

Build your own garden composter



Strike it rich in your garden by installing a handmade modular composter

Alchemists in the Middle Ages tried to conjure it from lead. Prospectors rushed to the Yukon to search for it in riverbeds. And while you're not likely to find much mineral gold in your backyard, a good composter can do what the alchemists could not: turn waste into gold. Black gold for your garden, that is.

This composter has four things going for it. First, it's bigger than many ready-made plastic units, which have to trade off function in the interests of easy shipping. Our shop-built design also has a removable lid with a built-in sifting screen made of 1/2" hardware cloth to ensure that only fully rotted compost gets to your garden. The louvred front keeps air circulating and is also removable, making it easy to fork out your black gold. And finally, it looks great, especially as it weathers grey without a finish.

This design is also easy to expand, add on a second or even a third composter and you can have different piles at different stages of decomposition. While you're filling one composter with new organic matter, you can take rich, garden-ready compost from the other.

You'll need about 130 linear feet of 5/4" x 6" cedar decking stock (1" thick x 5 1/2" wide) and four 8' spruce 2 x 3s (1 1/2" thick x 2 1/2" wide) to build the project. I chose spruce for some parts because it's stronger than cedar and holds screws well. To speed construction and boost durability, drive all screws flush with the wood surface, without cutting countersunk holes first. Besides being unnecessary in softwood, countersinking opens the wood grain to moisture, promoting rot.

Putting it together

Start building the box by cutting 18 side and back slats, and four spruce inside corner members. Next, place two corners on your workbench, 34" apart, with their 2 1/2" faces down. Now attach six side slats to these parts, ends flush with the outer edges of the corner members and a 1/2" space between each slat. Fasten the slats and corners with one screw per joint initially, then square the frame by equalizing diagonal measurements taken corner to corner before adding two more screws per joint to lock the assembly firm.

Build the opposite side frame exactly the same, then stand both upright, 34" apart, and join them with the remaining six slats to produce a three-sided, free-standing box.

Next, prepare the six outside corner members and add one to each back corner of the box, flush with the back face as shown on the plans. Attach two more outside corners to the front face of sides, and the final two on the outside faces of the sides. As you'll discover, the outside corner members add considerable strength to the unit, and cover the exposed ends of the slats, for a neater, trimmed look.

Cut the two stop strips to size and attach them to the backside of the front inside corners. The plans show how these strips overlap the inside corners by 1" along their length and prevent the removable louvres from dropping into the composter.

All spaced out

At this point, you have the basics of a three-sided box. Now it's time for some detailing. From your supply of 2 x 3s, cut the ten side spacers and two bottom spacers to shape, with 45° cuts, as shown in the plans. These are screwed to the inside surface of the front inside corners, to hold the removable louvres.

Begin spacer installation by screwing the bottom pair flush with the bottom ends of the front inside corners. Then, working your way upward, apply five spacers per side as shown. This leaves about 1 1/16" between each spacer for the louvres to slide 45° down to the vertical stop strip you added earlier.

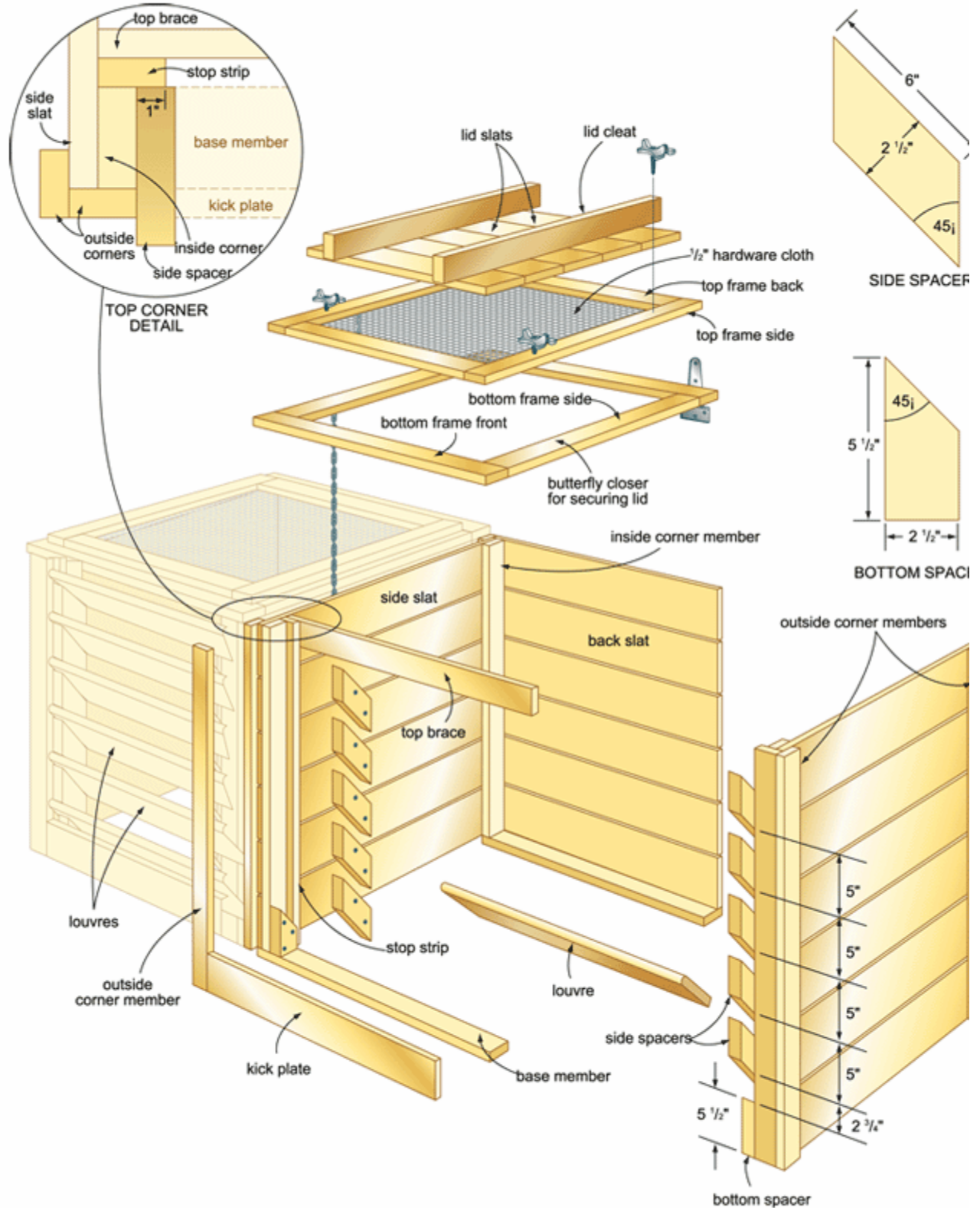
The kickplate and top brace bind the three sides of the compost box together to hold the load it will contain during use. Cut these parts now and screw them in place as shown on the plans. Cut and install the base members while you're at it. These are designed to snuggle into the ground, boosting stability. Cut the removable baffles next, slide them home, and the body of your composter is done.

