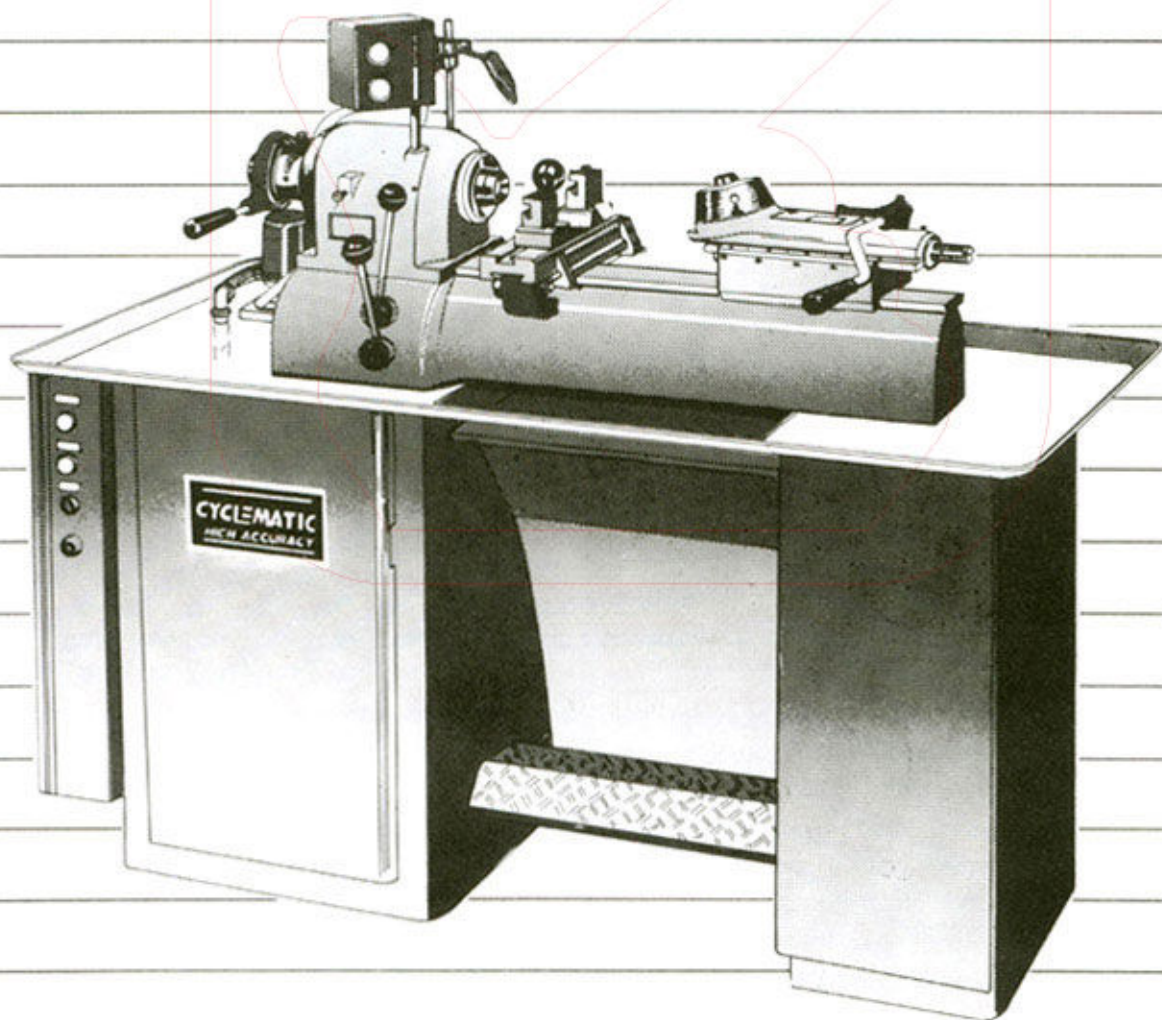


CYCLEMATIC

High Accuracy Machine Tools

SECOND OPERATION LATHE

Guaranteed Circularity Accuracy
to 0.0015mm (50 millionths inch)

