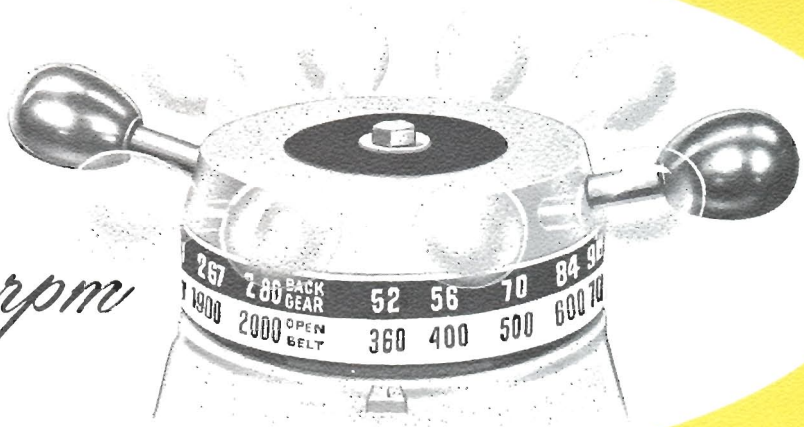
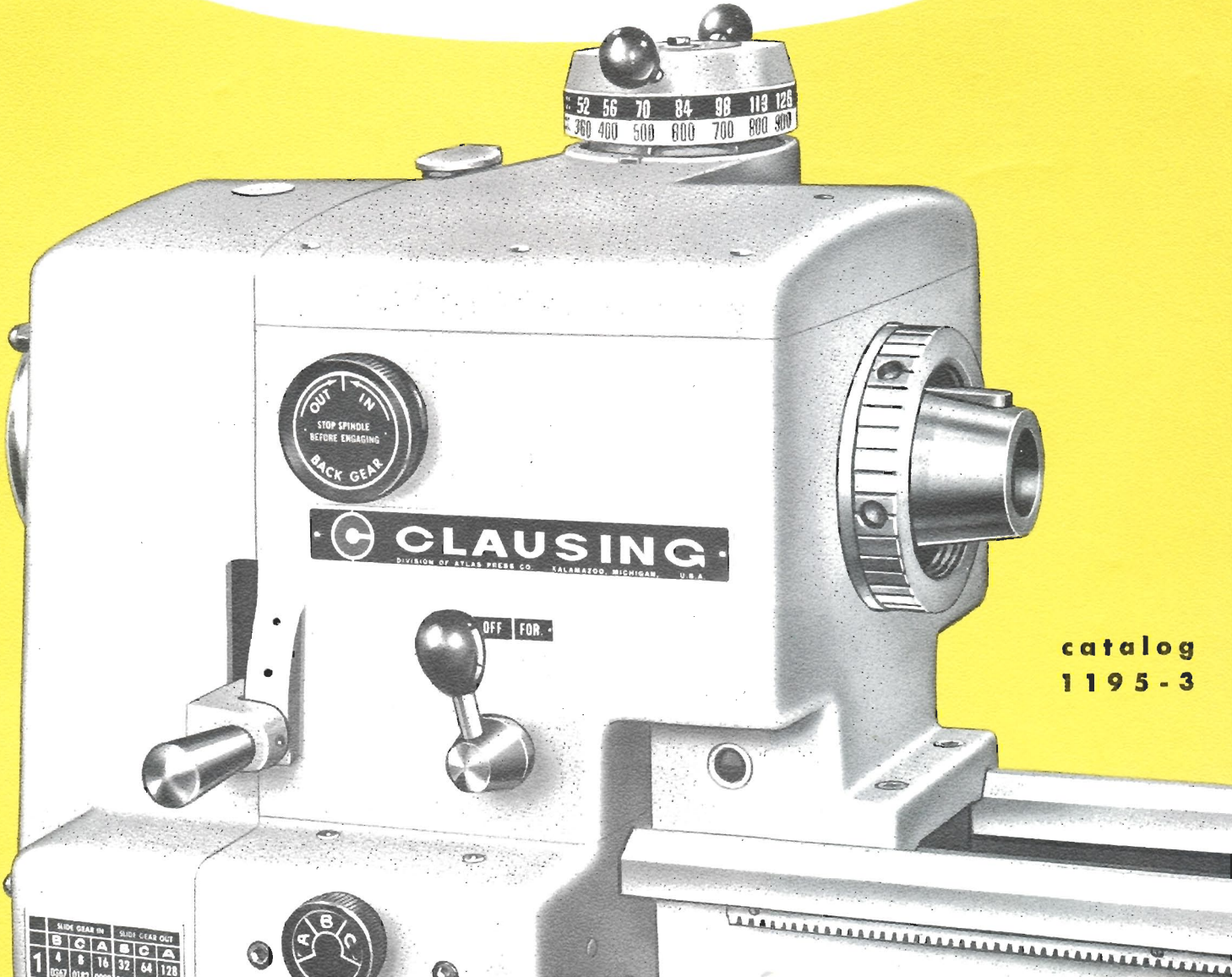
# CLAUSING 12

