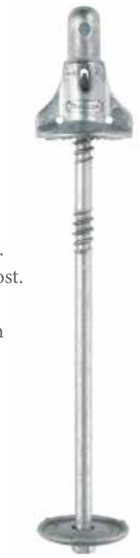
ThruLOK®
CARRIAGE & THROUGH-BOLT REPLACEMENT



FEATURES
- No predrilling
- Faster, easier than 1/2" carriage or through-bolts
- No drill bits or wrenches required
- Galvanized coating meets code requirements for treated wood. ACQ Approved.
- IBC/IRC code compliant. ICC-ES ESR-1078
- Lifetime performance guarantee

LENGTHS: 6 1/4", 7", 8", 9 1/2"

PACKAGING QUANTITIES
6 pc box, 24 pc box, 100 pc bucket

DESCRIPTION
The ThruLOK System combines the strength of a through-bolted connection with the speed of a FastenMaster LOK fastener. The 6 1/4", engineered to connect 4x4 posts to 2x joists. The 7", engineered to connect two 2x beams to a notched 6x6 post. The 8", engineered to connect 4x4 posts to a double rim joist or single rim joist and 2x blocking. The 9 1/2", engineered to attach a 6x6 post to two 2x beams.

MEET CODE. LOWER COST.
Meet Code: ThruLOK has been tested and proven to meet the most recent IBC/IRC requirements for guardrail posts to rim joist connections. **Lower Cost:** Requires no predrilling, saving time and labor.

INSTALLATION PROCEDURE
No predrilling required when properly installed. Put the ThruLOK washer on the screw with the teeth of the washer facing away from the head of the fastener. Using a 1/2" high torque variable speed drill (18V if cordless), drive the ThruLOK until washer and hex-head are just above the wood surface (approx. 1/4") and point of screw protrudes out other side of connection. Thread the nut onto point of fastener. Tighten nut until flush with wood. Tighten screw with drill. ***NOTE: Point of fastener must engage in nut to "MIN" line or beyond.***

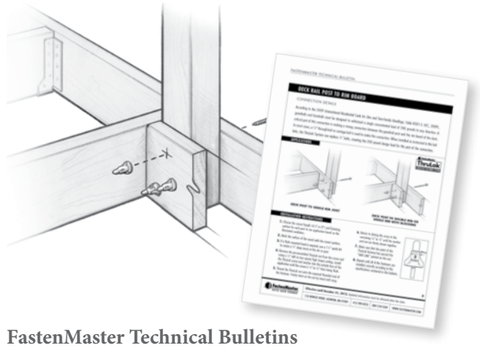
For detailed installation instructions, including fastening requirements, please refer to our **ThruLOK Deck Post and Carrying Beam technical bulletins.** These instructions are included in all packaging as well as being available for download from our website. A design professional should be consulted for all other critical connections, to include the number and location of all fasteners to meet national and local code requirements.

GUARANTEED CORROSION RESISTANCE
ThruLOK is guaranteed not to rust or corrode for the life of the project. ThruLOK is not recommended for use in saltwater applications.

ThruLOK Screw SKU Selection Guide

LENGTH	WOOD DIM RANGE	TYPICAL APPLICATIONS	PKG QTY	SKU
6 1/4"	4 1/2" to 5 1/4"	4x4 deck posts to 2x rim joists connections	6 pc box	FMTHR614-6
			24 pc box	FMTHR614-24
			100 pc bucket	FMTHR614B-100
7"	5 1/4" to 6"	2x beams to a notched 6x6 post connections	6 pc box	FMTHR007-6
			24 pc box	FMTHR007-24
			100 pc bucket	FMTHR007B-100
8"	6 1/4" to 7"	4x4 posts to double rim joist or single rim joist and 2x blocking	6 pc box	FMTHR008-6
			24 pc box	FMTHR008-24
			100 pc bucket	FMTHR008B-100
9 1/2"	7 3/4" to 8 1/2"	2x beams to 6x6 post connections	100 pc bucket	FMTHR912B-100

ADDITIONAL RESOURCES



FastenMaster Technical Bulletins
Our **ThruLOK Deck Post and ThruLOK Carrying Beam technical bulletins,** which include detailed installation instructions, fastening requirements and design loads, are available for download from our website.

