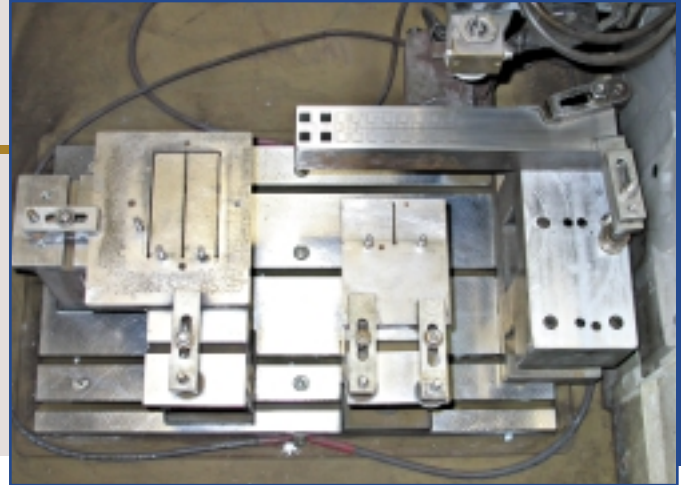


Minding Your “Table Manners”

Can Lead To Longer Machine Life And Increased Productivity



The machine tool table is the reference surface from which all operations are performed. Machine tool tables, for both wire and sinker machines, are not heat treated and are subject to being dented and scratched by dropped workpieces, toolholders, and tools. These dents and scratches result in raised areas that will adversely affect the accuracy of all subsequent jobs resting on the affected areas. The table should be regularly cleaned with acetone and stoned with a hard Arkansas stone. A hard Arkansas stone is so hard and fine grained that it will only remove high spots on the table, without removing material from the table itself. Regular use of an India stone on a machine tool table will, over time, remove enough table material as to destroy the reference surface geometry. Wire EDM Tables (and all Wire EDM tooling) should be regularly treated with Quality Metal Polish. This unique polish will clean up the dirtiest stainless steel surfaces, and leave a protective layer of Silicone molecules bonded to the steel. A clean, burr-free, shiny table should be a source of pride to the quality conscious operator.

Most operators have a “favorite spot” on the table for setting up most of their work. That spot may be in the middle of the travel, or in the front for convenience, but it is seldom at the back or left and right travel extremes. An old adage from my toolmaker

training said to constantly shift the setup of jobs on the Jig Bore table. This still makes sense today, for the following reasons:

- Performing job setups in the same favorite spot will, over time, lead to eventual wear on that non-hardened table surface creating a belly. This type of wear is virtually impossible to correct without a factory machine rebuild.
- Continuously working the ball screw and roller ways over a small portion of the over-all table travel, will eventually wear those elements prematurely, while also resulting in lack of lubrication and self-cleaning action, in the areas of these elements that don't see any use. I have witnessed machine tool driving elements actually laboring to position the table to an area that had not been visited in years! Dried grease has the consistency of cement.

Finally, considerable thought should be given to where jobs are placed on the machine table real estate, with an eye toward maximizing burning time. I have always advocated setting up the night burns first, but in the back of the machine. This practice allows for easy access to the work on the shorter duration day jobs, while assuring that the night jobs are “ready to go” at the end of the day shift. Even the day jobs should not be set up in the middle of the remaining table area,

since that might preclude “sneaking in” the “hot job” that inevitably crops up almost daily in the job shop environment. The accompanying photo of my laboratory wire machine table offers an example of a thoughtful approach to machine table loading. Within the relatively small table travel of only 6” x 12”, I can perform any of the following six operations without disturbing any of the setups:

- Production Job A
- Production Job B
- EDM wire performance testing in 2” thick D-2 test block
- WEDM cross-sectioning of small hole drilling tubes up to 18” long
- EDM wire cleanliness testing
- Miscellaneous hot jobs or test parts

An EDM only makes money when it's cutting parts. Following these suggestions can help put more money in your pocket. “Table Manners” are an important aspect of efficient EDM operations. See, mom was right after all!

Any suggestions for future topics are welcome. Tell us what you would like to read about.

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