ServoCam™

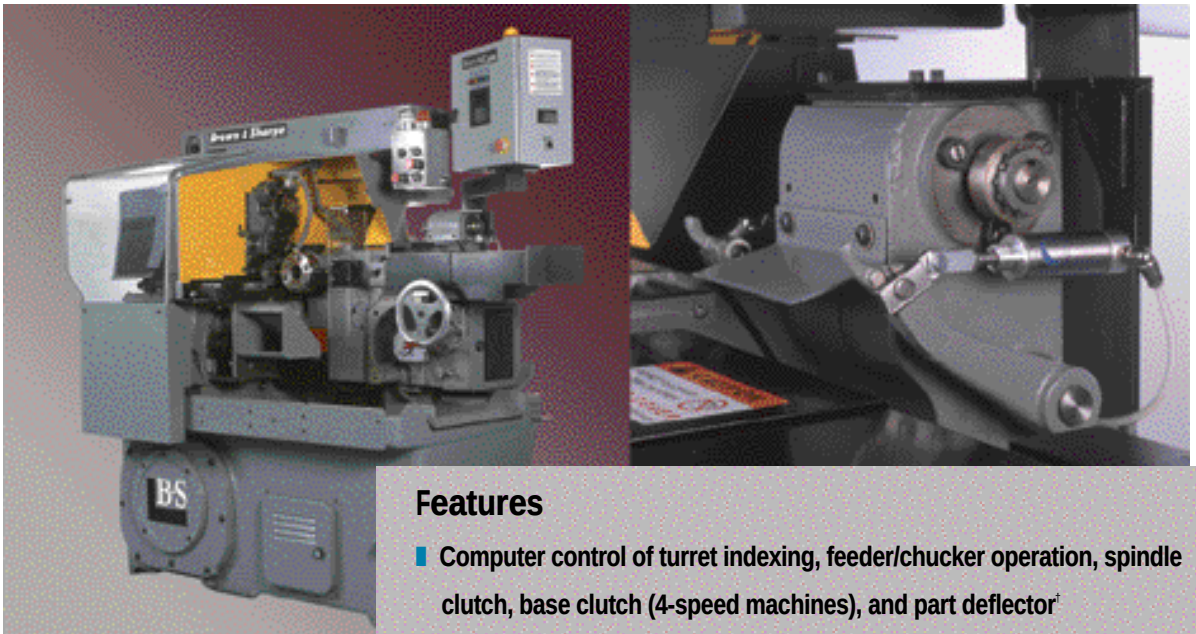
AutoTripper™ AT1000

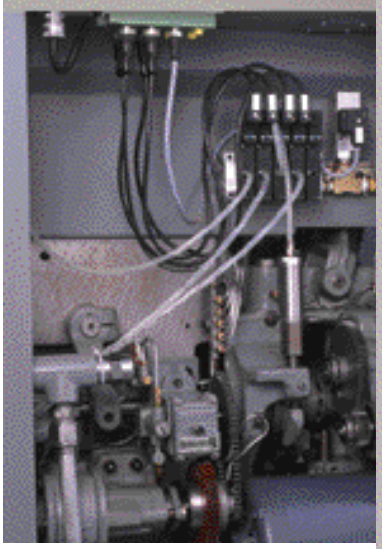
For Select ServoCam™ Models

Speed. Precision. Versatility.

The ServoCam™ AutoTripper™ option brings these qualities to all trip-dog functions. Full automation of turret indexing, spindle speed changing, and feeding/chucking is seamlessly integrated. Even the part-deflector† timing is under software control.

The result: Trip-dog setting is eliminated. And precise tripper timing improves gross production rates by as much as 15%.





