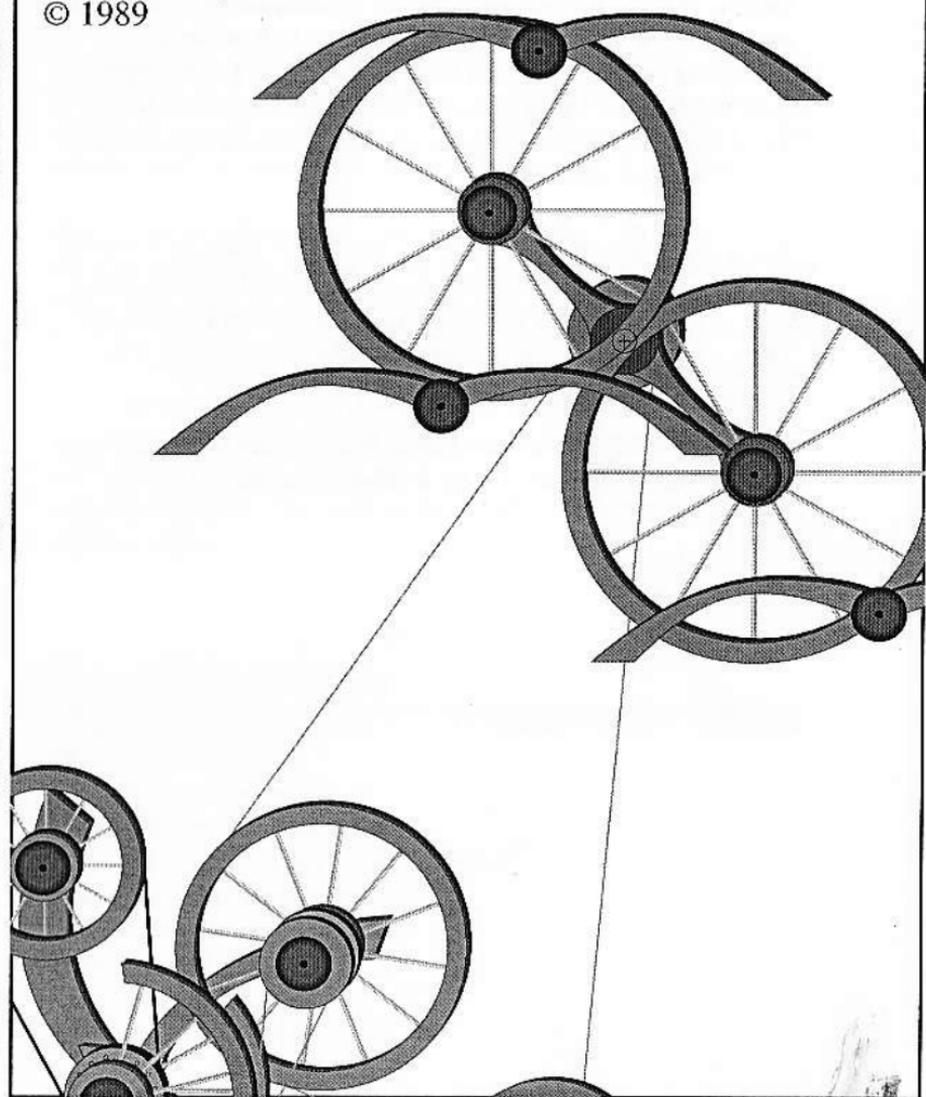


Tri-Avian

Directions

Kinetic Sculpture by
David C. Roy
© 1989



To the Owner:

Hello,

Welcome to the world of Wood That Works. This Tri-Avian is number _____ out of a possible 24 pieces. It was made by me during the month of _____ in 1990. I build, test and pack each sculpture myself, doing 6-12 pieces of an edition per month. It takes several years for me to complete an edition and some are never finished as I move on to new designs.

Designing and building kinetic sculptures like Tri-Avian has been my full time occupation for more than 14 years. I hope Tri-Avian brings you and other viewers as much enjoyment as I've found in making it.

Tri-Avian has been mounted on a wall in my shop and running for at least 2 complete windings (several 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.

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

David C. Roy

About Tri-Avian:

In 1988, I designed and built a large, one of a kind sculpture called *Flight* for a special client who was building an ocean front home. The center-piece of this sculpture consists of three completely independent floating bird forms that weave in and out amongst one another. As I was designing and installing that piece, I "saw" another 3-bird solution that seemed to have possibilities. I tucked the idea away in the "things to try someday" box and forgot about it.

My rediscovery of brass rods while designing *Nebulae* this year brought the 3-bird problem and solution back into my thoughts. Was there some way to use the openness of the brass-spoked wheels to enhance a single balanced 3-bird assembly? *Tri-Avian* is my answer to that question.

