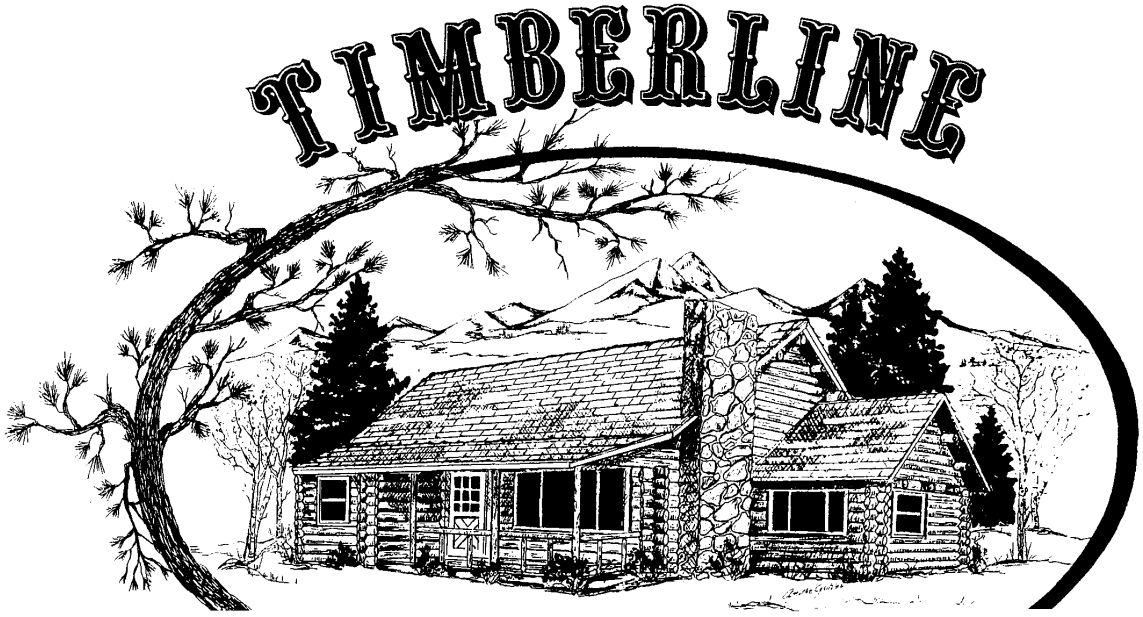


INSTALLATION MANUAL

Timberline Log Exteriors, Inc.
P.O. Box 556
Berthoud, CO 80513

To the Customer:

Timberline Log Exteriors has developed a patented log corner system that, when combined with standard 2×8 log siding, gives your home the warmth and charm of full log construction without the drawback and high cost of full log construction. Your home can have the rustic charm of a traditional log home on the outside while still keeping the convenience of modern living inside.

Timberline Log Exteriors can be used during new construction without modifying standard construction practices, or may be used for remodeling. This gives you the opportunity to raise your home's R-value and dramatically change the appearance of your home.

Enclosed in this document of both new construction and remodel. Hopefully, it can give you some idea of what your home may look like.

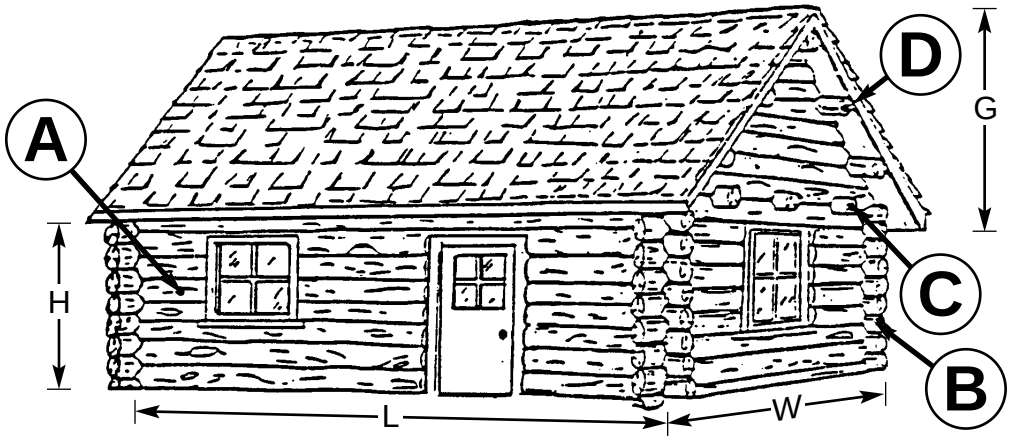
Also enclosed is a material estimate sheet and an installation manual. This literature may be copied by your local lumberyard. The estimate sheet should be returned to your local lumberyard so they can estimate the cost of the material. The Installation Manual is designed with the do-it-yourselfer in mind, but is also invaluable to the carpenter or contractor. Please read it thoroughly.

We want to with you the best of luck on your project and we hope that Timberline Log Exteriors has helped bring your ideas and dreams to reality.

Lance Clymer

President
Timberline Log Exteriors

MATERIAL ESTIMATE WORKSHEET



A: Log Siding

1. Determine the total area of exterior walls to be covered: _____ sq. ft.
2. Determine area of gable ends to be covered: _____ sq. ft.
   ($G \times W \times {}^{1}/_{2}$ = area of one gable)
3. Add a minimum waste factor of 8%: _____ sq. ft.
4. Subtract area of windows, doors, etc. _____ sq. ft.

Total square footage: _____ sq. ft.

B: Corner Logs*

Determine the height of your corner in feet. Add all your corners together to determine the total footage of corners. Multiply the total footage by 3.75 to get the total number of corner logs.

Total height in feet × 3.75 = _____ corner logs

* Protected by U.S. Patent No. 4,096,674

C: Rafter Tails

Rafter tails are extensions of the logs that would support a floor or ceiling in full-log construction. We recommend a spacing between two feet and four feet to give your home a true log effect. Start from the center and measure both directions.

_____ rafter tails

D: Purlins

Purlins give the effect of the logs that would support your roof if your home were full-log construction. These logs would support your soffit, but in this case, your soffit will support your purlins. The purlins are shipped in 23″ lengths and they can be cut to fit any soffit.

Purlins look best if they line up with your rafter tails. Make sure you have one at the center of your peak.

_____ purlins

To Purchaser:

We would like to thank you for your purchase of Timberline Log Exteriors Inc. patented log corner system and welcome you to a new concept in log homes.

We have strived to make your purchase and installation of Timberline's products as easy and simple as possible. If, during your purchase or during installation, you come up with any ideas that would make this process easier or more efficient, please feel free to call or write with your ideas. Our goal is 100% customer satisfaction, and the only way we will be able to achieve this is with input from our customers.

Following you will find our installation manual. It has been compiled from our experience and from input from people like you. In the event that you have a project that is out of the ordinary, take a few minutes and think about how you would want it to look if it was full log. With this thought in mind, start experimenting. Every log home is different and unique.

We have found our products to be very adaptable to new construction techniques and ideas, and to be limited only by the imagination of the installer. A number of our homes are a combination of full log, stone, stucco, log siding, and Timberline Log Exteriors' log corner system.

Again we would like to thank you for using Timberline Log Exteriors log products and accessories, and we hope that we have helped you bring your ideas and dreams to reality.

