

An Excellent, Affordable Drill Bit Sharpener

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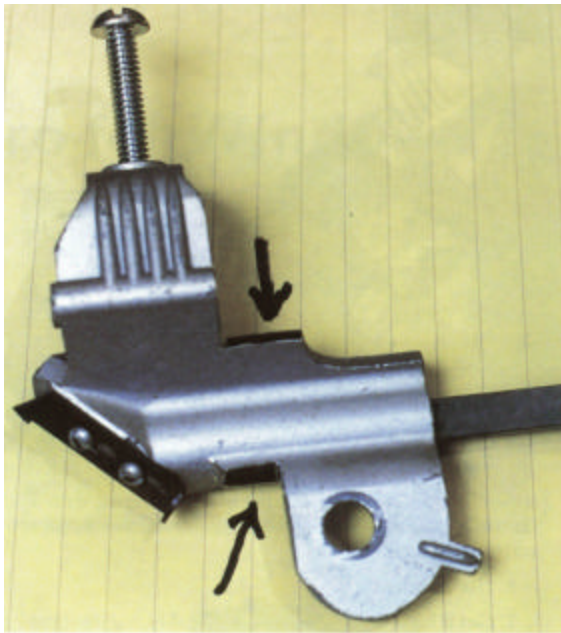
This *Craftsman* drill bit sharpener, purchased at a I flea market in the original box for \$1, does a perfect job when used properly, but in order to do so, a few pointers must be carefully observed. With a minor modification, it can sharpen bits up to 1-1/4"!

First of all, the instructions mention several points that we have found unimportant.

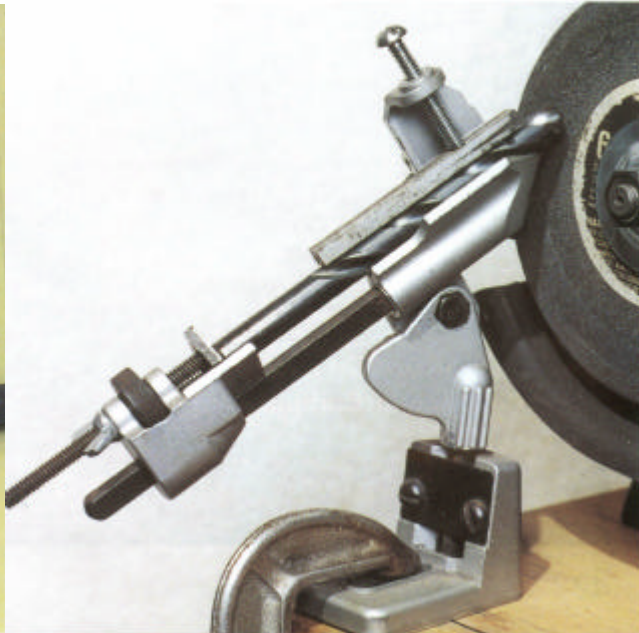
1. You do not have to remove the trough (top part) from the body to install the drill bit.
2. Use a C-clamp to hold the sharpener to the grinder's pedestal table when it is needed, instead of a bolt.
3. It isn't necessary to advance the drill bit up the trough during sharpening – a three-step process. It is easier just to relocate the sharpener closer to the wheel using the C-clamp.
4. We have not had to remove any "lip" on the cutting edge that the instructions warn about.

We modified the top unit (trough) so a hose clamp could be used to hold large bits (Photo 1). This required removing the swinging arm under the top thumbscrew that is used to clamp the bits into the trough. The pivots are simple pins that can be pried out. A longer bolt (1/4-20 x 2") was needed in order to reach small bits after this was done. It is necessary to put a scrap strip of metal under the bolt to hold some bits (Photo 2). Large bits are secured with a 2" hose clamp as shown in Photo 3. The bits must be held tight enough so that the grinding will not move them.

1



2



The “lip rest” should contact as little of the side edge of the bit as possible so that when the other lip is done, the grinding will be identical. The lip rest should not touch the inside curve of the flute.

Tighten all finger adjustments as tight as possible before beginning and check them during grinding. They can shake loose. It would be good to replace the thumb bolts and wing nuts with standard bolts and nuts and use a wrench.

Grind in very small increments. We have found that it is good to use only HSS and cobalt bits, but it is still best to grind slowly.

To test the bit, drill into a heavy piece of scrap metal and check the twin chips coiling out. They should be identical. We have found that touching up brand new, imported bits before use makes them perfect, and excellent values!



If you find one of these sharpeners and there are no instructions with it, the following are the key points to setting up the machine.

1. Use goggles.
2. Get a high-quality wheel, preferably one designed to grind on its side.
3. The drill point must just touch the grinding wheel when starting to sharpen.
4. The overhang, the distance from the lip rest tooth to the bit cutting edge, varies with the point angle. (The overhang determines the cutting angle into the work.)

Angle:	Overhang:	Material:
88°	1/16"	thin sheet, hard stock
68°	½ drill dia.	High volume drilling
59°	½ drill dia.	General purpose drilling
49°	drill diameter	copper, wood, plastic, etc.
41°	as required	counter sink for wood screws

5. The nameplate can be adjusted to set the swing friction.
6. The bottom of the bit must always touch the slide rest.
7. Be sure when clamping the bit into the trough that it has not moved away. And, be sure the bit again touches the rest when you grind the other lip!