



COGSDILL TOOL

products, inc.

APPLICATION *news*

DATE January 23, 2004

NUMBER CAN1-04

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CX[®] Roller Burnishing Eliminates Costly Inspections and Rejections

External burnishing machine eliminates surface imperfections; provides ideal seal surface for O-rings

A MANUFACTURER OF IRRIGATION PUMPS AND SPRINKLERS was having problems producing sprinkler shafts. The manufacture of the shafts was outsourced for turning, centerless grinding, and heat-treating. Upon delivery the parts had to be 100% inspected for nicks or scratches, since rubber O-rings were riding on the on the surface. The time-consuming and costly inspection process resulted in a 35-40% rejection rate. They asked Cogsdill for assistance.

Cogsdill ran the parts on a CX-1T external roller burnishing machine. The machine features an interference-style sub-assembly for through-feeding parts. (See reverse side for a guide to CX Machine sub-assembly options.) The required part tolerance was held as the customer achieved a **surface finish “never seen before!”** Imperfections were eliminated, thereby creating a much better part surface for the O-rings to ride on.

Now after receiving the parts, they are simply run in one fast pass through the CX-1T machine. The costly and time-consuming inspection, and the rejections, are eliminated. The satisfied customer, currently burnishing two parts of different diameters, is considering the purchase of another machine for a third part diameter.

Cylindrical parts of any length are accurate sized with a fine finish and a work-hardened, wear-resistant surface... in seconds!



CX-1T External Roller Burnishing Machine

— More on reverse side —

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Machining Data

Machine type: CX-1T-A

Component: Water sprinkler shaft

Material: 303 stainless steel; 17PH stainless steel

Spindle speed: 2000 RPM

Feed rate: .075 IPR (1.9 mm/rev)

Cycle time: 1 second

Coolant: Water soluble

Sizes required: .1212 ± .0002 in. (3.078 ± 0.005 mm)

.0753 ± .0002 in. (1.912 ± 0.005 mm)

Sizes achieved: .1211 in. (3.075 mm)

.0752 in. (1.910 mm)

Finish required: 12 microinch R_a or better (tear-free; no scratches or nicks)

Finishes achieved: 3 microinch R_a (0.075 micrometer)

2.2 microinch R_a (0.055 micrometer)

A guide to CX Machine sub-assembly options

- ❑ The **interference-style** unit sizes parts to exacting tolerances as it imparts a mirror-like surface finish. (The working diameter of the CX race assembly is set to be slightly smaller than the O.D. of the part, hence the term “interference.”)
- ❑ As an alternative, the **air-pressure controlled compensating** unit allows the machine to adjust automatically to different part diameters. These models are used in applications where finish, rather than size, is the primary (or only) requirement.
- ❑ Either style is available for **through-feed** of parts, or with an **adjustable stop-and-release** mechanism for burnishing parts up to shoulders or obstructions.