

He Made His Own Computer-Controlled Plasma Cutter

Keith Wright wanted a CNC plasma cutter, but he didn't want to pay \$10,000 to \$20,000 for a commercial unit. So, he bought a cutter and the computer software and put together his whole system for less than \$5,000 with the help of his father, Donald, a retired machinist. Not only does it work well, Wright can cut metal up to 4 by 4-ft. and 1 in. thick.

In addition to the computer in his house he has a computer in the garage to "talk" to the plasma cutter.

"I can cut out nearly any design I want," says the Mattoon, Ill., printing press operator. He's cut out practical things such as a part for a lawn mower deck for his brother-in-law. And he's used it for fun things too such as a Lady Antebellum sign for his sister.

Wright admits to being an electronics nerd, so learning new software is part of the fun.

"The best thing about designing your own CNC plasma cutter is learning how all the stuff works. Mach3 is the CNC software that actually runs the motors. Sheetcam is what creates 'G-Code,' and that's what the motors need to know what to do," he explains. "All CNC equipment has to have code to run. The plasma cutter that I have hooked to the table is a Hypertherm 45."

He set up a water table under the cutting bed to catch plasma dust and stop it from

going in the air. The plasma cutter can make as much as 6.5 lbs. of fine dust per hour. The table holds 35 gal. of water and has sodium nitrate to stop rust and Physan 20 to stop algae from growing.

"I installed a Digital Height Controller that monitors the voltage at the head of the cutter," Wright adds. "It holds the height to .060 in. above the metal at all times. If the steel is warped, it will see the voltage increase or decrease and will automatically move to hold the .060 cutting head height."

He also installed a laser light that he turns on with his computer so he can see where the cutter will start.

With programs on his house computer – Autocad 2010, Corel Draw, Inkscape and Sheetcam – he can draw anything he wants to cut.

It may seem intimidating to set up a CNC plasma cutter, but Wright says the extra work was worth it. "Anybody is welcome to email me if they would like to build something like this or ask questions," he offers.

Contact: FARM SHOW Followup, Keith Wright, 10154 E. County Rd. 1200 N., Mattoon, Ill. 61938 (ph 217 258-8866; keithoneus@yahoo.com).



With help from his dad, Keith Wright put together this computer-controlled plasma cutter for less than \$5,000. He uses it to cut metal up to 4 by 4-ft. and 1 in. thick.



A computer controls plasma cutter. With various software programs he can draw anything he wants to cut.



Every year visitors flock to northern Indiana to see 19 different quilt pattern gardens. The designs change each year.

Quilt Gardens Draw Visitors To Indiana County

Garden beds in Indiana's Elkhart County are covered with quilt patterns. The unique garden beds and quilt pattern murals help attract thousands of visitors each year to north central Indiana.

"We have 19 different quilt pattern gardens, some contemporary, some traditional, some one of a kind," says Jackie Hughes, Elkhart County Visitor's Bureau (CVB). "We started with two pilot gardens in 2007, and people flocked to see them. Each year the number of gardens grows as new sites are added."

Each garden design has to be approved by a professional review committee. Patterns and materials have to meet strict rules concerning the amount of plant material versus hardscape. Each garden has to be at least 800 sq. ft. in size. Designs also have to change each year for sites that have hosted gardens in previous years.

"We have 9 sites that have hosted gardens for five years," says Hughes. "The sites are

a mix of municipalities, heritage sites, and businesses."

Local greenhouses raise the flowers for the CVB, which supplies them to the garden sites. This year the 19 gardens total 23,000 sq. ft. An estimated 115,000 annuals were planted and are maintained by more than 200 community volunteers from May 30 through October 1.

In addition to the gardens, several local artists painted 18 outdoor "quilt murals" on buildings throughout the county. Murals are 11 by 11 ft.

The murals and gardens are part of the draw for visitors travelling the county's 90-mile Heritage Trail.

Contact: FARM SHOW Followup, Elkhart County Convention and Visitors Bureau, 219 Caravan Dr., Elkhart, Ind. 46514 (ph 800 250-4827; econv@amishcountry.org; www.amishcountry.org).

"Gazing Ball" Lawn Art

Randy Kurtz of Beaver Dam, Wis., likes to use his plasma cutter to make beautiful, one-of-a-kind lawn art. His most recent creation is this incredible glass gazing ball sculpture.

"We call it a Glass Pine Ironwood Tree. It's truly a work of art," says his wife Lois, who sent FARM SHOW photos and information on the project.

The tree consists of glass gazing balls attached to a center-mounted metal post by lengths of 1/4-in. dia. bent metal rods that look like flowing vines. The gazing balls range in size from 4 to 10 in. in dia., with colors ranging from red to green, purple and gold. The balls are mounted on metal bases made to look like flower petals, with the petals hand-cut, shaped, bent, and formed so that no two are exactly alike. A metal tube at the center of each group of petals holds the gazing ball and was made by flaring ends of exhaust pipes to fit the curve of the ball.

A big transparent gazing ball at the top of the tree has a strobe light inside it that flashes on and off. Six solar lights at the bottom of the tree shine up through all the balls. At night, the light bounces from ball to ball casting gentle hues of color.

A variety of different metal birds and butterflies adorn the tree including cardinals, dragonflies, hummingbirds, and butterflies.

"It turned out pretty good. I built it because I like to make one-of-a-kind things," says Randy. "Quite a few people who drive by stop and take photos. I used 43 gazing balls in all – eleven 10-in. balls, fifteen 6-in. balls, and seventeen 4-in. balls. There's one cardinal, 3 dragonflies, 5 hummingbirds, and 7 butterflies."

The flashing strobe light inside the ball on



Glass gazing balls are attached to a center-mounted post by bent metal rods that look like vines.

top of the tree is operated by a solar panel hooked up to a 6-volt rechargeable battery, which mounts inside a homemade metal case at the base of the tree. A wire runs from the battery up through the center-mounted post to the strobe light.

The tree's center-mounted post slips inside a metal tube that's buried 6 ft. deep in the ground in a concrete base to keep the frost from shifting it.

Contact: FARM SHOW Followup, Randy Kurtz, N6858 County Hwy. DE, Beaver Dam, Wis. 53916 (ph 920 885-4709; Kurtz@ziemanproductions.com).

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