The motion of this piece is complex yet simple. Two of the birds are mounted on one freely rotating wheel that always turns counter clockwise. This wheel is attached to a matching but fixed wheel that in turn holds a single bird. This pair of wheels rotates about it's combined center first clockwise and then counter-clockwise. The bird forms remain horizontal throughout all these rotations and counter rotations. At times a pair of birds will orbit a single bird that remains temporarily fixed at the center point and then it will break away and begin to weave and dart amongst the others. The result is the graceful flying motion that inspires the *Avian* series.

Specifications:

Limited Edition of 24

Size: 52"h x 53"w x 7"d

Power Source: negator spring

Approximate Run Time: 1 1/2 -2 hours

Materials: Hardwood plywood,
brass, bearings, string

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Patent No. 4637152

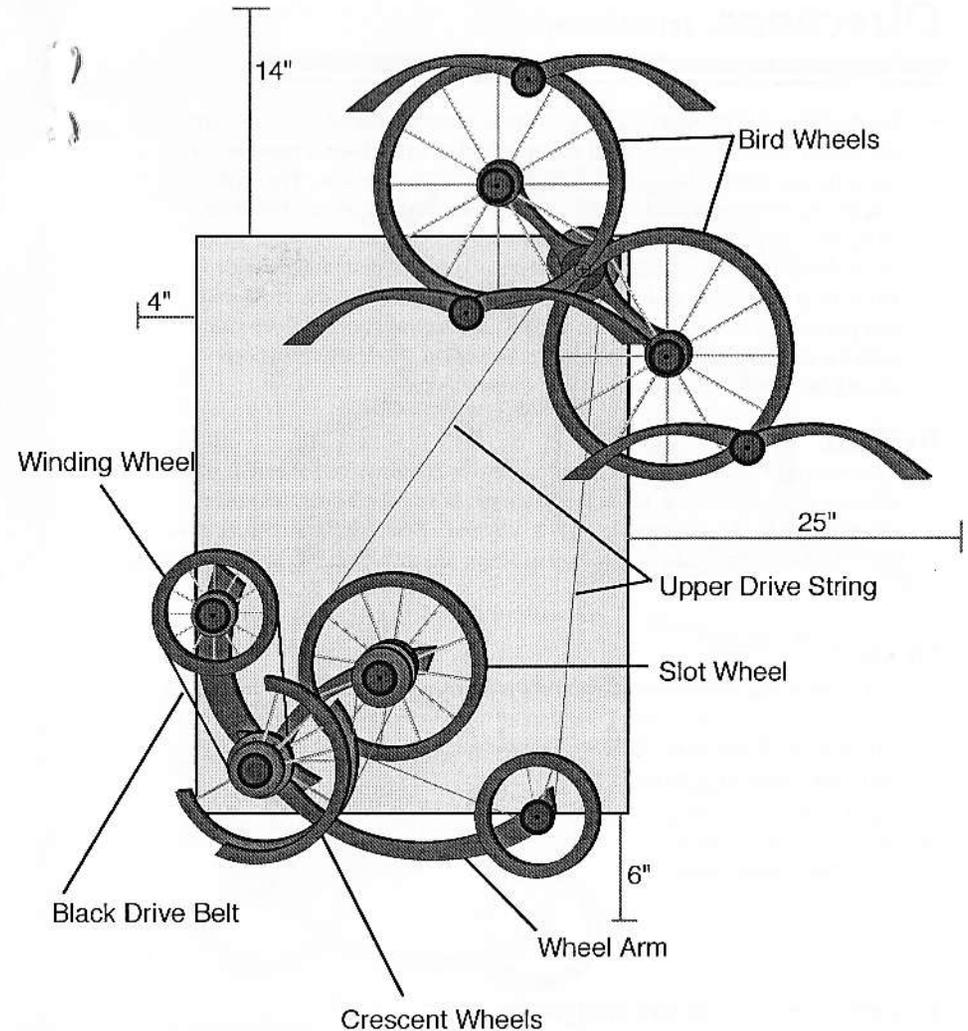
Directions:

To Mount on Wall:

- DO NOT remove the tape holding the strings in place.
- Hold the mounting template in the desired location against a wall. The diagram shows the relationship of the template to the sculpture to guide you in positioning the sculpture on the wall. The minimum clearance dimensions are shown at the edges of the template.
- Level the bottom edge of the template.
- Place a sharp instrument through the screw holes, marking their positions on the wall.
- Drill pilot holes. If the wall is sheet rock or plaster use plastic anchors.
- Screw the top part of the sculpture to the wall.
- Screw the bottom part of the sculpture to the wall. The wheel arm should be allowed to hang freely below the sculpture.

