 30' by the peak.

No levante trusses con vanor mas de 30 pies por el cumbre.

HOISTING RECOMMENDATIONS
RECOMENDACIONES PARA LEVANTAR







⚠ Lifting devices should be connected to the truss top chord with a closed-loop attachment utilizing materials such as slings, chains, cables, or nylon strapping of sufficient strength to carry the weight of the truss. Each truss should be set in proper position per the Building Designer's framing plan and held with the lifting device until the ends of the truss are securely fastened and all temporary bracing is installed.

Aparatos de levantar deben ser conectados a la cuerdo superior de el truss con un dispositivo de lazo cerrado utilizando materiales como, hondas, cadenas, cables, o correa de nílon de fuerza suficiente para cargar el peso de el truss. Cada truss debe ser puesto en la posición propia por el plan de armazón de el diseñador de edificio y sujetado con el aparato de levantar hasta que los extremos de los trusses esten sujetos bien y todo arriostramiento provisional este instalado.

TEMPORARY BRACING PRINCIPLES
PRINCIPIOS DE ARRIOSTRAMIENTO PROVISIONAL

The following chronological steps should be taken to provide temporary bracing for truss installation.
Los siguientes pasos cronológicos deben ser tomados para proveer arriostramiento provisional para instalición de truss.

1. ENSURE STABLE SIDE-WALL AND END-WALL COLUMNS
ASEGURE COLUMNAS ESTABLES DE PARED DE LADO Y EXTREMO

1.1 For Embedded Columns: Embedded columns shall be backfilled with concrete or compacted fill.

Para Columnas Clavadas: *Columnas clavadas deben ser llenadas de atras con concreto u llenado solido.*

a) Attach girts, splash board or temporary lateral bracing, and install a system of wood temporary diagonal ground bracing to provide support in the plane of the wall (Figure A) and perpendicular to it (Figure B).

Sujete (girts), tabla salpicadura o arristramiento lateral provisional, y instale un sistema de arriostramiento de madera diagonal provisional de terreno para proveer apoyo en el plano de la pared (Figura A) y perpendicular a el (Figura B).

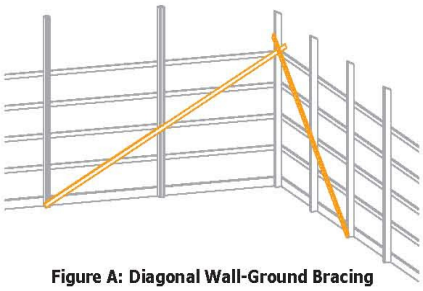


Figure A: Diagonal Wall-Ground Bracing
Figura A: Arriostramiento Diagional de Pared-Terreno

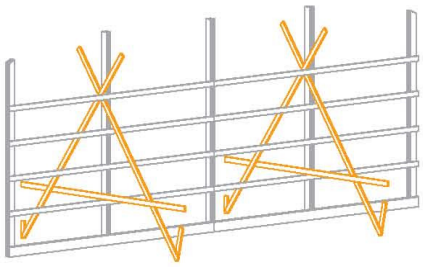


Figure B: A-Frame Ground Bracing
Figura B: Arriostramiento de Terreno de Armazón-A

1.2 For Columns Bearing on Concrete: Columns bearing on a concrete foundation must be attached to prevent horizontal movement of column base as specified by the Building Designer (Figure C).

Para Columnas Montadas en Concreto: *Columnas montadas en una fundación de concreto debe ser sujeta para prevenir movimiento horizontal de la base de la columna como es especificado por el diseñador de edificiao (Figura C).*

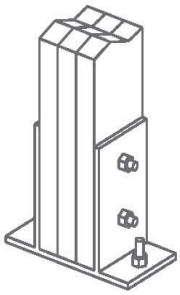


Figure C: Column Connection
Figure C: Conección de Columna

a) Attach girts, splash board or temporary lateral bracing and install a system of wood temporary diagonal ground bracing to provide support in the plane of the wall (Figure A) and perpendicular to it (Figure B).

Sujete (girts), tabla salpicadura o arristramiento lateral provisional, y instale un sistema de arriostramiento de madera diagonal provisional de terreno para proveer apoyo en el plano de la pared (Figura A) y perpendicular a el (Figura B).

2. PROVIDE A STABLE BASE UNIT UPON WHICH TO BUILD
PROVEE UNA UNIDAD ESTABLE DE BASE SOBRE CUAL SE PUEDE CONSTRUIR

2.1 Install trusses on side wall columns or header system in sufficient quantities (usually 16' - 24' of sidewall) to establish a stable base unit. See Sections 3.1, 3.2, 3.3 for bracing requirements.

