

About the Artist:

David C. Roy

Mechanics and motion have always fascinated me. During college I studied physics, engineering and chemistry to further my understanding of how things worked. I graduated with a degree in physics from Boston University in 1974. This intuitive understanding of motion and mechanics combined with the artistic influences of my wife, Marji, led me to the creation of kinetic sculptures. In 1975 we started "Wood That Works" and I became a full time sculptor. Since then I have designed and handcrafted over 150 different limited edition and one-of-a-kind kinetic sculptures. I have exhibited in numerous juried, invitational and group events. My work is displayed in galleries and private collections around the world. I currently maintain a studio in rural northeastern Connecticut.

Wood 
that Works

Chaos • Directions

Kinetic Sculpture by David C. Roy
©2018



To the Owner...

Hello,

Welcome to the world of Wood That Works. This Chaos is number _____ out of a possible 95 pieces. It was made by me during the month of _____ in 2018. I build, test and pack each sculpture myself, doing 6 pieces of an edition per month. Designing and building kinetic sculptures like Chaos has been my full time occupation since 1975. I hope Chaos brings you and other viewers as much enjoyment as I've found in making it.

Chaos has been mounted on a wall in my shop and running for at least 2 complete windings (many hours) before I pack it. I make every effort in design, construction and packing to make sure the piece will perform problem free for years to come. I use only the finest materials. Of course, problems can still occur no matter how hard I try to prevent them. My answer to this is a warranty to the original owner against defects in materials and workmanship for four years. See the guarantee section of this booklet for details.

It leaves me happy and satisfied to find that my work has made its way into new lives. I hope it brings you years of enjoyment.

David C. Roy

Additional Winding Info:

There is a video with David demonstrating the winding of Chaos on the website at: <http://www.woodthatworks.com/kinetic-sculptures/chaos>

Subsequent windings:

- As you wind watch the spring when you will see red warning tapes. STOP WINDING. A full winding is about 22 turns in a clockwise direction.
- CAUTION: Over-winding the sculpture can break the spring. Stop winding before you reach the red tape at the end of the spring.
- Never manually release any of the levers on the sculpture when it is wound. Doing so will release the spring and definitely cause damage.



To Start

- If the sculpture doesn't start moving on its own when you finish winding, gently push both pendulums.

Directions:



Insert
finger
here to
wind



To Wind

Important First Time winding instructions:

- The first time you wind this sculpture after unpacking requires special attention. Shipping may have caused parts to move unexpectedly.
- First look for obvious things that might have come out of alignment in shipping. Pay special attention to the flat metal band (drive spring) behind the winding wheel. Make sure it is centered in both the dark and light spools.
- Only wind the spring **TWO** turns for the first run.
- To wind Chaos insert your finger into the winding wheel and wind slowly clockwise while you hold the two pendulums out to the left at about the 7 o'clock position. Here you will find a sweet spot where it winds without making the ratchet noise. You may have to move the pendulums back and forth a bit to find the quiet spot. It is best to wind it here to limit noise but also to reduce unnecessary wear and tear on the ratchet mechanism. **DO NOT** remove your winding finger while the pendulums are pulled back and the ratchets quiet or the sculpture will rapidly unwind. First release the two pendulums. The ratchet will catch. Then remove your finger. Remember only two winds on the first winding.
- If it doesn't run as expected email David at woodthatworks@gmail.com

About Chaos:

The history of Chaos spans decades. In 1979, I was playing with different shapes and balances looking for interesting patterns. A certain combination, when hand powered, created some fascinating motion. The back wheel would rotate around and the balancing front wheel would just hang there. Then, for seemingly no reason the front wheel would start swinging erratically changing the motion of the back wheel. This was my first experience with unpredictable or random behavior. I didn't know what was going on but I liked it. I added a drive mechanism and a sculpture named Serpentine was born.

Several decades and many sculptures later a fascination with the graphic properties of fractals led me to a book entitled Chaos by James Gleick. In a section on simple systems like pendulums and double pendulums I found this paragraph:

“Unpredictability was only the attention-grabber. Those studying chaotic dynamics discovered that the disorderly behavior of simple systems acted as a creative process. It generated complexity: richly organized patterns, sometimes stable and sometimes unstable, sometimes finite and sometimes infinite, but always with the fascination of living things.”

I was reminded of Serpentine and its changing patterns. Serpentine was a type of double pendulum. I wanted to explore this more. I had new tools, materials and nearly 40 years of experience and this time I wanted to understand the motion and, if not control it, at least influence it.

I've spent much of this past year playing with and studying double pendulum motion. I tried several different forms before settling on 2 stylized pendulums combined into a double pendulum. Other forms could work but I settled on the simplest shape so the motion would be the focus. The big breakthrough came when I created a mechanism that would push the pendulums only when they needed it otherwise allowing free swinging motion. As I refined the mechanism I found ways to fine tune it. For the last few months I've had many examples of Chaos performing in my studio. I tried many adjustments to see how each would influence the motion. Eventually I created a spreadsheet so I could track each change in an organized fashion. I'm finally ready to release Chaos into the wild. I hope you enjoy it as much as I do!

Specifications:

Size: 40”h x 46”w x 7”d

Power Source: negator spring

Approximate Run Time: approx. 10 hours

Materials: hardwood plywood, bearings,
Chaos © 2018



Guarantee:

- My kinetic sculptures are guaranteed to the original owner for a period of four years. All warranties expire with transfer of ownership from the original owner. Damage of the sculpture from exposure to extremes of high or low humidity, or to adverse hot or cold temperatures, or damage caused by normal wear and tear, accidents, misuse, or modification will not be covered by the warranty. Shipping and insurance to and from Wood That Works is the responsibility of the purchaser.
- I will charge a reasonable repair fee if the sculpture was damaged by misuse or needs refurbishment from normal wear and tear.

Directions:

To Mount on Wall:

- Do not remove the blue tape or packing pads until you are set to install.
- Chaos does not need a template to set up.
- When set to install, remove the blue tape that holds the pendulums in place. If you need to lay the sculpture down horizontally, put the packing pads back in place to support the pendulums.
- Locate the top center mounting hole. It is in the top center of the dark base piece. Place this screw hole at the top and center in your location. You will need 23” of clearance to each side of center for the front pendulum swing. The front pendulum will clear obstacles up to 5 1/2 inches from the wall so most moldings and picture frames can be behind.. You will need 13” above the top center screw for clearance of the rear pendulum. This pendulum will clear obstacles 3 1/2” high from the wall. Thicker obstacles need to be 17” from center for the rear pendulum swing.
- Hold the sculpture in the desired location and screw the top center screw in place temporarily securing the sculpture to the wall. Shift the dark base so that the screw is top center and base shaft is vertical. Screw all the screws in marking their exact location on the wall.
- Now take the sculpture down by removing the screws. Gently hammer the provided plastic anchors into the screw holes making sure the top collars are flush with the wall. Screw the sculpture back into position again starting with the top center screw.

TopScrew Hole