## 12-inch precision lathes

*dial speeds to 2000 rpm*




catalog
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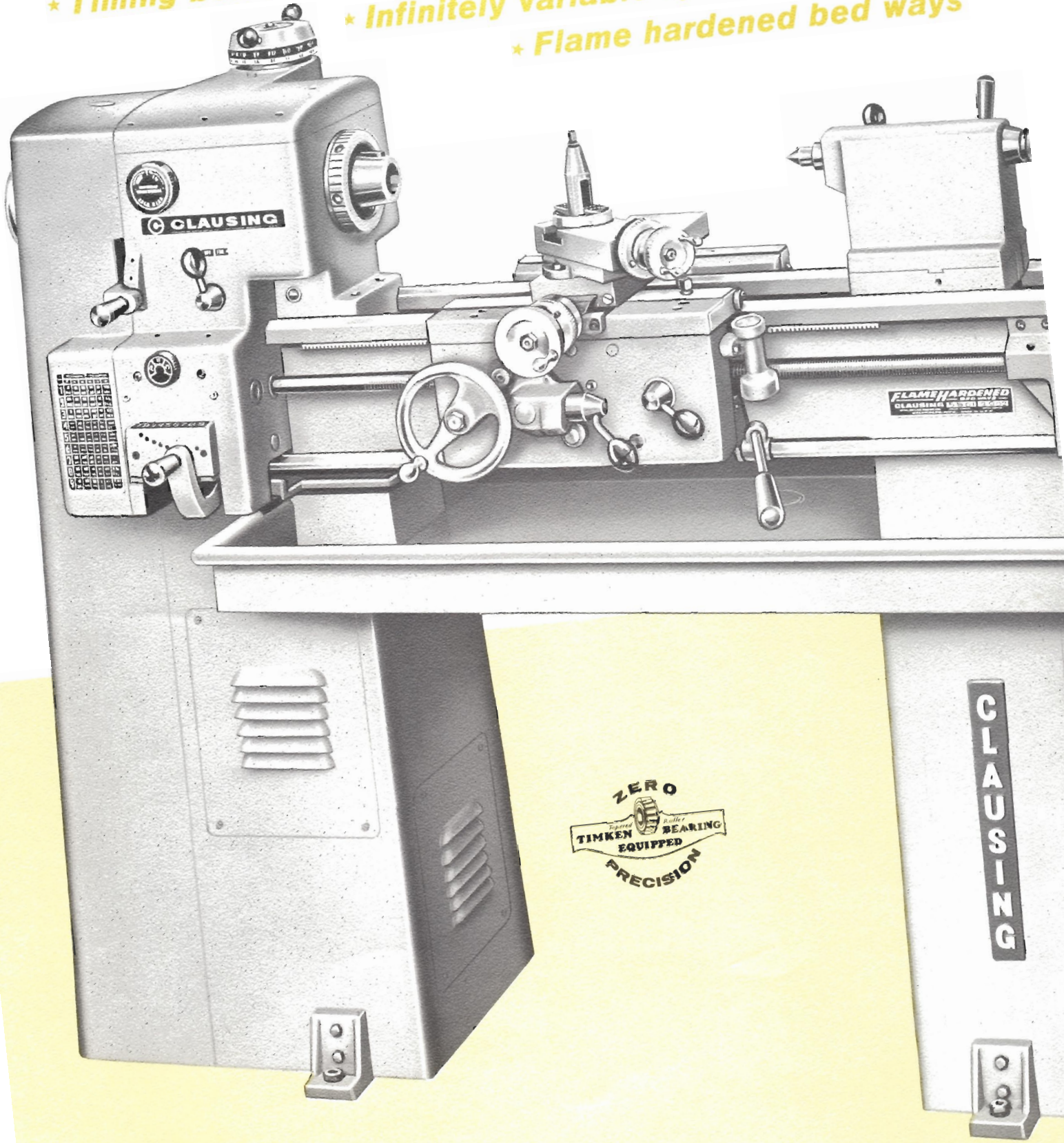
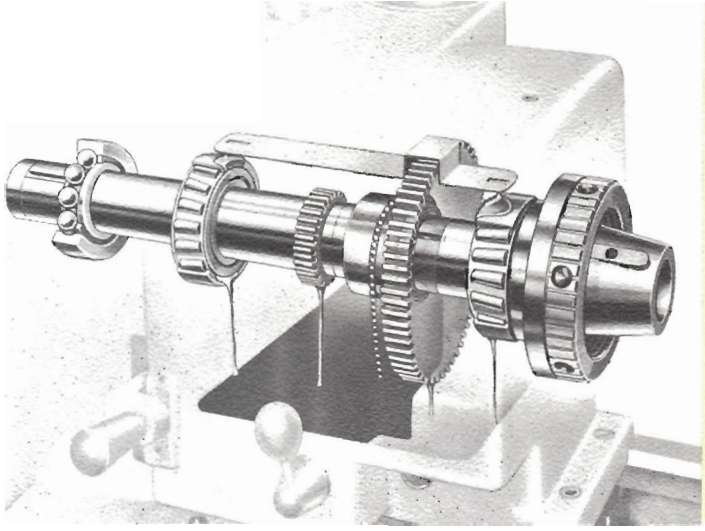
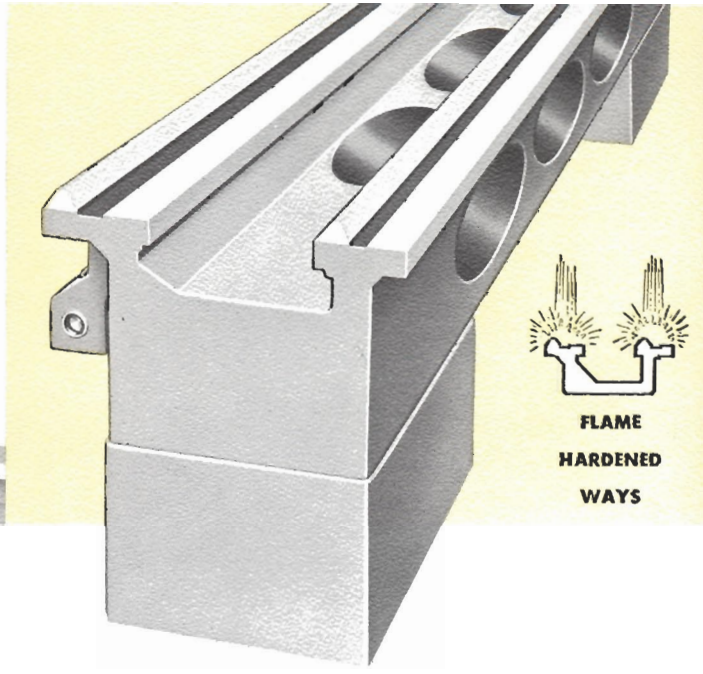
# CLAUSING 12" PRECISION LATHES

