

The Patented Keylock Air Seal Corner

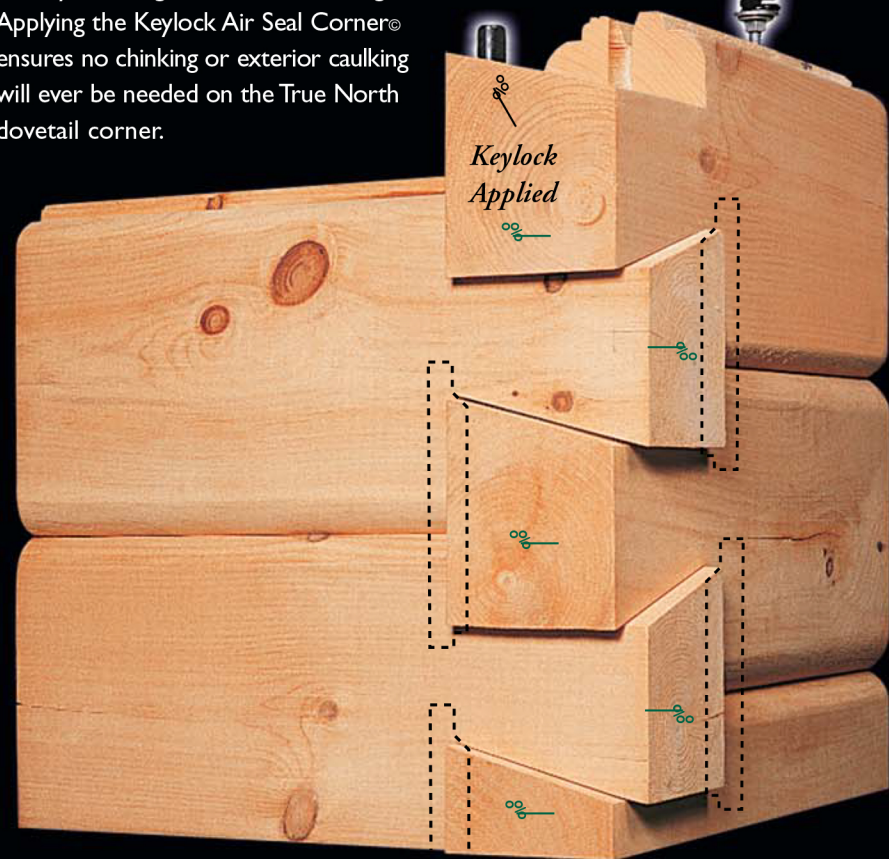


TRUE NORTH'S SECRET...

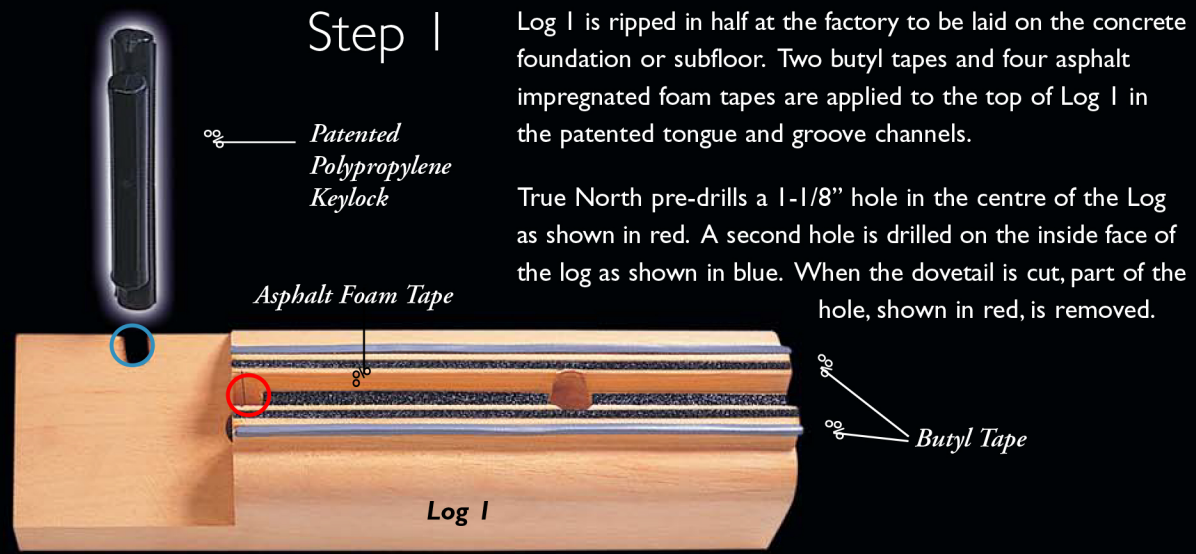
True North uses the naturally occurring shrinkage in the width of the log to its fullest advantage, making the corner tighter (as shown with green arrows). True North's patented keylock, when inserted, pulls the log interfaces together. Over time the log shrinks towards the keylock, ensuring an airtight seal.

True North's patented Keylock Air Seal Corner® virtually eliminates air leakage and deterioration due to air and water infiltration.