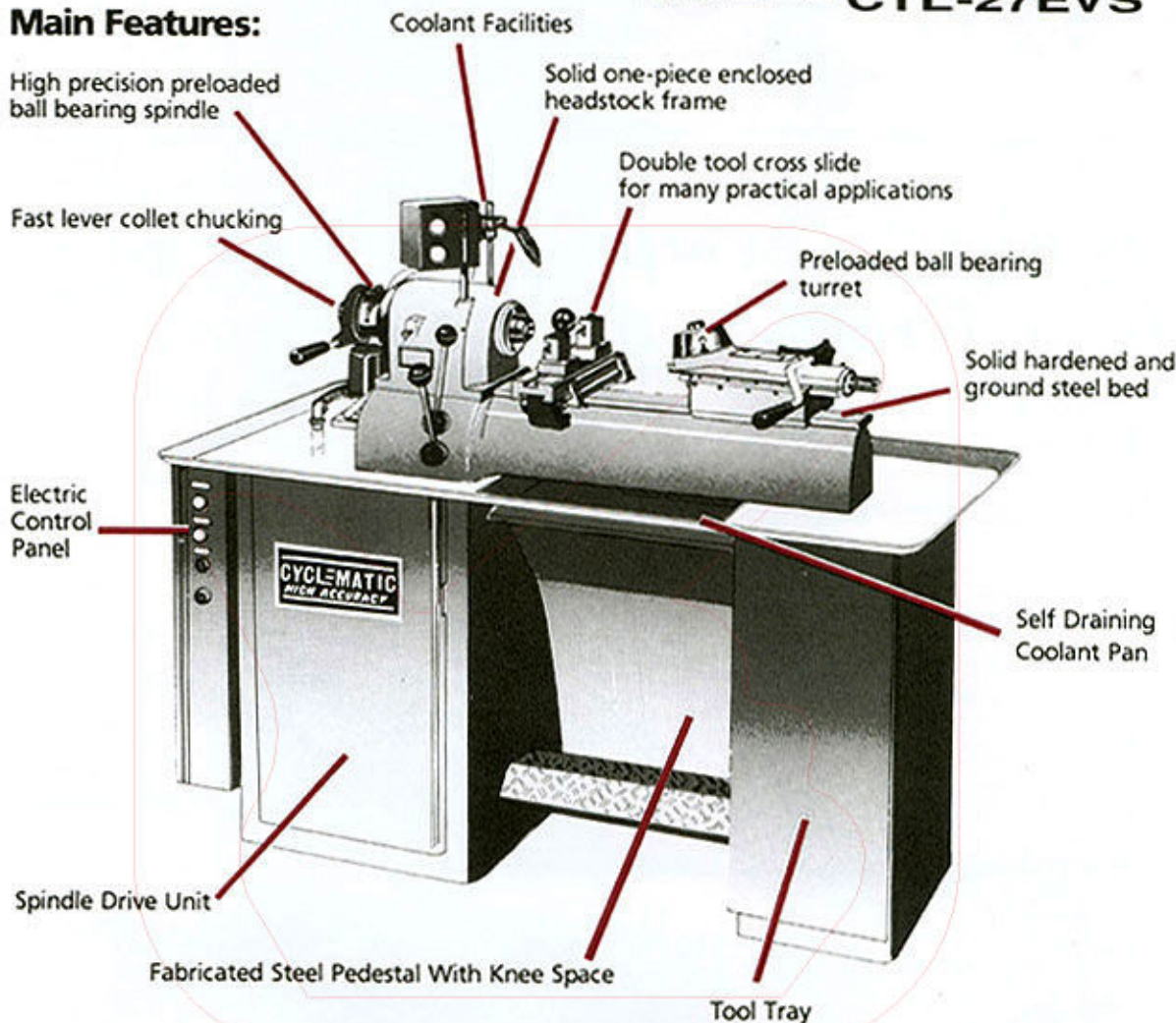


CYCLEMATIC MODEL CTS-27EVS·CTL-27EVS

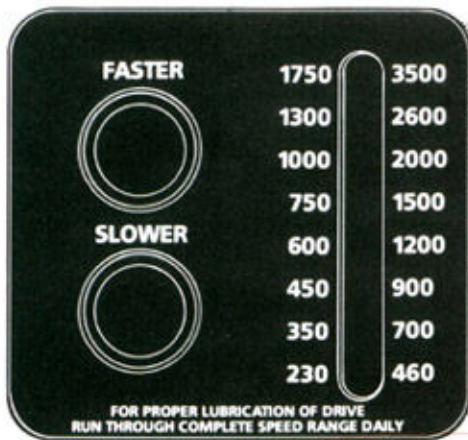
HIGH SPEED HIGH ACCURACY SECOND OPERATION MACHINES

MODEL CTS-27EVS
CTL-27EVS

Main Features:



