

# The Original 6-Inch Lincoln Block

Written Tutorial

Disclaimer: Hold-downs, attachments, hardware, and construction methods are based on your individual building plan or design. All instructions are subject to change.

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## **Step 1: 6-Inch Lincoln Block System Components**

### **Step 1.1: Assorted lengths of Lincoln Block from two to ten feet.**

2-FOOT BLOCK

3-FOOT BLOCK

4-FOOT BLOCK

5-FOOT BLOCK

6-FOOT BLOCK

7-FOOT BLOCK

8-FOOT BLOCK

9-FOOT BLOCK

10-FOOT BLOCK

### **Step 1.2: Five unique types of Lincoln Block system lumber:**

SHORT SPLINE (“Riser”)

LONG SPLINE (“Stud/Board”)

DOUBLE SPLINE (“Sleeve”)

LONG DOUBLE SPLINE (“Corner Spline”)

TOP BLOCK

### **Step 1.3: Nine common types of hardware:**

THREADED ANCHOR BOLT

LAG SCREW

SMALL WASHER

SMALL NUT

COUPLER

CONSTRUCTION SCREW

STAINLESS STEEL NAIL (15 ga.)

FRAMING NAIL

HIGH TENSION HOLDDOWN

### **Step 1.4: Two common types of lumber:**

PRESSURE TREATED PLATE

PLYWOOD

### **Step 1.5: Three common types of building materials:**

ACRYLIC LATEX ELASTOMERIC SEALANT

POLYURETHANE SPRAY FOAM INSULATION

SILL SEALER FOAM

Z-METAL FLASHING

**Step 1.6: One unique building material:**

STARTER FOAM TAPE

**Step 1.7: Recommended tools (including but not limited to):**

CIRCULAR SAW

CHOP SAW (12 in. w/ minimum 13-¼ in. cross cut)

FINISH NAIL GUN (15 ga.)

FRAMING NAIL GUN (21-Degree 3-½ in.)

SCREW GUN

CAULKING GUN

ROUTER

BALL LEVEL

STEP LADDER

FRAMING HAMMER

FINISH HAMMER

TAPE MEASURE

CARPENTER'S PENCIL

STRING LINE

CAULK LINE

SPEED SQUARE

BEVEL SQUARE

SOCKET WRENCH w/ DEEP WELL

## **Step 2: Foundation**

### **Step 2.1: Studying the building plan**

Determine your foundation requirements based on your building plan. All foundations are compatible with 6-Inch Lincoln Blocks.

### **Step 2.2: Square tolerance**

The perimeter must be squared within tolerance of your plans, usually within 1/8th inch diagonal measurement.

### **Step 2.3: Anchor bolts**

Concrete foundations will have visible anchor bolts 3 inches above the surface spaced 3 feet apart or less.

## **Step 3: Layout**

### **Step 3.1: Plate**

Drill pilot holes through the PRESSURE TREATED PLATE for the ANCHOR BOLT. Place SILL SEALER FOAM on the foundation first, and then put a washer and nut on each ANCHOR BOLT and permanently secure the plate to the foundation.

### **Step 3.2: Starter foam tape**

STARTER FOAM TAPE installs flush to the exterior edge of the foundation. The ANCHOR BOLT will protrude through.

### **Step 3.3: Z-metal flashing**

Z-METAL FLASHING sits on the perimeter of the foundation, tucked under the groove of the LINCOLN BLOCK.

### **Step 3.4: Precision end trim**

Precision end trim LINCOLN BLOCKS with gable walls on the outer portion of the perimeter.

### **Step 3.5: Locating anchor bolts**

For concrete foundations, make sure at least two ANCHOR BOLTS are inside each LINCOLN BLOCK. For LINCOLN BLOCKS longer than 2 feet, multiple anchor bolts may be required. Refer to your building plan for specific intervals.

### **Step 3.6: Alignment of short spline**

Use CONSTRUCTION SCREWS to secure SHORT SPLINE inside the first course of LINCOLN BLOCK. These SHORT SPLINE serve as attachment and alignment points for the first course.

### **Step 3.7: Router slot for block washer**

Use a ROUTER and the provided router guide to cut a slot for the BLOCK WASHER in the LINCOLN BLOCK. Each anchor bolt requires a BLOCK WASHER, COUPLER, and THREADED ROD to fit comfortably inside the wall. The first course layout is now complete and you're ready to permanently install the LINCOLN BLOCK.

## **Step 4: Installation**

### **Step 4.1: Caulking**

LINCOLN BLOCK grooves are filled with ACRYLYC LATEX ELASTOMERIC SEALANT to achieve a permanent set that remains flexible throughout time with natural expansion / contraction of the lumber.

### **Step 4.2: Application of caulking**

ACRYLYC LATEX ELASTOMERIC SEALANT is used on every contact face during assembly. Apply sealant to the faces that meet end to end.

