

How To Make

Roof Trusses

Like The Pros!



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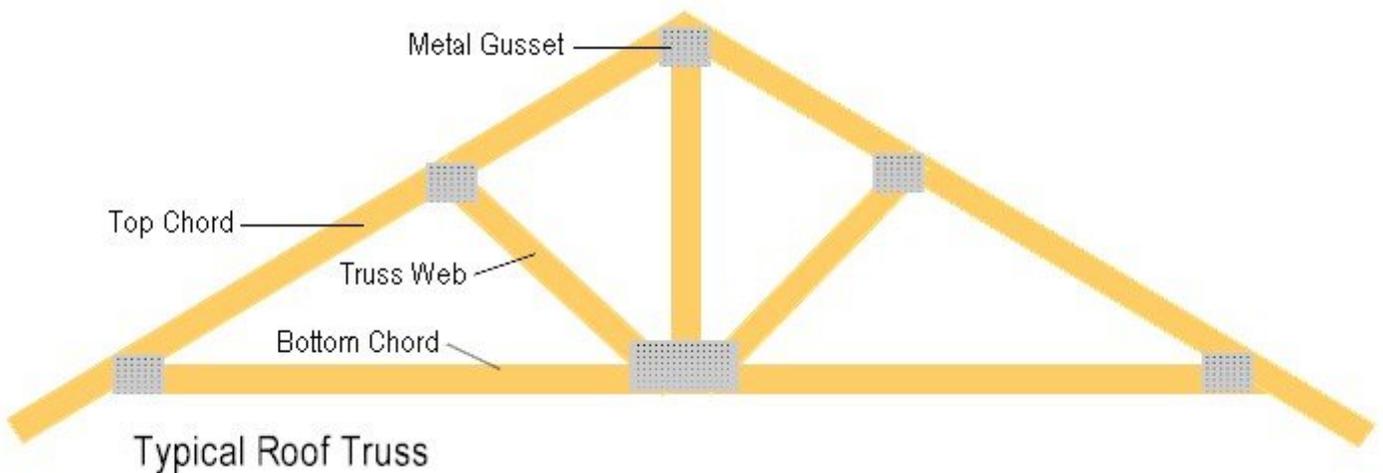
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How to Make Roof Trusses for a Shed

Trusses are built for a sound roofing system on various buildings, but in simple projects like a shed, a truss can be built without the need for any engineering requirements and just simply some lumber. Roof trusses for a shed are simple enough without having to use any specific engineering instructions.

You only need tools and materials that can be bought from your local hardware store, plus you can do it on your own.



Roof trusses are used to support the shingles and plywood of a support so that it becomes waterproof. For it to work well, you will have to plan it carefully since the trusses require strange angles and each of them has to perfectly fit the structure they are attached to. Here's how to make a roof truss for a shed, so you can start your little project.

1. Plan it carefully

The truss is the support of the roof of your shed and for that, it is important that they are planned carefully so that you know exactly what step you have to do next. In making shed roof truss plans, it is important that you are able to meet the snow load, wind load and other requirements for the structure.

The standard wind loads for designing and building structures is that horizontal winds should not be less than 15 psf and net uplift load should not be less than 9 psf, while the standard for snow load is a minimum of 21 lbs. per square foot (1 kg) Pascal or higher.

2. Design of the Shed Roof Truss

Since you're making roof trusses for sheds, you must know at least some of the basics and the elements that you need for building your

design using your roof truss plans for sheds. The basic elements that you need on how to make trusses for a shed include the following:

- Raft member (top chord)—this is the main part of the truss which runs along the underside of the truss which supports the decking.
- Joist member (below chord)—another main part of the truss which runs along the lower side in-between the supports
- Diagonal braces—these are what support the truss and hold them together.
- Gussets—1/2 inch pieces of plywood used for covering the three ends of the truss
- Peak—the highest part of the truss
- Overhand—this is a part of the truss structure which runs past the outside walls of the building
- Cantilever—this is a beam that is anchored at one end of the truss and projects into space.

When making roof trusses for a shed, it is essential that you know these elements and your design is detailed when it comes to them.

3. Choose the appropriate Lumber for your Roof Truss

Although you have an excellent truss design, if your materials are not appropriately selected, it will not be sturdy enough to last long. As

such, you have to choose the right lumber which is the main material that you need for your roof truss. Over lumbers like white pine and spruce, lumber made from fir or yellow pine are much preferred for their high density.

Boards of size 2x4 inch are suitable especially to lightweight truss if you are able to design and fabricate the bracing, as well as the member connections. You should look at the straightness of the lumber as well. Those that are warped, crooked and twisted lumbers are not good for trusses while those that are slightly curved or with crown can be used if the crown is faced upward when the truss is installed.