- The spindle is mounted in high precision preloaded angular contact ball bearings eliminating radial and end play.
- Fully enclosed preloaded angular contact ball bearing headstock with splash shield for spindle.
- Variable spindle speeds from 230-3500 r.p.m.(CTS-27), 0~4000r.p.m(CTS-27EVS)
Fast lever collet chucking with a single movement.
- Specially designed bed ways are made of hardened and ground alloy tool steel that resist wear. The angular guide ways allow chips to fall in the oil pan.
- The double tools cross slide is held securely to the bed by a mating dovetail section and may be locked in any position on the bed.
- The preloaded ball bearing turret head eliminates all play between the turret head and the turrest slide.
- The sliding ball bearing collet tray provides space for one set of collets and is within easy reach of operator.



SIMPLY PUSH A BUTTON FOR EXACT SPINDLE SPEED

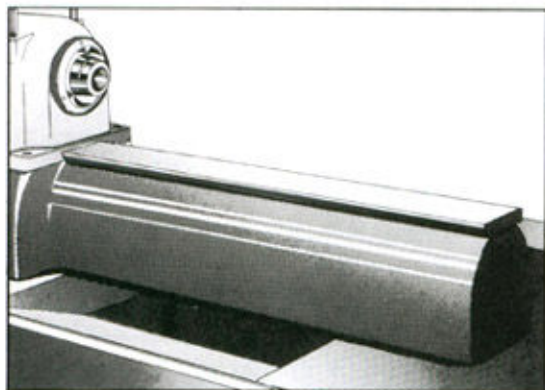
When the operator uses our CYCLEMATIC CTS-27 second operation machine, he will find it is very easy to operate at infinitely variable spindle speeds. The spindle speed may be increased or decreased with the touch of a button. While the tool is cutting the operator may select the exact speed that is required.

FAST LEVER COLLET CHUCKING

The lever control end of the closer assembly is balanced and rides on a precision bearing. Movement to the left closes the collet, and to the right opens the collet.

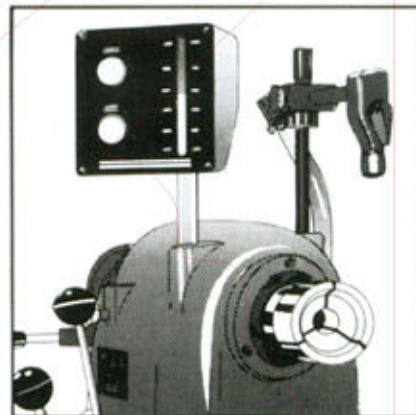
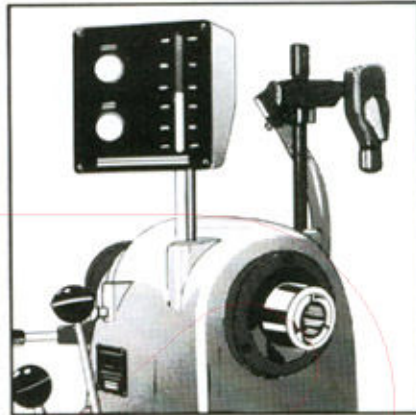
HARDENED AND GROUND PRECISION STEEL WAYS

The bed ways are solid hardened and ground alloy tool steel. There is no weakness of a center slot. There is one precision straight edge for aligning and anchoring attachments. The bed is easy to keep clean, will resist wear, and chips cannot fall upon the angular guide ways.



HEADSTOCK FEATURES

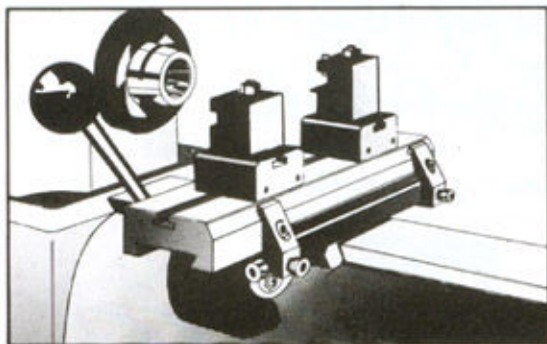
High Accuracy Preloaded Angular Contact Ball Bearing Spindle. 1-1/16" 5 C Collet Capacity. Collet Seats Directly in Spindle.



