

Taming the Beast: Wheels on a Sun Shade, Version 1.1

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Here in the Sonoran Desert, working in the shade is not a luxury. It is a necessity. Without shade, I can't work for more than a few hours before being completely exhausted. With shade I can work all day.



Here you see the sun shade fully deployed and waiting to be put in my sunny workspace.

I love the sun shade because it keeps me alive. But I hate this sun shade because of the pitched battle I must fight to get it deployed.

You may ask, why not just leave it open? The sun will turn the roof to powder in just a few months. And a single gust of wind can twist the thin aluminum struts into a pretzel within seconds. At over \$100 a copy, that would be an expensive mistake.

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The process of opening up the sun shade is very simple. First I put it on end with the legs down.



Then the legs are pulled away from each other. These legs are mechanically linked so it is a matter of pulling one leg out about 2 inches, moving to the next leg and moving it out about 2 inches, and so forth.



Eventually I have the legs far enough apart that I can get under the roof. Then I must continue to move the legs out one at a time until I can latch the braces at the top.

Now, given 3 helpers, this would be simple. But by myself, what a pain!

After many years of fighting this sun shade, I finally sat down and thought about fixing the problem.



My solution is embarrassing simple: Put casters on the ends of the legs.

I attached each caster with a single $\frac{1}{4}$ - 20 bolt, a washer, and a split washer. In the future I may go with two bolts if this works loose.



I may also make the casters locking. Some of the strength of the sun shade is from the legs not moving away from

each other where they contact the ground. Furthermore, even a slight breeze can easily move the structure with the wheels free to turn.



Deploying the sun shade is now oh so easy. I put the wheels down on a flat smooth surface. Then I can just pull any two legs apart and the rest follow. As you can see, due to limited space one of the legs fell off my patio. No matter, I just moved another leg out. Having one anchored actually made the task easier.



Then I got under the roof and lifted up on the 4 roof struts. This moved the leg braces up while the legs rolled out until they locked.

After extending the 4 legs to full height, I was done.

Putting the sun shade away is even easier. I retract the legs to bring the roof down. Then each leg lock is released and the legs start to roll towards each other. Corral the legs together and I am done.

Acknowledgment

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I welcome your comments and questions.

If you wish to be contacted each time I publish an article, email me with just "Article Alias" in the subject line.

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