★ Timing belt drive to spindle, clutch/brake control
★ Infinitely variable speeds—52 to 2000
★ Flame hardened bed ways







FLAME HARDENED WAYS

### "ZERO PRECISION" BEARINGS — OIL-BATH LUBRICATION — SPEEDS, 52-2000 RPM

Spindle turns on Timken "Zero Precision" tapered roller bearings with tolerance of .00015". Forged spindle is chrome-moly steel — has L-00 tapered nose, 1⅜" hole. Headstock is totally enclosed — gears, shafts, bearings and spindle bearings travel in a bath of oil.

The Clausing headstock has the design, construction, speeds, and power for top efficiency with today's metals and tools.

### UNIT ENGINEERED—A CLAUSING EXCLUSIVE

Headstock, bed and pedestal are designed to form an integral unit — basic to Clausing's greater rigidity, capacity, accuracy and superior performance. Pedestals are ¼" steel plate with welded reinforcements.

### ELLIPTICALLY BRACED, PORTED BED

The Clausing bed is superior in every comparison:

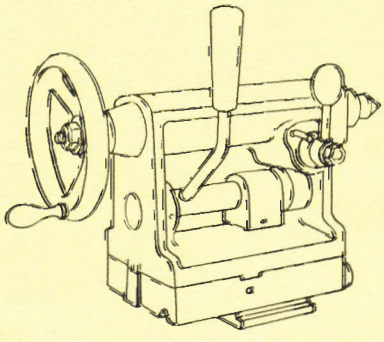
*Rigidity* — Solid box end sections, angular way supports — plus elliptical bracing — put maximum strength where turning forces are greatest. V-ways have 70° angle — another Clausing exclusive that assures rigid alignment of carriage and tailstock under all loads.

*Long accuracy-life* — flame hardened V-ways and flat ways add years to accuracy and service life. Ways are precision ground to close tolerance after hardening.

*Chip control* — ports in bed slide chips to rear of pan, away from operator.

## Dial to the rpm that does the job b

**BALL BEARING QUICK-CHANGE** provides 54 right or left hand threads and feeds without change of gear train. Stack gear shaft and lead screw turn on lubricated-for-life ball bearings.



### 3 MT TANGED SPINDLE, CAM-LOCKS

No. 3 MT tanged spindle handles big tools, heavy loads. One movement of lever anchors tailstock to bed, or releases it.

### VARIABLE SPEED DRIVE

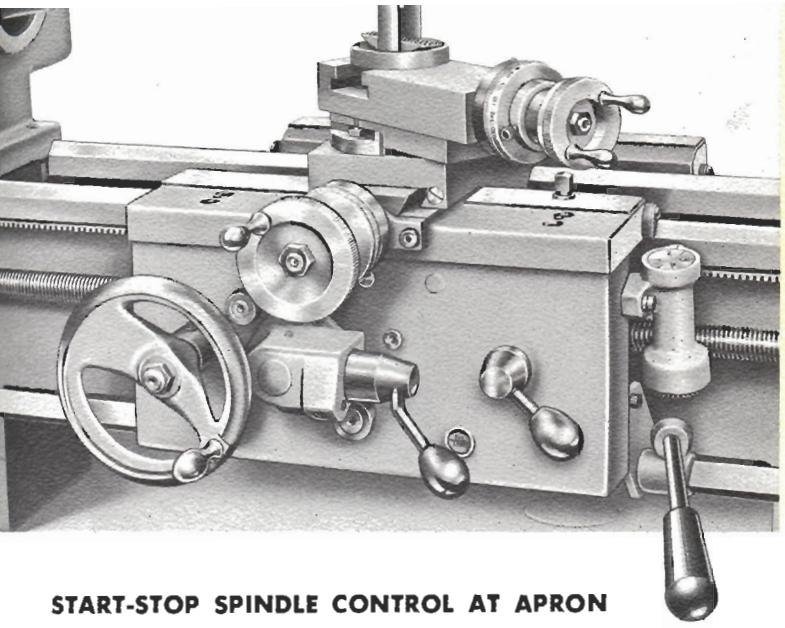
While the job is running, dial to the exact speed for optimum efficiency — better finish, longer tool life, more production.

