



# Model SC1000-2U

For Brown & Sharpe #2 Ultramatic screw machines

The ServoCam™ SC1000-2U combines the versatility of CNC controls with the speed and reliability of Brown & Sharpe #2 Ultramatics. Patented technology precisely synchronizes the CNC turret-slide actuator to the existing camshaft. Most jobs run at least 10% to 30% faster than with custom cams. Programming is intuitive – if you know what tools you need in the turret, you can design a part cycle. Machine setup is faster and easier. You have the flexibility to modify part cycles in minutes. And production costs are typically reduced by 20% or more.



## Features and Benefits

- Intuitive Windows® Design Software \_\_\_\_\_ *Design Part Cycles in Minutes*
- CNC Control \_\_\_\_\_ *Precise Tool Control Eliminates Threading Problems*
- Full Seven-inch Turret Stroke \_\_\_\_\_ *Easily Run Longer Parts*
- High-Speed Operation \_\_\_\_\_ *10% to 30% Faster Than Custom Cams*
- Numeric Tool Adjustment \_\_\_\_\_ *Tool Lengths Set to 0.0001" in Seconds*
- Programmable Rapid Pull-out \_\_\_\_\_ *Eliminates RPO Setup and Maintenance*
- Rapid Part Cycle Modification \_\_\_\_\_ *Avoids Production Schedule Snarls*
- Programmable Chip-breakers \_\_\_\_\_ *Easily Control Chip Lengths*
- Resetable Safety Coupling \_\_\_\_\_ *Prevents Damage from Tool Crashes*
- Reduced Setup Time \_\_\_\_\_ *Increases Your Net Production Hours*

## HOW DOES IT WORK ?

The ServoCam™ system is much more versatile than a conventional lead cam, because the motion profile of the turret slide is stored as a computer data file instead of being cut into a metal cam.

The drive train for the ServoCam™ SC1000-2U starts with the brushless DC servomotor, which tracks the cam layout that you designed.

The servomotor drives a ball-screw pulley via a timing belt. The ball-screw pulley, with an integral safety coupling, drives a 3/4-inch ball screw that moves the linear cylinder rod.

The turret slide on your machine is pushed directly by the linear cylinder rod. The turret-slide return spring is retained, allowing normal use of the turret-slide hand lever. A camshaft position encoder links the turret slide functions to the camshaft so that the trip dogs and cross-slide tools are timed correctly.

Programmable rapid pull-out eliminates the need for RPO cams and trip dog setup, and gives faster cycle times. The conventional RPO mechanism is removed from your machine, enhancing machine accuracy and reducing maintenance.

### Installation

The screw machine should be in good operating condition before installing the ServoCam™ system. The ServoCam™ controller support arm bolts to the top of the trip dog carrier pedestal. The actuator mechanism mounts to brackets installed on each side of the turret slide way. The turret-slide spring bracket is removed from the rear of the turret slide, and is replaced by a push plate assembly. The lead lever and lead cam lever are removed, and a position encoder is mounted in place of a lead cam. Installation requires drilling and tapping only six holes in your machine, and takes less than one day.

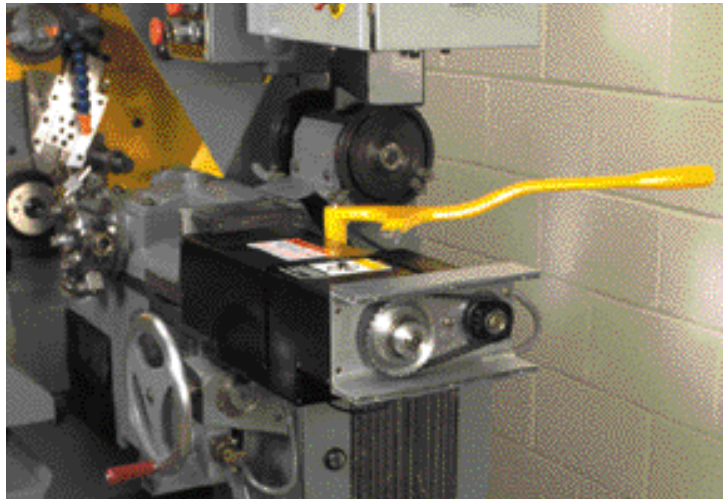
### Support and Maintenance

The ServoCam™ system is backed by a one-year limited warranty on parts and labor. The system was designed to maximize modularity and ease of service. To maintain the system, simply grease the ball screw annually. In the event of a component failure, repair is easily accomplished by simply replacing the defective module. Replacement modules can be shipped overnight.



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### Specifications

#### SYSTEM

<b>Repeatability</b>	+/- 0.0001 in (0.00254mm)
<b>Feed Rate (max)</b>	350 ipm (8.9m/min)
<b>Rapid Traverse</b>	440 ipm (11.2m/min)
<b>Tool Force (max)</b>	1400 lb (6228 N)
<b>Supply Voltage</b>	105-125 VAC, 50/60 Hz, single phase
<b>Supply Current (max)</b>	3.0 Amps

#### ACTUATOR

<b>Stroke</b>	7.0 in (178 mm)
<b>Motor</b>	1.3 hp (0.98kW) brushless DC servomotor
<b>Drive system</b>	Timing belt & ball screw
<b>Safety coupling</b>	Automatically resetting
<b>Mechanical output</b>	Linear cylinder rod
<b>Camshaft monitor</b>	Position encoder, 4096 counts per rev


#### CONTROLLER

<b>Enclosure</b>	NEMA 12, oilproof
<b>Processor</b>	32-bit PC-104 embedded PC
<b>File transfer</b>	3 1/2" floppy diskette
<b>Display</b>	Backlit LCD, 4 rows x 20 characters
<b>Keypad</b>	20-key membrane
<b>Non-volatile memory</b>	Internal flash disk

#### CAMSHAFT OVERRIDE

<b>Type</b>	Electrical
<b>Control</b>	Solid-state AC relay

Specifications subject to change without notice.

 **amt machine systems, Ltd.**

1760 Zollinger Road, Columbus, Ohio 43221

614-451-3366 614-451-7007 fax

[www.servocam.com](http://www.servocam.com)