

# Black Sand Separator.



I got the idea from this huge drywasher I found in the Mohave Mountains. This has six bellows drywashers under it, 3 on each side. Up under the feed hopper there is a ingenious black sand removal device that uses revolving magnets to do the job.

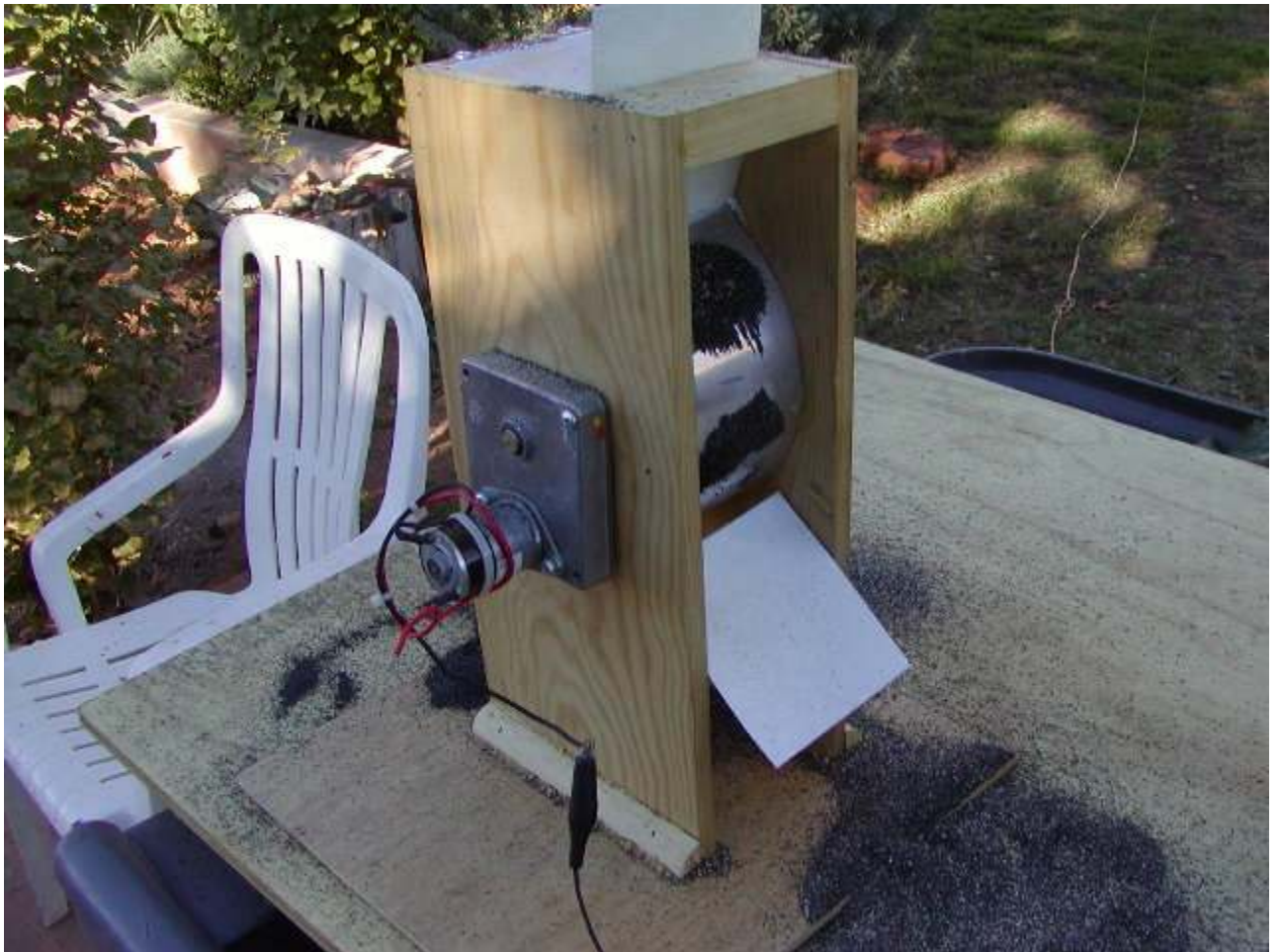
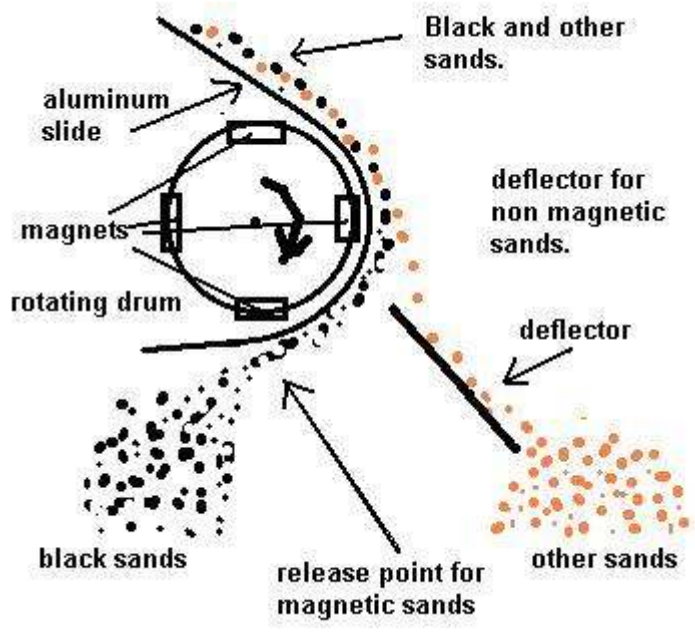


Just above this area is the invention they came up with but the sands must be magnetite or iron based to be able to pull out of the flow to the back sands discharge trough. I have built a small scale prototype of it trying out the idea as seen below.



This is the small prototype I'm experimenting with, not very sophisticated but it allows me to see what works.

I found the motor speed is important and vary it with one of my electronic speed controllers. The needed speed is quite low soon after this photo I switched to a gear motor. The major problem I found with this idea is that all black sands are not magnetic and some go out with the light white brown sands. If they are able to be attracted to magnets almost all of those do get removed and sent to the black sand pile. If I take another magnet and drag it around in the white sand pile (that still has black color sands in it) almost nothing will get picked up. So in one sense it does work but I'm still experimenting with this idea for now.



Here it shows the black sands sliding opposite the magnets. They go on around and dump on the back side. The grey or white sands dump out front here.