

Trenco  
818 Soundside Rd  
Edenton, NC 27932

Re: 28007  
Truck Tire Pro\

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by C & R Truss.

Pages or sheets covered by this seal: I65570932 thru I65570934

My license renewal date for the state of North Carolina is December 31, 2024.

North Carolina COA: C-0844



May 15, 2024

Gilbert, Eric

**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	Truck Tire Pro	165570932
28007	G1	GABLE	1	1		

C&R Truss, Autryville, NC - 28318,

8.430 s Jan 6 2022 MiTek Industries, Inc. Tue May 14 12:55:17 2024 Page 1

ID:nVcjTdit56q2?QCduo9mv9zToyO-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCdoi7J4zJC?f



Scale = 1:68.2

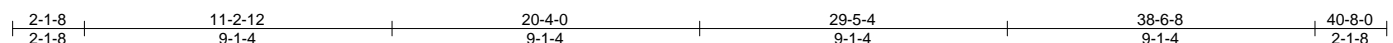
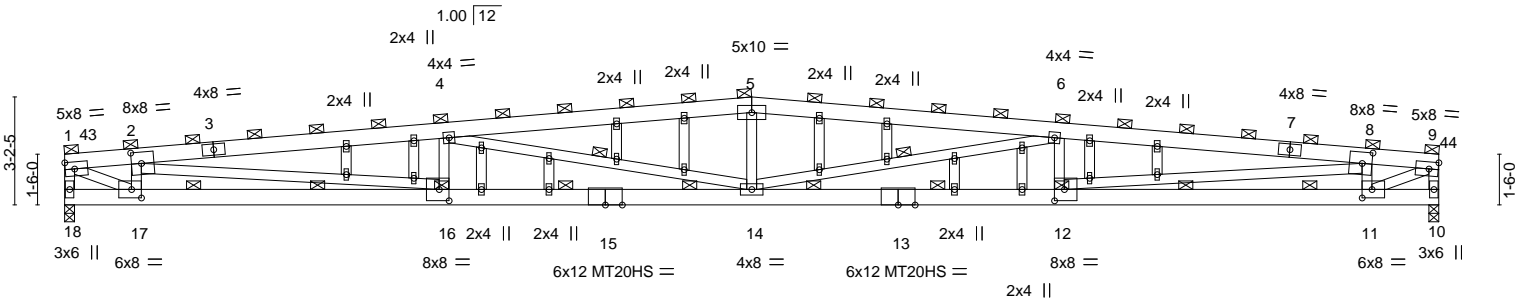


Plate Offsets (X,Y)-- [2:0-3-8,0-4-0], [8:0-3-8,0-4-0], [11:0-3-8,0-3-0], [12:0-3-8,0-4-0], [16:0-3-8,0-4-0], [17:0-3-8,0-3-0]

<b>LOADING</b> (psf)	<b>SPACING-</b>	3-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.15	TC 0.68	Vert(LL)	-0.77 12-14	>631	360	MT20	244/190
TCDL 5.0	Lumber DOL	1.15	BC 0.56	Vert(CT)	-1.16 12-14	>417	240	MT20HS	187/143
BCLL 0.0	Rep Stress Incr	NO	WB 0.90	Horz(CT)	0.14 10	n/a	n/a		
BCDL 5.0	Code IBC2018/TPI2014		Matrix-MS	Wind(LL)	0.46 12-14	>999	240		
								Weight: 281 lb	FT = 20%

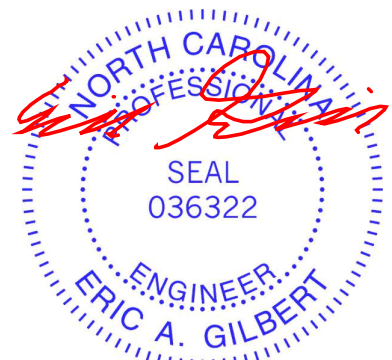
**LUMBER-**  
TOP CHORD 2x6 SP 2400F 2.0E \*Except\*  
1-3,7-9: 2x6 SP No.1  
BOT CHORD 2x6 SP 2400F 2.0E  
WEBS 2x4 SP No.3 \*Except\*  
2-16,8-12: 2x4 SP 2400F 2.0E, 1-18,9-10,1-17,9-11: 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING-**  
TOP CHORD 2-0-0 oc purlins (2-6-9 max.), except end verticals.  
BOT CHORD 4-0-0 oc bracing.  
WEBS 1 Row at midpt 4-14, 6-14