Speeds are changed hydraulically — from 52 to 280 in back gear and 360 to 2000 in direct drive.

### CLUTCH/BRAKE SPINDLE CONTROL

This you'll like, too — start, jog or stop the spindle while motor is running — lever at apron does it.

This Clausing exclusive gives the operator spindle control right at the job.



**START-STOP SPINDLE CONTROL AT APRON**

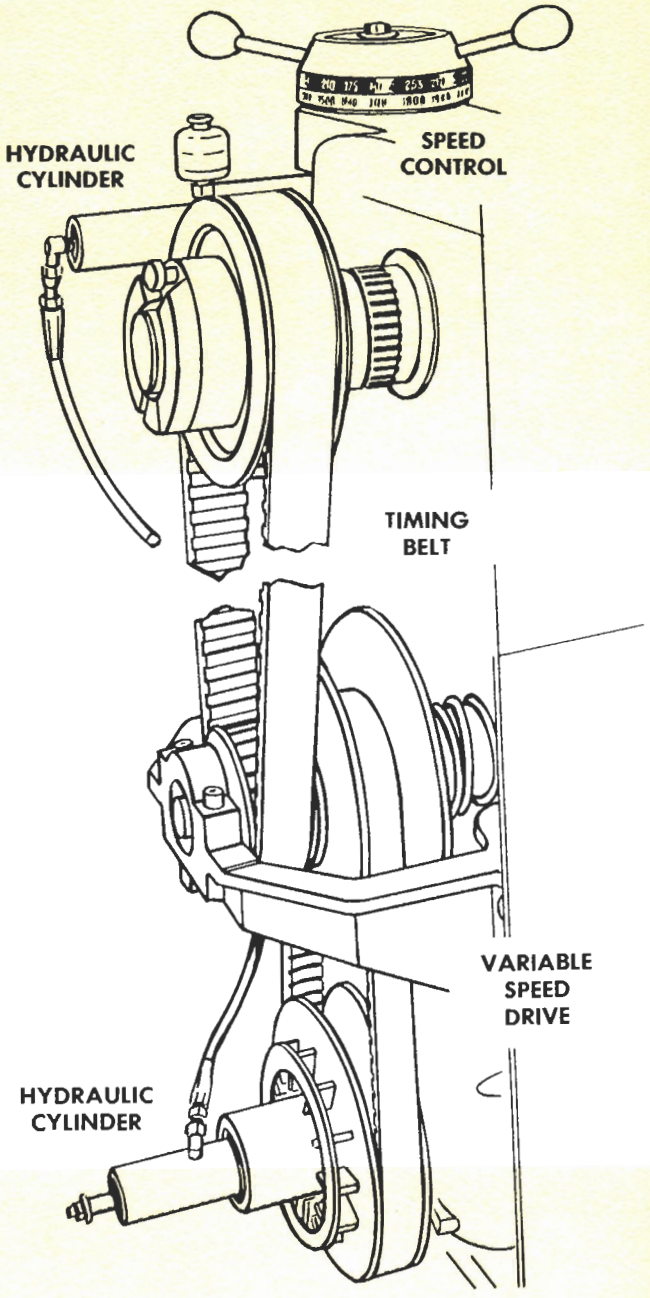
*Right at the job,* you start, jog or stop the spindle without stopping the motor — lever at side of apron controls clutch/brake countershaft.

And a single lever, too, engages either cross or longitudinal power feeds thru a positive gear clutch.

Cross and compound slides have *tapered gibs.* Dials are *direct reading.* Feed screws are equipped with anti-friction thrust bearings.

Apron is totally enclosed, double-walled — gears and shafts run in bath of oil.