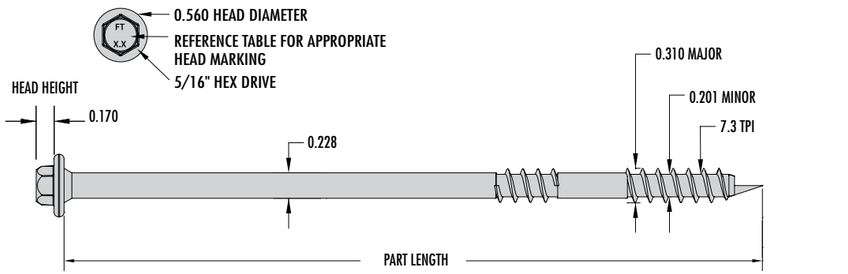
For additional technical data, refer to pages 53 and 54 of this catalog

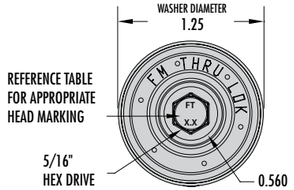
ask the FastenMaster®

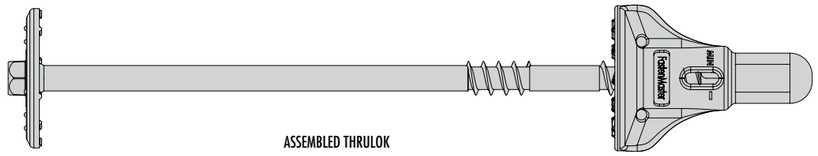
Ask the FastenMaster Installation Video
Our Ask the FastenMaster video series includes installation information for many of our products, including our **ThruLOK Post to Rim or Carrying Beam to Notched Support Post Connection video.** These can be viewed on our website.

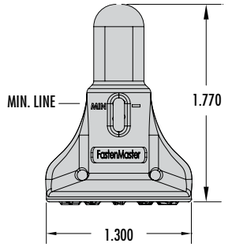
For technical support or to place an order: 800·518·3569 or www.FastenMaster.com

ThruLOK®
PRODUCT SPECIFICATION









ThruLOK Selection Guide

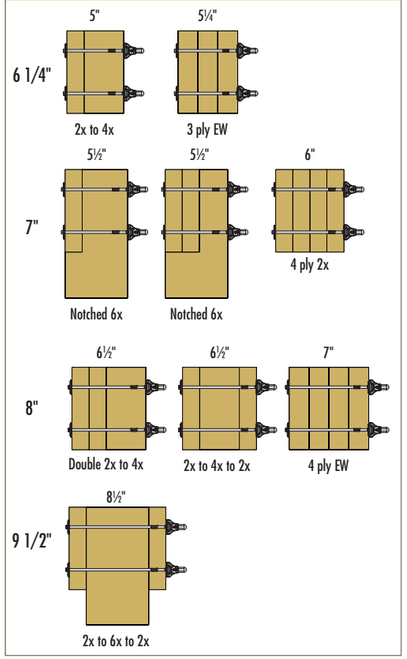
	Application Thickness			
Part Length	Minimum	Maximum	Head Markings	Part Number
6 1/4"	4 1/2"	5 1/4"	FT6.2	FMTHR614
7"	5 1/4"	6"	FT7.0	FMTHR007
8"	6 1/4"	7"	FT8.0	FMTHR008
9 1/2"	7 3/4"	8 1/2"	FT9.5	FMTHR912

ThruLOK Allowable Loads

Withdrawal & Head Pull Through			Shear			
			Perpendicular to Grain		Parallel to Grain	
SPF/H.Fir	D.Fir	S.Pine	SPF/H.Fir	D.Fir/S.Pine	SPF/H.Fir	D.Fir/S.Pine
680	900	1060	270	300	320	350

Footnotes
- Values above taken from ICC Evaluation Report ESR #1078
- Loads have not been increased to accommodate for NDS load durations or other factors
- Withdrawal & head pull through values assume fastener threaded into nut at least to "Min Line"
- Shear and withdrawal values assume a minimum side member thickness of 1 1/2"

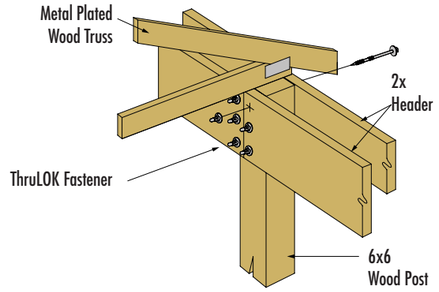
ThruLOK Application Guide



THRULOK SAMPLE APPLICATIONS

Pole Barn Header Connection

A typical detail in pole barn construction consists of 2x beams mounted to face or faces of 6x columns. Prefabricated trusses are then placed atop these beams. Bolting of the connections between column and beam(s) has become more common and in some states required by code. When properly installed, the ThruLOK Fastener can replace bolts. For instructions and additional technical information, consult the **Pole Barn Header Connection Technical Evaluation Report, TER 1308-11,** available at www.FastenMaster.com.