Lance Clymer

President
Timberline Log Exteriors Inc.

Chapter 1: Before You Start

Tools You'll Need

- A high-quality circular saw. You will be making miter cuts during installation and a poor-quality saw will not allow you to make good clean miter cuts. (Good excuse for buying a new saw.)
- A jig saw. Again, use a quality jig saw, preferably one with an adjustable backlash. You will be making a lot of cuts with this saw and your time and aggravation may well be worth a quality tool. (Good excuse for buying two new saws.)
- A wood chisel. Approximately 1″ wide, preferably sharp.
- A glue gun. For whatever size tubes you are using.
- Normal carpentry tools:
    - Smooth-face hammer
    - Small framing square
    - Large framing square
    - Chalk box with chalk
    - Carpentry pencils
    - 20′ or larger tape measure
    - Sawhorses
    - Stereo with speakers the size of a large refrigerator

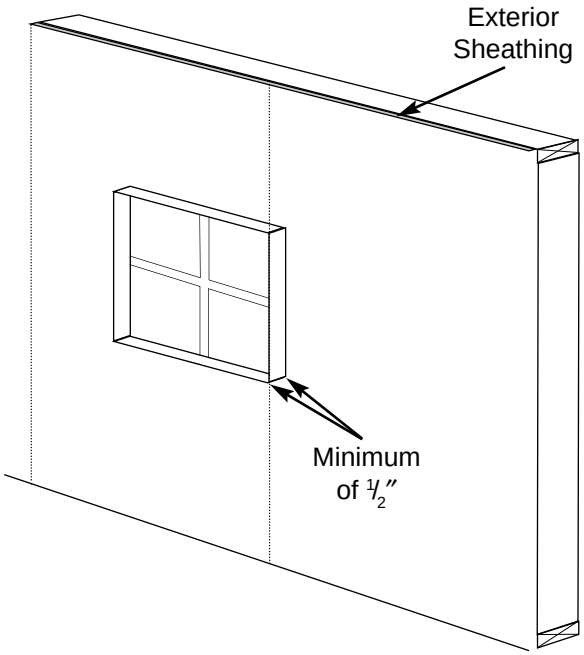
Sundry Items

- 16-penny nails. You will need $2^{1}/_{2}$ pounds per 100 log corner pieces.
- Construction adhesive. You will need eight 10-ounce tubes per 100 corner pieces. **Note:** Use a brown or tan adhesive rather than black or gray, in case you smear some in the wrong place.
- Nails for attaching log siding. There are a lot of different options for nailing on your log siding, and all of them have three objectives:
    - To attach the log siding as strongly as possible to the walls.
    - To be as unobtrusive as possible.
    - To stay firmly attached and unobtrusive for a long period of time.

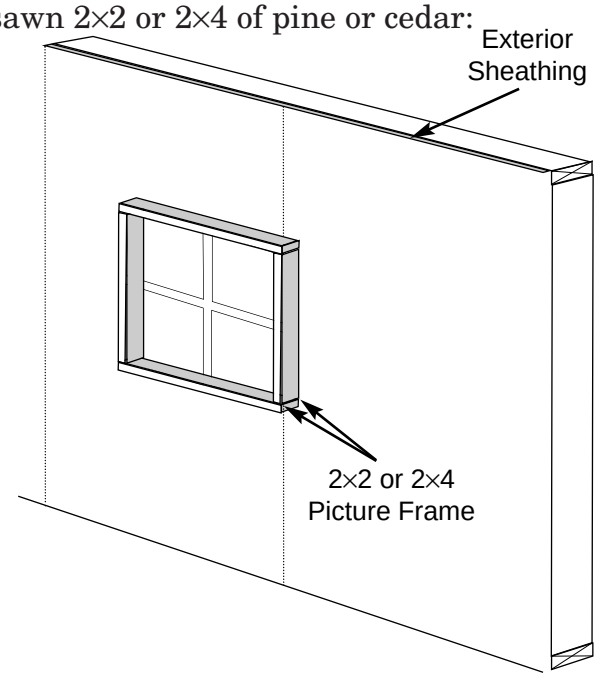
  Each different nailing system has its advantages and disadvantages. Please read Chapter 4, Siding, before you purchase your nails. The list in Chapter 4 is not a complete list and if you still have questions, please contact your local lumberyard for advice.

Setting Doors and Windows Properly

You need at least $^1/_2$″ of your doors and windows protruding over your exterior sheathing. (Or furring if you are remodeling.)

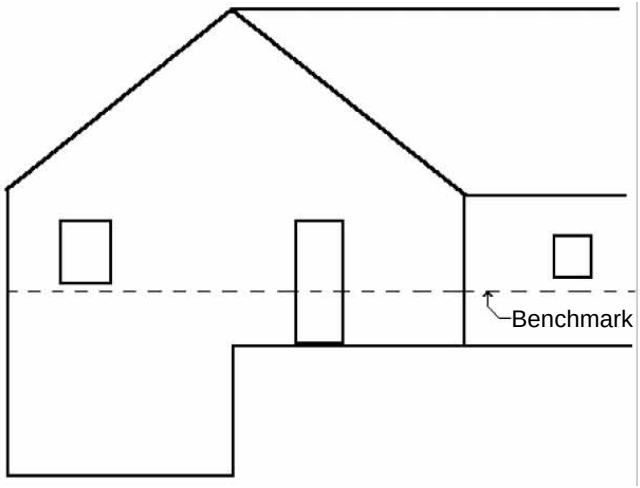


If you do not have at least a $^1/_2$″ protrusion around your doors and windows, or you want a "heavier" look, we recommend you picture-frame around your doors and windows with a rough-sawn 2×2 or 2×4 of pine or cedar:



A Benchmark Around the House

You can measure down from the soffit or measure up from the foundation. All you need is a straight reference line around the house. Locate it at a comfortable height, say about 3 ft. This is easy enough on a single-level house, but if you have a multi-level house or a lot of inside and outside corners, you may find it easiest to shoot a line around your home with an optical level.



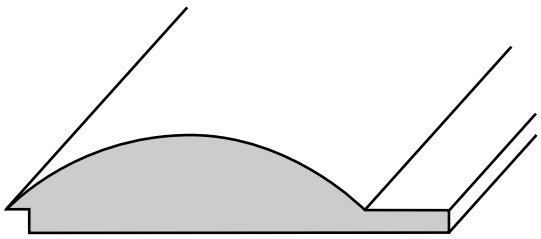
The objective is to get a reference line at all the corners so you can layout the corner logs and the siding. The corner logs and siding need to be straight in relation to the building. This means that the benchmark need not always be level, but it does need to be parallel to any horizontal lines such as soffits, porches and large windows.

A Craftsman Attitude

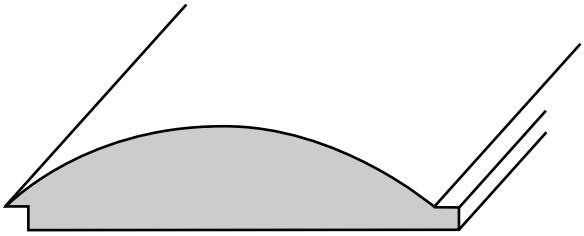
By now you have a good idea of what you want your home to look like. An attitude of wanting to learn and do your best will do more for the appearance of your home than the fanciest and most expensive tools on the market. You by no means need to be a cabinet maker to install this product, but if you find yourself saying "That's good enough," stop, stand back, and think about whether it really is "good enough."