Instale trusses en columnas de pared de lado o sistema de cabezera en cantidades suficientes (usualmente 16'-24' de la pared de lado) para establecer una unidad de base estable. Vea secciónes 3.1, 3.2, 3.3 para requisitos de arriostramiento.

2.2 Use one or more of the following methods to resist movement of the base unit parallel to the endwall:

Use uno u mas de los siguientes metodos para resistir movimiento de la unidad de base paralelo a la pared de extremo:

a) Diagonal wood braces (Figure D)
Arriostres diagonales de madera (Figura D)

b) Chains or cables (Figure E) together with turnbuckles, or come-alongs of sufficient strength (min. 2000 lbs. capacity).
Cadenas o cables (Figura E) juntos con (turnbuckles) o (come-alongs) de suficiente fuerza (min. capacidad de 2000 lbs.).

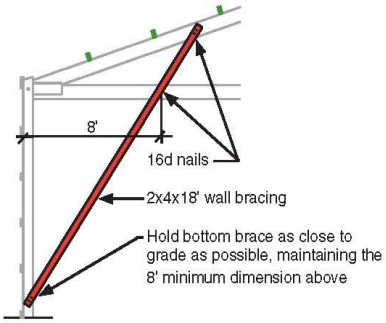


Figure D: Column-Truss Bracing
Figura D: Arriostres de Columna a Truss

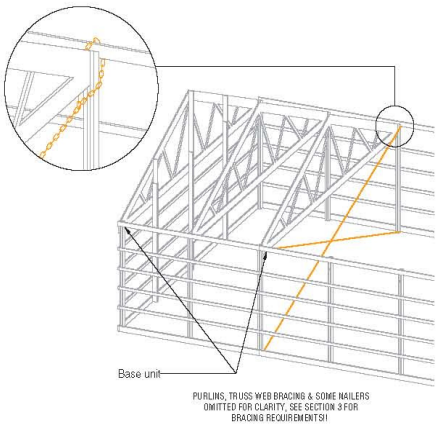


Figure E: Column Chaining
Figura E: Columnas Encadenadas

2.3 Use one or more of the following methods to resist movement of the base unit perpendicular to the endwall:

Use uno u mas de los siguientes metodos para resistir movimiento de la unidad de base perpendicular a la pared de extremo:

a) Temporary diagonal ground bracing (Figure F)
Arriostramiento provisional diagonal de terreno (Figura F)

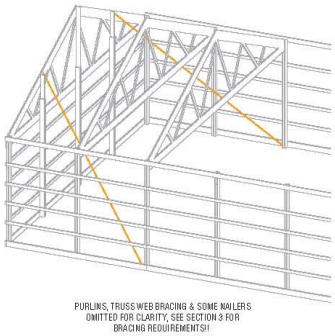


Figure F: End Wall Chaining
Figura F: Encadenado de Pared de Extremo

b) Chains or cables (Figure E) together with turnbuckles, or come-alongs of sufficient strength (min. 2000 lbs. capacity).
Cadenas o cables (Figura E) juntos con (turnbuckles) o (come-alongs) de suficiente fuerza (min. capacidad de 2000 lbs.).

2.4 Stable base unit is now ready.
Unidad de base estable ahora esta listo.

3. TEMPORARY TRUSS BRACING OF THE BASE UNIT
ARRIOSTRAMIENTO PROVISIONAL DE TRUSS DE UNIDAD DE LA BASE

3.1 Provide a mechanical connection to resist truss rollover at the heel (Figure G). This may include the use of nails, bolts, lag screws, metal straps, or connectors.

Provee una conección mecánica para resistir movimiento de los trusses en el talón. (Figura G). Esto puede incluir el uso de clavos, tornillos, tiras de metal, o conectores.

3.2 Brace truss top chords with temporary lateral braces as indicated in Table 1 and shown in Figure G and H.

Arriostre cuerdas superiores de truss con arriostre provisional lateral como es indicado en la Tabla 1 y mostrado en Figuras G y H.

Top Chord Temporary Lateral Bracing Schedule

El Horario del Arriostre Lateral Temporal de la Cuerda Superior

Maximum truss spans for chord size, grade and brace spaces shown.

