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Maintenance Guide
Inner Swell Beveling Machines

Inner Swell Beveling Machine Manual

Warning to operator:

It is essential that the operator is familiar with the job to be performed, as much as the tools at his/her service, after being informed of the pipe inner diameter, material, required bevel angle and wall thickness of the pipe to beveled. Once that is set, you will define:

- model of the ISY/TCM beveling machine to be used
- model and material of the bits to be used.

Pipe preparation:

For good beveling, it is important that the pipe has been well cut. If out of square, the 0° bit must be used for achieving pipe squaring. If hot cutting was performed, remove dross and stains with abrasive tools.

The operator must always pay attention the beveling tool (bits) conditions and, when necessary, hire a specialized and experienced sharpening professional. You will realize bits need sharpening or replacement, when the chips output is not continuous or spiral (carbon steel), or by examining the situation of the bits cutting edge.

For a longer sharpening and bits lifetime, good lubrication and cooling are necessary while beveling is being performed. A hand sprayer with Merax Oil Threader can be used for this purpose.

Merax Beveling Machines produce bevels in 5% of the time required by a conventional sander. To avoid severe damage to the beveling machine reducers, work continuously and uniformly, not stressing the bits.

Do not try to expand clamping chucks beyond their limits or deregulation may occur. **(Fig. 1 and 2)**

Fig. 1

Fig. 2

Keep equipment clean, and expansion and feed shafts, and clamping chucks lubricated. Pay special attention to model ISY/TCM 150, checking if clamping chucks screws are tight. **3, 4 and 12)**

Fig. 3

Fig. 4

Maintenance: Use only original parts.

Electric motor: electric motor stop - check coal brushes, power cables and replace damaged parts, if necessary **(Fig. 5 and 6)**

Fig. 5

Fig. 6

- Loud motor noise - possible bearing break-down Check bearing and other motor parts and replace damaged parts. **(Fig. 8).**

- Noise in motor reducer - check bearing and gear set. Replace damaged parts. **(Fig. 7)**

Fig. 7

Fig. 8

- Reducer planetary - electric drive of motor occurs, but machine does not work. Planetary shafts or bearings (3) may be damaged. Replace damaged parts. **(Fig. 9 and 10)**

Fig. 9

Fig. 10

- Does not expand - check expansion shaft and expansion shaft nut. Replace, if necessary. **(Fig. 11)**

- When clamping chucks get stuck, i.e., do not expand, possible causes are: damaged clamping chuck or support. Replace. **(Fig. 3)**

- Dirt or scrap on support: clean. **(Fig. 3 and 11)**

- Clamping chucks will not retract or retraction is difficult: rings spring without pressure (expect in models ISY TCM 28 e 150). Check and replace. **(Fig. 2)**

- If clamping chucks limits deregulate, move ring springs and chucks. Put the expansion nut back in the lowest limit, and simultaneously

adjust clamping chucks on support until clamping chucks faces support.
(Fig. 2 and 11)

Fig. 11


Fig. 12

Use original parts and always call a Merax Authorized Service. Check list at: www.merax.com.br