Protecting Your Wood Before Installation

- Keep the siding off the ground. Make sure your siding is stacked on 2×4 or 4×4 bearing stickers. The stickers should be about two feet from the ends and about four feet on center. These stickers have to be laid on a flat area. If they are not, your bunk of lumber will conform to the lay of the ground in very short order.
- Keep the siding covered. Your siding is very dry and will absorb moisture very quickly. Also, keep the sun away from the siding as much as possible. The ultraviolet light will twist any wood product that is not nailed down. When you tarp your siding, leave an area on the sides and ends for ventilation. If you tarp it too tightly, you will create a greenhouse effect that won't allow any surface moisture or moisture in the ground to escape. Once the siding is attached properly to the wall, you have nothing to worry about. Until then, keep it covered.
- Protect your corner pieces. Your corner logs are extremely tough. The only precaution you need to take is to keep moisture away from them until you have them nailed up. Any moisture will cause them to swell, which can make maintaining layout a real challenge.
- Different types of siding. There are two basic designs of log siding. Timberline Log Exteriors corners will work with either design. You will just need to know which design you have so you can use the correct template for cutting the siding.



Western Log Siding Profile



Timberline Round-to-Round Profile

Important

There are different sizes of log siding. Timberline's log-corner system was designed to be used with standard 2×8 log siding. Because of different siding manufacturers and different manufacturing techniques, not all siding is manufactured to exactly the same dimensions.

The critical dimension for Timberline's log-corner system is the actual coverage of the log siding, *not* including the overlap. Our product is designed for a $6\frac{5}{8}$″ coverage; this is what we have found to be the norm. If your siding covers more or less than $6\frac{5}{8}$″, you will have to adjust your corner layout to fit the dimension of your siding.

Take an average of several pieces of siding to decide what your actual coverage is. We will use an example of a $6\frac{3}{4}$″ coverage.

In Chapter 2, Layout, change your layout increment from $6\frac{5}{8}$″ to $6\frac{3}{4}$″. You will find that you will have to hold each log slightly off the one below it before you nail. You will find it easier to hold layout if you mark both sides of the corner. Don't be concerned with the slight space between corner logs, this area will be caulked anyway.

Your siding template for cutting the points will also need to be modified. Since you are creating an $\frac{1}{8}$″ space on your corner layout, you will need to create this on the siding point. Cut the original template along the center line, from point to point, and leave a space of $\frac{1}{8}$″ between the two template pieces while you copy the template to a material you can use in the field.

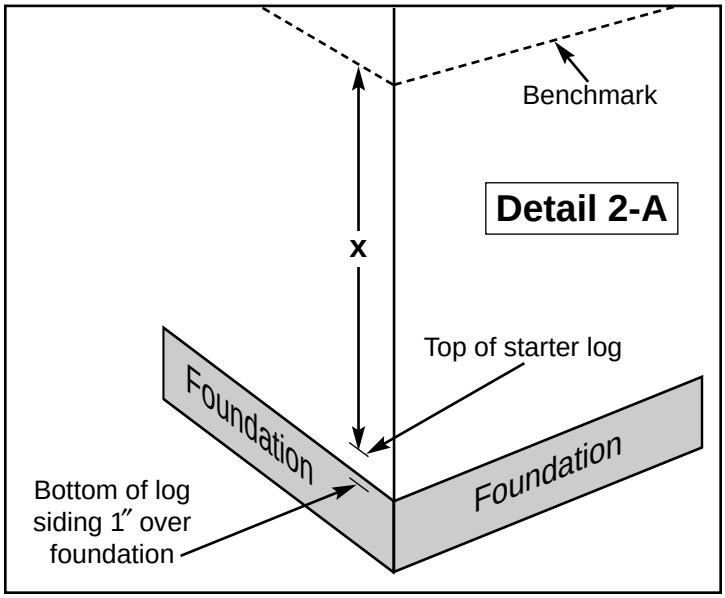
We know that the slight differences in dimensions from manufacturer to manufacturer can be an inconvenience. But this has very little effect on the outcome, and won't slow you down if you're aware of the differences before you get started.

Chapter 2: Layout

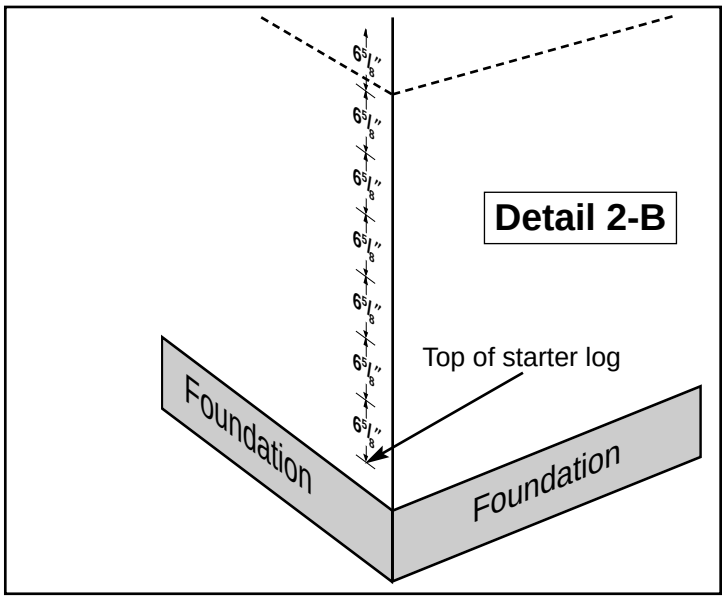
2.1: Single-Level House

If you are working with a single-level foundation, we have found it best to start out with an even half log on the bottom as your starter log. It doesn't matter which direction the half log is facing; just note that on whichever side the half log is facing, your bottom piece of siding will be full width on that side also.

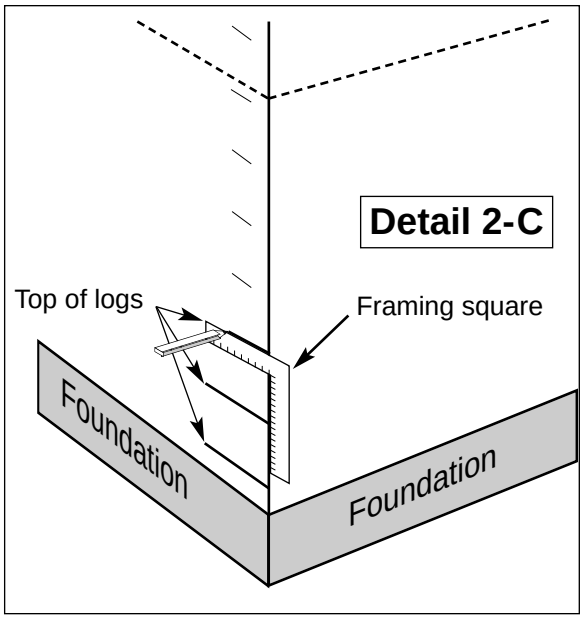
Mark a horizontal line, on the corner, $3\frac{5}{16}''$ up from where you want the bottom of the siding to start. (**Note:** The siding should overlap the foundation by $\frac{3}{4}''$ to $1''$, if at all possible.) This will be the top of your starter log. See Detail 2-A. Now measure down from your benchmark and write it down for reference. This measurement will be used for laying out the other corners.



