

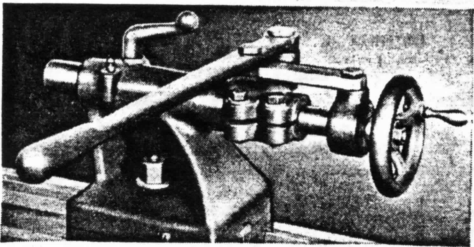
4 1/2" B to B
 1 3/4" B to
 edge of
 cover.



Logan

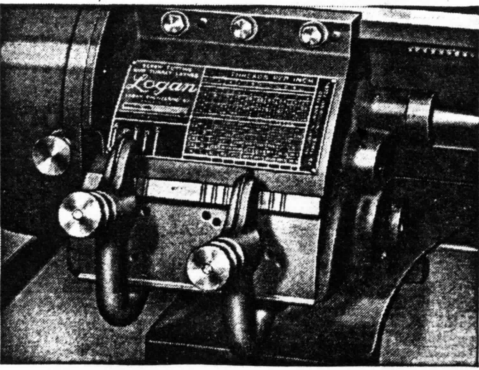
**QUICK CHANGE GEAR LATHE
 With Automatic Apron**

10" Swing, 24" Between Centers
 10" Swing, 31" Between Centers



AC-241 LEVER TAILSTOCK ASSEMBLY

Can be furnished with the Quick Change Gear Lathe in place of tailstock shown in above illustration of the lathe if specified in your order. Lever stroke, 2 3/4". Hand wheel spindle travel, 2 3/8". Fitted for No. 2 Morse Taper Shank.



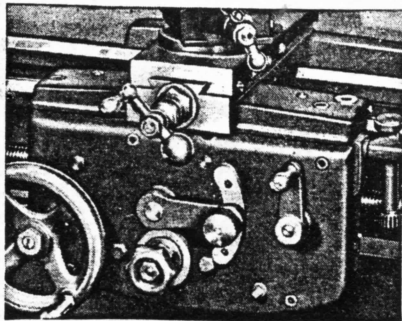
- No. 820 Complete As Shown, Less Motor, F.O.B. Chicago
- No. 820-1 Complete with No. AC-241 Lever Tailstock Assembly Replacing Regular Tailstock, Less Motor, F.O.B. Chicago
- No. 821 Same as No. 820, but 31" between centers.
- No. 815 Bench Model, same as No. 820, less pan and legs. F.O.B. Chicago
- No. 815-1 Bench Model, same as No. 820-1, less pan and legs. F.O.B. Chicago
- No. 816 Same as No. 815, but 31" between centers.

The Logan Quick Change Gear Lathe with friction feed automatic apron has been built to more exacting requirements than heretofore has been considered possible in this field. Typical of the high standard of quality and accuracy are construction specifications such as—bed ways ground to within .0005" of parallelism—total run out of headstock spindle 12 inches from the bearing less than .0008"—lead screw held to within .002" in 12 inches—all moving parts protected by ball bearings or self-lubricating bronze bearings. Similar fine construction throughout the lathe assures a durable, dependable machine of exceptional performance.

QUICK CHANGE GEAR BOX

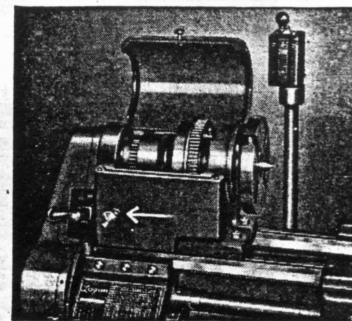
The Logan Quick Change Gear Box provides 48 threads and feeds in either direction to the carriage of the lathe. By adjusting the two levers, screw threads from 8 to 224 per inch are quickly available and by changing the 24 tooth stud gear for the 48 tooth stud gear furnished with the lathe, additional threads from 4 to 7 per inch are available. Similarly, longitudinal power feeds from .0015" to .1000" per revolution of the spindle may be obtained. Power cross feeds are .25 times longitudinal feeds. Entire assembly is sturdy and accurate with precision cut steel gears and self-lubricating bearings.

LOGAN ENGINEERING CO. • CHICAGO 30, ILL.



AUTOMATIC APRON

Operates from a spline in the lead screw through a worm drive and friction clutch for both longitudinal and cross feeds. For cutting threads an additional longitudinal drive operating from half nuts on the lead screw is used. It is impossible to engage both drives at the same time. Worm and gear operate in a bath of oil, assuring long life. Steel cut gears, sturdy construction and precision machining combine to make a rugged and accurate assembly.

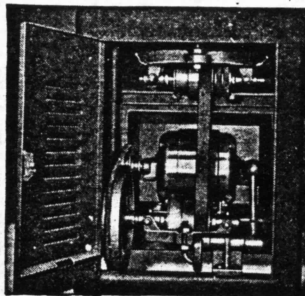


BALL BEARING HEADSTOCK

To assure sustained spindle accuracy, the Logan headstock is equipped with precision, "pre-loaded" New Departure Ball Bearings. The spindle turns with maximum freedom, with less friction, less wear, permits higher operating lathe speed and enables the user to take every advantage of modern high speed cutting methods. No lubrication of these bearings is ever needed. Fast, safe, easy back gear shifting is assured by placing control knob of patented Logan Back Gear Shifter Rack at operator's finger tips. (See arrow in illustration.)