1-1/16" To 6" 5C Step Chuck Capacity. High Accuracy Taper Nose Spindle For Mounting Tooling. Solid One-Piece Totally Enclosed Headstock Frame. Infinitely Variable Spindle Speed From 230-3500 r.p.m.(CTS-27), 0-4000r.p.m.(CTS-27EVS)

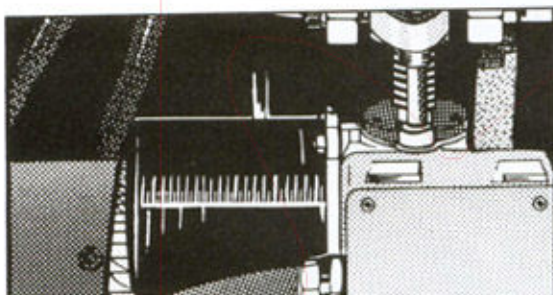
STANDARD TOOLS

- ST-01 Hexagon wrench keys (1 set)
- ST-02 Open end wrench (10-12mm)
- ST-03 Open end wrench (14-17mm)
- ST-04 Open end wrench (17-19mm)
- ST-05 Cross-head driver (4" handle)
- ST-06 Screw driver (4" handle)
- ST-10 Tool box
- T-CT-02 Test bar



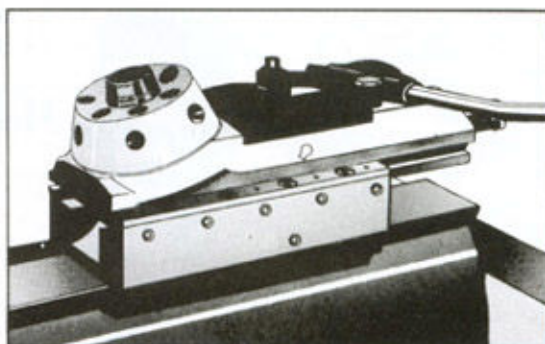
DOUBLE TOOL CROSS SLIDE

The cross slide base provides the needed rigidity when forming, cutting off, or turning with the straight and taper turning slide attachment. The cross slide is easily operated by a hand lever. Two threaded feed stops are provided for fine adjustment of each tool position.



SPINDLE DRIVE UNIT

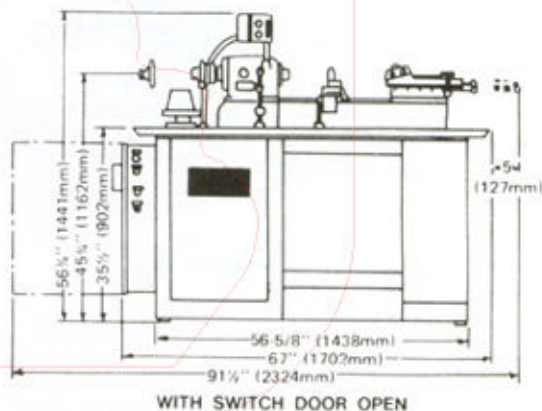
The unit provides variable speeds from 230 to 3500 r.p.m.: To change spindle speed, start the spindle and push the faster or slower button. This will increase or decrease the spindle speed. High and low spindle speed settings are instantly available with a lever operated two speed motor.



SIX-STATION TURRET

The preloaded ball bearing turret head mounting, eliminates all play between the turret head and turret slide. The index pin is hardened and ground, and is mounted between hardened and ground preloaded roller bearings for ease in operation. The turret head and each of the six independent adjustable stops are automatically indexed to the next position.