Clutch in apron and shear pin in lead screw protect against overload. Safety interlock prevents simultaneous engagement of feeds and half-nuts — threads on lead screw are used for threading only.




## —*infinitely variable speeds to 2000*

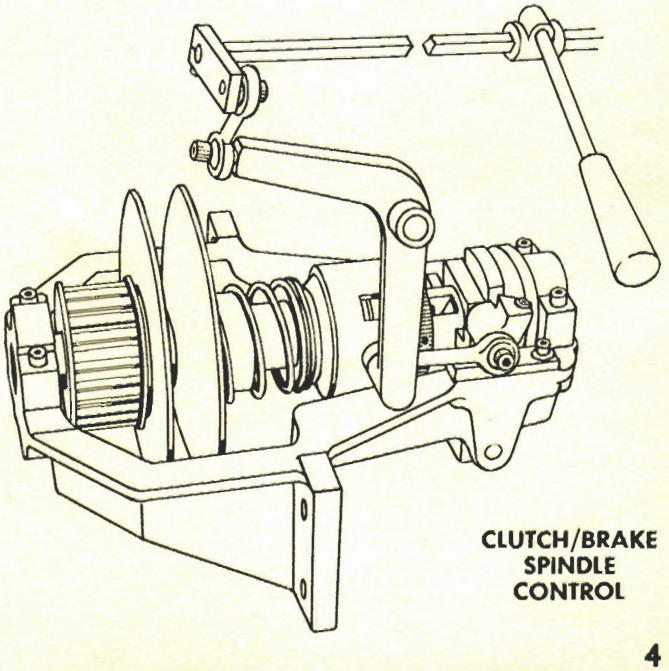
**POWERFUL TIMING BELT DRIVE TO SPINDLE**

And only with Clausing do you get the benefits of a timing belt drive:

- — full power to spindle . . . tooth grip, not friction, delivers it
- — belt load on spindles and bearings is at a minimum
- — smoother operation, PLUS longer service life.

Other features contributing to the superiority of the Clausing drive:

- — machined and balanced pulleys
- — large, lubricated-for-life ball bearings
- — dynamic balancing of entire drive after motor is installed.



## CAPACITIES

Swing over bed and saddle wings ..... 12¼"
Swing over cross slide ..... 7¼"
Hole through spindle ..... 1⅜"
Collet capacity — spindle nose type ..... 1⅜"
Collet capacity — draw-bar type ..... 1"
Distance between centers ..... 24", 36"

## SPINDLE SPEEDS

Direct drive ..... infinitely variable between 360 and 2000 rpm
Back gear drive ..... infinitely variable between 52 and 280 rpm

## THREADS AND FEEDS

Number, threads and feeds ..... 54
Longitudinal feed range ..... .00065" to .0367"
Cross feed range ..... .00032" to .01834"
Screw threads per inch, right or left hand .... 4, 4½, 5, 5½, 5¾, 6, 6½, 6¾, 7, 8, 9, 10, 11, 11½, 12, 13, 13½, 14, 16, 18, 20, 22, 23, 24, 26, 27, 28, 32, 36, 40, 44, 46, 48, 52, 54, 56, 64, 72, 80, 88, 92, 96, 104, 108, 112, 128, 144, 160, 176, 184, 192, 208, 216, 224
Lead screw ..... ⅞" dia., 8 Acme t.p.i.

## HEADSTOCK

Spindle bearings ..... "Zero Precision" Timken tapered roller
Hole through spindle ..... 1⅜"
Spindle nose, hardened, ground .. L-00 taper key drive
Spindle nose internal taper ..... No. 4½ M.T.
Spindle center ..... No. 3 M.T.

