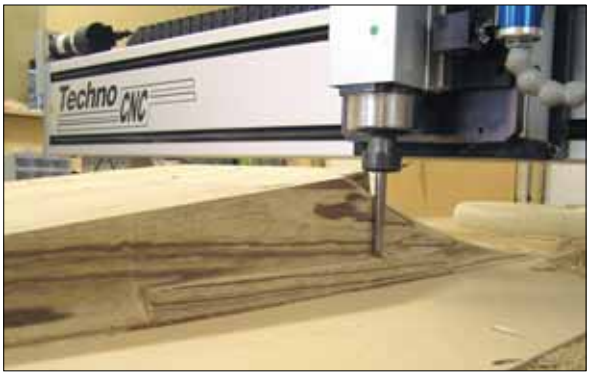
Introduction to CNC Technology

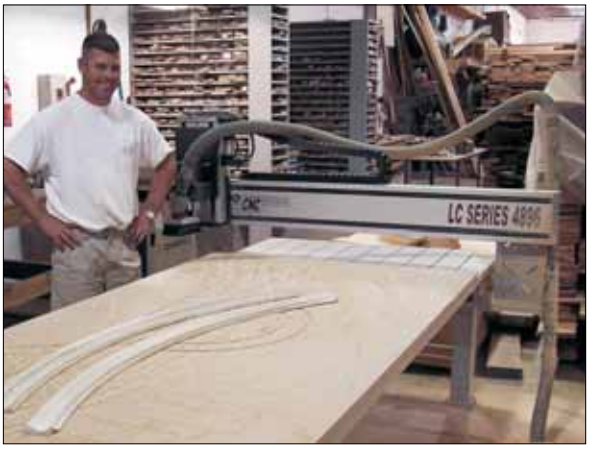
Every day, manufacturers are turning to automation in order to meet their profitability goals, and their success rate is amazing. Manufacturing shops all over the world are considering the purchase of a CNC Router, and most start out thinking, "I'd love to automate, but I can't afford it." Looking at what Computer Numerically Controlled (CNC) Routers have already done for so many existing and emerging industries, you simply cannot afford not to consider the inherent advantages of automation.

Most CNC router systems consist of a motorized XYZ router table, a control unit, computer, and programming software. The advantages gained from using a CNC Router are the same for most applications that were previously completed by hand: greater accuracy and faster cycle times. This type of automation has a high repeatability, and thus greatly increases a manufacturer's yield and consistency.



CNC automation enables you to design a part on your PC, and then reproduce that design quickly and easily using the router. There are three basic steps to this process. First, a computer image is generated, typically through a CAD program. Second, a CAM program translates the geometry of the CAD drawing and cutter compensations to output a toolpath. And lastly, the toolpath is converted to a manufacturing programming language (i.e., G-Code) used to communicate with the CNC Router to produce the part.

The addition of a CNC Router allows a shop to take on projects that might not have been considered either feasible or economical using manual techniques. The fact is, the initial investment is usually relatively small seeing how a CNC router completely revolutionizes manufacturing. It is not uncommon for a Techno customer to obtain a return on investment in less then six months or even in one job.



Craftsmen of any industry know that their work will only be as good as the tools used in the design and manufacturing process. Likewise, any professional knows that the quality of the product is what makes or breaks a reputation. A shop that utilizes better tools gives themselves the best chance of increasing production and profits. In fact, the history of the industrial revolution has been the same history of the development of better, more affordable tools. Currently, the CNC "tools" of automation are well within the budgets of small to mid-sized shops and realistically are becoming necessary to stay competitive in today's markets.

When the decision to automate has been made, and the search begins for what CNC