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# Mekatronics, Inc.

## ROUNDER & BACKER MODEL GL-10

### DESIGN CHANGES AND ENHANCEMENTS

#### Safety

- Redesigned to meet the more stringent domestic and international safety requirements that have emerged in recent years. With the exception of the opening into which the book block is fed and which is protected by the proven **DIGI-GUARD™** safety device that prevents injury should the operator's fingers or hand be in the work area, the machine is totally covered with louvered panels and is cooled with fans.
- With the exception of the incoming high voltage to power the motor, power supply and fans, all other electrical components are powered by 24 VDC.
- Main Power and Emergency-Stop switches as well as a guarded foot switch have been added.

#### Reliability

- The reliability of the machine has been increased by the replacement of the hard-wired 14-relay control panel with a state-of-the-art Programming Logic Controller (PLC).
- The more reliable inductive proximity switches have replaced all mechanical switches.
- A cartridge using the more reliable Hall-Effect switches has also replaced the counting switch cartridge with its two miniature mechanical switches.
- The cartridge, with 5 miniature mechanical switches, used to indicate the curvature of the backing roller path, has been replaced with a more reliable one utilizing reed switches.

#### Versatility

- As in the previous models, the roller is allowed to press against the spine only from the center of its arc to the end of each of its strokes. However, depending on the type of work being processed, the operator can now select the desired number of strokes that the backing roller can make.



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## Operation

- Training of new operators is simplified through prompts displayed on the operator interface panel.

## Maintenance

- Troubleshooting is simplified through PLC generated diagnostics displayed on the Operator's Interface Panel.
- The previous 6-step procedure for reversing a stalled backing roller has been reduced to a simple 2-step operation.
- Troubleshooting is simplified through the use of an *incremental mode* of operation whereby the maintenance person can cycle the machine through its functions one step at a time.
- A new "Bosch" pump, readily available worldwide, operating at a conversational noise level of 60 dB has a 50% noise level reduction over its predecessor.
- The 220 VAC "Vickers" directional control valves, not readily available everywhere, have been replaced with readily available "Bosch" valves operating at 24 VDC.
- Pump replacement is simplified through the use of a new motor with a pump/motor adapter that accurately aligns the pump and motor shafts.