The absence of nails, screws or lag bolts in this joinery system is the key advantage of a True North log home. Applying the Keylock Air Seal Corner® ensures no chinking or exterior caulking will ever be needed on the True North dovetail corner.



Keylock Applied



Step 1

Log 1 is ripped in half at the factory to be laid on the concrete foundation or subfloor. Two butyl tapes and four asphalt impregnated foam tapes are applied to the top of Log 1 in the patented tongue and groove channels.

True North pre-drills a 1-1/8" hole in the centre of the Log as shown in red. A second hole is drilled on the inside face of the log as shown in blue. When the dovetail is cut, part of the hole, shown in red, is removed.

Patented Polypropylene Keylock

Asphalt Foam Tape

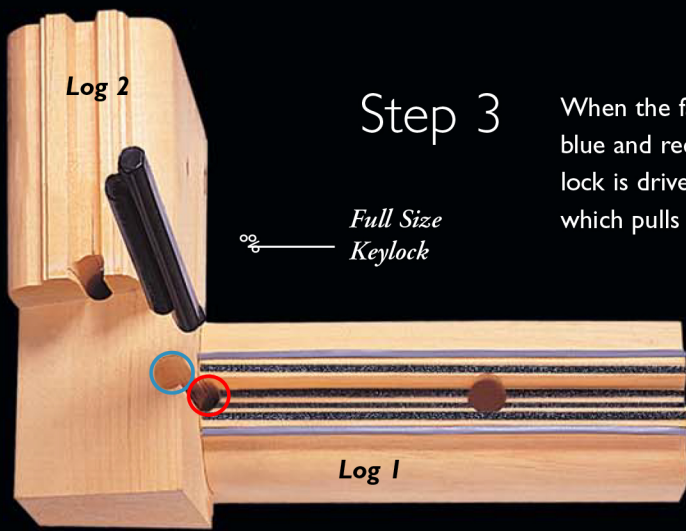
Butyl Tape

Log 1

Step 2

The bottom groove of Log 2 is removed at the factory to lay flat on the concrete foundation or subfloor. The patented polypropylene keylock is cut in half. The top half of the keylock is driven into the inside face of log 1, shown in blue. An asphalt foam corner gasket is applied to the top of the dovetail on log 1.

The red hole in log 2 drops over the half keylock in log 1. The inside face of Log 1 is now keylocked to Log 2, creating an airtight seal.

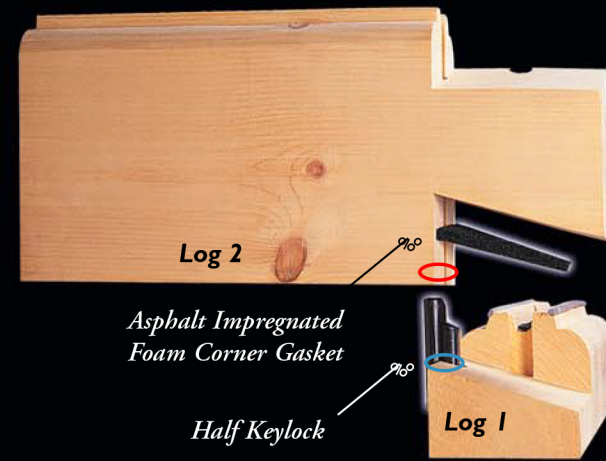


Step 3

When the faces of logs 1 and 2 are brought together the blue and red holes create a figure 8 shape. A full size keylock is driven into the inside face of log 2, (blue hole) which pulls this face into the side of log 1. (red hole).