MODEL CTS-27 DIMENSIONS



WITH SWITCH DOOR OPEN

SPECIFICATIONS

ITEMS		MODELS	CTS-27/CTL-27	CTS-27EVS/CTL-27EVS
SPINDLE CAPACITY	With jaw chucks		5" (127 mm)	
	With expanding collets		3" (76 mm)	
	With round 5C collets		1-1/6" (27 mm)	
	With step chucks		1-1/16 to 6" (27 ~ 152.4 mm)	
Spindle nose diameter			φ 2.189" (φ 55.6 mm)	
Variable spindle speeds			230-3,500 rpm	0 ~ 4,000 rpm (5C collet)
Spindle nose I.D./O.D.			5C(10°)/4° Taper	
Double tool cross slide travel			3-3/4"(95 mm)	
Turret slide travel			4"(101.6 mm)	
I.D. of turret head			5/8"(15.875 mm)	
Swing over bed			9" (229 mm)	
Main motor			2 HP, 220V, 3 PH, 4P/8P	5 HP, 220V, 3 PH
Coolant pump			1/8 HP, 220V, 3 PH	
Net/Gross weight			990/1364 lb. (450/620kg)	
Machine packing dimension			73" × 35" × 75" (1,850 × 890 × 1,900mm)	

* Specifications are subject to change without notice for further design improvements.

STANDARD EQUIPMENT

- Fully enclosed preloaded angular contact ball bearing headstock with splash shield for spindle.
- Tool storage compartment with sliding ball bearing collet tray.
- Ball bearing lever collet closer.
- Double tool cross slide with wedge type tool posts and blocks (Standard on model **CTS-27**, **CTS-27EVS** only)
- Solid hardened and ground alloy tool steel bed ways.
- Automatic indexing six position turret with preloaded ball bearing head (Standard on model **CTS-27**, **CTS-27EVS** only)
- Direct reading spindle speed indicator.
- X-Z axis compound slide (Standard on model **CTL-27**, **CTL-27EVS** only).(See Back Cover)
- Screw feed tailstock (Standard on model **CTL-27**,**CTL-27EVS** only).(See Back Cover)

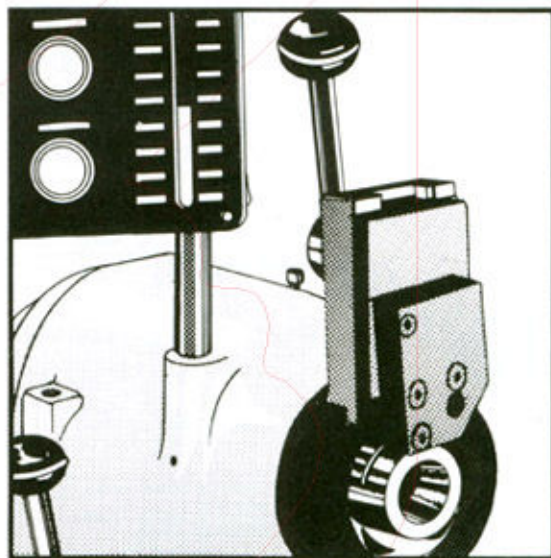
- Infinitely variable speed drive complete with two speed, reversing motor and lever-operated controls for operation on 220 or 440 volt, 60 cycle, 3 phase current (*specify desired current*).
— with a speed range of 230 to 3500 r.p.m.
— completely wired and assembled.
- Built-in coolant facilities with sump and self-draining oil pan. The center section of the oil pan is formed to slope from the front of the pan back to the sump for rapid return of coolant to the sump. The sump, an integral part of the pan, prevents overflowing. The twice screened coolant is pumped from the sump to the work area by an individually motorized pump. The pump is controlled by a conveniently located separate switch in the front of the electric control panel.

- Automatic driveshaft spindle brake.
- Push button control for variable speed drive.
- Magnetic electric control panel for low voltage protection. Machine controls operate at 110 volts. Time lag thermal overload relays provide overload protection.

- Fabricated steel pedestal with knee space and tool compartment provides support for the CYCLEMATIC CTS-27. The pedestal fully encloses the motor, driving unit and tool storage compartments. The motor compartment is arranged for adequate vent-

ilation through a large louvered area. The sliding ball bearing collet tray provides space for a set of collets and is within easy reach of the operator. The collet tray and tool storage shelves are made of oil resistant plastic which has a smooth, splinter-free surface. The pedestal is provided with adequate knee and leg room for the operator who desires to operate the machine from a sitting position.