**REACTIONS.** (size) 18=0-3-8, 10=0-3-8  
Max Horz 18=44(LC 6)  
Max Uplift 18=426(LC 8), 10=426(LC 8)  
Max Grav 18=1817(LC 1), 10=1817(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 1-2=-3387/804, 2-4=-7457/1768, 4-5=-6932/1644, 5-6=-6932/1644, 6-8=-7457/1768,  
8-9=-3387/804, 1-18=-1871/418, 9-10=-1871/418  
BOT CHORD 16-17=-762/3350, 14-16=-1709/7401, 12-14=-1709/7401, 11-12=-762/3350  
WEBS 2-17=-1528/445, 4-16=-501/221, 5-14=-22/594, 6-12=-501/221, 8-11=-1528/445,  
2-16=-954/4087, 4-14=-1215/518, 6-14=-1215/518, 8-12=-954/4087, 1-17=-858/3683,  
9-11=-858/3683

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=2.5psf; BCDL=2.5psf; h=20ft; B=45ft; L=41ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - Dead loads shown include weight of truss. Top chord dead load of 5.0 psf (or less) is not adequate for a shingle roof. Architect to verify adequacy of top chord dead load.
  - All plates are MT20 plates unless otherwise indicated.
  - All plates are 1.5x4 MT20 unless otherwise indicated.
  - Gable studs spaced at 2-0-0 oc.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 426 lb uplift at joint 18 and 426 lb uplift at joint 10.
  - This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



May 15, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932



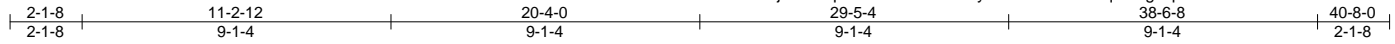
Job 28007	Truss T1	Truss Type DBL. HOWE	Qty 9	Ply 1	Truck Tire Pro/	165570934
--------------	-------------	-------------------------	----------	----------	-----------------	-----------

C&R Truss, Autryville, NC - 28318,

8.430 s Jan 6 2022 MiTek Industries, Inc. Tue May 14 12:55:18 2024 Page 1

ID:nVcjTdit56q2?QCduo9mv9zToyO-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Job Reference (optional)



Scale = 1:67.9

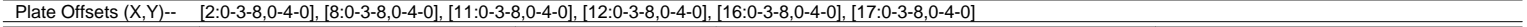
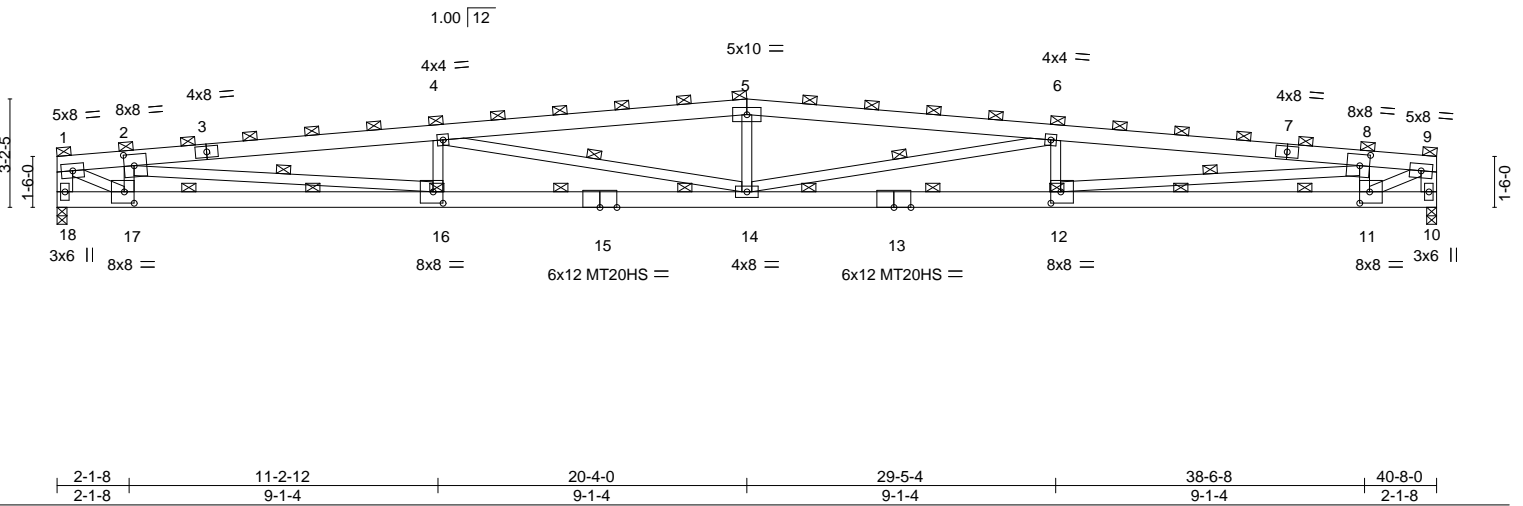


Plate Offsets (X,Y)-- [2:0-3-8,0-4-0], [8:0-3-8,0-4-0], [11:0-3-8,0-4-0], [12:0-3-8,0-4-0], [16:0-3-8,0-4-0], [17:0-3-8,0-4-0]