Measure up from the mark on the corner in $6\frac{5}{8}''$ increments. (Each log is $6\frac{5}{8}''$ in diameter.) This will give you the top of the log, on one side of the corner. See Detail 2-B. It is not necessary to mark both sides of the corner, but if you do, make sure the marks are halfway between the marks on the other side of the corner.



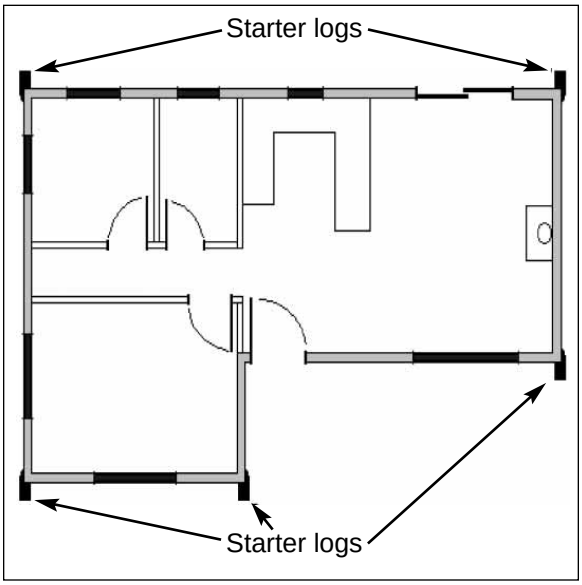
Draw a horizontal line through the marks on the corner with a small framing square, as shown in Detail 2-C.



Go to your next corner. If the mark you made for your starter log was on the north side of the house, then the next half starter log will either be on the north or south side of the house; it will *not* be on the east or west side. See Detail 2-D.

To accurately mark the top of the next starter log, mark down from your bench-mark the dimension you wrote down on the first corner. This will give you the top of the starter log and just start measuring up in $6^{5}/_{8}''$ increments as you did on the first corner.

All the other outside corners are laid out the same way. Be very careful not to get your mark for the starter log on the wrong side of the corner. Just remember that all starter logs, on a single-level foundation, are on the same axis: north to south or east to west.

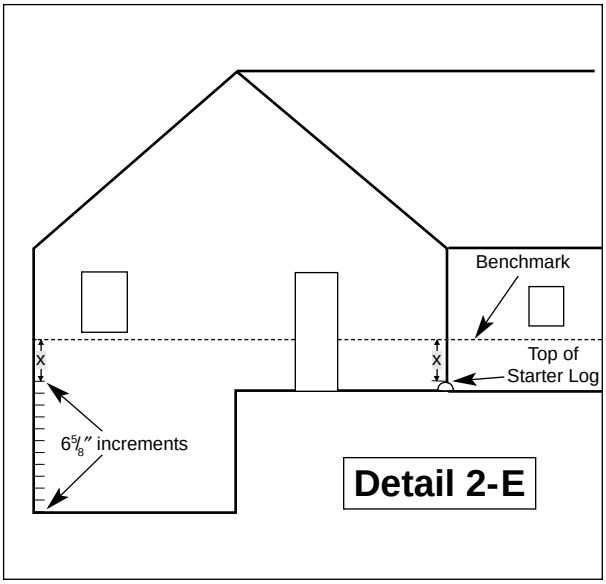


2.2: Multilevel House

The first corner in a multilevel house is laid out the same way as in Section 2-1. The trick is to mark the top of the starter logs on all the outside corners, so your siding will line up.

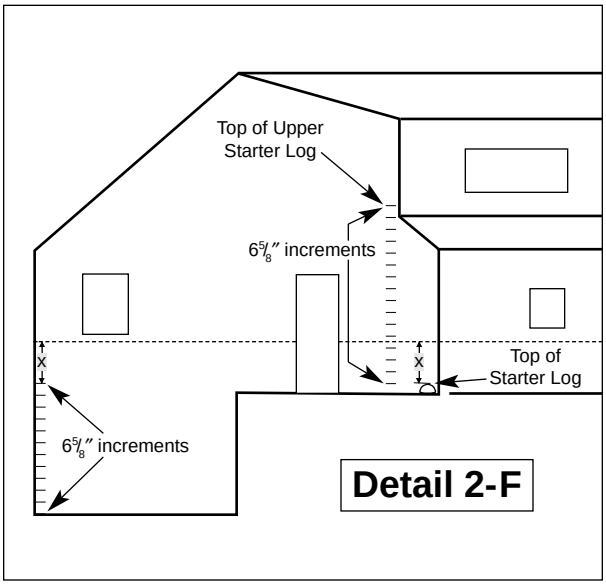
If Your Next Corner Starts Lower Than Your First Corner

From the bench mark, measure down the same as you measured on the first corner. From this mark, measure down in $6^{5}/_{8}$″ increments. This will give you the top of each log. See Detail 2-E. More than likely, your starter log will not be a half log and it may or may not be on the same axis as your first starter log. On a multilevel house, all logs pointing to the same axis (north-south or east-west) are on the same level.



If Your Next Corner Starts Higher Than Your First Corner

It is necessary to measure up from your starter log on the first corner in $6^{5}/_{8}$″ increments until you have a measurement to the bench mark that you can transfer to the next corner. See Detail 2-F. You'll note that what you are doing is transferring tops of logs from one corner to the next.

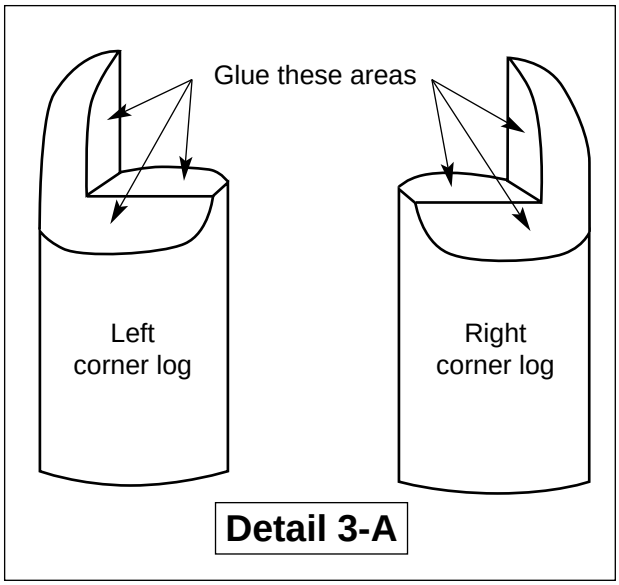


If you're not feeling comfortable with layout, you may want to tack up a few corners as a visual aid. Read the next chapter on corner logs and go ahead and tack up a few corner logs. Don't use any glue and don't get carried away; these pieces will have to come down and be glued for permanent installation.

