

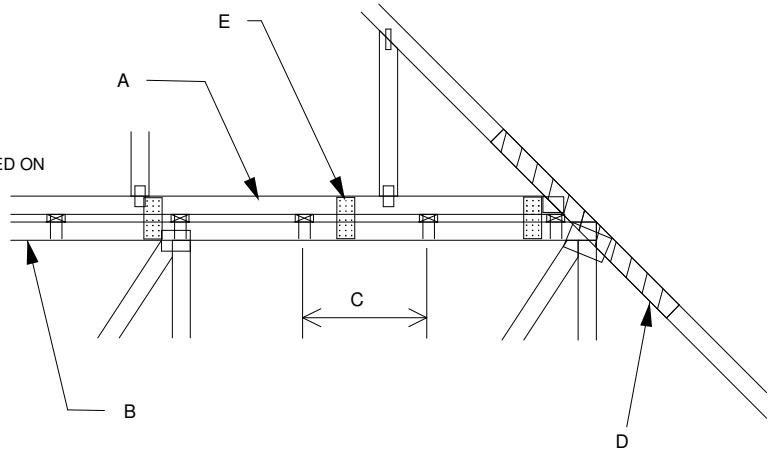
MiTek USA, Inc.



MAXIMUM WIND SPEED = REFER TO NOTES D AND OR E
 MAX MEAN ROOF HEIGHT = 30 FEET
 MAX TRUSS SPACING = 24" O.C.
 CATEGORY II BUILDING
 EXPOSURE B or C
 ASCE 7-02, ASCE 7-05
 DURATION OF LOAD INCREASE : 1.60

DETAIL IS NOT APPLICABLE FOR TRUSSES TRANSFERRING DRAG LOADS (SHEAR TRUSSES). ADDITIONAL CONSIDERATIONS BY BUILDING ENGINEER/DESIGNER ARE REQUIRED.

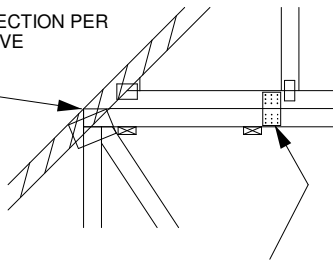
- A - PIGGYBACK TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING. SHALL BE CONNECTED TO EACH PURLIN WITH (2) (0.131" X 3.5") TOE-NAILED.
- B - BASE TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING.
- C - PURLINS AT EACH BASE TRUSS JOINT AND A MAXIMUM 24" O.C. UNLESS SPECIFIED CLOSER ON MITEK TRUSS DESIGN DRAWING. CONNECT TO BASE TRUSS WITH (2) (0.131" X 3.5") NAILS EACH.
- D - 2 X $\frac{1}{2}$ " X 4'-0" SCAB, SIZE TO MATCH TOP CHORD OF PIGGYBACK TRUSS, MIN GRADE #2, ATTACHED TO ONE FACE, CENTERED ON INTERSECTION, WITH (2) ROWS OF (0.131" X 3") NAILS @ 4" O.C. SCAB MAY BE OMITTED PROVIDED THE TOP CHORD SHEATHING IS CONTINUOUS OVER INTERSECTION AT LEAST 1 FT. IN BOTH DIRECTIONS AND:
 - 1. WIND SPEED OF 90 MPH OR LESS FOR ANY PIGGYBACK SPAN, OR
 - 2. WIND SPEED OF 91 MPH TO 140 MPH WITH A MAXIMUM PIGGYBACK SPAN OF 12 ft.
- E - FOR WIND SPEEDS BETWEEN 101 AND 140 MPH, ATTACH MITEK 3X8 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 72" O.C. W/ (4) (0.131" X 1.5") NAILS PER MEMBER. STAGGER NAILS FROM OPPOSING FACES. ENSURE 0.5" EDGE DISTANCE. (MIN. 2 PAIRS OF PLATES REQ. REGARDLESS OF SPAN)



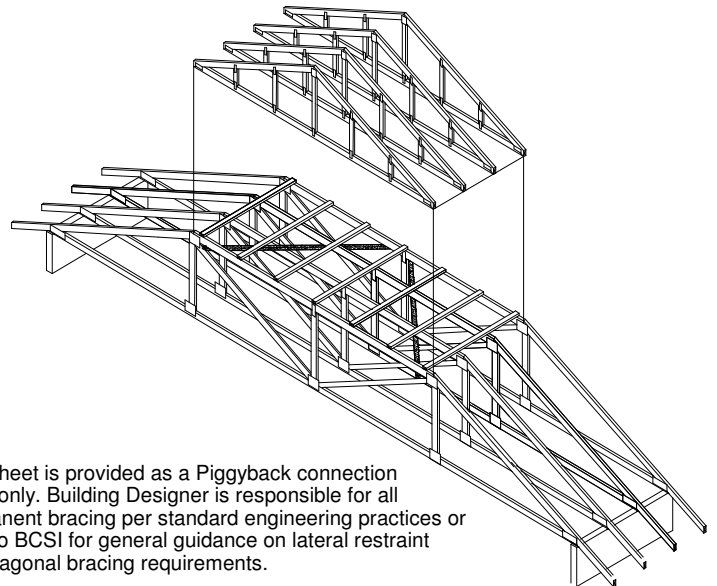
WHEN NO GAP BETWEEN PIGGYBACK AND BASE TRUSS EXISTS:

REPLACE TOE NAILING OF PIGGYBACK TRUSS TO PURLINS WITH Nail-On PLATES AS SHOWN, AND INSTALL PURLINS TO BOTTOM EDGE OF BASE TRUSS TOP CHORD AT SPECIFIED SPACING SHOWN ON BASE TRUSS MITEK DESIGN DRAWING.

