Whoa, This Sofa Balances On One Leg Thanks to Spacecraft Technology

Part of what artists are great at is re-contextualizing technology in weird and often amazing ways. That is exactly what artist Jacob Tonski did for a recent installation that involved balancing a 19th century sofa upright on one leg. The result is Inception-like wonderment.

At first glance, you'd have to think Balance From Within is some kind of optical illusion, or that the sofa is somehow attached to the floor, or hanging from the ceiling. But no.

Tonski was able to pull it off by using a piece of tech called a reaction wheel.

A reaction wheel is used primarily in satellites and other spacecraft, in order to make automated adjustments to the craft’s orientation in space, without using fuel or rockets. One example of its use would be to keep a space telescope precisely pointed at a spot in space. In fact, reaction wheels are a part of the Hubble telescope’s control system. It is basically a motor-driven flywheel that is constantly spinning. When the speed of the wheel is altered, the craft responds by counter-rotating around its center of mass.
Tonski incorporated a two-axis reaction wheel into the sofa he found in the back of an antique store, to truly mind-bending effect. Still, there’s the off-chance that the sofa could be knocked over. So Tonski altered its original construction, using magnets to hold its various parts together. That way, they can break away without serious damage if the couch does fall (and can be snapped back together with ease). If only reassembling a spacecraft was so easy. [via Faith is Torment (http://www.faithistorment.com/2013/08/balance-from-within-installation-by.html)]

Balance From Within was created as part of Jacob Tonski’s residency at the STUDIO of Creative Inquiry (http://studioforcreativeinquiry.org/) at Carnegie Mellon University.