### **Step 4.3: Hardware for block washer**

Use a SMALL WASHER and SMALL NUT on the THREADED ROD that protrudes through the BLOCK WASHER. Tighten the hardware within tolerances specified by the manufacturer. Do not over tighten. Note: If you tighten by hand with a SOCKET WRENCH w/ DEEP WELL until the nut stops, that's tight enough. Using an electric or pneumatic wrench may strip your threads or over tighten the nut.

## **Step 4.4: Sleeves**

DOUBLE SPLINE and STAINLESS NAILS join each end-to-end face. The LINCOLN BLOCK acts as a sleeve for the DOUBLE SPLINE to be inserted into. Use two STAINLESS NAILS for each side of each LINCOLN BLOCK.

## **Step 4.5: Additional hardware**

Additional hardware that will be fit and finished inside the hollow wall cavity should be installed or at least considered at this point. Refer to your building plan or engineering specifications now.

## **Step 5: Corners**

### **Step 5.1: Corner spline hardware**

Attach HIGH TENSION HOLD DOWN to LONG DOUBLE SPLINE. Make sure the bottoms are flush.

Note: HIGH TENSION HOLD DOWN may not need to be attached to LONG DOUBLE SPLINE in the corners on some building plans. Cross reference our instructions with your building plan and/or engineering specifications.

### **Step 5.2: Installing corner spline**

LONG DOUBLE SPLINE with HIGH TENSION HOLDDOWN is placed in each corner. Use a STEP LADDER to tap them in from the top. Bolt the HIGH TENSION HOLDDOWN to the PRESSURE TREATED PLATE using a LAG SCREW.

### **Step 5.3: Braces**

LONG SPLINE and SHORT SPLINE are used in conjunction as braces to help you plumb the LONG DOUBLE SPLINE in the corners. The SHORT SPLINE is necessary to offset the LONG SPLINE from the face of the LINCOLN BLOCK wall to allow you to leave the braces attached while you stack LINCOLN BLOCK.

### **Step 5.4: Nailing corner spline**

Install FRAMING NAILS (16D) through the LINCOLN BLOCK to secure the LONG DOUBLE SPLINE when plumb. Use two FRAMING NAILS per each LINCOLN BLOCK on the exterior of the building only.

## **Step 6: Stacking Blocks**

### **Step 6.1: Interference**

Watch for interference between courses and temporarily install block if necessary to verify clearances. The factory integrated SHORT SPLINE in the LINCOLN BLOCK, the THREADED ROD, or HIGH TENSION HOLDDOWN may prevent you from stacking. Try rotating the block 180 degrees. If that doesn't work, trim the necessary amount of wood from the end of the LINCOLN BLOCK to offset it. Do not modify or remove the factory integrated SHORT SPLINE in the LINCOLN BLOCK to satisfy clearances.

Note: Stack in a staggered pattern to avoid stacking LINCOLN BLOCKS seam on seam.

## **Step 6.2: Caulking the previous course**

Apply ACRYLIC LATEX ELASTOMERIC SEALANT to the inside of the tongue on the previous course of LINCOLN BLOCK. Apply ACRYLIC LATEX ELASTOMERIC SEALANT to the groove of the LINCOLN BLOCK you intend to set, just like you did for the first course of LINCOLN BLOCK.

## **Step 6.3: Nailing the blocks**

Nail through the second course of LINCOLN BLOCK into the factory integrated SHORT SPLINE of the previous course of LINCOLN BLOCK. Use one STAINLESS NAIL on both sides of the second course of LINCOLN BLOCK for each factory integrated SHORT SPLINE that protrudes into the second course of LINCOLN BLOCK.

## **Step 6.4: Making sure you use caulking**

Apply ACRYLIC LATEX ELASTOMERIC SEALANT to the ends of LINCOLN BLOCK that meet end-to-end, just like you did on the first course.

Note: This procedure of applying ACRYLIC LATEX ELASTOMERIC SEALANT to the inside of the tongue, the groove, and the ends that meet end-to-end continues throughout the entire stacking process for every course of LINCOLN BLOCK. Do not forget to apply ACRYLIC LATEX ELASTOMERIC SEALANT at any point, because there is no going back and fixing it after the LINCOLN BLOCK has been set using STAINLESS NAILS.

## **Step 6.5: Sleeve orientation**

DOUBLE SPLINE can be set bevel side up protruding from the current course of LINCOLN BLOCK, or bevel side down and flush with the top of the reveal where the LINCOLN BLOCK acts as a sleeve at faces that meet end-to-end. You can also use a SHORT SPLINE oriented horizontally if clearances do not allow for a DOUBLE SPLINE to be installed.

## **Step 6.6: Floors**

Floor joists or beams are installed with the bottom of the joist mated to the top of the foundation. This means the floor attaches horizontally to the first several courses of LINCOLN BLOCKS. For example, in the case of two-by-six common framing lumber used as joists, course one and two of LINCOLN BLOCK must be installed prior to installing the joists.