Features

- Computer control of turret indexing, feeder/chucker operation, spindle clutch, base clutch (4-speed machines), and part deflector†
- Computer-aided timing optimization, provided by the ServoCam™ Designer software

Benefits

- Reduce machine setup time by 15 minutes or more.
- Improve setup labor productivity; increase machine up-time.
- Reduce training requirements for new setup men.
- Increase job satisfaction by reducing setup hassles.
- Modify and optimize part cycles in minutes.
- Reduce chips in the parts bin with precise part-deflector timing.
- Achieve 100% timing consistency on repeat setups.
- Reduce cycle times by a second or more with precise trip points.

amt machine systems, ltd.

HOW DOES IT WORK ?

AutoTripper™ AT1000

The ServoCam™ AT1000-2U AutoTripper™ system replaces the trip dogs on your screw machine with electro-pneumatic actuators. The output file of the ServoCam™ Designer software includes the trip points for the tool-turret indexer, the feeder/chucker, the spindle clutch, and the base clutch (for 4-speed screw machines), as well as the extend- and retract-points for the part deflector†. Like the ServoCam™ actuator, all AutoTripper™ operations are precisely synchronized with the screw-machine camshaft. The feeder/chucker can be turned on and off with an operator switch, and other AutoTripper™ functions can be disabled from the controller keypad.

When the ServoCam™ controller determines that the camshaft has reached a trip point, it sends a serial command to the AutoTripper™ control board. The control board, in turn, sends a 12V actuation signal to the appropriate device. For the base clutch of 4-speed machines, the actuation device is simply a relay that replaces the standard sequencing relay. For all other AutoTripper functions, the actuation devices are pneumatic valve-and-cylinder systems. The pneumatic cylinders operate the individual tripper mechanisms and the part deflector†.

The AutoTripper™ pneumatic subsystem is supplied from clean shop air. To ensure consistent actuation timing, a pressure regulator and a pressure switch are included. The ServoCam™ controller will halt the screw machine if the supply pressure falls below the minimum operating pressure. Electrical power is supplied from the ServoCam™ controller.

Installation

The AT1000-2U AutoTripper™ system is designed for rapid field installation. If ever desired, the AutoTripper™ system can be removed and all tripper mechanisms restored to conventional trip-dog operation. Installation time is less than one day.

The major components of the AT1000-2U AutoTripper™ system are the control board, a 12V distribution block, the valve/manifold assembly, the pressure regulator, and the pneumatic cylinder assemblies. The control board mounts in the screw-machine electrical enclosure. The 12V-distribution block and the valve/manifold assembly mount above the backshaft motor. The pressure regulator mounts to the end of the screw machine, near the spindle motor. The pneumatic cylinder assemblies mount at each respective tripper mechanism, using supplied bracketry.

Support and Maintenance

Routine maintenance of the AT1000-2U AutoTripper™ is limited to replenishment of pneumatic lube oil and inspection/replacement of the air filter. In the event of a component failure, diagnosis is expedited by multiple status LEDs. All modules are user-replaceable, and replacement modules can be shipped overnight.

Specifications

SUBSYSTEMS CONTROLLED	AT1000-2U	AT1000-2B	AT1000-00U
Tool Index	✓	✓	✓
Spindle Speed	✓	✓	✓
Bar Feed	✓	✓	✓
†*Part Deflector*	✓		
*Auxiliary**	✓	✓	✓

*available Q4 2003

TIMING	
Actuation Time	0.050 seconds max
Repeatability	0.025 seconds max
PNEUMATICS	
Supply Pressure	60 psi min
	80 psi max
Valve Type	12VDC coil, spring return
Cylinder Type	Stainless steel
Lube Oil	10-weight air-tool oil
ENVIRONMENTAL	
Operating Temp	0ºC - 50ºC
Sealing (external)	NEMA4, IP65
SYSTEM REQUIREMENTS	
ServoCam™ Processor	586-133MHz min

Specifications subject to change without notice.

amt machine systems, ltd.
1760 Zollinger Road, Columbus, Ohio 43221
614-451-3366 614-538-0959 fax
www.servocam.com