## CARRIAGE

Length on bed ..... 13"
Cross slide travel ..... 7¼"
Compound rest graduated left and right ..... 0-90°
Compound rest travel ..... 2½"
Tool post ..... ⅝" x 2" slot, takes ½" bit or holder for 5/16" bit

## TAILSTOCK

Spindle ..... No. 3, tanged
Spindle diameter ..... 1⅜"
Spindle travel ..... 3"
Spindle graduated ..... 0-3" by 16ths
Set-over for taper turning ..... 1"

## BED

Flame-hardened ways. Two 70° V-ways, two flat ways
Depth ..... 6½"
Width ..... 7⅜"
Length ..... 47½, 59½"

## DRIVE

Variable to countershaft ..... hydraulically actuated
Belt to spindle ..... positive grip timing belt
Motor, furnished ..... 1, 1½, or 2 HP, optional
Reversing switch furnished ..... across-the-line drum

(Note: Motor and switch are installed and factory tested.)

STANDARD EQUIPMENT, all models: flame-hardened bed ways, chip and coolant pan, motor, reversing switch, 6" face plate, two centers, center sleeve, tool post, threading dial, wrenches and instruction book. (Design and specifications are subject to change without notice.)

### 12" LATHES, VARIABLE SPEED DRIVE, with CLUTCH and BRAKE COUNTERSHAFT

| Model Number | Between Centers | Motor Furnished (Specify Voltage) | Ship. Wt. |
|---|---|---|---|
| **5902** | 24" | 1 hp, three phase | 1060 |
| **5903** | 24" | 1½ hp, single phase | 1060 |
| **5904** | 24" | 2 hp, three phase | 1060 |
| **5912** | 36" | 1 hp, three phase | 1120 |
| **5913** | 36" | 1½ hp, single phase | 1120 |
| **5914** | 36" | 2 hp, three phase | 1120 |

**5907** lathe, same as No. 5902, less clutch and brake
**5908** lathe, same as No. 5903, less clutch and brake
**5909** lathe, same as No. 5904, less clutch and brake
**5917** lathe, same as No. 5912, less clutch and brake
**5918** lathe, same as No. 5913, less clutch and brake
**5919** lathe, same as No. 5914, less clutch and brake

**Single-phase motors are capacitor start, 115/230V, 60C.**

**Three-phase motors — 208/220/440V, 60C*. All motors ball bearing equipped.**

*** Operate on 50 Cycle at 1425 rpm.**

### OPTIONAL ELECTRICAL EQUIPMENT

**(Note: Standard motor control furnished is across-the-line start, stop, reverse drum switch controlled by lever on front of headstock.)**

***Optional controls listed below provide motor protection and must be ordered with lathe.***

**No. 7033 THERMAL OVERLOAD protects motor against overload and low voltage — used with reversing switch furnished with lathe. Has reset button.**

**No. 7130 MAGNETIC STARTER with Drum Reversing Control — protects motor against overload, low and no voltage. Drum control* has momentary contactors — motor will not automatically restart when power is restored.**

**No. 7132 MAGNETIC REVERSING STARTER WITH 110 VOLT AT DRUM CONTROL — protects motor against overload, low and no voltage. Drum control* has momentary contactors — motor will not automatically restart when power is restored.**

*** Operated by standard lever on headstock, reverse lock-out not furnished or required.**

# CLAUSING

## TEST REPORT, 5900-series LATHE

| TEST | LIMIT | ACTUAL |
|---|---|---|
| BED LEVEL (Transverse Direction) | When Using Precision Level All Readings to Be Within 0.0005 in 12 In. | |
| BED LEVEL (Longitudinal Direction) | When Using Precision Level Along Bed Maximum Reading to Be Within 0.001 in 12 In. | |
| SPINDLE CENTER RUNOUT | Total Indicator Reading 0 to 0.0008 | |
| SPINDLE NOSE RUNOUT | Total Indicator Reading 0 to 0.0003 | |
| SPINDLE TAPER RUNOUT | Total Indicator Reading at End of 12 In. Test Bar 0 to 0.0006 at End of Spindle Nose 0 to 0.0003 | |
| HEADSTOCK ALIGNMENT (Vertical) | High at End of 12 In. Test Bar 0 to 0.0005 | |
| TAILSTOCK SPINDLE ALIGNMENT (Vertical) | High at End of Spindle When Fully Extended 0 to 0.0008 | |