Top Chord Size / Tamaño de cuerda superiores	Top Chord Grades / Grados de cuerda superiores								
	No 1 Southern Pine			MSR 1950f 1.5E			MSR 2400f 1.8E		
	Max. Brace Spaces			Max. Brace Spaces			Max. Brace Spaces		
	10'	8'	6'	10'	8'	6'	10'	8'	6'
2x6	n/a	n/a	62'	n/a	25'	81'	n/a	42'	81'
2x8	n/a	27'	81'	n/a	43'	81'	22'	61'	81'
2x10	n/a	40'	81'	24'	57'	81'	35'	78'	81'
2x12	21'	53'	81'	34'	74'	81'	48'	81'	81'

TABLE 1 - TABLA 1

⚠ Table 1 was developed solely for symmetrical triangular metal plate connected wood trusses with pitched top chords of 3:12 or greater and flat bottom chord. Other truss types are expressly excluded from the scope of Table 1. Spans listed in Table 1 are the maximum truss spans that can be safely braced for the top chord size and lumber species/grade (or better) in the corresponding column heading, using the maximum temporary top chord lateral brace spacing. For truss configurations, spans and/or top chord grades not covered by Table 1, consult a registered Professional Engineer.

Tabla 1 fue diseñada solamente para trusses de madera conectados con láminas triangulares, simetricos de metal con cuerdas superiores de 3:12 o mas y cuerda inferior plana. Otros tipos de trusses son expresamente excluidos de el alcance de la Tabla 1. Vanos mencionados en le Tabla 1 son los vanos maximos de truss que pueden ser arriostrados seguramente para el tamaño de cuerda superior y especie/grado de madera en la columna que le corresponde usando el maximo espacio de arrostre de la cuerda superior provisonal. Para configuración de truss, vanos y/o grados de cuerda superior no cubiertas en la Tabla 1, consulte un ingeniero profesional registrado.

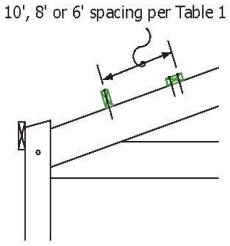


Figure G: Detail of Mechanical Connection at Heel and Top Chord Bracing

Figura G: Detalle de Conección Mecánica en Talón y Arriostre de la Cuerda Superior

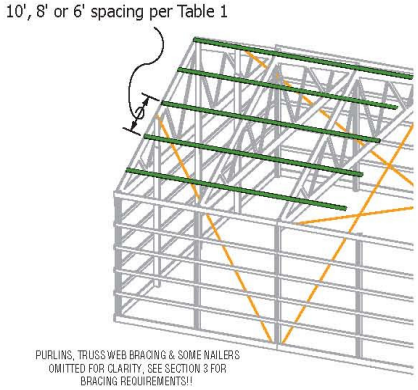


Figure H: Top Chord Bracing

Figure H: Arriostre de Cuerda Superior

3.3 Brace truss bottom chord with bottom chord lateral bracing a maximum of 15' on-center (Figure I).

Arriostre cuerda inferior de truss con arriostre lateral de cuerda inferior con un maximo de 15' en el centro (Figura 1).

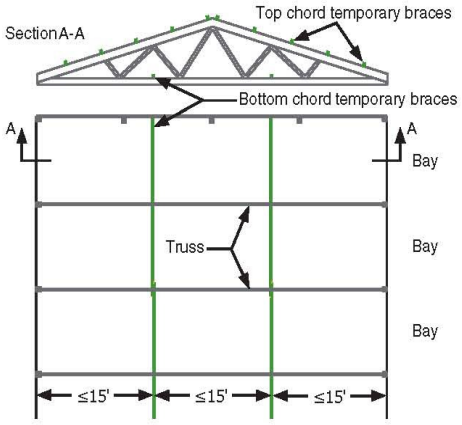


Figure I: Bottom Chord Bracing

Figura I: Arriostre de Cuerda Inferior

⚠ Temporary bracing connections must be made with a minimum of 2-16d (0.135x3.5") nails or equivalent to a lateral holding design capacity of 200 lbs. or permanent connection as specified by the Building Designer.

Conecciónes de arriostre provisionales deben ser hechos con un minimo de 2-16d (0.135 x 3.5") clavos o el equivalente a un diseño lateral de capacidad de 200 lbs. o una conección permanente como es especificado por el diseñador de edificio.