OPTIONAL EQUIPMENT

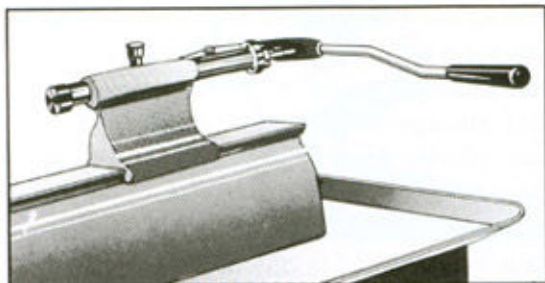


VERTICAL CUT-OFF SLIDE (CTS-27-08)

The vertical Cut-Off Slide will speed production and reduce part costs. The Cut-Off Slide does not waste a valuable double tool cross slide tool position for a simple cut-off operation. Tool the cross slide for precision work such as forming and turning of the actual part.

The vertical cut-off slide is available for direct application to any 9" swing CYCLIMATIC ACCURACY Second Operation Machine. The unit is furnished complete, but does not include standard 3/32" wide cut-off blade. The slide is fastened to the front of the headstock by cap screws which are provided with each unit.

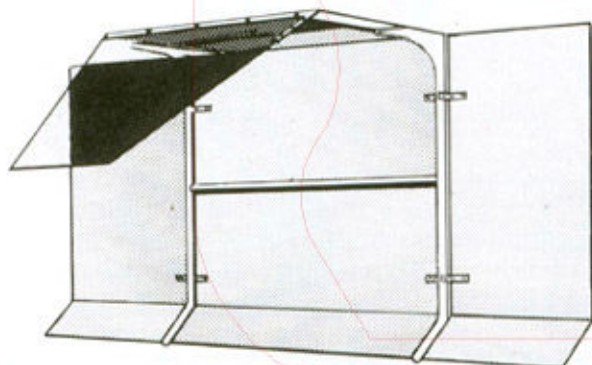
OPTIONAL EQUIPMENT



5 1/2 TRAVEL END WORKING SLIDE (CTS-27-09)

This slide is for deep hole drilling, long threading, box tool turning, lapping or any other operation requiring a tool travel up to 5 1/2". The travel is governed by an adjustable stop collar.

The operating lever is adjustable for height and length to suit the operator. The slide takes 5/8" straight shank tools, the same as used in the turret head.



CHIP AND COOLANT SHIELD (T-CS-10)

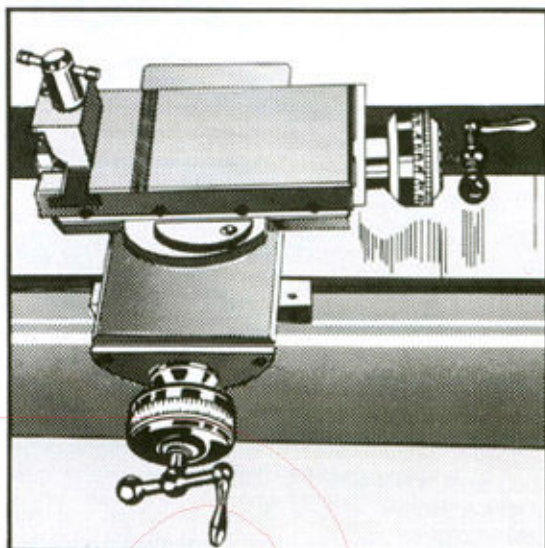
The transparent plastic chip and coolant shield is available for use with most CYCLIMATIC LATHE models. The hinged section is adjustable to left or right to suit work requirements, new extended sections offer additional splash prevention.

MATERIAL:

- Poly carbonate sheet

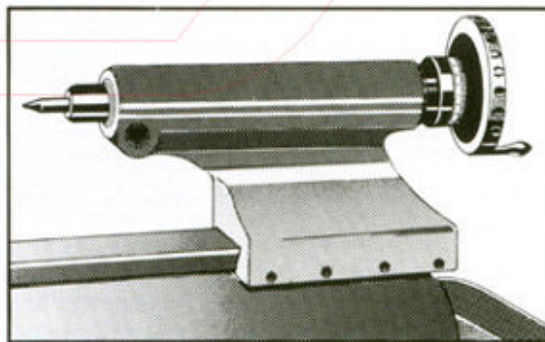
FEATURES:

- Virtually unbreakable
- Excellent light transmission
- Energy efficiency



COMPOUND SLIDE FOR SECOND OPERATION MACHINES (CTS-27-10)

