Shedking's

Lean-To Shed Style

Shed Building Guide

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LLC 2018

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This shed building guide should be used in conjunction with the shed plans available at shedking.net. These sheds can be used for storage sheds, chicken coops, playhouses, tiny houses, garden sheds and more!

I have tried to make this guide as simple as possible, and I have tried to make my building plans as comprehensive and easy as possible to follow and understand. If at any time anything presented in the plans or building guide is not clear to you please contact me at shedking@gmail.com.

As I always advise to please get a building permit and have your plans inspected and gone over by your local building inspector. Many counties in the United States do not require a permit for structures under a certain square footage, but it is still very wise to get the advise of your local building department no matter what the size of the structure.

If after purchasing a set of my plans and you want to know if they are good for your county, I won’t be able to answer that question! All my plans are written utilizing standard building practices, but I cannot write my plans so that they satisfy every local building code.

Safety is and should be your number one concern when building any outdoor structure.
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Printing Tip:

If you are going to print this building guide, you may want to use the 'print in grey scale or black and white' option to save your color ink!
Disclaimer

Please do not purchase materials or attempt to build this shed project unless you have studied the information provided thoroughly, and have verified all dimensions and material requirements for yourself.

Also verify that the plans conform to local building codes and practices. Although every effort has been made to ensure the accuracy of the information and design, the user is ultimately responsible for the use of this information. All information provided is copyrighted and cannot be duplicated without the permission of Shedking.

You, the plan buyer and builder, assume all risks and responsibilities associated with building this shed/barn and hold harmless John Shank, shedking.net from any misconceptions or misunderstandings about anything construed or implied in these plans.
Building a wooden shed floor on concrete anchored posts in the corners is one of the most widely accepted methods of anchoring a shed floor for county permits. Or, the 4x4 support skids can be resting on a base of 4” compacted stone, or blocking of some manner that can be treated lumber or concrete blocks.

You will want to check with your local county building inspector to make sure you adhere to their regulations.

Your shed floor is going to be built off of 4x4 skids which are attached to posts which are in turn sitting in a hole filled with concrete, usually with the bottom down below the freeze depth. This will typically be 30” or more. Obviously if you live in a warmer climate this will not be an issue for you, but it would still be wise to check to see what depth you need to dig for your anchors. Check to see what your depth should be by calling your local building department.
Framing a Wooden Shed Floor

A wooden shed floor consists of the following:

4x4 skids Treated lumber
Anchored Posts (optional)
Joists -Treated Lumber
Rim joists -Treated Lumber
Band boards -Treated Lumber
Floor Sheeting – Regular plywood or treated plywood (optional)

Having level ground to build your shed floor on is the ideal situation. Unfortunately this is seldom the case! If your ground is not level, you will have to take steps to either level it out, or shim up your shed floor where ever necessary. The optimal system for good support under your wooden shed floor is to have a 4” thick level bed of gravel. This can be the entire area of the floor, or just where your skids will be located.
If you are building your shed on very uneven ground then you may have to have your floor supported with all concrete anchored posts, or concrete posts in the corners with some sort of support blocking in between these anchors. These can be pieces of treated 2x4's or concrete blocks.

1. Cut all skids to proper length listed in the plans and place them on the ground according to plan specifications.

2. Cut all interior floor joists and 2 rim joists to proper length and position on top of the skids you just laid down on the ground.

3. Cut the band boards to proper length. Make marks for your joist locations simultaneously on both band boards for nailing your floor joists in the right spots. You'll use 16d galvanized or coated nails here.
Nail one band board onto the floor joists using 2 - 16d nails per end.

4. Now pull the floor joists over until other ends are above the other skid and nail the other band board in place.

5. With the floor framed up and band boards in place, pull your floor frame so that it is correctly positioned over the floor skids.

6. Square up your floor by first taking diagonal measurements from opposing corners. These two measurements need to be equal. As an example, if your shed floor is 10x12, the diagonal measurements would be 15' 7-1/2". Measure diagonally across the floor to square it up, then measure diagonally across the other two corners. Shift the frame until both measurements are the same. Using a sledge hammer and gently tapping one corner or the other will help shift your framing to where it needs to be.