Full Size Keylock

Log 1



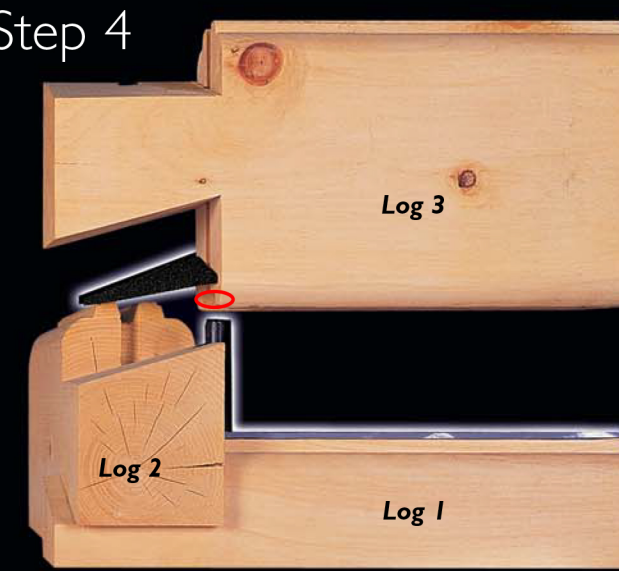
Log 2

Asphalt Impregnated Foam Corner Gasket

Half Keylock

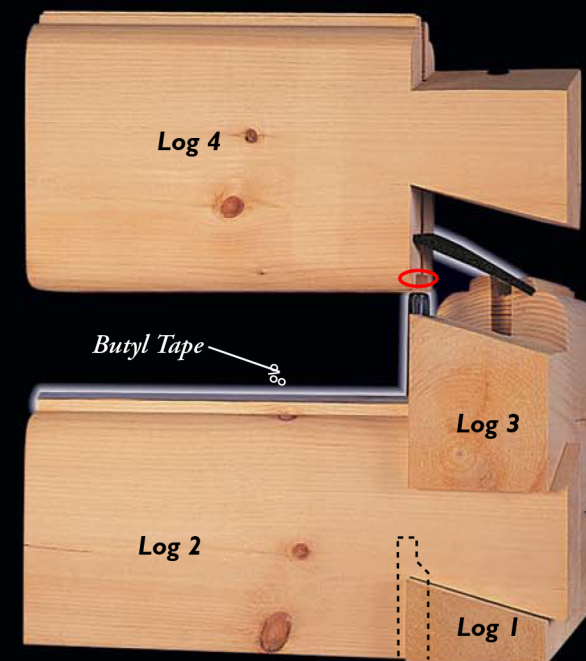
Log 1

Step 4



Another asphalt foam corner gasket is applied to the top of the dovetail on log 2. The red hole in log 3 is dropped over the keylock in log 2.

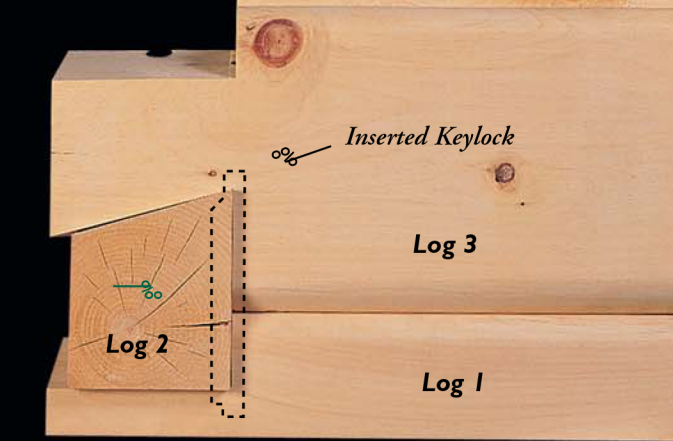
Step 6



On top of log 2, butyl tape and asphalt foam tape are again set into the tongue and groove channels. Another keylock is now driven into the inside face of log 3, which pulls this face into the side of log 2.

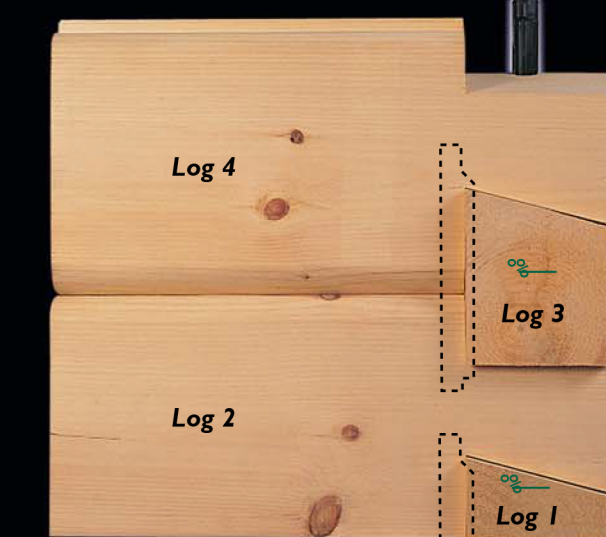
A third asphalt corner gasket is applied to the top of the dovetail on log 3. The red hole in log 4 is now dropped over the keylock in log 3.

Step 5



Logs 1, 2 and 3 are now keylocked together at the interface. The green arrow shows the direction in which log 2 is pulled. Log 2 will shrink to logs 1 and 3 over time.

Step 7



Logs 2, 3 and 4 are now keylocked together at the interfaces. The green arrows show the direction in which logs 1 and 3 are pulled into logs 2 and 4 internally by the keylocks. Log 1 and 3 will shrink to logs 2 and 4 over time.

The sequence continues through each course to the top of the log wall. After the top log is applied a spring loaded thru-bolt is installed as shown in the first keylock corner picture.

BEWARE OF SPIKES, DOWELS OR LAG BOLTS IN CORNER JOINTS.

(this outdated joinery system is **NOT** used by True North)

Spiques, dowels or lag bolts will create a GAP between the dovetail corners over time from shrinkage.



Typical Spike, Dowel or Lag Bolt used by competitors

This outdated joinery method is still used by many log home builders today. When the log home builder spikes, dowels, or lag bolts the corners together, the log will shrink towards the spike (as shown with red arrows). This causes a gap to be created. This is a major source of air and insect infiltration. In contrast, by using the True North system, the log shrinks to the keylock, actually tightening the log interfaces together. Our Keylock system will prevent any gaps from occurring while eliminating the necessity of the log homeowner to continually caulk the dovetail corner.

*Systems shown and used by True North Log Homes Inc. are protected by patents and patents pending - U.S.A. and Canada.