

Ten at One Blow - Rexroth creates Clarity in Tool Loop with TDMshopcontrol

Bosch Rexroth AG produces mobile hydraulic components in three shifts (a day) at its plant in Augsburg. Cast or aluminum valve housings are processed completely on a single machine. 10 in total processing centers are available for milling and drilling. Each machine has its own tool magazine, with spots for 180 tools. Every day, an average of 3 set-ups, each involving 50-80 tools, must be carried out. For every set-up about 1.400 complete tools must be looked at and managed. For the optimization of tool changes and the provision of tool assemblies Bosch Rexroth has been using TDMshopcontrol in its plant in Augsburg since mid-2003. The management of all tools in circulation for the 10 machining centers can now be managed by only **one** tool specialist (in the tool room). Before TDMshopcontrol was introduced, tool provision for set-ups was carried out by the machine operator. Uncomplete and time-consuming tool searches made it almost impossible to keep scheduled set-up times. They have been always exceeded by 10%-15%. Today only one person, the responsible tool provider, receives information from the SAP system about jobs which have to be processed. The production order for TDMshopcontrol is the tool list. The procedure is as follows: After the selection of the machine tool you can choose the jobs which need to be set-up or to be removed from the machine. The result after the balance in TDMshopcontrol is a loading respectively an unloading list for tools. The loading list contains the tools which have to be put into the machine's magazine for continuous machining. In TDMshopcontrol the machine is then selected. Jobs requiring set-ups or tool removals are then selected. The intersection is the loading list. It contains the tools which must be fed into the magazine for the further machining. Tools which are already assembled and available are marked and can be taken over

the stand by magazine near the machine. The remaining tools must be assembled from individual components. TDMshopcontrol keeps a track on all tool movements as well as on inventories and the assignment of locations in the crib and magazines. That greatly minimizes the number of tools to be set-up. A special feature is the possibility to preview the required spots in the magazine (capacity monitoring function locations for the tool magazine). The system sends a warning whenever there are insufficient spots in the magazine.

TDMshopcontrol also generates an unloading list in order to perform an automatic tool removal from the assigned spot in the magazine. This ensures the highest level of reliability and safety of process. After the assembly the tools are pre-set and their actual data are taken over into TDM, where tool Offsets are created according the specific machine control. After the tool magazine has been updated, only a minimum of time is required to complete the set-up. TDMshopcontrol has cut the time and work required at the plant in Augsburg for tool assembling, pre-setting and disassembling to a minimum. Targeted tool set-up times are kept, downtimes (due to missing tools etc.) are avoided, and the machines' run times increased (capacity utilization).

TDMshopcontrol is respected by all employees, who gladly accept it as a member of the company's family.



Benno Gehrig,
Director CAM-Development



With TDMshopcontrol, Mr Schneier has no difficulty in managing 3 set-ups a day, each with 50 to 80 tools for 10 machining centers. (Photo: Mr. Schneier with tool trolley at the stand by magazine)