7. Double check to make sure that the 4x4 skids are in the proper position and then toe nail your floor joists to them. Make sure that your floor joists are spaced where they need to be. The ends of the skids should be flush with the rim joists outside face. Use 2 - 16d nails per joist/skid location, one toe-nailed on either side of the joist into the skid.

8. If you are going to use the post anchoring method, you'll want to slide your shed floor over about 1 foot and mark the location for the holes you are going to dig. I typically put the corner posts between the first and second floor joists. Drop your 4x4 posts into the holes and plumb them up vertically. Mark from the bottom of the 4x4 skids adjacent to the posts. This is where you will cut the post(s), then slide your shed floor back over on top of the posts.
9. Make sure everything is lined up properly and your floor is still square. Attach your skids to the tops of the posts using mending plates and then add concrete down into the holes.

10. Next step is to nail down floor sheeting over your floor joists. Stagger your sheets for strength. The example shown below is with 3/4"x4'x8' cdx plywood sheets cut to fit.
11. Nail the sheeting down with **8d or 6d galvanized nails every 6”** along the perimeter and every 12” inside on the joists.

12. Start the first sheet in one of the corners by first nailing the short edge making sure its flush with the rim joist. Next you can pull or push if you have to to make sure the long edge is flush with the band board and nail this edge next. Next you will nail the flooring panel down along the inside floor joists.

13. Next continue on with the rest of the floor panels finishing that row first then nailing down the rest of the floor sheets.

14. With the floor finished now you are ready for assembly of the shed walls.
Building Your Shed Walls

Follow these steps for building shed walls. The two longest walls are usually built and placed on the floor first.

1. Shed walls can be laid out and built right on your shed floor. If this doesn't work for you a flat surface like a garage floor will work fine.

2. Cut bottom wall plates and top wall plates to length. Place your top and bottom plates together, and mark off locations of wall studs on both plates. This way your on center wall stud locations will be exactly the same for both plates.

3. Cut the wall studs to length, place between your top and bottom plates along with any door and window framing studs, and nail into place. Framing is typically done with 16d nails. Use 2 nails per stud nailed through the plate into the stud end.

4. If you prefer, you can cut your siding now and nail onto the walls before standing them up. This will actually help square your wall studs up. Leave a 1 to 2” overhang past the bottom wall plate so that when you go to stand your wall up, this additional siding can be nailed to the floors outside rim joist or band board with 6d galvanized...
nails.

5. The top of the siding is flush with the top plate. Start by lining up your top left corner and left edge, then nail down the siding along that edge. Next, square your wall up by lining up the top edge with the edge of the top plate then nail the siding into the top plate. Now you can finish nailing your siding into place along all other studs and the bottom plate. Nail every 12” along the interior studs and 6” around the perimeter of the siding.

6. Stand your wall up and make sure it is in the correct position on your shed floor, then nail down through the bottom plate into the floor using 16d galvanized nails. I always try to nail into the floor joists if I can.

7. At this point, nail on a brace(s) temporarily to secure your wall in place while you build the opposite wall.

8. Build the opposite side wall in the same manner and stand in place, or if you want to continue using your shed floor for building walls, temporarily move the wall you just
built and set it aside. This way you'll still have plenty of room to build your front and back walls.

9. At this point, let's build the wall containing the door.
Shed Door Construction

Double Shed Doors

The information shown below is off my website and is for building double shed doors at any location of your wall. Your plans will be identical to what is shown below or may be a very similar version of what's illustrated in the following pages. If you want to frame your doors out with cedar as opposed to 2x4's and 2x6's, you would just place the 2x's on the back side of the door panel, and frame out the front with 1x4 cedar pieces.

Step 1

Before you begin any framing for your shed, it's best to decide what size doors you actually need because the framing for the wall containing these doors will have to be framed correctly for this.

