

Improving CBN grinder safety

by John Kelsey

Maybe, like me, you saved a few bucks by choosing a bare grinder with no guards for your new CBN wheels? Maybe the vendor said, “They’re so safe you don’t need guards.” But one day while merrily reducing expensive steel to dust, leaning in close to see, I felt the breeze coming off the wheel kiss my forehead. Then I noticed a shiny cloud of metal particles glittering in the worklight. Hmm.

Breathing fine metal dust is a known industrial hazard, same as fine wood dust: chronic irritation, maybe cancer--bah, let’s take a pass. Likewise, I’ll say no to wheel rash on my hand, arm, or forehead.

The grinder needed a guard, maybe the guard could also capture the swarf? I didn’t want to connect it to the shop’s dust system (hot sparks + sawdust + rapid air movement = disaster), so maybe a few high-strength magnets? Online dealers sell many shapes and sizes, including disks and blocks that will stick under toolrests, some with countersunk mounting holes.

The photos show my cobbled-together box guard. It’s just scraps cut to fit and screwed onto the grinder platform, with rails glued to the top surface to trap small tools. The fine metal powder clumps onto magnets on the underside of the toolrests, magnets mounted in the box behind the wheels, and magnets mounted on a bandsawn bracket in front of the wheels.

Okay, now what to do with those ferrous fuzballs? I wear disposable finishing gloves to transfer them to larger magnets inside a cast-off bowl, and sweep up by dragging a magnet around. Then clean up with a shop vac that has a HEPA filter. Maybe I’ll try dissolving the accumulated dust in a glass jar of light oil, like an experiment at the science center.



Bar magnet mounted below the CBN wheel (left) captures metal particles (right).



Shopmade grinder stand holds tools and keeps forehead and CBN wheels safely separated.



Expensive turning tools converted to metal filings; better to collect them in a bowl than in your lungs.

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