



Circular No. 14-6

## 14 1/2-inch Quick Change Gear Precision Lathe—Series "T" Countershaft Driven Type

The 14 1/2-inch Quick Change Gear Lathe with countershaft drive represents the maximum lathe value per dollar of cost for the shop that is equipped with a lineshaft for power. Economy of operation is an appealing feature of this lathe and accounts for its popularity for use in large industrial plants.

The Countershaft has two friction clutch pulleys, one of which may be driven with an open belt and the other with a crossed belt, which permits the lathe to be operated forward and in reverse. Eight spindle speeds forward and eight in reverse are available.

Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened and ground; double wall apron with all gears of steel and multiple disc friction clutch for operating automatic cross feeds and automatic longitudinal feeds; easy reading micrometer graduated collars; and semi-steel lathe bed. See

pages 7 to 11 for additional features, and page 20 for specifications of this lathe.

Attachments, Chucks and Tools for this lathe are listed on pages 90 to 111. This complete line of attachments and accessories greatly increases the usefulness of the lathe. Most of the attachments may be purchased either with the lathe or later.

Regular Equipment included in price of this lathe consists of: reversing countershaft with two friction clutch pulleys, large and small face plates, forged steel heat-treated tool post, adjustable thread cutting stop, tool steel centers for headstock and tailstock spindles, spindle sleeve, wrenches, gear box, installation plan, and book "How to Run a Lathe."

14 1/2-inch Quick Change Gear Countershaft Driven Lathes

Bed Length	5-ft.	6-ft.	7-ft.	8-ft.	10-ft.
Distance Between Centers . . .	24 1/2-in.	36 1/4-in.	48 1/4-in.	60 1/2-in.	84 1/2-in.
Catalog Number . . . . .	83-B	83-C	83-D	83-E	83-G
Shipping Weight . . . . .	1575 lbs.	1650 lbs.	1725 lbs.	1805 lbs.	1970 lbs.
Code Word . . . . .	Tapub	Tatec	Tatog	Tavac	Tawad

All Page References Apply to Catalog 100

**SOUTH BEND LATHE WORKS**

*Lathe Builders Since 1906*  
425 E. MADISON ST., SOUTH BEND, IND., U.S.A.



# Specifications of Series "T" 14½-inch Precision Lathes

Applying to all 14½-inch Lathes Shown on Pages 21 to 27

All types of 14½-inch swing lathes shown in this catalog are identical in workmanship, material and quality, having similar headstock, tailstock, carriage and bed. The only difference between the various models of lathes is in the type of drive and the equipment supplied.

## Capacity of Lathe

Swing over bed and saddle wings	14 <sup>5</sup> / <sub>8</sub> "
Swing over saddle with chip guard removed	10 <sup>1</sup> / <sub>4</sub> "
Swing over saddle with chip guard	8 <sup>3</sup> / <sub>4</sub> "

## Threads and Feeds

Thread cutting range	
Quick change gear lathe—48 threads R.H. or L.H.	2 to 112 per inch
Standard change gear lathe—47 threads R.H. or L.H.	2 to 112 per inch
Longitudinal feeds through friction clutch	
Quick change gear lathe—24 feeds R.H. or L.H.	.003" to .0208"
Standard change gear lathe—29 feeds R.H. or L.H.	.0021" to .021"
Cross feeds through friction clutch	
Quick change gear lathe—24 feeds	.0011" to .0078"
Standard change gear lathe—29 feeds	.0008" to .0078"
Size of lead screw, diameter and threads per inch	1 <sup>1</sup> / <sub>8</sub> "-6

## Headstock

Hole through spindle	1 <sup>1</sup> / <sub>8</sub> "
Maximum collet capacity	<sup>3</sup> / <sub>4</sub> "
Size of Center, Morse taper	No. 3
Spindle nose diameter and threads per inch	2 <sup>1</sup> / <sub>4</sub> "-6
Width of cone pulley step for belt	2"
R.P.M. of spindle, back gears engaged	22, 37, 59, 99
R.P.M. of spindle, direct belt driven	149, 247, 396, 657
Large face plate diameter	12"
Small face plate diameter	7 <sup>3</sup> / <sub>8</sub> "

## Compound Rest

Cross slide will travel	10"
Angular hand feed of compound rest top slide	3 <sup>1</sup> / <sub>8</sub> "

## Tool Post

Size of opening for tool holder shank	<sup>1</sup> / <sub>2</sub> " x 1 <sup>1</sup> / <sub>8</sub> "
Size of cutter bits tool holder takes	<sup>5</sup> / <sub>16</sub> " sq.

## Tailstock

Size of Morse taper centers	No. 3
Spindle travel	5 <sup>1</sup> / <sub>4</sub> "
Each graduation on tailstock spindle advances spindle	<sup>1</sup> / <sub>16</sub> "
Tailstock top will set over for taper turning	15 <sup>1</sup> / <sub>16</sub> "

## Motor

Horsepower of standard motor used on 14½-inch motor driven lathes	1
R.P.M. of standard motor	1725
Number of V-belts used	3

## Countershaft

Speed in R.P.M. of shaft	274
Size of pulleys	10" x 3 <sup>5</sup> / <sub>8</sub> "

## Taper Attachment (telescopic type)

Maximum length turned in one setting	9 <sup>1</sup> / <sub>4</sub> "
Maximum taper per foot	3"

## Metric Lathe Specifications

Applying only to lathes with metric lead screw and metric graduations. See pages 108 to 110.	
Quick change gear lathe cuts 46 threads R.H. or L.H.	7.5 mm to 0.2 mm
Standard change gear lathe cuts 35 threads R.H. or L.H.	7.0 mm to 0.2 mm
Lead screw pitch	4.0 mm
Cross feed screw pitch	3.0 mm
Compound rest feed screw pitch	3.0 mm
Each graduation on cross feed micrometer collar advances tool	0.02 mm
Each graduation on compound rest micrometer collar advances tool	0.02 mm
Each graduation on tailstock spindle advances spindle	1.0 mm

For description of lathe features see pages 6 to 11