For our example to use to explain how easy this really is, I am going to use the following guidelines to build a 5' wide double door for a shed that has a 10' long wall that this door has to be framed into. This is really easy if you are siding your shed with the smartside siding panels, or planning on siding over OSB sheets with some sort of lap siding. It doesn't matter.

Ok, lets say with this 10' wall you want your door on the right side 1' away from the corner. Here's what the framing for this wall will look like with 16” on center wall studs, and the example shows a wall that is 7' tall.
Step 2

When it's time to put your siding on whether it be OSB or T1-11 or smartside siding panels, the next step is to find the exact middle of your door opening. Cut your siding to the desired length. Usually this will be so that your siding extends down past the floor by about 2” or so. Whatever you decide on this measurement, it should remain the same all around your shed.

If you are just using osb, your first osb panel will be attached to the wall framing so that your panel edge is even with your middle of the door mark. To make things easier for you, a temporary board can be nailed on to the rim joist or band board so that your siding panels rest on this board. Nail this panel to the wall framing along the header edge, and the jack stud of the door framing. You won't be nailing into the bottom of this osb panel where the door will be opening.
Using a reciprocating saw you can cut the door panel out from the back side then cut the front section left on the bottom front with a circular saw.

If you plan on building a ramp for your shed, you will want to cut the bottom of your door panel so that it is flush with the top of the floor.

The next panel can now be placed into position so that the overlapping edge is in the right place leaving a gap that is consistent with the grooves in your panels if you have them. Nail this panel to the framing and cut this panel as you did with the first.
Now both panels have been cut out and your shed wall containing the door opening will look like this:

We have our 5' door opening for double shed doors and we have the two door panels we cut out that we can now build our doors with.

We can start with either panel, it makes no difference. If you decide that you want a shed ramp on this shed, as I mentioned earlier, the panels we have for the doors will have to have the bottoms trimmed off so that the panels when opened and shut will clear the top of the shed ramp.

For this example, we will figure on cutting the panels off for a ramp. This works out to be roughly about 2” off the bottom of each door.
Working with each door panel individually, we can now frame the outside of these panels with 2x4's and 2x6's as such. These doors will be easier to build using exterior grade 1.5” screws, screwing from the back of the panels into the front 2x4's and 2x6's.
With the door panels assembled now with 2x4's and 2x6's the shed itself now needs to be framed out with 2x4's and a lentil around the door opening. The 2x4's will serve as door jambs and should be screwed or nailed to the frame flush with the door opening.

The door lentil can be made of a 2x6. Mount the jambs on each side so that they extend above the door opening about 1/4”. Once the door jambs are screwed on and in place, your lentil can be nailed into place. With the door jambs extending 1/4” above the door opening, this will allow the doors to swing freely.
Doors in Place, and Trimmed Out
Here's a simple, fast, and very easy way to build your single shed doors up to 36” wide. You could go wider, but any wider than 3' would necessitate the building of double shed doors as the weight would be too heavy.

Our example will be to frame in a single swing shed door on a 10' long wall. This method will work for placement of the door anywhere you want but for example sake, we will be building this shed door 3' from the right side and it will be a 3' wide door.

Here's what the framing will look (below) like for this shed wall, with our wall height being just shy of 7’. 7’ is a typical height for shed walls. If you are wanting to put in a pre-hung exterior door, then 8' would be your ideal wall height.
The framed wall shown above is without any other walls showing for illustration purposes only. Your shed will probably have all walls up and possibly the roof framed before any door construction occurs!

For this door opening we will have a 2x6 header framed in above the door opening.

Construction of a door header is shown above.
If you are siding with a material like t1-11 or LP smartside siding panels, or putting lap siding over 1/2” osb, this method works great!

Take a sheet of siding mentioned above and cut it too length so that you will have a 1.5” to 2” overhang at the bottom past the floor. This is for weather protection. Nail on your siding panel (the full 4’ width) so that the entire door opening is covered up but your panels vertical edges fall right in the middle of the wall studs.