<b>LOADING</b> (psf)	<b>SPACING-</b>	3-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.15	TC 0.73	Vert(LL)	-0.80 12-14	>603	360	MT20	244/190
TCDL 5.0	Lumber DOL	1.15	BC 0.58	Vert(CT)	-1.21 12-14	>399	240	MT20HS	187/143
BCLL 0.0	Rep Stress Incr	NO	WB 0.96	Horz(CT)	0.14 10	n/a	n/a		
BCDL 5.0	Code IBC2018/TPI2014		Matrix-MS	Wind(LL)	0.48 12-14	>999	240		
								Weight: 261 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP 2400F 2.0E *Except* 1-3,7-9: 2x6 SP No.1	TOP CHORD 2-0-0 oc purlins (2-5-15 max.), except end verticals.
BOT CHORD 2x6 SP 2400F 2.0E	BOT CHORD 4-0-0 oc bracing.
WEBS 2x4 SP No.3 *Except* 2-16,8-12,1-17,9-11: 2x4 SP No.2, 1-18,9-10: 2x6 SP No.1	WEBS 1 Row at midpt 2-16, 4-14, 6-14, 8-12

**REACTIONS.** (size) 18=0-3-8, 10=0-3-8  
 Max Horz 18=45(LC 6)  
 Max Uplift 18=424(LC 8), 10=424(LC 8)  
 Max Grav 18=1809(LC 1), 10=1809(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 1-2=-3430/814, 2-4=-7325/1737, 4-5=-6890/1634, 5-6=-6890/1634, 6-8=-7325/1737,  
 8-9=-3430/814, 1-18=-1893/418, 9-10=-1893/418  
 BOT CHORD 16-17=-773/3396, 14-16=-1677/7268, 12-14=-1677/7268, 11-12=-773/3396  
 WEBS 2-17=-1542/453, 4-16=-505/222, 5-14=-17/580, 6-12=-505/222, 8-11=-1542/453,  
 2-16=-912/3906, 4-14=-1142/571, 6-14=-1142/571, 8-12=-912/3906, 1-17=-854/3672,  
 9-11=-854/3672

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=2.5psf; BCDL=2.5psf; h=20ft; B=45ft; L=41ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Dead loads shown include weight of truss. Top chord dead load of 5.0 psf (or less) is not adequate for a shingle roof. Architect to verify adequacy of top chord dead load.
  - 4) All plates are MT20 plates unless otherwise indicated.
  - 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 424 lb uplift at joint 18 and 424 lb uplift at joint 10.
  - 7) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
  - 8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

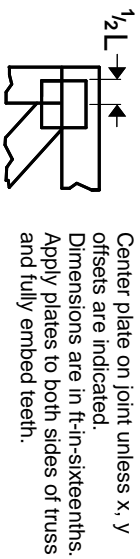


May 15, 2024

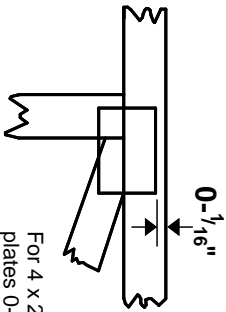
<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see <b>ANSI/TPI1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (www.tpinst.org) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (www.sbcacomponents.com)</p>	<p>ENGINEERING BY</p> <p><b>TRENCO</b></p> <p>A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
---	---

# Symbols

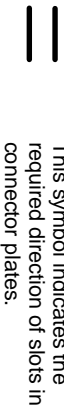
## PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0-  $\frac{1}{16}$ \" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

\* Plate location details available in MITek software or upon request.

## PLATE SIZE

4 X 4

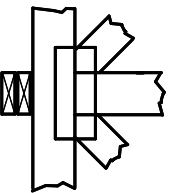
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

## BEARING

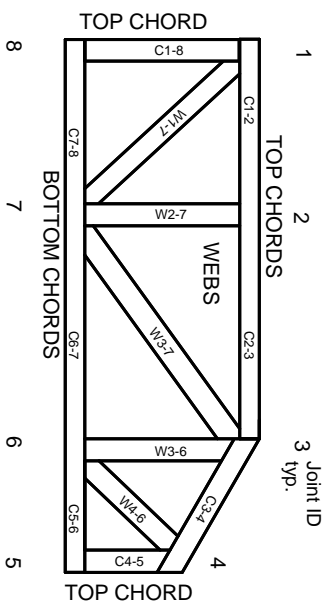


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

# Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282  
ESR-4722, ESL-1388

# Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TP1 section 6.3. These truss designs rely on lumber values established by others.

© 2023 MITek® All Rights Reserved

**MITek**

ENGINEERING BY  
**TRENGO**  
A MITek Affiliate

MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023

# General Safety Notes

## Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability/bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.