

# Tool adjustment & operating recommendations

## Versatile and easy to use

The BURRAWAY® can be used on portable power tools and drill motors, drill presses, automatic equipment, CNC machines, or on virtually any type of shop equipment. No special operator skills are required.

However, the blades can be reground and reused. Blades can generally take from five to ten regrinds of .010 inch (0.25mm) each before they must be discarded. Regrind clearance angles as shown in Figure 1 below.

## Tool maintenance

The BURRAWAY tool should be inspected periodically for chips, grit, and foreign particles in the slot from which the blade projects. Clean as necessary.

## Fast and easy adjustment

The amount of stock removed will vary with the hardness of the material. Adjust the set screw in the shank end of the tool to obtain the desired edge break. (Caution: Be careful not to over-adjust; if the spring is compressed to a solid condition, the blade will not be able to retract.)

If adjustment fails to produce the desired results, a different blade rake angle or a light-duty spring may be required. Please submit part prints for development of the most efficient tooling for the application.

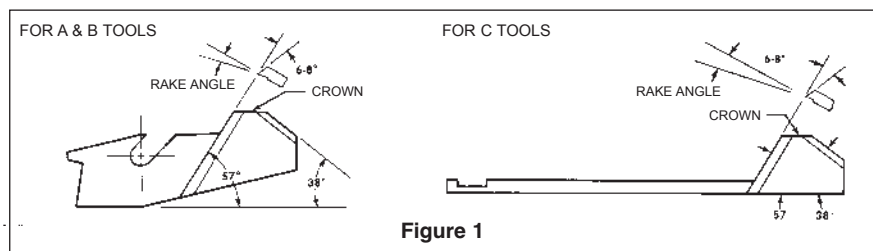


Figure 1

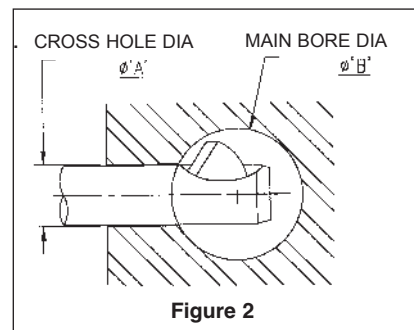


Figure 2

## Cross-hole deburring

Burraway tools will tend to cut an elliptical chamfer when deburring a hole drilled through the wall of a larger hole (i.e., the amount of edge break will be inconsistent). If the ratio of the main bore diameter "B" to the cross-hole diameter "A" is less than 3/1 (refer to Figure 2), the Burraway is not recommended. If the ratio is 3/1 or greater, the standard Burraway tool should be tested and may provide satisfactory results. If not, consider using a tool with a special Burraway blade with a 45° angle, run at speeds of 40-100 RPM; contact our engineering department.

If the ratio is questionable, our Burr-Off tool may be considered (see Burraway Catalog). While it will tend to cut a greater ellipse, it will also resist breakage on steep side walls. Neither the Burraway nor the Burr-Off is recommended for holes that do not intersect squarely or diametrically.

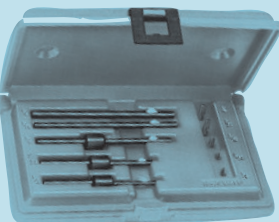
## Speeds and feeds

Refer to Speed and Feed chart on page 3.

## Blade life and regrinding

BURRAWAY blades generally last about four to ten times longer than the drill used to make the hole. Due to the low cost of replacement blades, most of our customers prefer to replace worn blades with new ones.

## Burraway® Kit



Our BURRAWAY® Kit contains five deburring tools in popular hole sizes:

- 1/8 in. • 5/32 in. • 3/16 in.
- 7/32 in. • 1/4 in.

A replacement blade for each tool is included. The kit is packaged in a durable box. The BURRAWAY Kit enables you to have on hand the solution to burr removal problems for hole sizes most frequently encountered.

PART #: BURRAWAY KIT

# Tool adjustment & operating recommendations

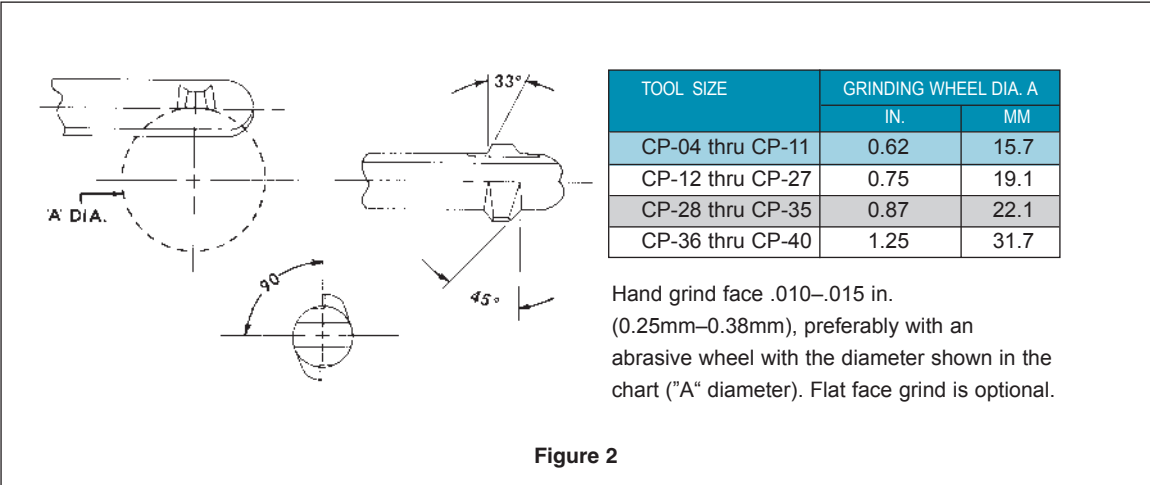
## Speeds and feeds

Refer to Speed and Feed chart on page 3.

