



COGSDILL TOOL

products, inc.

APPLICATION *news*

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NUMBER CAN3-03

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Cogsdill AEX Series Roll-a-Finish® Tool Saves Time and Money

Secondary operation is eliminated as finish is achieved in the original CNC turning process

Secondary operations are expensive and time-consuming. A manufacturer of gas sensors discovered that Cogsdill roller burnishing could help them achieve the desired surface finish on a plunger on the original machine on which the part was produced, thereby eliminating a hand-polishing operation.

The customer needed a 4 microinch (0.1 micrometer) finish. They were getting an 8-10 finish in their turning process, and hand polishing to a 4. Cogsdill was asked if we could help them achieve the 4 finish on the CNC lathe on which the part was turned, so that the hand polishing operation could be eliminated. We set up an AEX-1 Roll-a-Finish® tool on the lathe and, in keeping with our usual practices for external burnishing tools, worked at the high side of the part diameter tolerance. Tool “interference” (i.e., the amount by which the effective tool diameter is smaller than the prepared part O.D.) was set at .001 inch (.025mm). Actual stock displacement was .0004 inch (.010mm).

Over a run of 20 parts, the finish was as good as 2 microinches (.05 micrometer) and no higher than 3.5 microinches (.09 micrometer). The time-consuming and costly hand polishing operation was eliminated, and the tool paid for itself after a run of only 200 parts.



Refer to “Burnishing Tools & Machines” catalog no. 500 for more information on AEX Series external Roll-a-Finish tools. Also included: tools for IDs and special designs for tapers, flat surfaces, contours, and virtually any part configuration.

— See reverse side for machining data —

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Machining data

Machine type: CNC lathe

Tool no.: AEX-1

Material: Stainless steel

Spindle speed: 1200 RPM

Feed rate: .030 in. (.76mm)

Cycle time: 5 seconds

Coolant: Oil

Size required: .580 \pm .0003 in. (14.73 \pm .008mm)

Size achieved: .580 \pm .0002 in. (14.73 \pm .005mm)

Finish required: 4 microinch (0.1 micrometer) or better

Finish achieved: 2-3 microinch (0.05-0.08mm)