| TEST | LIMIT | ACTUAL |
|---|---|---|
| HEADSTOCK ALIGNMENT (Horizontal) | At End of 12 In. Test Bar 0 to +0.0003 | |
| TAILSTOCK SPINDLE ALIGNMENT (Horizontal) | Forward at End of Spindle When Fully Extended 0 to 0.0005 | |
| TAILSTOCK TAPER ALIGNMENT (Horizontal) | End of 12 In. Test Bar 0 to +0.0005 | |
| TAILSTOCK TAPER ALIGNMENT (Vertical) | High at End of 12 In. Test Bar 0 to 0.001 | |
| A – CROSS SLIDE ALIGNMENT<br>B – FACE PLATE RUNOUT | To Face Concave Only on 12 In. Diameter 0 to 0.0005<br>On Face at Diameter 0 to 0.0005 | |
| LATHE MUST TURN ROUND WITH WORK MOUNTED IN CHUCK | 0.0003 | |
| RUNNING TEST FOR SMOOTH OPERATION<br>1½ DIA. C.R.S.<br>0.0026 FEED<br>0.125 DEPTH AT HIGH SPEED<br>5" | Lathe Must Take Cut Without Chatter | |
| BACK LASH ON CROSS FEED SCREW | 0.004 | |

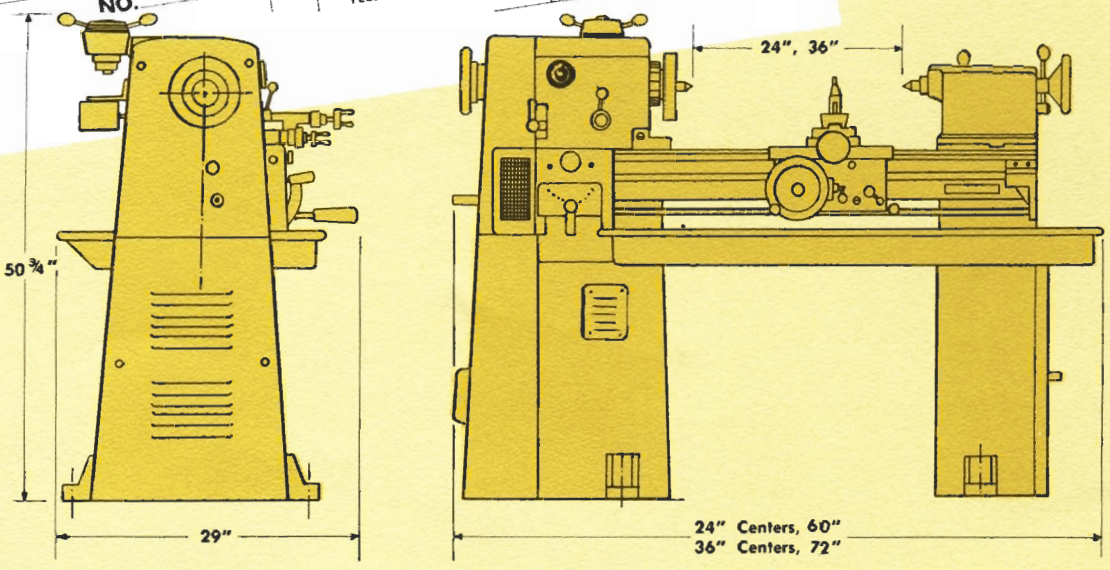
INSPECTED BY _____ NO. _____

DATE _____

Each Clausing lathe must pass tolerance tests similar to those shown at left. Inspection after inspection, and test after test — at every stage of manufacture and assembly — assure that every lathe measures up to rigid specifications of construction and performance.

The test report that accompanies each lathe verifies its precision.

For 5900-series lathe accessories . . . see Catalog 7071-3




**CLAUSING**

DIVISION OF ATLAS PRESS COMPANY

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