Chapter 3: Corners

3.1: Cutting a Starter Log

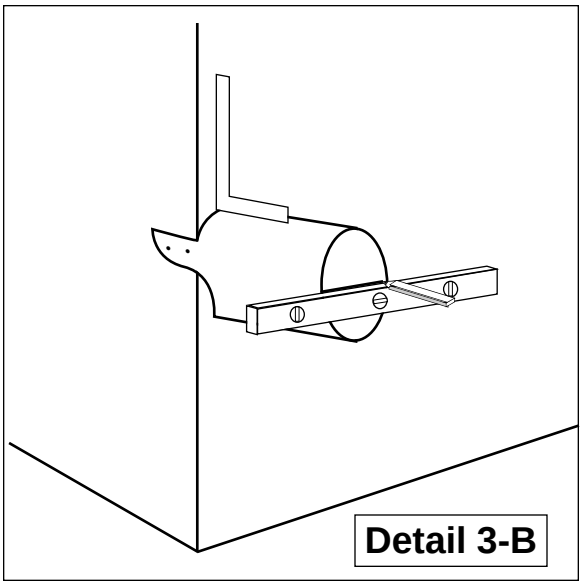
Your first log on a corner will be a starter log. The starter log is a full corner log that has been cut in half or less. For clarity, we will show you a half log as a starter log.

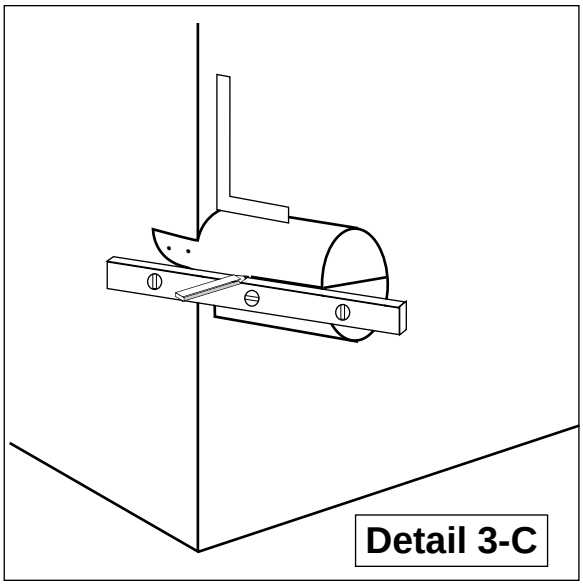


Detail 3-A

As you may have noticed, your corner order is a 50-50 mix of right and left corner pieces. The best way to tell the difference between the two is to stand a few up on the flat end, face the curve towards you, if the tenon is on your left then it is a left-hand corner log. If the tenon is on your right—you guessed it—this is a right-hand corner log. See Detail 3-A. A left corner log will be attached on the left side of a corner as you look at it. A right corner log—you guessed it again—will be attached on the right side of the corner.

Decide which corner log you need for your starter log, left or right, and temporarily attach it to a corner of the house at a comfortable height. Make sure the corner log is square and level. Mark a line halfway through the log on the end, as shown in Detail 3-B. Make sure the mark is level. Now mark down each side of the log with a level, connecting the level line you made on the end of the log. See Detail 3-C.


Detail 3-B


Detail 3-C

To cut the starter log, you have two options:

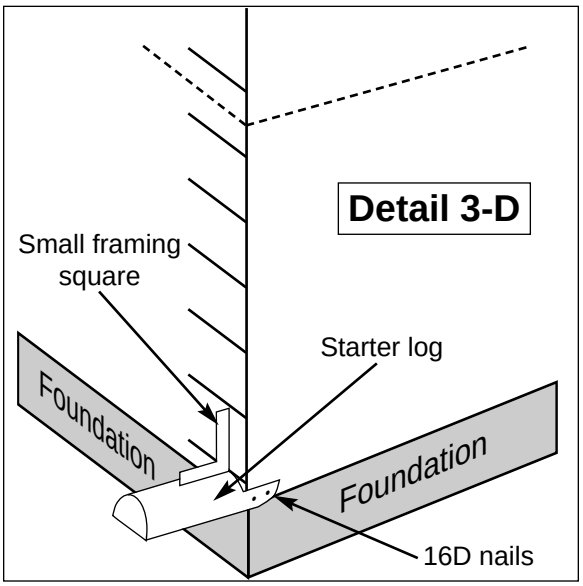
- **Chain Saw:** Nail the corner log to a wooden sawhorse, through the tenon. Attach it so the flat end is pointing up. Just cut along the side of the line, with the chainsaw. Keep everyone away during this operation. This is a one-person operation; spectators have a tendency to grab the log if it moves while you're cutting it. The log will only move so much if you have it attached well—no need to dull your chainsaw on someone's arm.
- **Bandsaw**: Just cut along the line.

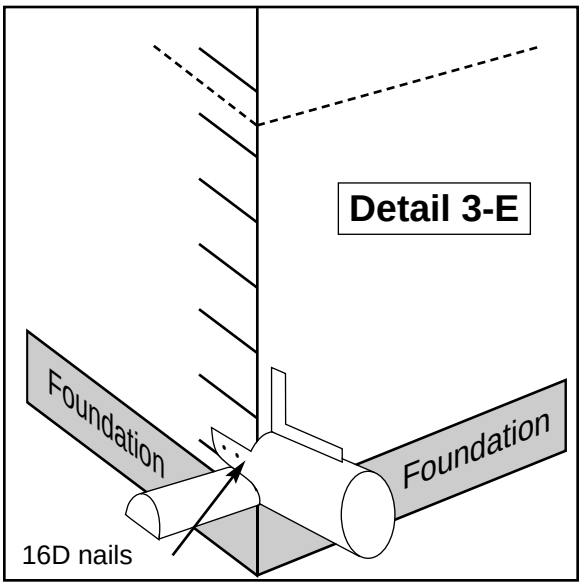
Note: This cut has been made with a circular saw, by cutting three sides of the log and splitting it with a chisel. We do not recommend this procedure; it is very dangerous, even when done by professionals.

3.2: Attaching the Corner Logs

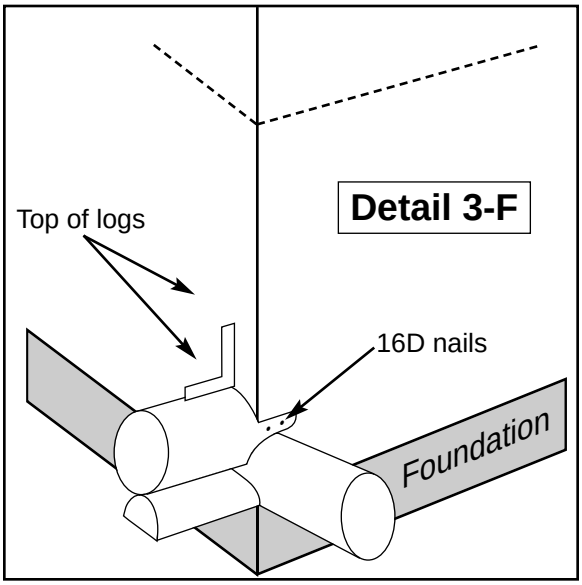
You have your starter log cut, your layout is complete, and you're ready to make your house look like a log home. Let's make it happen. You will need the construction adhesive, caulking gun, 16D nails, a hammer, and a small framing square.

Start out by putting adhesive on the starter log on the two flat areas where the log meets the corner. Don't be stingy with the glue; you don't want it running out all over the corner, but you do want good adhesion between the log and the corner. Place the starter log against the corner so the top of the log is just touching the layout mark. Lay your framing square on the top of the log so the log lies square with the corner. Drive in two 16D nails into the tenon, making sure you nail into the framing member in the corner. See Detail 3-D. The starter log may not feel very secure right now but it will after you attach the next few logs.