Those boards that are straight grained and dense with only a few knots are mostly used for truss. It is also best if you can choose a lumber that has no apparent crack or split or barked edges. Additionally, softwood lumbers tend to shrink after they are built and installed. With that, the lumber that you choose has to be kiln dried to avoid shrinkage.

4. How to Calculate Roof Trusses for a Shed

Once you have made the preparations that you need for your homemade roof truss, the next step that you need to do is to build it. You already have the materials—lumbers, woods, plywood, saw,

hammer, nails, screws, drill and wood glue. With all these things at hand, you can now start creating your shed roof trusses.

1. You can start by measuring the slope of the roof. You have to accurately measure the slope as it will be the length of your truss' rafters. Once you have calculated the length, you can decide the number of the trusses that you need and then double this number as it will be the number of the rafters.
2. The rafters are cut from the wood (2 x 4) according to the length of the slope you measured earlier. Once they are cut, you have to add a plumb cut of a 45-degree angle cut at the top ends.
3. Next, cut out the joist member or the below chord from another piece of 2 x 4 wood and in 45-degree angle.
4. Then, create the gussets which will be used to cover the three ends of the truss. One of them covers the top of the truss while the other two covers those at the bottom. This means that you need to create at least 6 gussets to cover both sides of the truss.
5. When everything is ready, you can now start assembling your truss. You can either build saw horses or just work on the floor to make it easy while you are working on assembling the truss. At first, the two rafters are laid at the floor with the two ends meeting at the corner. If you have cut them correctly, they should

fit just fine. Then, you can slide in the bottom piece (joist) so that the angles fit together.

6. When the truss is placed and secured, you can now start gluing the parts of the truss, as well as nail the gussets to each of the corners. When the glue has already dried, turn the truss over and then attach the other three gussets to each of the corners, including the top.

5. How to Install Roof Trusses on a Shed

When you install the truss, you have to put up a temporary bracing to keep the truss in place until it is permanently installed. Once you have installed the temporary bracing, you can now start to install your backyard shed's truss. .

- Assemble all the trusses that you made and need for your shed in a level surface. Lay them in pair with the ends meeting and fastened with the use of gussets. Add with them a cross tie, which is a 2 x 4-inch board which runs in between the rafters and the height you have selected with the ends cut so that it matches the angles of the rafter.
- Next, put these cross ties near the rafter's bottom, in case you do not care for an inside space or if perhaps you need some space for

storage in the roof area. Then, you can place the cross tie in about halfway up of the rafter so that you can achieve more space inside. All of the trusses should be built this way.

- When installing them, you have to lift them to the roof upside down. You or your workers can then nail the truss in place in the roof with the guide of the temporary bracing. Before they are nailed, a level should be used to plumb the rafters.
- Start plumbing the rafters at one end and then proceed to the other. Plumb each of them each time that you go. You can add some studs to the end rafters of the truss in between the cross tie and the wall cap.
- Last, cover all the trusses with OSB sheathing that is nailed to each of the rafter in an interval of about 12 inches. This will attach your truss firmly to the roof, so you can be sure they are secured enough.

Detailed Guide To Roof Trusses Installation

At an earlier time, roof trusses were installed by builders only with the help of their specialized equipment and well trained experts. But with latest techniques, now it is easier to install them by hand using simple procedures. If you love roof trusses for a house, surely you might be searching for an answer to your only question of how to install roof trusses by yourself?

Truss installation is a tricky process, but if you know the right procedure it can be done fabulously; the most important thing to note about trusses before you start installation is their strengths and weaknesses so that you can add extra care to that part during the process. The strength of a Truss typically lies in its point of vertical pressure instead of horizontal pressure. This clearly means that you must avoid handling them from the top or bottom portion.

For homes with more than one story it becomes a little difficult to work without a crane to avoid damage, but if you don't have this option with

you it is good to use levered ropes to take trusses to the top floor without any harm.



Before finding an answer to your valuable question of how to install roof trusses step by step, let us take a review of some *Tips for installation:*

Trusses are available in different shapes as well as sizes, so first of all it is important to choose the suitable one for your project.

If enough offset area is available on your roof, it is good to install perpendicular sets of two trusses adjacent to each other. Once they are

set, the inner trusses will work as a ledge for you so that you can sit on them during installation.

Your major goal must be to place every truss at a two feet distance from the centre and prior to this you have to create the top plate of the roof.

It is important to place a block space of two inches at top where the inner wall and top plate can be joined.

Reference marks must be placed properly at a distance of every two feet at the edge of the top plate. This marks the aligning location of other truss edges and you must use effective marking symbols so that they cannot confuse you during installation.

