



CANADIAN MACHINERY AND

metalWORKING

MACHINE TOOLS : FABRICATING : TOOLING : WELDING CANADA

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CANADIAN TRANSPORTATION
MANUFACTURERS ARE

GOING PLACES





An update on CNC grinder developments

The rapid proliferation of CNC grinders has placed tremendous demands on management and machine operators alike. Effective management of this change will require the marriage of the correct grinder skill set to the appropriate equipment.

In the past, operators were judged and valued by a number of skills, including trigonometry, material-specific speeds and feeds knowledge, and their hands-on experience in grinding. These skills are now being absorbed by powerful PC-based machines that incorporate user-friendly technology tables and probing subroutines. To operate these machines in a job shop environment, the industry will need to reevaluate the skills sought in new employees. Fortunately, older and more experienced grinders are a key part of the equation.

Capital investments of massive proportions, relative to the coexisting old clunkers, have forced business owners to drive home the importance of throughput and maintenance. In the past, it was beneficial to get more parts per hour but not critical, as the machines were a small part of the hourly financial equation. Today, it is critical that the operator be cognizant of this factor. Given proper education in leasing and downtime lost opportunity costs, a company can greatly increase profits.

The conscientious operator now considers process optimization as

critical. With CNC, machine repeatability is a given, but the process itself, especially in grinding, may be unstable. As a result, it is essential to have a grasp on the degradation of wheels and any dynamic machine characteristics.

Today, flexible equipment can grind one-off parts in a single chucking. This forces managers to organize the shop floor, and avoid both down time and untimely deliv-

cated programmers sitting in engineering offices with G-code skills have been eliminated in grinding. One's enthusiasm and their willingness to adapt to new technology are now recognized as the most important assets that both experienced and novice grinders face with today's CNC grinders.

So what is the answer to this equation? The marriage of the operator to the machine will be a fine

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eries. People want equipment now to grind from heat-treated blanks and meet the JIT demands of the marketplace well. But this preference also imposes the requirement of a highly organized structure on the shops of old.

Maintenance, a key part of the organization, has now moved from the art of cleaning down tapers and metallic surfaces to a careful maintenance of the process degradation, i.e. wheel wear, coolant contamination, etc. What was once routine for shop foremen, has now moved to the individual machine operator, again forcing these team members to develop more refined skill sets.

The perception that PC knowledge is essential has been overstated. The ease of programming through graphics has eliminated this past requirement. The days of dedi-

balancing act. It will require companies to value the experienced skill sets of the past. These skills will clearly compliment those of the ambitious young operators who are anxious to confront the PC-driven technology of late. As experienced staff retire, the hope is that many skills will be well documented in the machines' memory for access by future generations.

Will the next generation of machines replace the excellence of the past? No, but it may make the transition to the future easier if management recognizes the importance of this synergy.

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