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## Build Your Own “Blanchard” Grinder

Here is a way to grind your old slurry grinding wheel flat without having to take it all apart and carry it to a high price machinist for Blanchard grinding. It involves making a “grinding head” and the support for its operation.

You will need to have heavy and flat round grinding head that will have the enclosed small square diamond pads glued to the base of it in a pattern around the outer edge. Space the diamond pads equally like the numbers of a clock. Yes, there are twelve pads. It will require a arbor type shaft centered on one side and a support bar to hold it in place during the grinding.

The head must be round, flat on the bottom and very heavy. This can be accomplished by using an old clutch plate from an automotive junk yard or from your local auto mechanic. An alternative head can be made by stacking about 2 inches thickness of plate window glass, glued together with cheap silicone seal adhesive. It should be about 1 inch larger in diameter than the radius of your grinding wheel, or 1 inch wider than the raised grinding area on your grinding wheel.

To the top surface you must glue (again with silicone seal adhesive) a pipe flange (flat side down) and a short length of galvanized pipe. 1½ or 2 inch diameter pipe works well that is about 9–12 inches long. This should be centered on the top of the wheel head you are constructing.

Next (after the glue has cured, of course) turn the head over and prepare to glue the diamond pads to the outer edge of the wheel in evenly spaced pattern as in the numbers of a clock face, 1, 2, 3, .... 11, 12. Sorry but a digital clock will not be of any help here. Roughen the surface where the pads will be glued on with one of the diamond pads to help the glue stick better. You may also want to scratch up the back of the diamond pads for best adhesion. Glue the pads on in the proper places with, you guessed it, with silicone seal (you can also use a cheap 5 minute epoxy). Make sure the pads are all level.

To hold the grinding head in place during the “Blanchard” grinding you must firmly mount a piece of lumber, a 2x6 works well, across the top of your grinding wheel and it must have a hole in the wood slightly larger than the diameter of the pipe on the grinding head. Bolt two pieces of 2x4 lumber to two opposite legs on your grinder and then screw the top bar with the hole onto the top of these 2x4s (with the new grinding head in place of course). Adjust the length of the 2x4s to position it so that the grinding head is positioned on your wheel with it slightly overlapping the center and the outside edge. The hole should be exactly positioned over the mid-point of the radius of your grinding wheel. The wooden holder must be as low to the grinder head as possible so that it will not be able to turn and slide or roll out from under the wood bar.

When everything is in place, and the new grinding head can freely turn within the hole of the top piece of wood (a little grease wouldn't hurt here), turn on the water which you usually run with your grinder. Turn on your grinder and the turning grinder will cause the grinding head to turn by the normal centrifical force and the friction between the two. If the grinder head does not turn, stop your wheel and you will probably need to make the hole in the wood slightly larger (loose but not too loose). When the wheel is on and the grinding head is turning, the diamond will gradually grind off the metal to make it flat once again. Water must continue to drip sufficiently to wash away the ground metal and keep the surface lubricated. It will be obvious when the grinding is completed as the grinding pattern will be uniform and there will be no remaining unscratched areas showing from your previous uneven surface.

The final suggestion now is to convert to diamond grinding, your wheel head will never again become unflat.