Set your next log upright on the ground and put adhesive on the two flat areas and also the curved area where this log will make contact with the log below it. See Detail 3-E. Saddle this log on the corner and over your starter log so they make good contact. You usually have to wiggle the corner around to get the best fit. Again place your framing square on top of the log, square it up and drive two nails into the tenon, making sure you're driving into the framing member of the corner.



Now you're on your way. Put adhesive on the next log the same way you did on the second log. The only difference on this side is that you have a layout mark. Make sure the top of the log is at the mark. Square up the log and nail it.

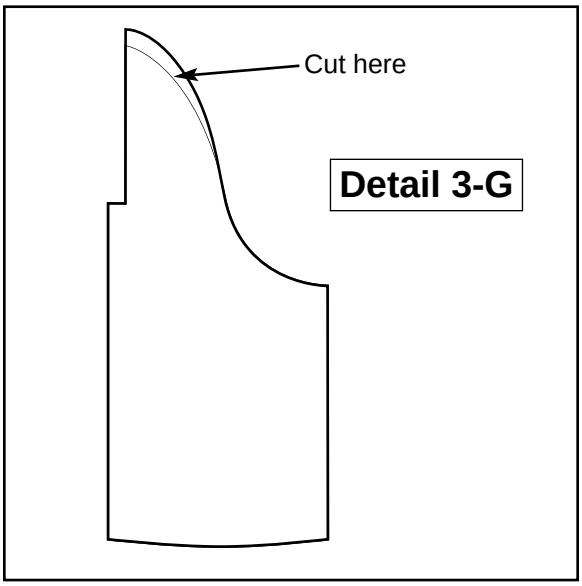
If your starter log has sagged or feels loose, you can toenail a nail or a deck screw into the third log and the starter log. This is usually a good idea anyway. The starter log has the least bearing surface and is usually the log that gets the most abuse.

The rest of the logs are put on in the same fashion. Below we have listed some tricks for making the corners go faster and more smoothly, and also some cures if you run into problems.

- Stand the corner pieces on the ground beside the corner with the left pieces on the left side of the corner and the same for the right pieces. This will save you from fumbling through a pile of corners, trying to differentiate rights from lefts.
- Go ahead and put adhesive on 10 to 20 corner logs so you don't have to stop with each piece and glue it.
- This is an excellent place for a airnailer. *More tools!*
- If a corner piece doesn't fit properly, it's usually because it needs to be wiggled down into the saddle of the log below it. If it still doesn't fit, try another log. Don't throw out the log that didn't fit, it will probably fit on the next log up.
- The corner log pieces are milled at a moisture content of no more than 12%. If the moisture content of the air is higher or lower than this you will have slight shrinking or swelling. You may even see a difference from morning to evening. This is the nature of wood. You need to keep the top of the log within an $^1/_8$″ of the layout mark, so if you're not exact, don't kick the dog. If you're finding that you're getting off more than an $^1/_8$″, then here are some ways to correct it.
    - Check to make sure your tape didn't slip while you were measuring.

- If the corner log is consistently above the the layout mark, you will have to shave a little wood off the log below it. A draw knife works well but a large hunting knife will do the job. Take off no more than $^1/_8$″, and remember to do it to the left *and* the right corner pieces. Don't try to make all the correction in one log.
- If the corner log is consistently below the layout mark, you will have to raise the log to come back up to your mark. Don't raise any one log more than an $^1/_8$″. The best way we have found is to slip a couple of 16D nails under the log. Remember to raise both the left and right corner pieces, and don't try to make all the correction in one log. Any space that you may have between logs will be caulked anyway.
- In either of the cases above, you will probably find it easier to have layout marks on both sides of the corner. The marks that you're missing are exactly halfway between the marks you do have.

- The tenon on some logs will occasionally protrude past the log above it. This can be caused by several factors: a bulge or depression in the corner sheathing or a corner that is not exactly 90° or a tenon that is too long. If it's an $^1/_8$″ or less, leave it alone. If there are just a few, then it's usually faster to cut them off with a wood chisel after the glue has set up. If you are getting more than just a few, it is faster to cut them before they're installed. Take a jigsaw and cut off $^1/_4$″ to $^3/_8$″ off the tenon of each log. See Detail 3-G. You will probably only have to do one side of the corner. Only cut enough for the this one corner; chances are you won't have problems with the other corners.



- Your help wants to keep stopping to look at the progress and talk to all the people who dropped by to see what you are doing. The corner logs make excellent motivational tools when used properly. And as far as the lookyloos, offer to put them to work—its amazing how fast they'll disappear.

3.3: Cutting the Top Log

If your soffits are flat, you can cut the top log the same way you did the starter log.

If your soffits are on a rake, you will have to cut your top log or logs at this same angle. Figure out how much wood you will have to take off a corner log. Be conservative; it's a lot easier to take more off than add it back on. Clamp or nail the corner piece down and cut the log with a chainsaw or bandsaw. If you have cut it relatively close, finish it up with a belt sander or a power planer.

The light brown or tan construction adhesive works well to fill in any miscuts or gouges. Try not to smear the adhesive all over the wood. You will probably want to go over the adhesive with caulking when you get ready to stain.

On both a flat soffit and a raked soffit, you will probably be cutting off the tenon of the corner log. Lots of adhesive and a few long deck screws work wonders.

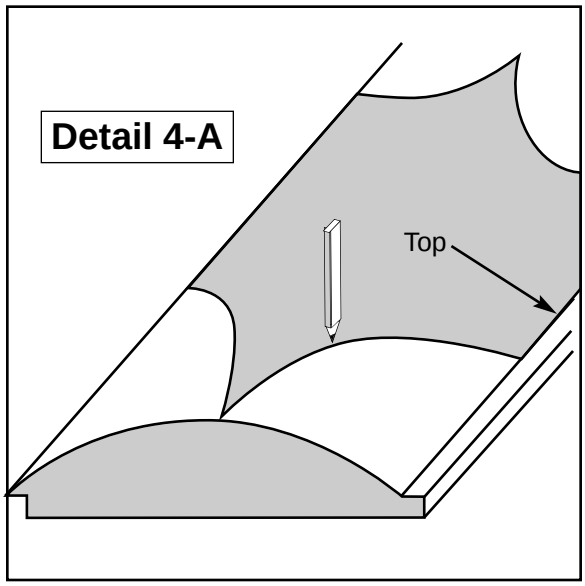
4.1: Cutting Points

You will find two templates toward the back of this manual. One template is for a Western Log Siding profile and the other is for a Timberline Round-to-Round log siding profile. They are clearly marked, and if you're not sure which log siding profile you have, go back to the section in the front of this manual that's titled "Before You Start." Nothing further said.

Cut along the outside edge of the template. Now make a copy of this template onto something that will hold up outside. The best medium we have found is heavy gasket material, the kind you can find at your local auto-supply store. It bends nicely around the log siding and is almost indestructible, unless you let your dog use it for a chew toy (voice of experience). Light tin works well, as does cardboard. You can use light plywood, but it doesn't want to bend around the log siding.

You will note that there is a top to the template; mark this on your new template. It always points to the tongue of the siding. The very point on the template is offset to allow for the overlap of the siding.

