



Eclipse Swing

THANK YOU FOR YOUR ORDER!

You'll be so happy with the performance of this Bracket as you build your swing set!

IF you should need any HELP, or have any QUESTIONS, feel free to message us at help@EclipseSwing.com. More instructions, information, pictures, and helps may also be found at EclipseSwing.com. There you will also find help with issues such as working with treated lumber, using the bracket as a middle bracket for building a bigger set, plans for utilizing bigger beams, etc.

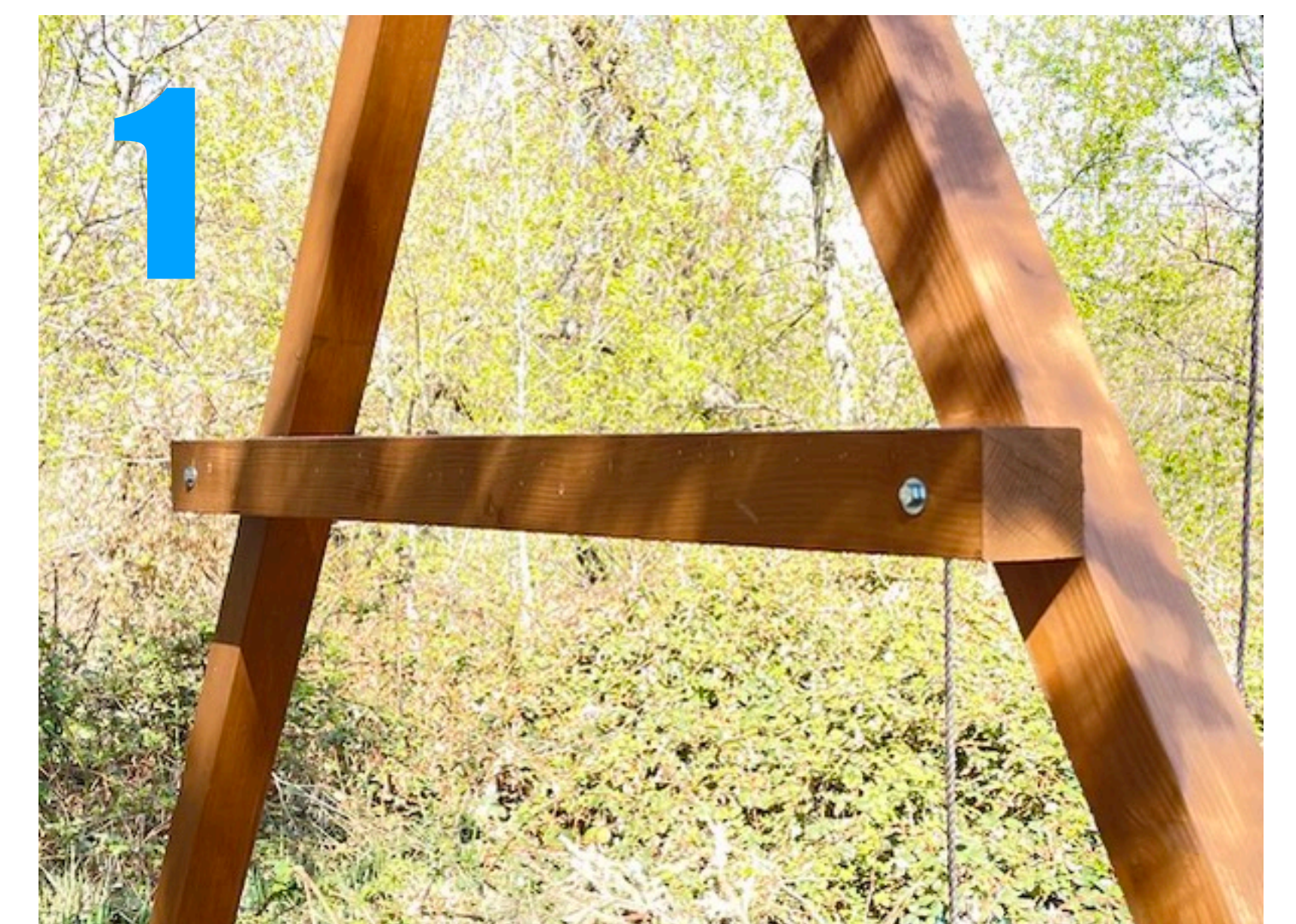


ECLIPSE SWING A-FRAME BRACKET

Patent Pending

PLEASE READ FIRST

- Your swing set structure **MUST** incorporate a horizontal piece of lumber across the legs, forming the typical "A" frame structure. Any bracket and A-frame will ultimately fail without this horizontal piece. (See Figure 1)
- It is recommended to place the swing set structure on **FLAT** and **LEVEL** terrain, rather than on a slope.
- 9-foot or 10-foot legs are recommended for building the A-frame structure. 10-foot legs will produce a swing set structure that is 9'3" tall to the top of the beam, which is actually quite a tall swing set. (If you are decided on building a taller set with legs longer than 10 feet please visit EclipseSwing.com for some set design ideas.)
- Use a swing beam that does **NOT** span more than 12 feet between the brackets. (If you would like to build a longer set, with supporting middle brackets, please visit EclipseSwing.com.)
- Do **NOT** put more than 400 pounds total weight on the entire set. (If you desire a higher weight limit please visit EclipseSwing.com for some design ideas with larger beams that permit greater weights.)



MAINTENANCE

- Check periodically that the horizontal piece across the legs is secure.
- Check periodically the tightness of the nuts and bolts on the whole structure—for the first 6 months the wood can shrink in width, causing loose bolts and nuts. To tighten the connection to a leg, tighten each bolt a bit at a time, while alternating between bolts on both sides, to slowly draw the leg snugly into the inside corner of the brackets's flange.
- Annually inspect the bracket and the tightness of the bolts and nuts.
- Squeaking or creaking is almost always a sign that the bolts and nuts could be tightened.

SET DESIGN AND BRACKET INSTALLATION