3.4 Install diagonal bracing in the plane of the roof using one of the following:

Instale arriostre diagonal en el plano de el techo usando uno de los siguientes:

a) Diagonal bracing with 2x4 lumber, minimum grade of S-P-F #2 (Figure J)

Arriostre diagonal con madera 2x4, minimo grado SPF #2 (Figura J)

b) Metal strap cross bracing (Figure K)

Arriostramiento de tira de metál de cruzamiento (Figura K)

c) The permanent roof decking material (plywood, OSB, corrugated steel, corrugated aluminum) or permanent roof bracing in accordance with product manufacturer's instructions or building plans and specifications.

El material de la cubierta de techo permanente (madera contrachapada, OSB, acero ondulado, aluminio ondulado) o arriostre permanente de techo de acuerdo con las instrucciónes de el fabricante o planes de el edificio o especificaciónes.

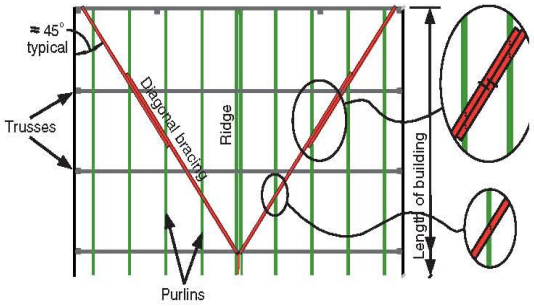


Figure J: Diagonal Wood Bracing

Figura J: Arriostre Diagonal de Madera

Note: Diagonal braces run to the fourth truss on 48' & wider buildings. Braces lap two purlins if diagonal brace is spliced. Use 2-16d (0.135x3.5") nails at each diagonal brace to purlin connection.

Nota: Arriostres diagonales corren a el cuarto truss en edificios de 48' o mas hanchos. Arriostres chapean dos vigas de soporte (purlins) si arriostre diagonal esta enpalmada. Use 2-16d (0.135 x 3.5") clavos en cada conecció de arriostre diagonal a viga de soporte (purlin).

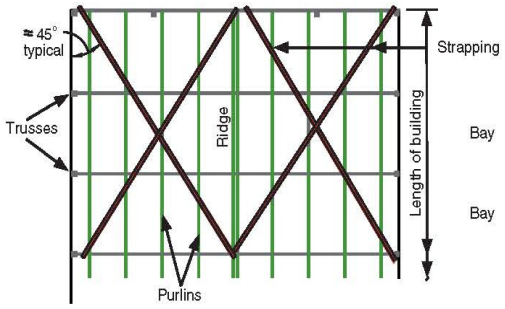


Figure K: Metal Strap Cross Bracing

Figura K: Arriostre de Tira de Metál de Cruzamiento

Note: Metal strap cross bracing is typically used when purlins are mounted flush between trusses.

Nota: Arriostre de tira de metál de cruzamiento es tipicamente usado cuando las vigas de soporte (purlins) esten montados al raso entre trusses.

3.5 Brace trusses vertically to prevent "rollover", i.e. rotation using one or more of the following:

Arriostre trusses verticalmente para prevenir movimiento por ejemplo rotación usando uno mas de los siguientes:

a) Truss-to-truss cross bracing at 20' on center maximum spacing (Figure L) unless 3.4 (c) is adopted and applied to all trusses that have been set.

Arriostre de cruzamiento de truss a truss a 20' en el centro maximo espaciamiento (Figura L) a menos 3.4 (c) es adoptada y aplicada a todos los trusses que han sido instalados.

b) Chains or cables (Figure E) together with turnbuckles, or come-alongs of sufficient strength (min. 2000 lbs. capacity).

Cadenas o cables (Figure E) juntos con (turnbuckles) o (come-alongs) de suficiente fuerza (min. capacidad 2000 lbs.).

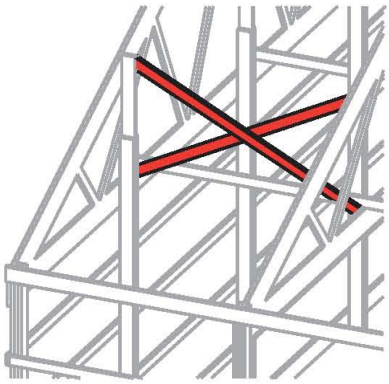


Figure L: Cross Bracing

Figura L: Arriostre de Cruzamiento

4. ERECT THE ADDITIONAL ROOF TRUSSES
ERRECTE LOS TRUSSES DE TECHOS ADICIONALES

4.1 Install top chord temporary bracing at the spacings indicated in Table 1.

Instale arriostre provisional de cuerda superior en los espaciamientos indicados en la Tabla 1.