This panel can be nailed to your wall framing with spiral 6d galvanized nails. Just make sure not to nail the bottom under the door opening as we will be cutting our panel out to use for our door.

The easiest way to cut this panel out is to use a reciprocating saw or sawzall saw. Start on the inside and cut the siding out along the framed door opening all the way around down to the floor. The very bottom of the door will have to be cut out from the outside using your sawzall saw or a circular saw set to the depth of your siding thickness. When you are done, your wall with cutout will look like this:
With our door panel cutout, set it aside. We want to next nail on 2x4's around the outside edges and make a 2x6 lentil for the top of the door as shown below.
Next step is to frame out our cut out door panel with 2x4's and 2x6's. These can be attached with 6d galvanized nails nailing from the siding side into the 2x material. Frame out the door panel as shown in the illustration below. Attach the hinges to the door, and place a temporary 2x4 nailed to the floor so that you can rest the door on it while attaching the hinges to the framing around the door opening.

The 2x material around the perimeter of the door panel should be flush with the panel edges. This will allow you sufficient clearance for the door swing.

The 'D' handle shown on this shed door is available on my website. Look on the homepage on the right side and you will see a link for shed door hardware. This is a great supplier of shed door hardware and windows, etc.
Adding a Roll Up Shed Door

If you would like to add a roll up shed door to your lean-to shed please visit this link: Adding a roll up shed door to your shed.
Back Wall Framing

Our next phase of this shed building project is to build the back wall.

1. Following the plans again, cut the top and bottom plates, and wall studs to proper length, and build any headers if needed.

2. Assemble and nail this wall, attach the siding if you are doing this first before standing wall up, then stand this wall up and nail into place with 16d nails.

3. You'll want to make sure to nail the vertical corner studs together but first make sure the outside edges are flush. Nail about every 12” using 16d nails.
Lean-To Shed Roof Construction

Most of the illustrations shown below do not show siding. At this point of your construction, your siding may or may not already be installed.

Framing a lean-to shed roof for the most part is not quite as difficult as framing a gable or gambrel, or saltbox style shed roof. The roof framing mostly consists of cutting one single roof truss as opposed to assembling multiple pieces for other styles of shed roof framing.

The example below shows a picture of a lean-to shed roof with interior roof rafters and gable end rafter assembly framing.

*Lean-To Shed Roof Framing (click on picture for 3d interactive view)*
The following steps are for building a shed with a shed roof, or lean-to style roof:

1. Measuring and cutting rafters.
2. Building Gable End Roof Assemblies.
3. Placing and nailing the rafters and gable end assemblies onto the walls top plates.
4. Add blocking between rafters above top plates.
5. Sheeting the rafters with 1/2” osb or plywood.
6. Finish siding.
7. Installing felt paper, and drip edge.
8. Shingle installation.

**Measuring and Cutting Interior Rafters**

1. Cut just one rafter piece following the blueprints for rafter construction.

2. Take this first rafter piece and position it atop your wall plates to make sure it fits properly. If it works out ok you're good to go for making the rest of your rafters making sure to do exactly what you did to make this first rafter. If it doesn't fit, you may need to tweak a few things to make it work. This is not uncommon as cutting along lines you've made for your saw cutting may get off, etc.

**Building Gable End Roof Assemblies**

The gable end roof assembly is framing that will allow you to attach siding to it, and after it is nailed or screwed into place, will have an interior truss sitting on top of it to complete the roof framing. It will consist of vertical end supports, and a bottom 2x4 or 2x6 that becomes part of the walls top plate construction. Typically your lean-to shed roof will have 2 of these assemblies, one on each outside end or your roof framing.

Your plans that you purchased may or may not have these assemblies.
Your plans will have measurements for all the pieces shown for the assembly but it is always a good idea to verify the measurements given to make sure they will work for your shed. Human error in building will always cause differences in the building of certain elements of your shed so it's always a good idea to verify first!