- The most common swing set structure design is with 4x4 lumber legs and a 4x6 lumber beam. If desired, these brackets can be used with 6x6 lumber, or with larger beams such as 4x8, 6x6, or 8x8. The bracket design ensures a tight, snug fit, no matter what the actual width of your lumber is. This tight fit eliminates all wobble that other brands of brackets have from an imprecise fit between the bracket and lumber. There will still be some side to side sway in the A-frame which results from the leg lumber actually flexing. These brackets have a wider angle between the legs than most other brackets—60 degrees—so the legs of the set will not want to lift when swinging, which means there is no need to set the feet of the legs in concrete.
- The bracket is designed for use with 3/8" thick bolts. (The bracket will also work with larger 1/2" thick bolts if you desire. See EclipseSwing.com for ideas for working with 1/2" bolts.) The following instructions are written for 3/8" bolts. Use hex head bolts with locknuts, rather than lag screws (also

- called lag bolts), to secure the lumber to the brackets. Hex bolts with locknuts are more secure over time than lag screws which can possibly loosen up and fail with no warning. But more importantly, only with bolts can you take advantage of the bracket's design to draw in tight and snug the legs to the inside 90-degree corner flange of the bracket.
- At both the head end of the bolts and at the locknut end of the bolts use a 3/8" washer over the top of a 1/2" washer—the larger 1/2" washer better distributes the load across the lumber. The double washer also helps to protect the powder coating of the bracket, which in turn protects the bracket from cosmetic rust. In fact, it is a good practice to turn the smoother edge of the 1/2" washer towards the bracket to protect the powder coating. (Typical washers have a somewhat smoother, rounded edge on one side, and a bit coarser, sharper edge on the other.)
- Typical 4x4 lumber measures approximately 3 1/2" by 3 1/2" in width, and the typical 4x6 beam measures approximately 3 1/2" by 5 1/2" in width. The below list of hardware is for use with this size of lumber. If you are using lumber that measures closer to a true 4.0" by 4.0", or 4.0" by 6.0" in width, or even larger lumber, then you will need to select longer bolts. Ensure that the bolts are long enough that the locknuts completely engage the bolt.
- Using this typical 3 1/2" wide lumber, to build the a-frame structure with the brackets you will need:

Qty 16 - 3/8" x 4 1/2" hex bolts

Qty 8 - 3/8" x 6 1/2" hex bolts (or 7" or 8" if you don't have 6 1/2" available.)

Qty 4 - 3/8" x 6" lag screws (also called lag bolts)(for installing horizontal piece)

Qty 24 - 3/8" locknuts

Qty 52 - 3/8" washers

Qty 48 - 1/2" washers

—Hardware has not been included with this bracket for the reason that this bracket fits all sizes of lumber, each requiring different sized bolts. As a guide, you will want to use bolts that are 1" longer than the width of your lumber.

TOOLS NEEDED

- Cordless Drill
- Tape Measure
- Sharpie Marker or Pen
- 5/16" Drill Bit
- 3/8" Drill Bit, long enough to drill through 5 1/2" beam. (Or if your 3/8" bit is not long enough, but you have any drill bit narrower than 3/8" that is longer than 5 1/2", you can use the narrower bit to drill all the way through as a way to mark where you would drill from the other side with the 3/8" bit to complete the 3/8" hole all the way through.)
- 9/16" Wrenches or Sockets. You will need 2 wrenches of this size, one for each end of bolts.
- Step Ladder

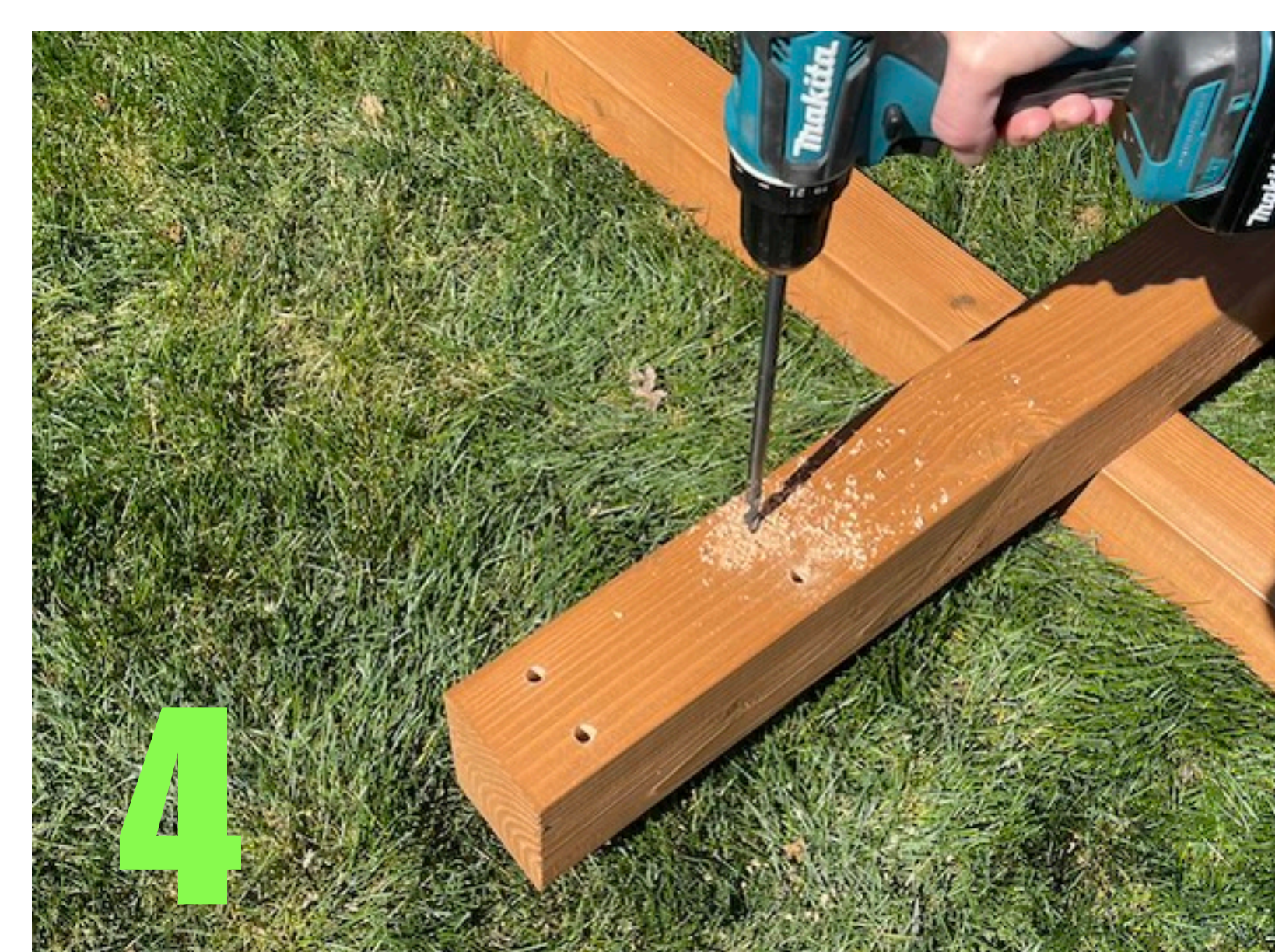
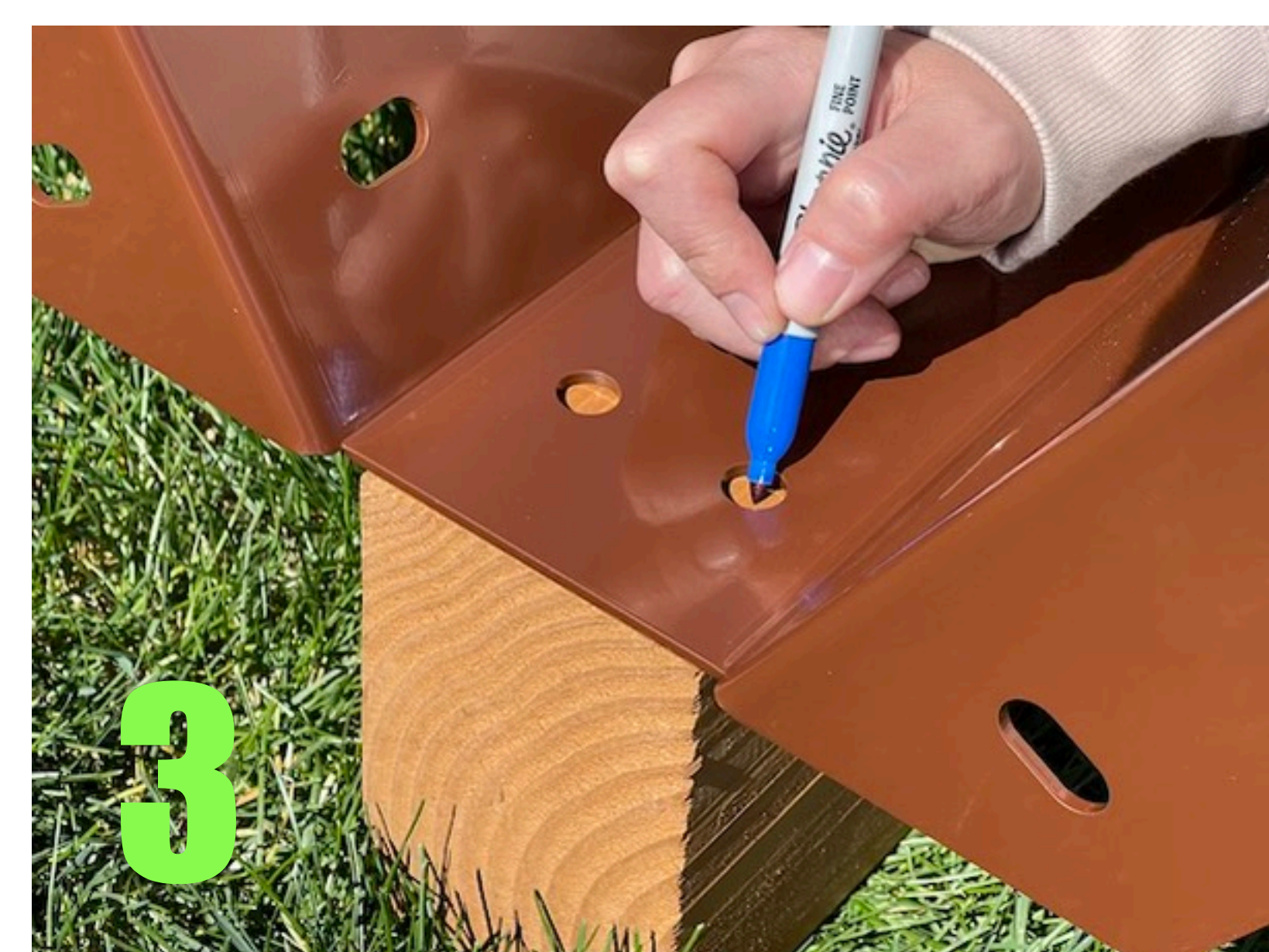