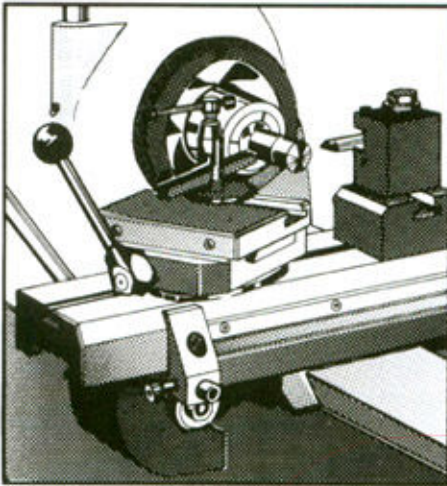
The compound slide rest can be readily applied to the CYCLEMATIC Second Operation Machine for screw feed precision turning, facing and boring operations. The large diameter feed screws are hardened and mounted on preloaded ball bearings. The feed screw dials are 2" in diameter. Both adjustable for zero settings.



TAILSTOCK FOR SECOND OPERATION MACHINES (CTS-27-11)

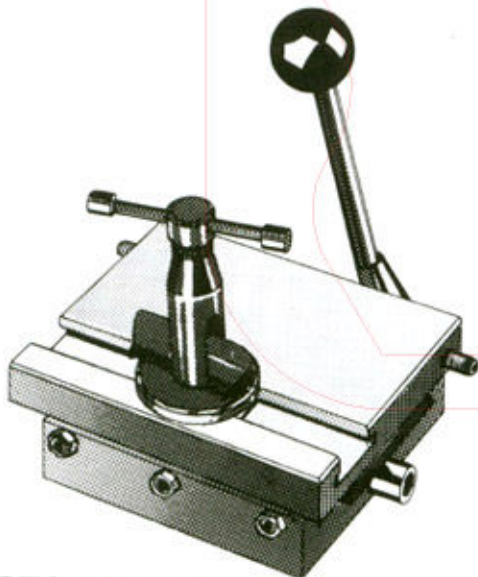
The tailstock is applied directly to the bed ways in place of the turret. It is required for center support of Long Shafts.

Model : CTS-27EVS/CTL-27EVS



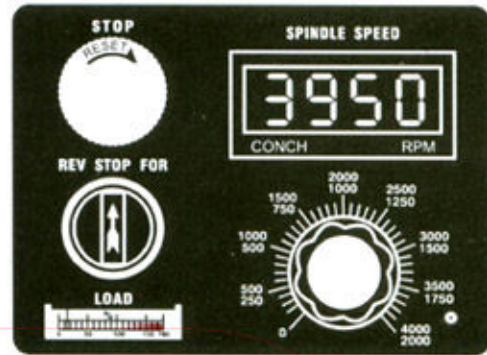
STRAIGHT AND TAPER TURNING SLIDE (CTS-27-07)

The swivel base is graduated in degrees and can be swiveled and locked to any vertical angle. The lever operated rack and pinion slide travel of 1 3/4" is controlled in either direction by adjustable stops. The tool post takes standard 5/8" square tool bits.



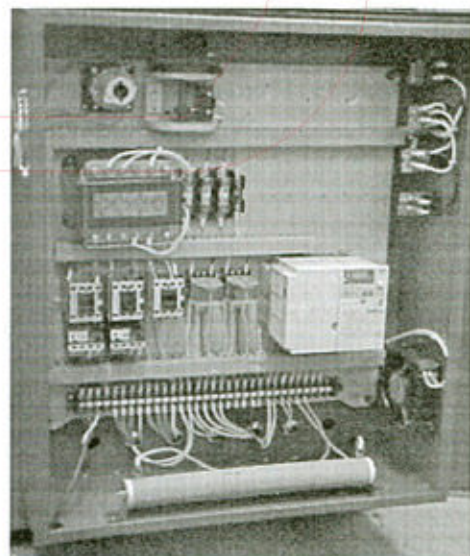
(CTS-27-07)

The straight and taper turning slide can be used on the front or rear of the double tool cross slide. It is for straight or angular turning, back facing, undercutting or for turning long slender parts that cannot be readily formed by a full width tool. Two of the attachments may be mounted on the double tool cross slide for turning or boring two different angles at one setting of the work, such as valve seats or bevel gears.



Electronic vari-speed system with inverter infinitely variable spindle speeds can be instantly set from 0 to 4000 RPM while the spindle is running. The actual RPM is viewed in an easy to read digital display enclosed in the speed control unit.