## **Step 7: Rough Opening Start**

### **Step 7.1: Bridge blocks**

A Rough opening needs a “bridge” block every six courses, or as needed. A bridge block is a regular LINCOLN BLOCK that spans the opening, overlapping the previous course by one foot on either side.

### **Step 7.2: Tongue flush cut**

Trim the tongue of the LINCOLN BLOCK and the factory integrated SHORT SPLINE flush with the reveal of the LINCOLN BLOCK across the entire length of the rough opening.

### **Step 7.3: Rough opening spline**

LONG DOUBLE SPLINE with HIGH TENSION HOLD DOWNS are placed on either side of the rough openings over five feet wide. (LONG SPLINE without HIGH TENSION HOLD DOWNS are placed on either side of the rough openings under five feet wide.) Bolt down the HIGH TENSION HOLDDOWN to the PRESSURE TREATED PLATE, just like the corners of the building. Use LONG SPLINE as braces to plumb the LONG DOUBLE SPLINE and fasten with FRAMING NAILS (10D). Use two FRAMING NAILS per each LINCOLN BLOCK on both sides.

Note: HIGH TENSION HOLD DOWN may not need to be attached to LONG DOUBLE SPLINE on some building plans. Cross reference our instructions with your building plan and/or engineering specifications.

### **Step 7.4: Window rough opening**

LONG SPLINE is placed on either side of the rough openings for windows. Fasten with FRAMING NAILS (10D) when plumb. Use two FRAMING NAILS per each LINCOLN BLOCK on both sides.

### **Step 7.5: Window rough opening continued**

Install SHORT SPLINE flush with the reveal of the rough opening on the bottom only for doors, and both the top and bottom for windows. Use STAINLESS NAILS to fasten the SHORT SPLINE.

## **Step 8: Spray Foam**

### **Step 8.1: Squaring the walls**

After reaching course six, it's critical to square your LINCOLN BLOCK walls within tolerance of your building plan. You won't be able to move the walls at all after the POLYURETHANE SPRAY FOAM INSULATION is applied, so take your time to square and plumb the LINCOLN BLOCK walls before the first application.

### **Step 8.2: Extra bracing**

Leave the LONG SPLINE bracing attached and add more bracing along the wall if necessary to maintain plumb.

### **Step 8.2: Spray foam**

Apply POLYURETHANE SPRAY FOAM INSULATION inside the hollow wall every six courses or as needed.

### **Step 8.3: Removing bracing & block safety**

After the first application of POLYURETHANE SPRAY FOAM INSULATION, remove braces when necessary to continue stacking blocks higher and higher. Use a STEP LADDER to keep the level of the wall as close to your waistline as possible during installation of LINCOLN BLOCKS.

Note: Stacking blocks above your shoulders is extremely difficult and is not recommended. Scaffolding may be required to comfortably, reliably, and safely install LINCOLN BLOCKS.

## **Step 9: Header, Top Block, & Gable Ends**

### **Step 9.1: Headers**

Above openings over five foot wide, install a unique LINCOLN BLOCK “header block”, which is a combination of a LONG DOUBLE SPLINE and a LINCOLN BLOCK of a length that surpasses the length of the rough opening by at least 1 ft. on either side of the rough opening. The LONG DOUBLE SPLINE is secured inside the LINCOLN BLOCK using STAINLESS NAILS in a zig-zag pattern every 3 in.

Note: Remove bridge blocks when necessary to physically pass through the openings to gain access to the inside of the building, but only after applying spray foam to the course in question.

### **Step 9.2: Top block**

Install TOP BLOCK when you’ve reached the course level of your wall height as indicated by your building plan. Apply ACRYLIC LATEX ELASTOMERIC SEALANT to the tongue of the final course of LINCOLN BLOCK, and to the groove of the TOP BLOCK. Fasten the TOP BLOCK with FRAMING NAILS (10D).

### **Step 9.3: Gables**

Roughly stack LINCOLN BLOCKS to match the profile of your gable ends according to your building plan. Use your CHALK LINE to mark and cut the actual gable pitch.

## **Step 10: Rough Opening Finish**

### **Step 10.1: Window wrap**

Wrap all rough opening faces using SILL FOAM and then PLYWOOD with FRAMING NAILS (10D).

### **Step 10.2: Final floor notes**

Not covered in this guide is the installation of the floor joists. However, the PLYWOOD that wraps the rough opening face should be flush and level with the top of your unfinished floor.

## **Step 11: Lincoln Block Complete**

You are now ready to finish your building based on your plans. We recommend you buy the quality oil-based wood stain available at [lincolnblock.com](http://lincolnblock.com) to protect your investment. You may also use any type of wood sealers or wood protection techniques available to you, for example paint, epoxy, or wax. However, we recommend oil-based stain as it will not crack and is easily reapplied.

Please contact us with any questions, if you desire more information, or if we missed something that you believe should be added to the tutorial. This tutorial was created by the volunteers at Lincoln Block Inc. and the early access beta-testers that chose to build with Lincoln Block before the tutorial was created.

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