HOW TO BUILD SWING A-FRAME STRUCTURE WITH 4X6 BEAM AND 4X4 LEGS

The most typical A-frame design is made with one 12-foot 4x6 beam, four 10-foot 4x4 legs, and a 6-foot 4x4 horizontal cross piece on each set of legs. (You can just have the hardware store cut a 12-foot 4x4 into two pieces.) No other cutting is needed to make the A-frame structure. Some people ask if the feet of the 4x4 legs should be cut at an angle to sit flush to the ground. It is better to not cut them flush to the ground to prevent shifting of the set.

1. Drill Holes Through Beam

As seen in Figures 2 and 3, hold the bracket flush to the end of the beam, and centered on the beam, and using the bracket holes as a guide, mark the center of each of the four holes on the beam with a marker. Remove the bracket and drill the four holes all the way through the beam with a 3/8" drill bit (Figure 4). Do not attach the bracket to the beam at this time.



2. Build Both A-frame Sides

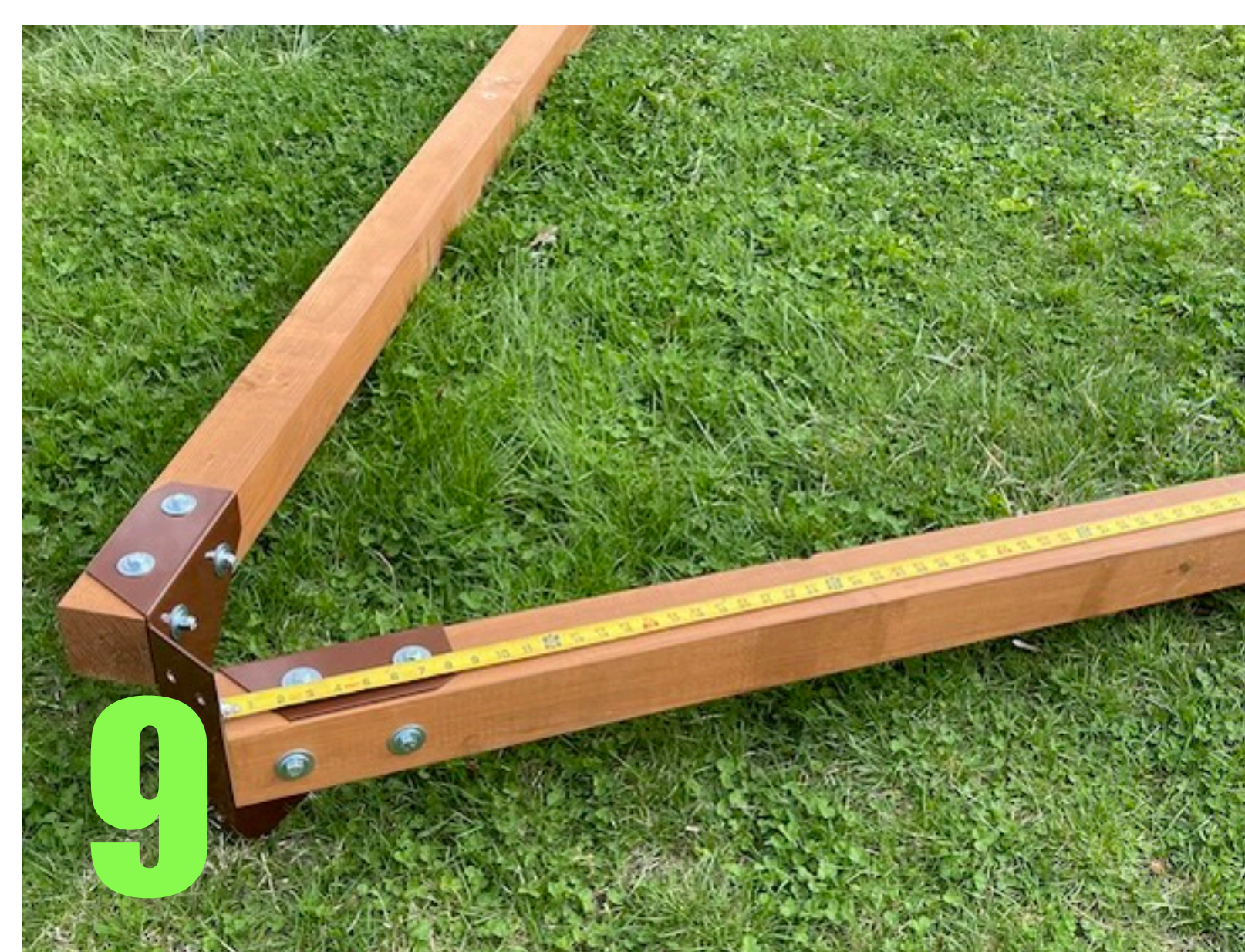
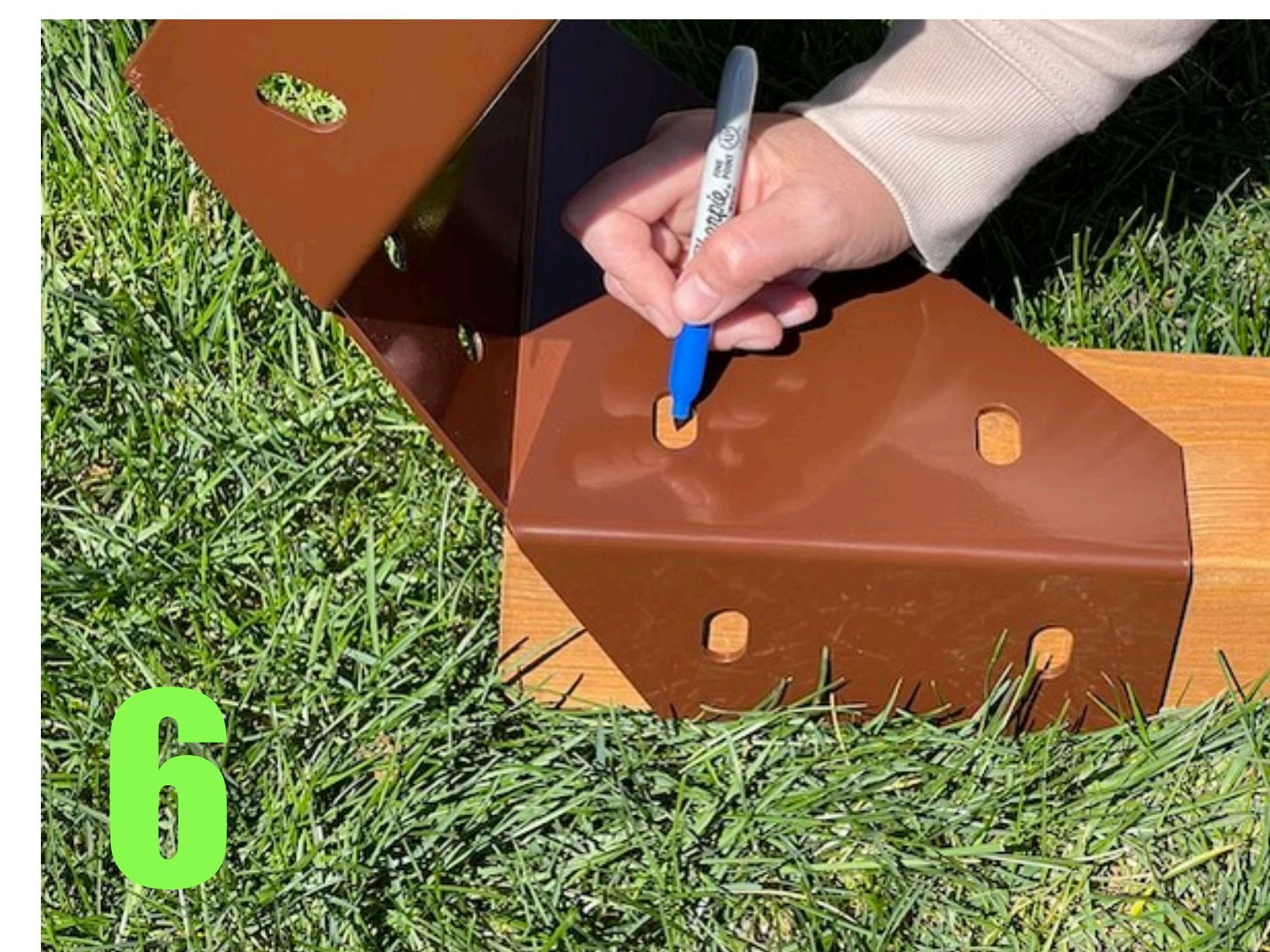
As seen in Figures 5 and 6, hold a leg snug to the inside corner of one of the bracket's two leg flanges, and using the bracket holes as a guide, mark the center of each of the four holes on the leg with a marker. Remove the bracket and drill the four holes all the way through the leg with a $\frac{3}{8}$ " drill bit (Figure 7). Repeat this step for the other leg of this same bracket, marking and drilling the holes through it. Now hold each drilled leg back up to the bracket, with the bracket pointing towards the ground in a position that will hold the soon-to-be-attached legs somewhat raised off the ground (Figure 8). Loosely attach each leg with four $4\frac{1}{2}$ " hex head bolts. For each bolt insert a $\frac{3}{8}$ " washer and then a $\frac{1}{2}$ " washer onto the bolt, and then pass the bolt through the bracket and wood leg, and then place a $\frac{1}{2}$ " washer, a $\frac{3}{8}$ " washer, and then a locknut. Pay attention to the direction of the bolts so that the locknuts end up on the inside sides of the legs, with the bolt heads towards the outsides of the legs, for looks. This next step is important: to tighten the four bolts for each leg, alternate between each bolt of the two sides, to somewhat slowly draw the wood leg tight and snug into the inside corner of the bracket's leg flange. The bracket will hold the leg wobble-free if the leg is pulled tight against this inside corner. The solid connection of this bracket depends not so much on the big bolts themselves, but on the bolts holding the leg snug to this rigid corner of the bracket.

