

# Why planetary brushing?

by

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Are you trying to remove burrs from flat metal parts? Although abrasive nylon brushes have been used for more than 20 years for this operation, understanding the need for planetary motion of the brushes is taking on a new importance for most applications. With tighter part tolerances, just removing the burr is not good enough anymore. To achieve more controlled edge radiusing and ensure uniform application to all areas of the part, there is no better approach than planetary brush deburring.

To better grasp the statement made above, we first need to understand how the abrasive filaments in a brush work. As a part comes in contact with a rotating brush, the filaments first strike the part edge and are then forced up onto the surface. This repeated action of passing abrasive up and over the part edge is what removes the burrs and eliminates any sharp areas. The angle the filaments make contact with each part edge however is critical when the requirements dictate that the radius be uniformly applied to all edges. Filaments that strike an edge at a 90 degree angle do the most work while those running parallel do very little if any. Think of it this way, if you drove your car head on into a guard rail, you're going to do a lot more damage (work) to the guard rail (part edge) than if you just rubbed up against it.

One common approach to processing flat parts has been to convey them through one or more fixed position brushes. Whether you pass parts through the center, off-center, or some combination of both, it is virtually impossible to evenly strike all the edges. Parts deburred this way exhibit variations in edge radius from one side to another and often have problem areas where little deburring takes place at all. In addition to this, running small parts through this type of setup will give you different results than what you will find on larger ones. Correctly applied planetary brushing, however, eliminates this.

Planetary brushing heads designed, built and utilized by Abtex Corporation on their deburring systems make achieving a uniform, and consistent edge radius possible. Utilizing (3) ten inch disc brushes, each head provides more than 200 square inches of abrasive surface area. Brush and turret rotation are independent of each other, allowing almost infinite combinations not found on some other planetary designs in the market. With abrasive filaments continually moving in multiple directions throughout the head, parts being conveyed through see a uniform amount of strikes from every possible direction. This action produces the even edge radiusing often required on today's parts. Additionally, when compared to the in-line deburring method, planetary brushes evenly share the work and therefore wear at the same rate.

With more companies seeing the advantages of deburring with fiber abrasive brushes and the requirements for those parts becoming increasingly critical, planetary brushing is quickly becoming the "need" and not just the "want" for most manufactures.