## Tool maintenance and edge resharpening


The BURR-OFF should be inspected periodically for grit and foreign particles, and cleaned as necessary.

The cutting edges may be reground up to four times in order to extend tool life. Refer to Figure 2 below for the proper regrind procedure.




# Blade data


**Three Blade Styles**



**Double-Acting (DA)**  
For deburring both front and back of holes



**Back-Acting (BA)**  
For deburring back of hole only



**Front-Acting (FA)**  
For deburring front of hole only

## Speed / Feed Recommendations and Blade Rake Angle Options

| MATERIAL           | HSS BLADES / CP TOOLING |            | CARBIDE BLADES (0° ONLY) |            | BLADE STYLE RECOMMENDATION                       |
|--------------------|-------------------------|------------|--------------------------|------------|--|
|                    | SFM                     | FEED (IPR) | SFM                      | FEED (IPR) |  |
| Machine Steel      | 80-130                  | .005-.008  | 240-270                  | .005-.008  | 4° Positive Rake Blade<br><br>(DAP, BAP, or FAP) |
| Tool Steel         | 40-50                   |            | 60-120                   |            |  |
| Steel Forgings     |                         |            |                          |            |  |
| Malleable Iron     | 80-90                   | .005-.008  | 80-180                   | .005-.008  |  |
| Monel Metal        | 30-50                   |            |                          |            |  |
| Stainless Steel    | 30-50                   |            | 80-250                   |            |  |
| Titanium           | 25-45                   |            |                          |            |  |
| Cast Iron          | 40-60                   | .005-.008  | 105-240                  | .008-.012  | 0° Neutral Rake Blade (DAZ, BAZ, or FAZ)         |
| Aluminum           | 100-160                 |            | 250-400                  |            |  |
| Brass & Bronze     | 100-300                 | .005-.010  | 175-300                  | .006-.010  | 4° Negative Rake blade (DAN, BAN, or FAN)        |
| Plastic / Nylatron |                         |            |                          |            |  |
| Composites         | Not Recommended         |            | 150-200                  | .001-.010  | 0° Neutral Rake (DAZ, BAZ, FAZ)                  |

- \* All tools are assembled with Double-Acting Positive (DAP) blades unless otherwise specified
  - \* Coated blades available upon request. Please contact Cogsdill for pricing and availability.
  - \* For Carbide Blades 3MM & 1/8 series and above, specify "C" in place of the three letter blade style (DAP, etc):  
Example: YA-DAP-1/8 carbide blade is coded "YA-C-1/8"
  - \* Above noted speeds and feeds are basic guidelines and may vary per application
- Feed / Speed Formulas:**
- |                                |                                |
|--------------------------------|--------------------------------|
| <b>Inches</b>                  | <b>Metric</b>                  |
| RPM = (3.82 X SFM) ÷ Diameter  | RPM = (318 X M/min) ÷ Diameter |
| SFM = 0.262 X Diameter X RPM   | M/Min = (RPM X Diameter) ÷ 318 |
| IPM = IPR (feed) X RPM (speed) | Mm/Min = RPM X Mm/Rev          |

### Blade Replacement: Type A / Type B Tooling

Blade replacement is performed with ease for tools from .118 (3.0mm) and larger. When the tension adjustment screw located at the end of the shank is loosened, the open ended slot allows the blade to slide out freely. The replacement blade can be installed and the adjustment screw retightened back to the desired spring tension.



### Blade Replacement: Type C Tooling

For Type C tooling, loosen the tension adjustment screw located on the arbor OD and slide out both the blade and the tension adjustment rod. Replace in reverse order making sure the adjustment screw is seated securely in the notched area at the blade rear.



### Blade Replacement: YA-00938, YA-01094 / MYA-2.0, MYA-2.3, & MYA-2.5 Tooling

Note: BURRAWAY™ blades for nominal tool sizes 3/32 & 7/64 (.093 & .109) in our inch program, and blades for 2.0, 2.3, & 2.5 mm tools in our metric program are designed with a pinhole for assembly instead of the slotted blade design. The open-ended slot is not feasible in this size range due to the small blade size. The blade can only be replaced by removing the pivot pin from the arbor, which can cause damage or breakage. We do not recommend blade replacement in these smallest tool sizes. We recommend that the entire arbor assembly be replaced, which consists of the blade, arbor, and plunger. Please refer to pages 29-30 for correct part number and arbor assemblies.