To Place Strings:

- DO NOT remove the tape or the elastic bands holding the strings in place, it's important to keep them in place until the upper drive string is in place. If the tape is removed there is a good chance the strings will become tangled, making the stringing much more difficult.
- Unwind the upper drive string completely from its cardboard keeper.
- Note that this is one large loop of string. One end of the string is tied into the rear slot of the slotted wheel and exits from the top portion of the wheel. The other end is tied into the front slot and exits from the bottom portion of the slotted wheel. (See diagram)
- (It's helpful to have an extra set of hands for this operation.)
Take the section of string from the rear slot and pass it up and over the bird wheels and onto the pulley behind. Let the remainder of the loop hang freely below the bird wheels.
- Raise the wheel arm to the orientation shown in the diagram and pass the hanging loop of string around the wheel and onto the pulley behind it.
- Now remove the tape and elastic bands holding the strings in place. Be careful not to unloop the strings as you remove the tape. The black drive belt is not to be removed.



Directions: (continued)

- Do the following to verify that Tri-Avian is correctly strung. Slowly turn the slotted wheel clockwise until the upper drive string loop is straight out from the rear slot at about 12 o'clock. Hold it in this position. The bird wheels should have turned clockwise. The rear crescent wheel should be in the orientation shown in the diagram.
- Now slowly turn the slotted wheel counter-clockwise until the lower drive string loop is straight out from the front slot at about 4 o'clock. Hold it in this position. The rear bird wheel should have turned counter-clockwise with the front wheel also picking up some motion. The crescent wheels should be exactly the reverse of those in the diagram.

To Wind

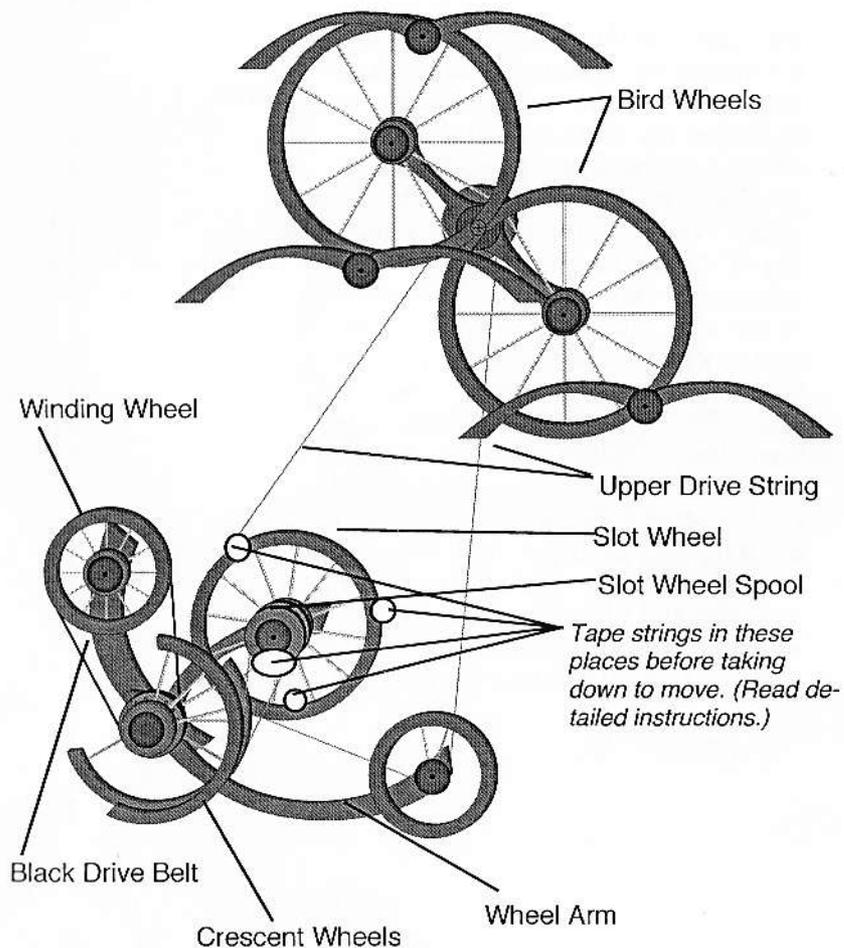
- Turn the drive pulley wheel counter-clockwise 20 turns. You should hear a clicking noise caused by pin wheel ratchets. If you don't hear this noise carefully allow the sculpture to slowly unwind. Recheck the stringing test described above to make sure a loop of string has not come off the front of the slot wheel spool.

To Start

- If Tri-Avian does not start immediately after winding, turn the slot wheel 1/2 turn counter-clockwise. **Do not start Tri-Avian by pushing the bird forms or their carrying wheels.** This will start the bird forms swinging and could cause them to strike the lower mechanism.

To move or repack the sculpture:

- Tape the upper drive string in place to the slot wheel before unlooping it from the bird wheels. Tape the loop of string into the slot wheel where it emerges from the front and rear slots and several other places along the rim of the wheel. Wrap the extra string around the cardboard keeper. Tape the crescent strings directly to the slot wheel spool and to each other. Stretch the elastic band from the top of the rear crescent wheel, over the slot wheel spool, and loop over the top of the front crescent wheel to tension the crescent wheels.



About The Artist:

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 60 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 eastern Connecticut.