



Jim Sullivan built this motorized chair for his 9-year-old daughter, Emily. "It can handle grass or sand and is easy to load into the back of a vehicle," he says.

## Home-Built Wheelchair Gives Daughter Mobility Outdoors

"My goal was to build a wheelchair that could handle grass or sand and be easy to load into the back of a vehicle," says Jim Sullivan about the motorized chair he built for his 9-year-old daughter, Emily. "The biggest thing is to give her mobility in the summer, so she can keep up, especially when she's off hard surfaces."

Emily was born with spina bifida and paralyzed from the waist down. She is a bright, active child who gets around fine with her manual wheelchair indoors. Sullivan is a CAD drafter for a cabinet company with fabrication experience.

"I really just started researching," he says. "YouTube is a great tool. I used existing technology and put it together the way I thought it would work best."

Sullivan didn't want to reinvent available technology so he used parts off a motorized chair that had been given to Emily, which she didn't use because it was always getting stuck. He bought other parts off eBay including four quality wheels with four motors to run them independently. To reduce the weight, Sullivan welded a compact aluminum frame just big enough to hold the motors and wheels.

Because it's compact (24 by 32 by 24 in. tall and 185 lbs.), it loads easily into a van or pickup – and fits under a Tonneau cover.

"It turns like a skidsteer with a joystick.

It has a center of gravity that's extremely low. I'm very happy with that," Sullivan says, noting it allows Emily to go up slopes safely. "I built this to articulate. The back axle pivots to follow the contour of the ground. All the wheels stay on the ground so there is no teetering."

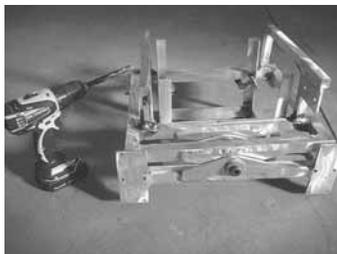
Sullivan invested about 80 hours of labor and \$1,800 to create the chair. That's less expensive than most motorized wheelchairs, plus it has features that fit Emily's needs. Sullivan believes she will be able to use it for a few years. With some modification, it may be possible to adjust the seat and foot rests as she grows.

Because the wheelchair skids on rugs and hard surfaces, it isn't really designed for indoor use, he notes. Outdoors, Emily has driven it through 4 in. of snow and over curbs. Best of all she can easily keep up with everyone, since the chair travels up to 5 mph, with a range of 5 to 6 miles per charge.

The first working prototype has turned out so well, that Sullivan is considering creating plans or manufacturing chairs in the future.

"Before I do anything, I want Emily to put it through its paces this summer," he says.

Contact: FARM SHOW Followup, Jim Sullivan (ph 507 327-5361; jim@abilitychair.com; www.abilitychair.com).



Sullivan bought 4 quality wheels off eBay and uses 4 motors to run them independently. To reduce weight, he made a compact aluminum frame just big enough to hold the motors and wheels.

# FARM SHOW®



All you need to grow morel mushrooms is a 4 by 4-ft. space in your backyard and a \$32.95 block of soil filled with mushroom spawn from Gourmet Mushrooms.

## Recycled Kitchen Scraps Used To Grow Morels

If you love morel mushrooms, but don't have the time or a good location to hunt the wild delicacies, you can grow your own. All you need is a 4 by 4-ft. space in your backyard and a \$32.95 block of soil filled with mushroom spawn from Gourmet Mushrooms and Mushroom Products. The California company has been around for more than 20 years helping customers grow a variety of mushrooms including shitake, maitake and oyster mushrooms.

While many varieties grow on logs, morels grow on the ground, says James Malachowski, noting that wild morels can be found in every state.

You simply crumble up the soil block and bury it about 6 to 9 in. deep in a shady area.

"Once they're in the ground, you feed them with household scraps like lettuce, radish tops, or even coffee grounds," Malachowski says. "Don't just leave it on top. Bury fresh biodegradable material in the area the same depth as the spawn."

Don't worry about disturbing the spawn. Keep adding produce waste until the ground

freezes, then again in the spring until a month before morels grow in your region. Grass and weeds may grow in that time, but that's okay. They will protect the mushrooms.

"Spring or summer is a good time to start. They're perennials so it takes a year to get established," Malachowski says, adding that the second season typically produces the most mushrooms.

One customer sent a photo of mushrooms covering the entire bed, but 20 to 50 mushrooms is more typical. Numbers often decrease over the years, but morels will continue to pop up 20 years later.

"It's not an exact science. They're still wild," Malachowski says. "We just encourage them, and Mother Nature does most of the work."

Many customers live in the suburbs and like the fact that they can recycle kitchen scraps to grow something they enjoy.

Contact: FARM SHOW Followup, Gourmet Mushrooms & Mushroom Products, P.O. Box 515, Graton, Calif. 95444 (ph 800 789-9121; www.gmmushrooms.com).

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