As seen in Figure 9, with both legs attached to the bracket, measure $55\frac{1}{2}$ " from the top of each leg, mark, and drill with a $\frac{5}{16}$ " drill bit, in the center of the leg, between $2\frac{1}{2}$ " and 3" deep into the leg—do not drill all the way through the leg (Figure 10). As seen in Figure 11, measure 3" from each end of the 6-foot horizontal cross pieces, mark and drill with a $\frac{3}{8}$ " drill bit, all the way through the piece on each of these ends. (This means the distance between these holes of each end of the horizontal cross piece will measure 66". So if you should choose some other sized lumber for the horizontal cross pieces, drill holes in it that are 66" apart.) Attach the horizontal pieces to the outside of the legs by passing a $\frac{3}{8}$ " x 6" lag screw with a $\frac{3}{8}$ " washer through the cross piece and into the predrilled holes in the legs (Figures 12 and 13).

3. Attach A-Frame Sides To Beam

As seen in Figures 14 and 15, have a helper hold one of the two A-frame side assemblies against the beam on the ground while you insert and loosely attach the four $6\frac{1}{2}$ " bolts with locknuts. For each bolt insert a $\frac{3}{8}$ " washer and then a $\frac{1}{2}$ " washer onto the bolt, and then pass the bolt first through the beam, and then through the bracket, and then placing a $\frac{1}{2}$ " washer, then a $\frac{3}{8}$ " washer, and then a locknut. See that the bracket is centered on the beam and then tighten the bolts and locknuts. Repeat these steps to attach the other A-Frame side.

4. With the help of 3 other adults, stand up the structure.



SOME COMMON SAFETY PRECAUTIONS WITH SWINGS

- On-site adult supervision is required.
- Periodically inspect the soundness of the swing set structure.
- Periodically inspect the soundness of the swing ropes/chains and seats.
- Periodically inspect the tightness of all bolts.
- Swing seats should be made of soft material, not of wood or metal.
- Periodically inspect the swings and accessories for cracks or sharp edges.
- The entire surface under the swing set where the user might fall should be cushioning, such as grass, bark, smooth gravel, or rubber mulch. There should be nothing hard or protruding in the area under a swing set where a user might fall. As an example, things such as concrete curbing, metal curbing, ground stakes, tree roots or branches, or irrigation components must not be in this area. Additionally, children should be instructed to not leave toys, bikes, or other objects in the swing area.
- Teach children to not walk close to, in front of, behind, or between moving swings.
- Teach children to only sit in the swings, and to not stand or kneel in swings.
- Teach children to never ride with more than one child to a swing.
- Teach children to not climb on or hang from the swing set structure.
- Teach children to not jump from the swings.
- Teach children to never wrap the ropes/chains around themselves.
- Teach children to not throw the swings.
- Teach children to not use the equipment in a manner other than intended.
- Adults should ensure that the child is dressed appropriately. Loose clothing such as scarves and ponchos should not be worn. Cords and drawstrings on clothing can get caught, and are particularly dangerous. Purses and necklaces should also not be worn while swinging.
- Teach children not to attach items to the swing set, such as jump ropes, pet leashes, etc.
- Teach children to not use the swing set when wet and slippery.
- Teach children not to play with the adjacent swings, ropes/chains, and/or the swing structure's legs while they are swinging.
- If a spider swing or platform swing is installed on the swing set, ensure that all other swings are moved completely out of any path/zone of the moving spider/platform swing.