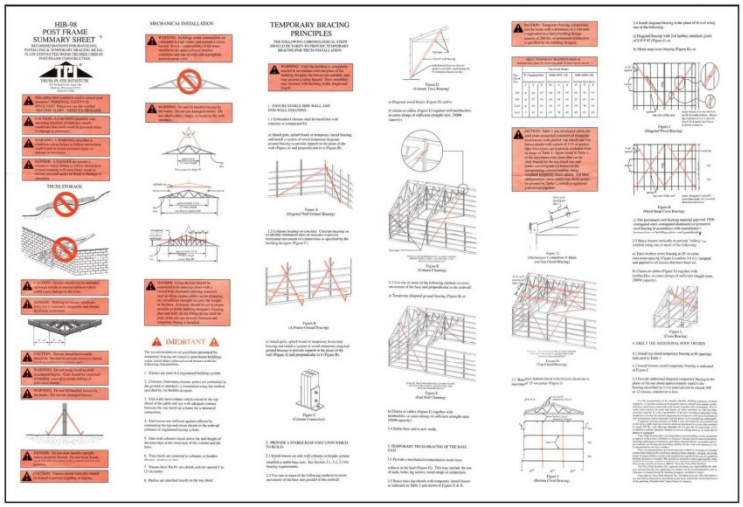
4.2 Install bottom chord temporary bracing as indicated in Figure I.

Instale arriostre provisional de cuerda inferior como es indicado en Figure I.

4.3 Provide additional diagonal temporary bracing in the plane of the top chord approximately equal to the bracing described in 3.4 at intervals not to exceed 100' or 12 truss spaces, whichever is less.

Provee arriostre provisional diagonal adicional en el plano de la cuerda superior aproximadamente igual a el arriostre descrito en 3.4 en intervales que no exciden 100' o 12 espacios de truss, cualquiera es menos.

This document replaces TPI's HIB-98 Post Frame Summary Sheet.



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This is an excerpt from *Structure*; August 2009, authored by Dr. Frank Woeste, P.E. and Dr. Donald Bender, P.E..

MPC is Metal-Plate-Connected; RDP is Registered Design Professional (architect or engineer).

Responsibilities where the Legal Requirements Mandate a Registered Design Professional for Buildings (Section 2.3 of ANSI/TPI 1)

"In preparation for specifying MPC wood trusses, every section of Chapter 2 and ANSI/TPI 1-2007 standard should be carefully studied by the RDP. In preparing this article, we assumed that the RDP will view a complete copy of Chapter 2 for a full understanding. Specific sections selected for discussion are cited by paragraph and subparagraph numbers.

Under Section 2.3.1 Requirements of the Owner, we note three sections that can help prevent truss erection accidents, and in some cases improve in-service truss performance. Over the past two decades, industry safety documents recommended that for truss spans over 60 feet, the Contractor should "See a registered professional engineer" for temporary bracing information. In many cases, Erection Contractors failed to follow the advice, and some accidents and performance problems stemmed from inadequate temporary and permanent bracing. The new ANSI/TPI 1 standard now requires action by the Owner and RDP as given in the following paragraphs:

2.3.1.6 Long Span Truss Requirements.

2.3.1.6.1 Restraint/Bracing Design.

In all cases where a Truss clear span is 60 feet (18m) or greater, the Owner shall contract with any Registered Design Professional for the design of the Temporary Installation Restraint/Bracing and the Permanent Individual Truss Member Restraint and Diagonal Bracing.

2.3.1.6.2 Special Inspection

In all cases where a Truss clear span is 60 feet (18m) or greater, the Owner shall contract with any Registered Design Professional to provide special inspections to assure that the Temporary Installation Restraint/Bracing and the Permanent Individual Truss Member Restraint and Diagonal Bracing are installed properly."

The importance of these new paragraphs to truss safety and reliability cannot be overstated. When executed by the Owner and RDP, these provisions for long span trusses should be effective in preventing truss erection accidents and ensuring in-service truss performance. "

In summary – with trusses spanning 60' or greater, the building owner has the legal obligation to contract with any registered design professional (RDP) for the design of temporary installation restraint/bracing and the permanent individual truss member restraint and diagonal bracing. And members added by your RDP beyond the original design, are outside of the scope of your purchase, and are at your expense to add. Further, your RDP is to make special inspections to assure the bracing they design, is properly installed.