Now you have a basic idea of the Roof Truss Installation process, so it is a good time to switch to the roof truss installation guide. Let us go ahead with this part:

Designing a roof truss: Once you have decided on the type of material for your truss formation, it is time to design it according to the size of your roof. Generally, engineered plywood does not come in the proper size, so you need to cut it according to your own measurements. For this you need to do some paperwork regarding complete measurements.

Saw the Truss: After designing your layout plan, you have to saw every member into the perfect shape and length. It is good to angle each cut so that it can be easily fixed with another member.

Arrange trusses: Now you have prepared all of the web and chord members according to the required size, so lay them on free ground in the shape of a truss, making sure that all connections fit properly at the desired places. It is good to saw the additional portions if there are any pieces left.

Secure the joints: When you are installing roof trusses by hand it is important to use efficient tools for joining all of the members perfectly. If you do not have a crane for lifting, then all your work must be perfect prior to lifting the trusses to the top floor. Use metal gusset plates for joining truss joints, and be sure to glue them perfectly and nail each point gently without causing any harm to the strength of material.

How to install trusses on a roof: After constructing your trusses, now you have to get them safely to the top portion for installation. Toe nail them with the top plate so that they stay secured from falling again and try to brace them using a proper blocking arrangement. Secure all of the joints perfectly and provide proper support to every edge with perfect nailing.

All these steps describe the step by step procedure for installation of simple trusses that are made up of wooden material. It is commonly used for house trusses as it adds more beauty and looks graceful for the long run.

If you are thinking about installing hip roof trusses at your house then you need to add some extra care. Hip roof trusses are commonly used in areas of heavy rain because they prevent water from draining into a room because they have a fixed angle for pitch and slope downward at every point. You simply have to follow these instructions to initiate an easy process:

Measure the accurate length of the ridge beam, and the common rafters, as well as hip rafters. Those which bridge between the wall's top and roof's top are called common rafters, whereas hip rafters are used between the joints of the meeting point of both roof faces.

Common rafters must be measured according to the angle and pitch of the roof, then cut them into the perfect shape and be sure to have one of them at every 20-inch distance across the wall.

Measure the jack rafter's length, cut them perfectly and place one at every 20-inch distance across the wall.

You should perfectly mark the spots over the wall top where all these rafters are to be installed.

After placement of rafters at their dedicated areas, nail them perfectly; use extra supports if needed for safe installation.

Now measure and cut the plywood sheathing so that all faces of the roof can be covered.

It is important to leave some extra space at the bottom edges that freely hangs over the wall. It acts like a support and also provides a graceful look to the area.

Nail the rafters and plywood material together to make the joint secure.

To add more safety, you can use extra roofing material over it.

If you are wondering about how to install roof trusses without a crane, then hip roofing is the perfect choice because its parts can be easily lifted to another floor. This type of roofing looks graceful for garden huts where you can relax with your friends during hot weather, as well as during rain or snow. This roofing technique is simple to install and one can do it easily at home without any experts, as well as not needing any specialized equipment. The installation process only demands

perfect marking strategy because complete roof placement is based upon it.

Within a few years' metal roofing has been gaining great popularity due to its improved durability and beauty. It is available in various colours, styles and textures so that you can use one which best suits your construction. These trusses are cost effective and also act as energy saving elements so you can save more money while adding more beauty to your house.

HOW TO INSTALL STEEL ROOF TRUSSES



Prior to starting the installation process, it is important to finalize the best colour for your steel roof trusses that looks perfect for your house. These trusses can be easily installed to already constructed roofs as they are easy to install and can be lifted easily to another floor due to their very low weight. If you are installing it over an old roof, then first of all be sure to repair any damages and remove faded old material.

Then, add an insulation layer over it above which steel trusses can be installed easily. First of all, you need to install the edge portions that

are in the form of metal strips and cover the outer layer of a pyramid shaped roof. You have to use nails to secure their flashing and they will cover the complete edge portion of your roof exactly above the wall.

Now, it is time for the major part that requires great care; start with your first sheet and place it in such a manner that it overhangs up to $\frac{3}{4}$ inches at the edge. Use washer head screws to secure all of the joints of steel trusses and keep a spacing of about 12 inches between screws. Install all the trusses in a similar manner with perfect nailing; use adhesives if required to add extra security.

When you have installed all of the trusses it is time to add flashing at every joint of the roof where two sections meet over the roof. You will need five flashings to cover all such joints; it adds more beauty, as well as safety to roof trusses.

Finally, you have finished your roof with a graceful, attractive and smooth touch, and now it is good to clean up the material and enjoy your new roof.