**Placing and nailing the rafters and gable end assemblies onto the walls top plates.**

Once you have all your rafters cut and verified they fit properly, and your gable end assemblies fit properly (if your plans call for gable end assemblies) it's time to frame up your roof.

Start by nailing down your gable end roof assemblies first using 16d nails, or 3” exterior grade screws. Nail the bottom of this assembly to the top wall plate at each vertical support using 2 16d nails.

For each gable end assembly, take one of your rafter pieces and nail it to the top of the assembly. You'll need a helper for this, or you can use clamps to keep the rafter in place. Make sure the rafter is flush to the outside edge of the gable end assembly and toe-nail into place about every 12”.
Once you have your end assemblies in place, nailed, and rafters on top of each one, finish out your roof framing by adding the rest of the interior rafters and nailing into place. Nail each end of the rafter using 3-16d nails toe-nailed into the top plate. It's always a great idea to pre-drill holes for your nails (or screws) first. It's very important to make absolutely certain that your interior rafters are exactly at their on center locations as this will help you avoid future headaches when installing your roof sheeting.

Gable End Assemblies with Rafters (siding not shown)

Toe-nail Rafter Ends on Each Side (2 on one side, one on the other.)
Add Blocking Between Rafters

After nailing (or screwing) your rafters in place, add blocking in-between your rafter ends just above the top plates. Your particular set of plans may or may not call for blocking to be added. Blocking can be nailed into place by toe-nailing through tops of rafters into blocking, and toe-nailing from front of blocking into the top plates. Screws may also be used (3” exterior grade).

Blocking should be installed so as to be flush with the outside edges of the top wall plates. Also make sure the tops of the blocking will not interfere with the roof sheeting. You'll want your roof sheeting to lay flat on the tops of your rafters.

Installing The Roof Sheeting

The next step is to install the roof sheeting over your trusses. Roof sheeting is almost always 1/2” OSB or plywood. It's usually a good idea to start at the top and work your way down, making sure that your truss members stay lined up as you go. Stagger the joints of your roof sheeting and nail every 8” using 6d galvanized nails. The ends of your roof sheeting should fall exactly right in the middles of their corresponding roof rafter.

Also, the roof sheeting should be flush with the outside edge of your rafter. This way when you install siding on the ends, you should run it up past the roof sheeting then cut it flush with the top of the sheeting using a circular saw or reciprocating saw (preferred method).
Roof sheeting is nailed down with 8d or 6d galvanized spiral shank nails. Nail along the outside rafter edges every 6” to 8”, and on the interior rafters every 12”.

*Installing the First Roof Sheeting Panel*

*Roof Sheeting Completed With Staggered Ends*
Finish The Siding

Depending on the size of your shed, now is the time to finish installing any remaining siding on the front, rear and gable ends. Anywhere you have horizontal edges at the top of siding panels, it's a great idea to install metal 'z' flashing on top of the lower siding, then place the upper siding on top of this 'z' flashing. It will protect the unfinished edges from rotting and deteriorating.

Metal 'Z' Flashing

Add Metal 'Z' Flashing, and Finish Any Siding
Add Roof Trim

Before adding your felt paper and drip edge to the roof, you'll want to put any roof trim on. This way the felt paper and drip edge will cover the top edges of any trim you run around the roof and keep it protected from the weather.

Roofing Felt Paper and Drip Edge

Now you are ready to install your 15# felt under layment, and drip edge (optional).

Roofing felt paper is installed by starting at the bottom edge of your roof, or the bottom edge of the side overhang. I usually put this down with a hammer stapler using 1/4” staples. On the bottom row of felt paper, don't staple the bottom edge because the drip edge on the bottom of the side overhang should be under the felt paper. The remaining drip edge is nailed down over the felt paper. Continue on with the next rows of felt paper overlapping the bottom edge by about 3”.

Email: shedking@gmail.com
Putting Shingles on The Roof

Next step is to shingle your roof. I usually recommend using dimensional shingles because they are easier to install, but if you prefer, and the cost is way less, use 3 tab shingles. Install your shingles according to manufacturers instructions (directions for shingle installation will be on the packaging).