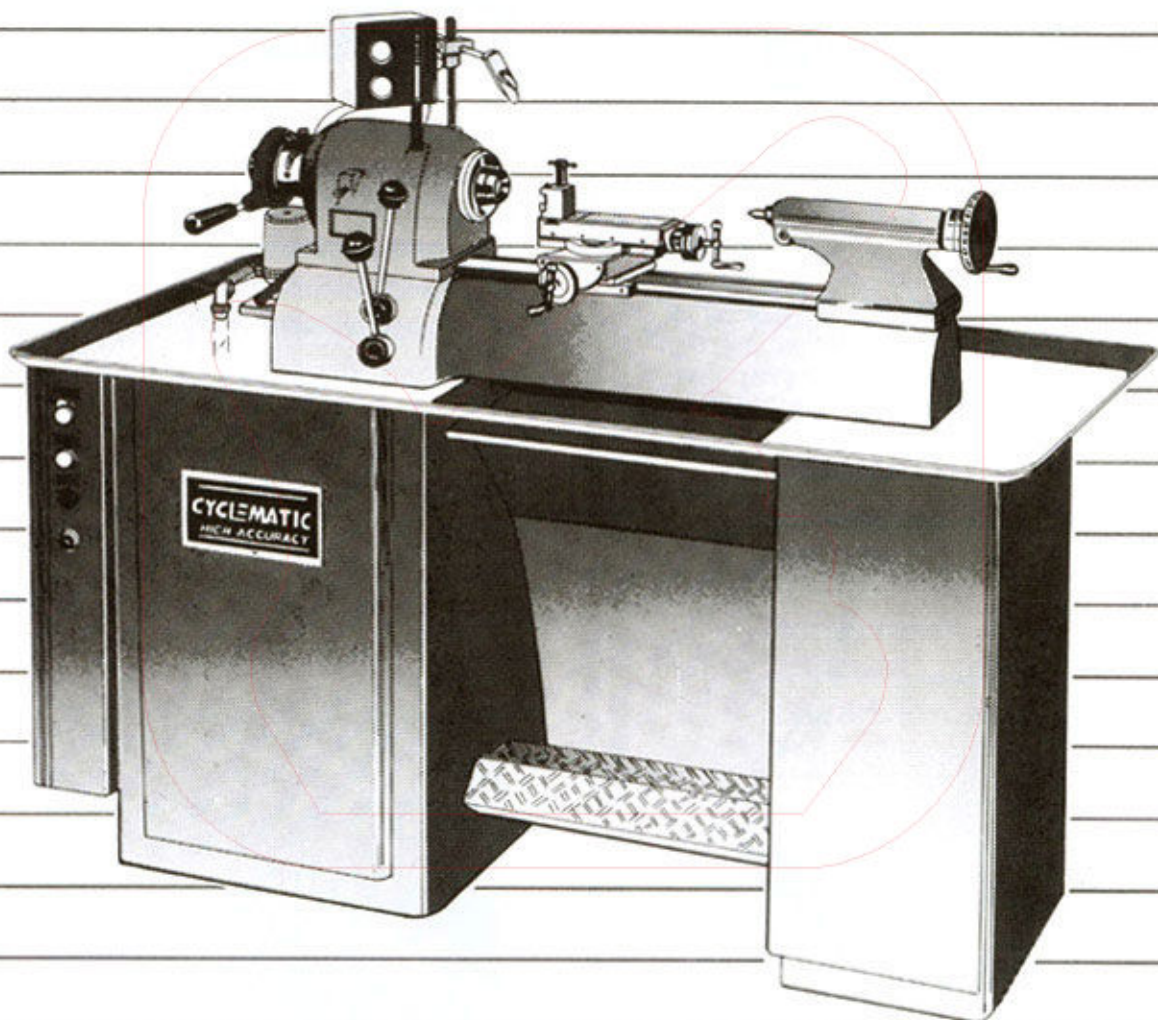
High and low spindle speeds are instantly available using the high/low spindle control lever and high/low ranges are indicated around the speed control selector knob.



Control Unit

SECOND OPERATION/TOOLMAKERS LATHE MODEL CTS-27EVS·CTL-27EVS

- Designed to machine precision small diameter parts.
- High performance machining capability of shaft, chucking, or collet held work piece.



DISTRIBUTOR:

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