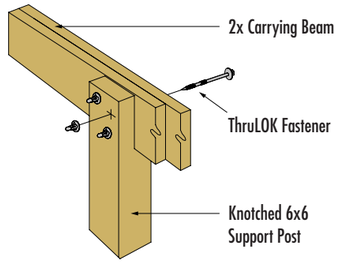
Sample Fastening Schedule for Header to Column Connections

Total Building Width	Header & Column Species	Snow Load on Truss: 20	30	40
		Number of Fasteners per Connection		
24	Hem Fir	4	6	6
	D.Fir / S.Pine	4	4	6
28	Hem Fir	6	6	8
	D.Fir / S.Pine	4	6	6
32	Hem Fir	6	8	8
	D.Fir / S.Pine	6	6	8
36	Hem Fir	6	8	NA
	D.Fir / S.Pine	6	6	8
40	Hem Fir	6	8	NA
	D.Fir / S.Pine	6	6	8

Footnotes
- Values above calculated using individual ThruLOK values from ICC Evaluation Report ESR #1078
- Assumed loads of 10 plf for Bottom Chord (BC) Live and 5 plf BC Dead added to snow loads
- Maximum column spacing of 8' on center with trusses nearest columns resting atop column
- Table to be used as a guide only. Refer to TER 1308-11 for complete instructions & restrictions

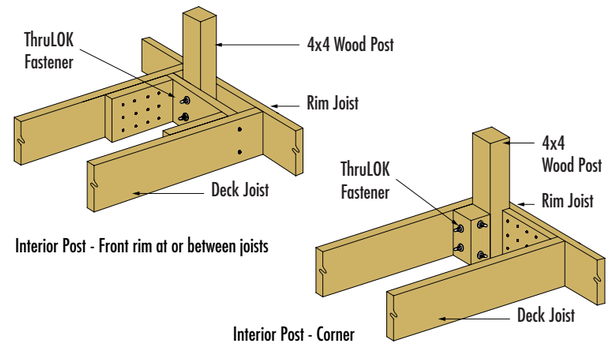
Deck Carrying Beam Connection

A common method of deck construction allows for carrying beams and notched 6x6 support posts to be bolted together using 1/2" or 5/8" through bolts. According to current code, "where posts and beam or girders construction is used to support floor framing, positive connections shall be provided to ensure against uplift and lateral displacement." When installed correctly, the 7" ThruLOK restrains against both of these forces equal to traditionally bolted connections with a faster and easier method of installation. For proper installation instructions including engineered solutions for the most common post to carrying beam configurations, refer to the **Deck Carrying Beam to Support Post** technical bulletin, at www.FastenMaster.com.



Deck Rail Post Connection

Current building code requires that guardrails and handrails must be designed to withstand a single concentrated load of 200 pounds in any direction. A critical part of this connection is making a strong tension connection between the guardrail post and the rim board of the deck. In most cases, 1/2" through-bolts or carriage bolts are used to make this connection. When installed as shown in our instructions, the ThruLOK offers a faster and easier method to meet the 200 pound design load for this part of the connection. For proper installation instructions including engineered solutions for the most common post to rim configurations, refer to the **Deck Hand Rail Post to Rim Joist** technical bulletin, at www.FastenMaster.com.



For technical support or to place an order: 800·518·3569 or www.FastenMaster.com

REFERENCE CHARTS

The following tables are taken from ICC-ES ESR-1078 Evaluation Report. These can be used for reference when designing connections other than those described in the preceding pages. Please refer to the full report for additional information including conditions of use and minimum edge and end distances. This can be found at www.FastenMaster.com or www.icc-es.org.

Table 1 Reference Withdrawal Design Values (W)[1,2,3]

[Reference withdrawal design values *(W)* are in pounds per inch of thread penetration into side grain of main member]

Fastener	Thread Length, *L*[4] (inches)	*W* (lbf./in.) for Specific Gravities of:					
		0.57	0.55	0.50	0.46	0.43	0.42
OlyLog/TimberLOK	1.25 or 2.0	270	260	220	200	180	170
HeadLOK	2.0	290	270	230	200	180	170
LedgerLOK/LogHog	2.0 or 3.0	330	310	270	240	220	210
TrussLOK	1 1/2	—	—	180	—	—	—
ThruLOK[6]	NA	1140	1060	900	780	700	680

For **SI:** 1 inch = 25.4 mm, 1 lbf/in = 175 N/m.

[1]Tabulated reference withdrawal design values, *W*, apply to fasteners driven into the side grain of the main member, such that the screws are oriented perpendicular to the grain and loaded in direct withdrawal.
[2]Reference withdrawal design values must be multiplied by all applicable adjustment factors, in accordance with Section 4.1.
[3]Reference withdrawal design values are to be multiplied by the length of thread penetration into the main member, but must not exceed the head pull-through design values given in Table 2. Threaded length includes the tapered tip.
[4]See Tables 1A through 1F for thread lengths corresponding to specific fastener model numbers.
[5]The ThruLOK must be used with the ThruLOK washer and nut (supplied with the fastener). The nut must be installed such that it is snug against the main member, and at least 1/2" of the threaded portion of the shank (not including the tip) is within the nut.
[6]Tabulated withdrawal values for the ThruLOK are based on the head pull-through design values given in Table 2, as these values will govern designs in which the screw is subject to axial tension, where the ThruLOK is properly installed with the ThruLOK washer and nut (see footnote 5 above).