UNDERNEATH DRIVE

The motor drive assembly of the Logan No. 825 Lathe is completely self contained and is enclosed in the left hand compartment of the cabinet. For easy, safe belt changing, the handy lever at the right of the drive compartment is pulled outward to release flat belt tension. Mechanisms for adjusting drive belt tension and flat belt tension are easily accessible. A Multiple V-Belt Drive transmits power from cone pulley to lathe spindle. All moving parts of the underneath drive are completely enclosed, yet easily reached. We recommend ordering electric motor with the lathe which permits us to ship with motor mounted and adjusted in position.



Collet capacity $\frac{3}{8}$ " with push type collets used in Logan No. AC-210 Production Collet Chuck or No. AC-201 Speed Collet Chuck.

Collet capacity $\frac{1}{2}$ " with draw-in collets used in Logan AC-166 Production Collet Chuck or Logan No. AC-151 Draw-in Collet Chuck.

NOTE: Push type collets give greater capacity, have greater holding power and close concentrically on the work without pulling it away from the stop.

SPECIFICATIONS

CAPACITY OF LATHE

Swing over bed and saddle wings $10\frac{1}{2}$ "
 Swing over saddle cross slide... $4\frac{1}{2}$ "
 Distance between centers..... 24 "
 Collet capacity with push type collets $\frac{3}{8}$ "
 Collet capacity with draw-in collets $\frac{1}{2}$ "

THREADS AND FEEDS

Quick change gear box and automatic apron.
 Worm drive from lead screw spline for power feeds.
 Friction clutch on power feeds.
 Longitudinal feed .0015" to .1000" per spindle revolution.
 Cross feed .25 times longitudinal feed.
 Half nut drive from lead screw thread for thread cutting.
 Threads—48 selections RH or LH 4 to 224 per inch.
 Lead screw diameter and threads per inch $\frac{3}{4}$ "-8

BED

Width of bed across ways $6\frac{1}{8}$ "
 Bed length $43\frac{1}{8}$ "
 Precision ground ways; 2 prismatic "V" ways and 2 flat ways.

HEADSTOCK AND SPINDLE

Front bearing—double row ball bearing
 Rear bearing—single row ball bearing
 Note: Sealed, pre-loaded New Departure Ball Bearings of the highest precision type are used.
 Back gear shaft bearings—self lubricating bronze bearings
 Hole through spindle..... $\frac{3}{16}$ "
 Morse Taper with adaptor No. 3-No. 2
 Size of centers used, Morse Taper No. 2
 Spindle nose diameter and threads per inch $1\frac{1}{2}$ "-8
 Width of cone pulley steps for belt. 1"

Width of face of bull gear and back gears $\frac{5}{8}$ "
 Multiple V-Belt Drive carries power from cone pulley to lathe spindle.
 Face plate diameter..... 6 "
 Number of spindle speeds..... 12
 Spindle speeds, back gears engaged... 30, 56, 70, 104, 131, 244
 Spindle speeds, direct belt driven. 179, 334, 420, 620, 780, 1450

CROSS SLIDE AND COMPOUND REST

Cross slide graduated in thousandths.
 Travel $6\frac{1}{4}$ "
 Cross feed screw mounted on self lubricating bronze bearings
 Compound rest top slide graduated in thousandths. Travel..... $2\frac{1}{4}$ "
 Top slide screw mounted on self-lubricating bronze bearings
 Compound rest swivel—graduated 90° in both directions
 Tool post opening for tool holder shank..... $\frac{3}{8}$ " x $\frac{3}{4}$ "
 Size of cutter bits used..... $\frac{1}{4}$ " sq.

TAILSTOCK

Spindle travel $2\frac{3}{8}$ "
 Spindle graduations $\frac{1}{16}$ "
 Morse Taper center..... No. 2
 Tailstock top will set over for taper turning $\frac{1}{16}$ "

UNDERNEATH DRIVE

2 Speed "V" Motor Pulley
 $\frac{3}{4}$ " Bore $2\frac{3}{8}$ "-4"
 2 Speed countershaft
 flat pulley..... $8\frac{3}{8}$ "-9 $\frac{3}{8}$ "
 40" x $\frac{1}{2}$ " V Belt used on flat of 2 step countershaft pulley and in V of motor pulley
 3 Step flat belt cone pulley mounted on countershaft. Width of step face 1"
 Countershaft mounted on self-lubricating bronze bearings.

Adjustable motor mounting bracket.
 Lever operated belt tension release for changing belt steps.

CABINET STAND

Tubular steel construction
 Left hand compartment contains underneath motor drive and countershaft
 Four drawers provided for tool storage
 Lugs provided for bolting to floor
 Oil pan has drain in center rear

LATHE EQUIPMENT (Included in Price of Lathe)

1 6" Face Plate	1 No. 3-No. 2 Morse Taper Adaptor
2 60° Centers	1 Tool Post Holder and Wrench
1 Threading Dial	1 Tailstock Wrench
1 Threading Chart 1 Tailstock Wrench	
Parts List and Instruction Book	

SELF LUBRICATING BRONZE BEARINGS at 39 separate points in lathe where plain bearings are ordinarily furnished.

OVERALL DIMENSIONS (Including Countershaft Assembly)

Length $55\frac{1}{2}$ "
 Width $20\frac{1}{2}$ "
 Height 52 "

MOTOR

Use $\frac{1}{2}$ H.P. 1750 R.P.M. Motor.
 If lathe is ordered without motor specify:
 1. Bore of motor pulley to be furnished with lathe.
 2. State whether 0636 or 0639 Drum Switch should be supplied. (See Accessory Circular for description of drum switch.)

SHIPPING WEIGHT

No. 825 Cabinet Model Logan Lathe less motor..... 830 lbs.