Lay the template on top of the curved side of the siding and mark the point on the wood with a pencil. Keep the top of the template at the top of the tongue, as shown in Detail 4-A. You will note that you will be needing a right or a left point to fit into the corners. A right point is on the right side of the template and goes on the right side of the log siding (tongue up), which goes on the right side of the wall as you look at it. Right or wrong, it will only fit one way.



Take your new, super-heavy-duty industrial jigsaw (that cost you a fortune) and cut out the point. Use a medium-toothed wood blade and backcut the face of the wood so only the face of the siding will make contact with the log. If you have an orbital setting on your jigsaw, it will make this cut go much faster. Now look at the point you just cut out and notice the dark marks where the foot of the jigsaw dragged across the wood as you were cutting. A couple of strips of duct tape on the bottom of the foot (the jigsaw's, not yours) will solve this problem.

The backcut on the point serves a couple of purposes. First, it allows for some protrusion of the tenon and you can take a wood rasp and hit the edge to make it fit

better to the corner logs. A perfect fit is not necessary since you have to caulk this area anyway.

Make up a few points and continue through the Siding chapter. After you get a good feel for it, we have found that the job goes a lot faster if you cut the majority of your points before you really get started. You will need one point for each corner log you installed and you will need an equal number of rights and lefts. An assembly-line type of operation is a lot faster than jigsawing one piece at a time as you need it.

4.2: Laying Out the Siding

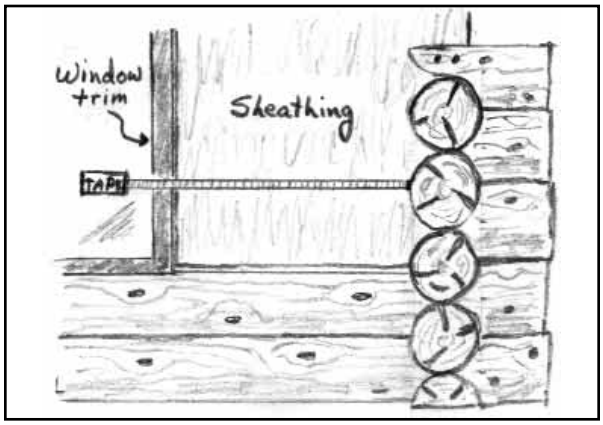
Cut a left point with about 2′ of tail and put a right point on it. This will be used to give you marks on the side of the log corners so you can snap chalk lines. People always ask why they can't just use a level and start slapping up siding. You can, but you are assuming that the house is perfectly level, your level is level, and every board is perfectly straight. Nice try, but I wouldn't put money on it. By using a chalk line, you can solve all three potential problems and speed up installation.

Stick the point in between two logs and mark the top of the tongue. Mark both sides of all the outside corners. Now snap a chalk line between corresponding marks on a wall. Make sure and pull it tight so there is minimal sag in the line. Try to snap through all the openings such as doors and windows. This will give you a straight reference line at the top of each piece of siding. If you have problems snapping a line through openings because of the jamb, snap as many lines as you can and measure up or down on each side of the opening in $6\frac{5}{8}''$ increments. Now finish snapping your lines. A note of caution: make sure you are coming up evenly around your openings, they all have to match when they get to the top of the opening.

It may not be necessary to snap lines on a board that is 4′ or less, but you do need to have marks on each side of the board.

4.3: Measuring

To measure the length of a board you want to cut, we have found it easiest to hold the dumb end of the tape against the log and measure to where you want the cut. See Detail 4-B. Then hook your tape on the top of the point, at the tongue, and measure out that dimension. Do this on the back of the siding, as that is where you want to cut.



4.4: Cutting a Joint

You have two options:

1. Cut all the joints where two pieces of siding meet, at a straight 0° angle. This works well if your siding has the same moisture content as the air. If you have any doubts, go to #2.
2. Cut all your joints at a 15° angle. This will compensate for any shrinkage or expansion in your log siding. The drawback is that it is slower and it is best to have one saw set to this angle only, and not changed, so each cut is exactly the same. If you go beyond 15°, the cuts look like half moons on the surface or visual side of your siding and it does not look like a full log home.

4.5: Attaching the Log Siding

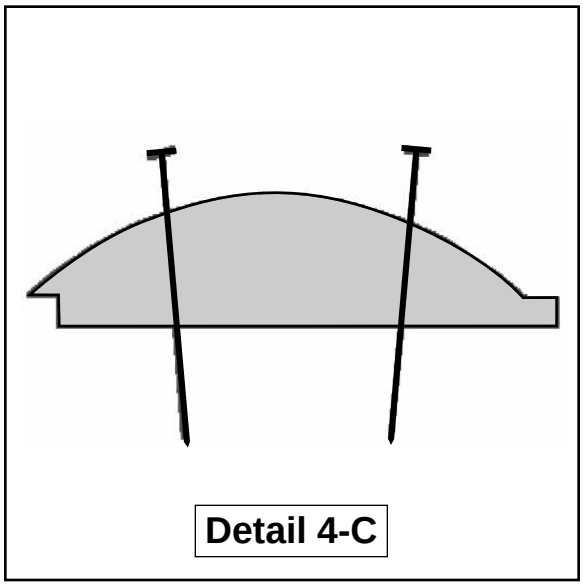
There are several options for nailing the siding to the wall, and each one has a give-and-take on three key factors: First: strong, solid attachment; second: low visibility; and third: speed of attachment.

Strong, solid attachment is the most important factor. If you don't have this, your siding will look good when you first put it up, but will start moving around on the wall in very short order. It is recommended that you penetrate the framing member by at least 1½″. You should figure that the siding is 1″ thick where you will be nailing, and if you are using ½″ of foam insulating board, you will need a nail at least three inches long. Table 1 gives some of the pros and cons to different fasteners. No matter what fastener you decide to use, it must be galvanized.

Type	Holding Ability	Visibility	Ease of Attachment	Notes
Casement Nails	Good	Low	Slow	16D works best; have some on hand
Siding Nails	Good	Medium	Slow	Hard to drive if ring shank
Deck Screws	Excellent	High	Very slow	Have some on hand
Airgun Nails	Excellent	Low	Fast	Great fastener
Airgun Staples	Excellent	Very low	Fast	Use narrow crown; specialty gun and staple

Table 1

Detail 4-C shows you the proper nailing pattern. Over the years people have attached log siding in numerous ways. What this has given us is a lot of methods that don't work. Wood always wants to move with the changes in temperature and humidity. Your siding has to be able to expand and contract with these changes.



Detail 4-C

Do not blind nail. This means nailing into the tongue so the next piece of siding covers the nail head. It looks great and will hold for a while, but within a few years the tongue will split from the expanding and contracting and you will be either renailing the job or pulling down expensive toothpick material.

Do not nail into the overlap. The log siding needs to move independent of each other. If you try nailing them together, they will eventually split apart.

Hit that stud. The outside sheathing is not enough to hold the log siding, even if it is plywood. The manufacturer of your log siding may or may not guarantee your siding against warpage and twisting on the wall, but Timberline Log Exteriors will stick its neck out and guarantee that the log siding will twist and warp if you don't attach the siding properly. This is an unconditional guarantee. Hit that stud.