Table 2 Reference Head Pull-Through Design Values (P)[1,2]

Fastener	Minimum Side Member Thickness (inches)	*P* (lbf) for Specific Gravities of:					
		0.57	0.55	0.50	0.46	0.43	0.42
OlyLog/TimberLOK	1.5	220	200	160	130	110	110
HeadLOK	1.5	630	600	520	460	410	400
LedgerLOK/LogHog	1.5	320	290	240	200	180	170
TrussLOK	1.5	—	—	260	—	—	—
ThruLOK[3]	1.5	1140	1060	900	780	700	680

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.448 kPa.

[1]Reference head pull-through design values, *P*, must be multiplied by all applicable adjustment factors, in accordance with Section 4.1
[2]Design values apply to connections with minimum side member thicknesses, t_s, as given above
[3]The ThruLOK must be used with the ThruLOK washer and nut (supplied with the fastener). The nut must be installed such that it is snug against the main member, and at least 1/2" of the threaded portion of the shank (not including the tip) is within the nut

Table 3 Reference Lateral Design Values (*Z*) for Single Shear (Two Member) Wood-to-Wood Connections Loaded Parallel (Z_{II}) or Perpendicular ($Z_{\perp}$) to the Grain[1,2]

Fastener		Minimum Side Member Thickness[3], t_s (inches)	Minimum Main Member Penetration[4], p (inches)	*Z* (lbf) for Minimum Specific Gravities of:					
				0.50		0.46		0.42	
Designation	Length (inches)			Z_{II}	$Z_{\perp}$	Z_{II}	$Z_{\perp}$	Z_{II}	$Z_{\perp}$
OlyLog/TimberLOK	2 1/2	1 1/2	1	240	220	220	200	200	180
	4 & longer	1 1/2	2 1/2	280	260	260	230	240	210
	6 & longer	2 1/2	3 1/2	290	270	270	250	250	230
	8 & longer	3	5	290	270	260	250	240	230
HeadLOK	2 7/8	1 1/2	1 3/8	240	210	220	180	210	150
	4 1/2	1 1/2	3	280	260	260	240	250	220
	6 & longer	1 1/2	4 1/2	290	270	270	250	250	230
	6 & longer	2 1/2	3 1/2	300	280	280	260	270	240
	8 & longer	3	5	290	280	280	260	260	230
LedgerLOK	3 5/8	1 1/2	1 1/2	—	260	—	220	—	220
	3 5/8	1 1/2	2 1/8	310	310	290	280	270	250
	5	1 1/2	3 1/2	320	300	300	280	280	260
LogHog	9 & longer	6	3	310	300	290	280	270	260
TrussLOK	3 3/8	1 3/4	1 5/8	320	290	300	270	280	260
	5	1 3/4	3 1/4	330	300	310	270	290	250
	6 3/4	1 3/4	5	330	310	310	290	290	270

Fastener		Minimum Side Member Thickness[3], t_s (inches)	Minimum Main Member Penetration[4], p (inches)		*Z* (lbf) for Minimum Specific Gravities of:					
					0.5		0.46		0.42	
Designation	Length (inches)				Z_{II}	$Z_{\perp}$	Z_{II}	$Z_{\perp}$	Z_{II}	$Z_{\perp}$
ThruLOK[5]	6 1/4	1 1/2	3 1/4	4 1/4	350	320	320	300	300	270
	7	1 1/2	4	5	350	330	320	300	300	270
	8	1 1/2	3 1/2	4 1/2	350	330	320	300	300	270

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.448kPa.

[1]Tabulated reference lateral design values, *Z*, apply to single shear (two-member) connections with wood main and side members having specific gravity as shown, in which the screw is oriented perpendicular to the grain and loaded laterally either parallel or perpendicular to the grain. For connections in which the main and side members have different specific gravities, use the lower of the two. Gaps are not permitted between the main and side members.
[2]Values must be multiplied by all applicable adjustment factors, in accordance with Section 4.1.
[3]Side members with thicknesses greater than the tabulated minimum side member thickness may be used, provided the corresponding tabulated minimum main member penetration is still achieved for the given screw length.
[4]Minimum main member penetration is the minimum length of the screw (including threaded, unthreaded and tip length) that must be embedded within the main member.
[5]The ThruLOK must be installed with the washer and nut, and must penetrate through the opposite face of the main member a sufficient distance to allow the nut to be tightened snugly against the main member, with at least 1/2", and no more than 1 1/2" of the ThruLOK screw engaged within the nut.

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