I usually will leave about 1/2” to 1” of shingle out past the drip edge. Just an extra measure of protection here and it's worth it.
Adding Corner Trim

Add cedar trim to the corners of the shed walls by measuring and cutting for the front wall first. Measure down from the bottom of your roof trim or soffit, to the bottom edge of the siding for both the front wall trim and back wall trim. Nail this corner trim so that the outside edge is flush with the siding using 8d spiral shank nails. Nail with 2 nails every 2'.
Simple Shelf Building

I usually always wait till shed construction is done before adding any shelving. That way, I can use all left over 2x4's, osb, siding, etc for the shelf construction.

The easiest way I can tell you to add shelves to your shed would be the following:

Decide on the length and width of your shelves. I prefer going from stud to stud, but this may not always be possible.

Let's say you want an 8' long x 1' wide shelf. First thing to do is build the frame for your shelf as follows:

Cut 2 – 8' long 2x4's, then cut 4 – 9” long support 2x4's. Build your shelf support by lining up the back and front 8' board and mark off 2' on center marks for the 9” 2x4's. Assemble and nail together with 16d box nails so they look like this:

Now, hopefully with some help, place this frame exactly where you want it, and nail from back support board into a wall stud everywhere the two meet up, using 16d nails. Cut some support boards for this shelf as such:
Now, place and nail your support boards to the wall stud and cross members of your shelf as such:

*Finished shelf frame with 45 degree support boards.  
First shelf height usually about 34" to 36" off finished floor.*
One nice feature about building your shelves in this manner is that there are no shelf supports coming off the ground to interfere with a riding mower, etc.

If you want to add a second shelf above this, do it in this manner:

You can nail on leftover osb or plywood to complete your shelving!

**The Finishing Touches**

This is probably the best and most important advice I can give you for helping you give your shed some long life after you have built it. All vertical surfaces should be caulked with silicone. Latex caulk will crack over time in the weather, so use silicone.

**Upper horizontal surfaces should be caulked, but I don't recommend the lower vertical surfaces as this will just retain water.** For example, if you have a window on your shed and you have trimmed it out with lets say cedar, caulk all vertical edges, and upper horizontal edges of each trim board, but not the under edge as this will hold water and moisture. You don't want that as it causes rot over time.

**Next after caulking, prime your shed with an oil based paint.** I always use oil based paint on anything exposed the the elements outdoors, and sheds are no exception. After
priming, your remaining finish coats of paint should also be oil based paint, and put at least 2 if not more coats of this on.

I can't stress this enough. Over time when wood is exposed to rain, it will rot unless you do something to deter this, and the more coats of oil based paint you can put on your shed, the better. Although not a major investment in money, you still don't want your shed to rot. Check it in the spring, and recoat with more paint, and recaulk if necessary.

Another nice little tip I'll give you is this. On the wooden edge of your floor that's exposed where your door way is, go buy a thin piece of aluminum angle iron and cut it to length, drill holes every foot on the top with a beveled bit, and attach to your floor. This will help immensely with keeping this area from deteriorating from moving garden equipment in and out over the lifetime of your shed or barn.

Here's an example of a piece of aluminum angle iron used for a door threshold on your shed or barn.

I want to hear from you!

I sincerely appreciate the fact that you chose my website to purchase shed and barn building plans from. I am deeply indebted to you. Please, if you have made it this far with the construction of your shed, barn, playhouse, greenhouse or other outdoor structure, please send me an email and a picture if you don't mind, of your newly built project. I would love to hear from you, and I will post your pictures on my website.

You can email me and send pictures to:

shedking@gmail.com
Take care, and I look forward to hearing from you.

John Shank
shedking.net
More Sheds You Can Build From Shedking

12' wide x 16' long

8' wide x 10' long

8' wide x 10' long

12' wide x 12' long

12' wide x 16' long with side porch

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10' wide x 16' long

6' wide x 8' long

12' wide x 24' long with porch

8' wide x 12' long

All of my shed plans.