



Circular No. 13-2

13-inch Tool Room Precision Lathe—Series "T" Countershaft Driven Type

The 13-inch Tool Room Lathe, with countershaft drive and full quick change gear equipment, represents the maximum tool room lathe value per dollar of cost for the shop that is equipped with a lineshaft for power. Economy of operation is another appealing feature of this lathe. See page 28 for complete specifications of this lathe.

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 spindle speeds in reverse are available. Many mechanics prefer the countershaft drive because of the ease with which the lathe spindle may be revolved by pulling the belt by hand.

Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened and ground; double wall apron with all gears of steel and friction disc clutch for operating automatic cross feeds and automatic longitudinal feeds; easy reading micrometer graduated collars; full quick change gear mechanism

for threads and feeds; and semi-steel lathe bed. See illustrations and description on pages 7 to 11.

Attachments included in the price of this Tool Room Lathe consist of: hand wheel type draw-in collet attachment with one collet, collet rack, telescopic taper attachment, thread dial indicator, chip pan, and micrometer carriage stop. See pages 90 to 111.

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 plans, and book "How to Run a Lathe."

13-inch Countershaft Driven Tool Room Lathes

Bed Length	5-ft.	6-ft.	7-ft.
Distance Between Centers	28-in.	40-in.	52-in.
Catalog Number	8013-B	8013-C	8013-D
Shipping Weight	1290 lbs.	1340 lbs.	1395 lbs.
Code Word	Arnun	Artut	Asynh

All Page References Apply to Catalog 100

SOUTH BEND LATHE WORKS

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



Specifications of Series "T" 13-inch Precision Lathes

Applying to all 13-inch Lathes Shown on Pages 29 to 35

All types of 13-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.....	13 $\frac{1}{8}$ "
Swing over saddle with chip guard removed.....	8 $\frac{3}{4}$ "
Swing over saddle with chip guard.....	7 $\frac{3}{4}$ "

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"-6

Headstock

Hole through spindle.....	1"
Maximum collet capacity.....	$\frac{5}{8}$ "
Size of Center, Morse taper.....	No. 3
Spindle nose diameter and threads per inch.....	1 $\frac{7}{8}$ "-8
Width of cone pulley step for belt.....	1 $\frac{3}{4}$ "
R.P.M. of spindle, back gears engaged.....	24, 38, 58, 92
R.P.M. of spindle, direct belt driven.....	173, 270, 410, 646
Large face plate diameter.....	10 $\frac{3}{4}$ "
Small face plate diameter.....	6 $\frac{5}{8}$ "

Compound Rest

Cross slide will travel.....	8 $\frac{1}{8}$ "
Angular hand feed of compound rest top slide.....	3 $\frac{1}{8}$ "

Tool Post

Size of opening for tool holder shank.....	$\frac{1}{2}$ " x 1 $\frac{1}{8}$ "
Size of cutter bits tool holder takes.....	$\frac{5}{16}$ " sq.

Tailstock

Size of Morse taper centers.....	No. 3
Spindle travel.....	4 $\frac{1}{4}$ "
Each graduation on tailstock spindle advances spindle.....	$\frac{1}{16}$ "
Tailstock top will set over for taper turning.....	15 $\frac{1}{16}$ "

Motor

Horsepower of standard motor used on 13-inch motor driven lathes.....	$\frac{3}{4}$
R.P.M. of standard motor.....	1725
Number of V-belts used.....	2

Countershaft

Speed in R.P.M. of shaft.....	267
Size of pulleys.....	8" x 2 $\frac{3}{8}$ "

Taper Attachment (telescopic type)

Maximum length turned in one setting.....	9 $\frac{1}{4}$ "
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