Nail into the point. You should have a framing member at the corner, where the point of the log siding butts into the corner logs. Get a nail or screw into this point. Its a hard place to nail, but because of the end grain of the wood, it has a tendency to pull away from the wall.

Chapter 5:
Rafter Tails and Purlins

5.1: Where and When to Use

By now you have become more aware of the look and details you will find on full log homes. These same effects can be achieved with Timberline Log Exteriors log corner system, all it takes is a few accessory logs and a good concept of what you want to achieve. One of the best areas to do detail work on is the gables of your home. With a few logs, you can give the visual effect of log rafters stick out the wall where ceiling rafters would extend if your home was constructed from full log. The same goes for purlins, which would support your roof on a full log home

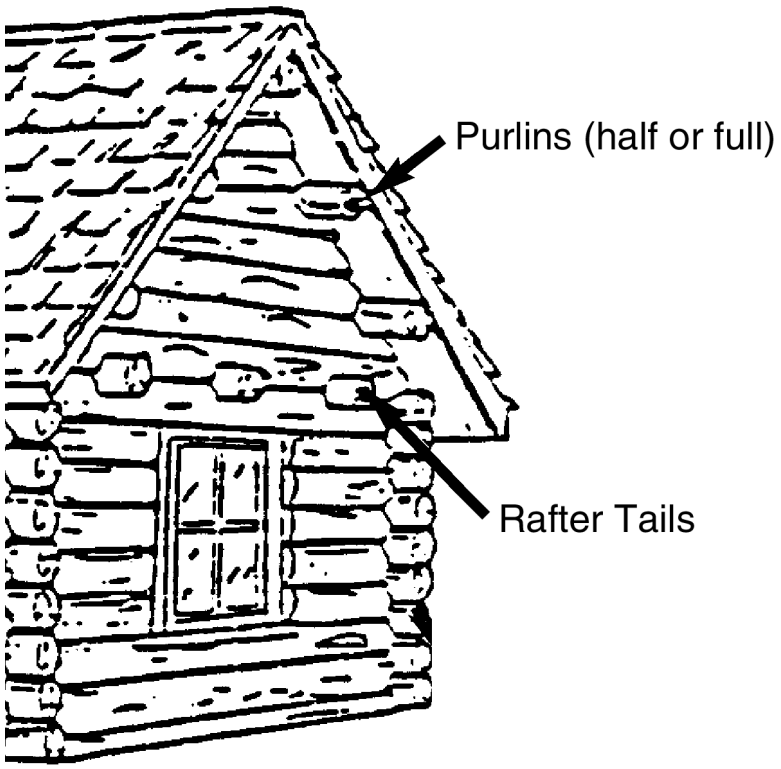
Another good area to add detail to is to those large areas of wall on a multilevel house. Give your home the effect of log floor joist extending through the wall. This not only breaks up a bland wall but adds to the authenticity.

If your foundation extends out of the ground very much, you can add rafter tails at the foundation level to give the effect of log floor joist. This gives the illusion of your foundation not being so tall.

We know that these ideas are not easy to visualize on your own home, but the visual effect will far outweigh any added expense. Visualize in your head what you want your home to look like. The techniques are outlined in this chapter. But don't stop there; the techniques can be adapted to fit most any idea.

5.2: Getting a Balance

Take a look at Detail 5-A, notice where the rafter tails are placed, at the same level as the last full corner log,and about where the rafters or trusses set on the wall. Each home is different, so if this doesn't work well on your home, stand back and pick a point where you think they would go if you were using full log. You can't go wrong. Every full log home is different.



Now look at the purlins in the same detail. Notice how they line up with the rafter tails below them. This isn't absolutely necessary, but we have found that it adds a visual balance to the wall. Also note the center purlin at the peak of the roof lines up with a rafter tail in the center of the wall. The rafter tails are placed on approximately three-foot centers; two feet or less can look busy, and four feet or more can look sparse.

5.3: Rafter Tails

You have figured out where you want place the rafter tails, realize that they go between two pieces of siding. Cut your two pieces of siding and temporarily tack them into place. Climb that ladder! Mark the center of the wall on both pieces of siding. Now measure the distance from this center line to the center line of the corner logs on each side, in inches. Divide this number by three and it will give some crazy number with a lot of digits after the decimal point. Round it to the nearest whole number. This is the number of rafter tails you will need on each side. Go back and divide this number into the distance between your center log and the corner log. This will give you the distance, center to center, of each rafter tail.

Pull down the two pieces of siding you tacked up. Transfer the center line mark onto the back of the siding. Lay out in both directions from your center line, to give you the center of each rafter tail. These marks need to be on both boards. Measure over from these center line marks $3^{5}/_{16}''$ to get the edge of the rafter tail and draw a straight line through these marks with a framing square. Piece of cake.

You now have both sides of the rafter tails marked. To get the top and bottom marks, remember that you have to adjust for the overlap of the tongue and channel. On the bottom board, measure down from the top of the tongue $3^{13}/_{16}''$ (half the diameter of a log plus the overlap of the tongue and channel); this will give you the bottom of the rafter tail. On the top board, measure up from the very bottom of the siding (not the bottom of the channel) $3^{5}/_{16}''$.

Take a rafter tail and lay it between your marks so the outside edge is just touching the lines, and trace a pencil line around the bottom of the log. Cut along the line being careful that your jigsaw blade doesn't bend and create a coned circle. Turn the siding over and make sure the logs fit properly. If not, cut any small holes out a little more with the jigsaw, this time on the face side. If you made them too large, you can fill it in later with adhesive (liquid miter-box).

Everything is looking good so far. Take your bottom board and nail it in place. Put some construction adhesive on the back side of the rafter tail and some on the saddle area of the siding, where the rafter tail will set. Set the rafter tails in place and toenail a nail or a screw into the top back side of the rafter tail, where it makes contact with the sheathing. Make sure they're straight and square.

Set your top board in place and double-check that it fits properly. Squirt some construction adhesive on the top saddle area, where it makes contact with the rafter tail. Put the board in place and nail it before it gets away.

It's a good idea to squirt glue around any gaps between the rafter tails and the siding. Also make sure they're square and level. They may not feel very secure now, but by the time the adhesive sets up you'll need sledgehammer to get them to move.

Rafter tails can go anywhere in a wall in the same manner. Decide where you want them, figure your layout, and get after it.

5.4: Purlins

Purlins are the logs that go right under your soffits. They are usually about two feet long and are either full round or split in half. We have found that the split purlins are a lot easier to install, and the visual effect is almost the same. See in Detail 5-A how the curve of the split log is below the fascia. You need this for proper effect. If your fascia is extra wide, you will probably want to use full-log purlins. You will need at least one full purlin for the peak.

Attach the purlins against the soffit, directly over a rafter tail. You may have to cut them to length. Make them as long as possible so one end touches the sheathing and the other end touches the fascia. If you are using split purlins, put some adhesive on the flat area and nail or screw the purlin to the soffit. A nail or screw through the fascia and into the purlin works well. If you're using full-round, place a bead of adhesive along the top edge of the log where it makes contact with the soffit. Toenail into the sheathing on one end and through the fascia on the other; this goes for the full-round purlin at the peak also.

All the purlins are put up prior to installing the siding. Start laying up your siding and cut around the purlins. You'll soon learn why we said the split purlins are a lot easier.

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Timberline Log Siding Template


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