Simple CNC Programming with CIMCAP Software

CNC motion offers consistent accuracy and part recipe programming with no nozzle set up when changing part types. The Motion control system of the machine consist of a Fanuc CNC controller. Fanuc is the most stable platform controls in the world. Fanuc offers world wide service and its CNC G code programming is recognized in every major manufacturing plant in the world. Innovative Peening Systems takes this stable platform and combines it with a PC and a windows based software program called CIMCAP. CIMCAP allows for a novice CNC programmer to easily be trained when programming for shot peening. Motion programs are created by jogging the axes with the pendant and pressing the insert button on the CNC keyboard or pendant Arcs are programmed by teaching three points on the arc. CIMCAP monitoring system is designed for both the operator and the process engineer. Each CIMCAP system is fully configured for it's specific application. Extensive context sensitive help and intuitive Windows based controls make using the CIMCAP system operator friendly. CIMCAP also allows for easy programming by using mouse click commands that write CNC G code. For example, the programmer can change the air pressure by clicking on the CIMCAP air pressure button then entering the new pressure. CIMCAP will write and enter the proper G code into the part program thus changing the pressure. These quick programming buttons include, but are not limited to; dwell, axis speed, part rotation speed, air pressure, shot flow and other key parameters. ID lance peening auxiliary axis is optional. All machine level controls are handled through the PLC side of the control with simple to understand and troubleshoot ladder diagram programming. High level programming on the drive side of the controller allows the system to create complex and smooth motion paths that are monitored by means of the CNC controller that continually monitors the current position of each axis and compare it to the expected position of each axis. This constant monitoring allows the machine to shut down immediately if the motion path is not being maintained. During the process, other process parameters such as airflow, air pressure, recovery system and machine interlocks are constantly being monitored. If any of the process parameters fall outside of the acceptable limits the machine will automatically interrupt the peening process and alert the machine operator that a fault condition has occurred with all error information displayed.

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