SCAB CONNECTION PER NOTE D ABOVE

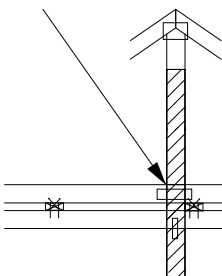


FOR ALL WIND SPEEDS, ATTACH MITEK 3X6 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 48" O.C. W/ (4) (0.131" X 1.5") PER MEMBER. STAGGER NAILS FROM OPPOSING FACES ENSURE 0.5" EDGE DISTANCE.



This sheet is provided as a Piggyback connection detail only. Building Designer is responsible for all permanent bracing per standard engineering practices or refer to BCSI for general guidance on lateral restraint and diagonal bracing requirements.

VERTICAL WEB TO EXTEND THROUGH BOTTOM CHORD OF PIGGYBACK



FOR LARGE CONCENTRATED LOADS APPLIED TO CAP TRUSS REQUIRING A VERTICAL WEB:

- 1) VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS MUST MATCH IN SIZE, GRADE, AND MUST LINE UP AS SHOWN IN DETAIL.
- 2) ATTACH 2 x $\frac{1}{2}$ " x 4'-0" SCAB TO EACH FACE OF TRUSS ASSEMBLY WITH 2 ROWS OF 10d (0.131" X 3") NAILS SPACED 4" O.C. FROM EACH FACE. (SIZE AND GRADE TO MATCH VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS.) (MINIMUM 2X4)
- 3) THIS CONNECTION IS ONLY VALID FOR A MAXIMUM CONCENTRATED LOAD OF 4000 LBS (@1.15). REVIEW BY A QUALIFIED ENGINEER IS REQUIRED FOR LOADS GREATER THAN 4000 LBS.
- 4) FOR PIGGYBACK TRUSSES CARRYING GIRDER LOADS, NUMBER OF PLYS OF PIGGYBACK TRUSS TO MATCH BASE TRUSS.
- 5) CONCENTRATED LOAD MUST BE APPLIED TO BOTH THE PIGGYBACK AND THE BASE TRUSS DESIGN.

Piggyback Trusses

What is the purpose? How should they be installed?

In this article, we will address the purpose of Piggyback Trusses and their proper installation.

Due to shipping and/or manufacturing limitations, the required truss profile may need to be manufactured in multiple pieces and assembled in the field. Because of a large span, high pitch, or a combination of both, a truss profile can exceed these limits. The maximum truss height that can be manufactured by Rigidply Rafters, Inc. is 13'-6" tip-to-tip. When this limit is exceeded, a truss must be stubbed at the peak, and a Piggyback Truss must be designed to achieve the required truss profile and to properly transfer roof loads to base trusses.

When a project requires the use of Piggyback Trusses, Rigidply Rafters, Inc. will include a copy of MiTek's standard detail, MII-PIGGY, along with the sealed truss drawings. This detail describes the following guidelines that should be used for the proper installation of Piggyback Trusses:

1. Base truss must be properly braced with purlins and top chord diagonal bracing.
2. Proper installation requires flat 2x4 purlins to be installed on top of the flat section of the base truss, spaced a maximum of 24" o.c., or closer if specified on base truss design drawing.
3. Purlins are to be nailed to top chord of base truss with (2) 16d (0.131" ϕ x 3.5") nails.
4. Piggyback Truss to be connected to each purlin with (2) 16d (0.131" ϕ x 3.5") toenailed.
5. In high wind areas, plywood or OSB gusset plates on each face are required to attach Piggyback Truss to base truss.
6. If Piggyback Truss has a large point load, the design of the Piggyback Truss must be able to properly transfer that load to the base truss.
7. For large point load design, a vertical in the Piggyback Truss should be placed in line with the point load. Vertical member should run through bottom chord of Piggyback Truss, to sit directly on top of base truss top chord.

For Piggyback Truss spans over 12': A 2x _ x4' (size and grade to match top chord of Piggyback Truss, minimum grade to be No. 2) scab should be attached to one face, centered on intersection, with 2 rows of 10d (0.131" ϕ x 3") nails spaced 4" o.c.

NOTE: Scab is required for trusses spaced greater than 24" o.c.

For Piggyback Truss spans less than 12': The scab can be omitted, provided that the roof sheathing is continuous over the joint where the Piggyback Truss sits on the base truss. Sheathing to overlap a minimum of 12" over that joint.

NOTE: See Mitek's standard detail for Piggyback Truss Installation: MII-PIGGY – Standard Piggyback Truss Connection Detail.