You Will Need

For the Body	Material	Size	Qty.
Side and back slats	cedar	1" x 5 1/2" x 34"	18
Inside corner members	spruce	1 1/2" x 2 1/2" x 35 1/2"	4
Outside corner members	cedar	1" x 2 1/2" x 35 1/2"	6
Stop strips	cedar	1" x 2 1/2" x 35 1/2"	2
Bottom spacers	spruce	1 1/2" x 2 1/2" x 5 1/2"	2
Side spacers	spruce	1 1/2" x 2 1/2" x 8 1/2"	10
Kickplate	cedar	1" x 5" x 29"	1
Top brace	cedar	1" x 4" x 32"	1
Base members	spruce	1" x 2 1/2" x 34"	2
Baffles	cedar	1" x 5 1/2" x 28 7/8"	6
For the Lid			
Bottom frame front & back	cedar	1" x 5" x 38"	2
Bottom frame sides	cedar	1" x 5" x 26 1/2"	2
Top frame sides	cedar	1" x 4" x 35 1/2"	2
Top frame front & back	cedar	1" x 4" x 29"	2
Lid slats	cedar	1" x 5 1/4" x 28 7/8"	5
Lid cleats	cedar	1" x 1 3/4" x 29 1/2"	2

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Composter detailed illustration
Illustration by Len Churchill

Top dressing

The composter lid has two parts: an outer, screened double frame and an inner lid that sits within it. Start by joining the top and bottom members together into two frames using weatherproof glue and biscuits or dowels. Next, stretch and staple the hardware cloth to the top surface of bottom frame. Place the smaller frame on top, then clamp the assembly together before joining the two frames with 2" screws driven from underneath.

The removable portion of the lid is simply five pieces of wood laid edge to edge and joined into one unit with two top cleats screwed 2" from the lid slat ends. Attach four butterfly closers to the top of the frame to hold the lid in place, a chain to stop the lid from flopping back too far when open, and hinges.

Occasionally you'll want to remove the lid to screen finished compost into a wheelbarrow or a bucket. Remove the hinge pin by grinding off one end and replace it with a large spring pin—a kind of removable cotter pin you can get at hardware stores. Now when you want to move the screen, just pull the pins out.

Once you've screened out any pieces that haven't composted completely, you'll have struck gold: pure, black, garden gold.

Composting tips

When in doubt, leave it out—the adage applies to home composting. Don't add meat and dairy products unless you want vermin to drop by, and steer clear of adding sawdust or shavings from laminates, particleboard or pressure-treated wood to keep contaminants such as arsenic and formaldehyde out of your compost. Black walnut and butternut sawdust contains juglone, a natural chemical that's toxic to many plants, although some experts say lengthy composting makes it safe.

Adding too much sawdust of any kind is ill-advised because woody material is high in carbon and needs healthy doses of nitrogen to help the bacteria in your compost heap break it down. Keep the layered look in mind when feeding your compost bin: Green layers of kitchen waste and garden clippings add nitrogen to the heap, which helps decompose the carbon-rich brown layers of stuff like dry leaves and bark.

Bloodmeal, bonemeal and manure are fine sources of nitrogen that will increase bacterial activity. So will commercial compost accelerators, which boost the rate of decomposition by adding enzymes to the mix.

Aerating the pile is essential to speedy production of compost. Toss it like a big, funky salad if you can, breaking up clumps and compacted sections and exposing buried material to the air. Anaerobic bacteria, which do their work in the absence of oxygen, cause a stink if you don't shake things up now and then. With the front open, a pitchfork or other long-handled garden fork is perfect for the job, and a spade will do in a pinch. You can work from the top with a specialized compost aerator, about \$30, a long-handled tool with a pair of blades you plunge into the pile, twist and pull out again to aerate the

compost (Lee Valley Tools 800-267-8767). Do this several times; the stirring action helps to break up matted material.

Remember, happiness is a warm compost heap. As organic material breaks down, it releases energy in the form of heat, which helps destroy harmful fungi and other nasties that might be lurking. A compost thermometer, available from West Coast Seeds (604-482-8800), is a clever way to keep tabs on internal temperatures. It resembles a meat thermometer, with a round, flat face atop a skewer-like probe much longer than the kitchen variety—up to about 20". Aim for an internal temperature of 55°C to 60°C (130°F to 140...F). When you're hot, you rot; when you're not, well, you know. You wait.