A107 Toe-Nailed Jack Connections

rev by - MB - Nov 2021

ALPINE® AN ITW COMPANY

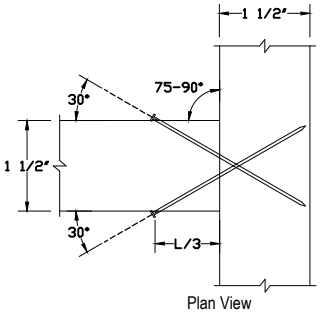
Markham, ON / Coquitlam, BC / Gatineau, QC

Nail Type	Min. Nail Spacing (in.) SPF c	SPF d	D.Fir-L c	D.Fir-L d	No. of Nails	Minimum Chord Sizes SPF	Minimum Chord Sizes D.Fir-L	Lateral Nail Resistance (lbs) Detail A SPF	Detail A D.Fir-L	Detail B SPF	Detail B D.Fir-L
0.120"ø x 3.25" Pneumatic	1	1/2	1-1/4	5/8	2	2x4	2x4	188	209	152	173
					3	2x4	2x6	282	313	229	259
					4	2x6	2x6	376	418	305	346
0.131"ø x 3.25" Pneumatic	1-1/8	5/8	1-3/8	3/4	2	2x4	2x4	221	246	174	197
					3	2x4	2x6	332	369	262	296
					4	2x6	2x6	442	492	349	395
0.122"ø x 3.0" Common Spiral	1	1/2	1-1/4	5/8	2	2x4	2x4	192	215	152	172
					3	2x4	2x6	288	323	228	258
					4	2x6	2x6	385	431	304	344
0.152"ø x 3.5" Common Spiral	1-1/4	5/8	1-5/8	7/8	2	2x4	2x4	283	322	225	254
					3	2x6	2x6	425	483	337	381
					4	2x6	–	566	–	450	–
0.144"ø x 3.0" Common Wire	1-1/8	5/8	1-1/2	3/4	2	2x4	2x4	244	277	196	222
					3	2x4	2x6	366	416	294	333
					4	2x6	–	488	–	393	–
0.160"ø x 3.5" Common Wire	1-3/8	3/4	1-5/8	7/8	2	2x4	2x4	304	346	243	275
					3	2x6	2x6	456	519	365	412
					4	2x6	–	609	–	486	–

Note: Lateral nail resistances above are the maximum factored vertical (downwards or upwards for uplift) end reaction capacites based on the following:

1. Capacities per CSA O86-09 (NBCC 2010) and CSA O86-14 (NBCC 2015).
2. All minimum No.1/No.2 grade, dry and untreated lumber, used in dry service conditions and normal term load duration factor.
4. All capacities are limited to toe-nailed jack members.
5. Capacities are limited to the size, length & number of nails shown, the connection geometry shown in Details A & B, the minimum nail spacing requirements shown in Details 1 & 2, the lumber species combination and the minimum lumber chord sizes shown.
6. Ensure minimum nail spacing as the number of nails shown may not be possible.
7. 50% of the above lateral nail resistances shall be used for all square cut jack ends that are not flush cut to the supporting girder member. Square cut jacks are limited to a maximum 0.131" nail diameter.
8. Hangers may be required for connections exceeding these capacities and limitations.

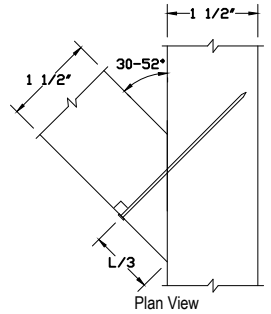
Detail A, End Jack to Hip Girder Truss



Plan View

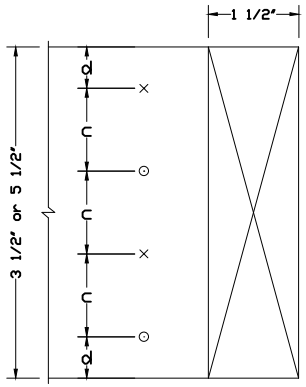
L = nail length

Detail B, Corner Jack to Corner Girder Truss



Plan View

Detail 1, Minimum Nail Spacing Requirements

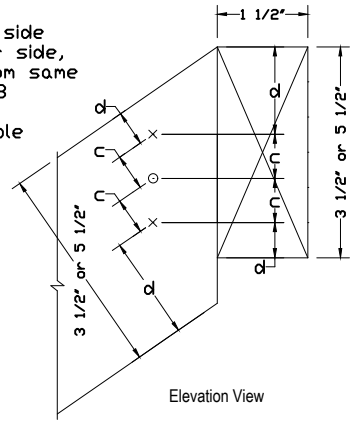


Elevation View

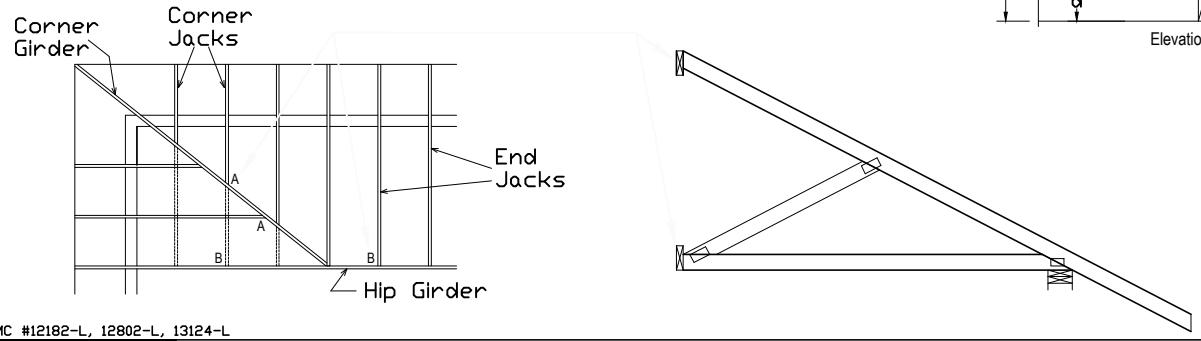
○ = nail on far side
× = nail on near side, except nails from same side for Detail B

c & d = see table

Detail 2, Minimum Nail Spacing Requirements



Elevation View



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CCMC #12182-L, 12802-L, 13124-L