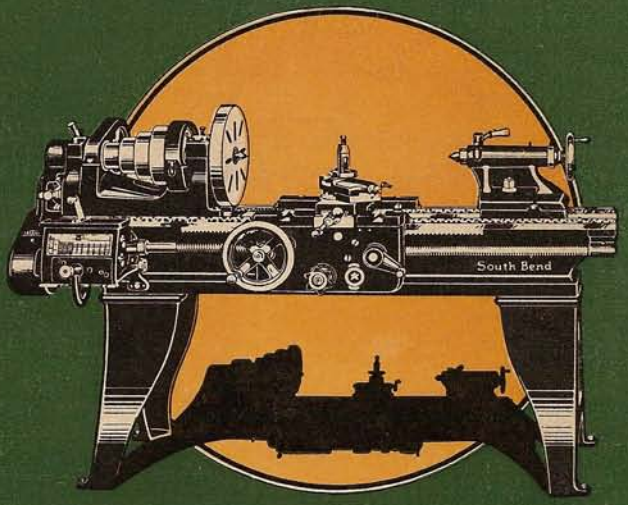



# 1934 Model

# South Bend LATHES

Catalog
No. 94

FEBRUARY, 1934

South Bend Lathe Works
South Bend, Indiana, U. S. A.

# Foreword

This catalog illustrates the line of 1934 Model South Bend Back-Geared, Screw Cutting Lathes, from 9-inch to 18-inch swing, in various types and drives, making the most complete line of small and medium size lathes on the market. There is a size and type of South Bend Lathe for almost every purpose required in metal working industries of all kinds.

The 1934 South Bend Lathes, in all sizes and types, have power, accuracy and precision. The Tool Room Lathes are practical for the finest class of tool work, gauges, etc. The Production Lathes have the power, rigidity and speed required for the working of metals.

One hundred and four South Bend Back-Geared, Screw Cutting Lathes are used in our own manufacturing plant for tool room work, manufacturing and production work. Many of these lathes are fitted with special attachments and used as single purpose machines.

South Bend Lathes are the most widely used lathes in the United States today. More than 56,000 of these lathes are in use in the U.S.A. and 96 other countries and colonies overseas. For many years we have been manufacturing the South Bend Lathe in large quantities. Quantity production insures accuracy and low costs which permit selling at reasonable prices.

Attention is called to the large line of attachments, tools and fixtures that can be fitted to the South Bend Lathe for doing a variety of work, in the modern shop, such as draw-in collet chuck work, turning and boring tapers, milling, keyway cutting, grinding, turret work, etc.

**South Bend Lathe Works**

Index is Listed on Inside Back Cover

40⁰⁰
1st ed.

# 1934 Model
# South Bend Lathes

## 1934 Prices

This catalog contains our 1934 established prices on all sizes and types of 1934 Model South Bend Lathes and Attachments. All prices include crating for shipment and are net list to the user, f.o.b. cars South Bend, Indiana, U. S. A.

## Guarantee

WE GUARANTEE every South Bend Lathe to be accurate and mechanically perfect; to give you entire satisfaction and the service you have a right to expect. We will replace, free of charge, within one year from the date of purchase, any lathe part that proves defective, either in material or workmanship.

We will ship a South Bend Lathe anywhere in the United States for a thirty-day trial in your own shop. If you are dissatisfied in any way, within that time, ship it back to us; we will pay the return freight charges and refund your money.

**N.R.A. Member**

We, the South Bend Lathe Works, certify that we have signed the Machine Tool and Forging Machinery Industry Code under the N.R.A. and are operating under the terms and conditions of this code.

—SOUTH BEND LATHE WORKS.


Catalog No. 94 February, 1934

Cable Address: "Twins, South Bend"

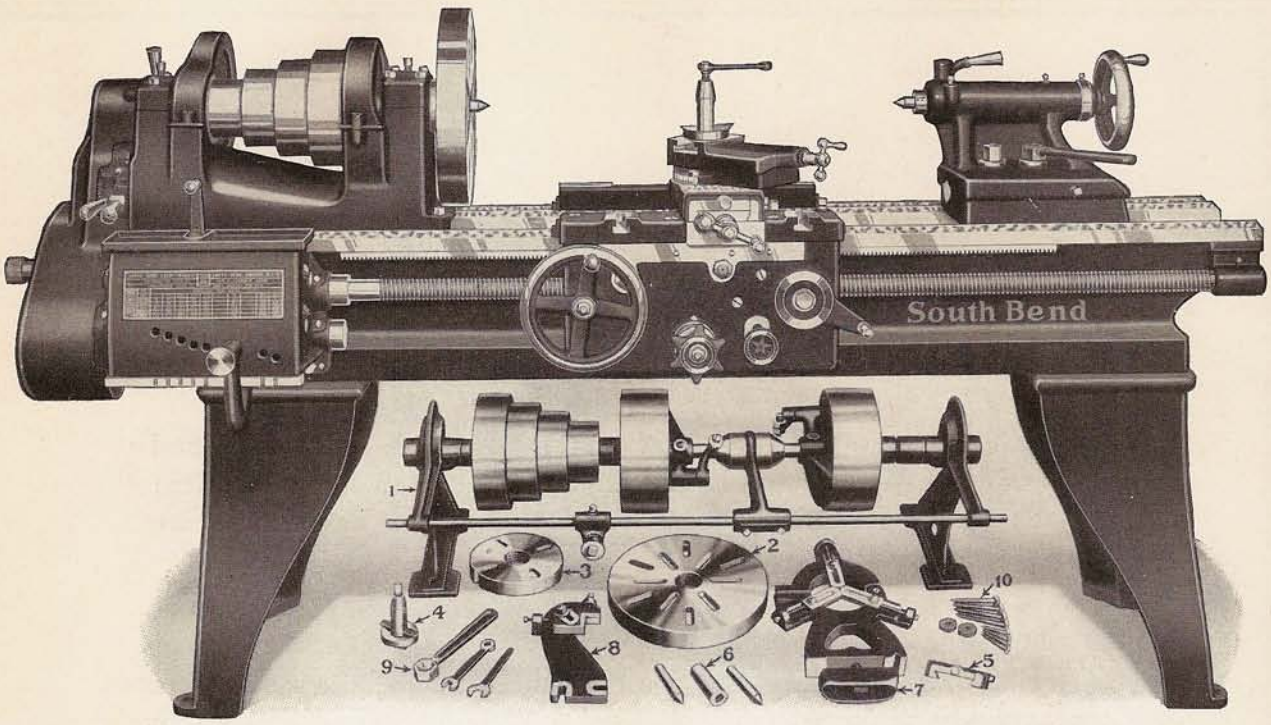
CODES:

Western Union Five Letter Edition — A. B. C. Fifth Edition Improved
Western Union Universal Edition — Bentley's, Lieber's Standard


# South Bend Lathe Works

425 East Madison Street, - - - South Bend, Indiana, U. S. A.

Established 1906 - - Lathe Builders for 27 Years




**18″ x 8′ Quick Change Gear Lathe Including Countershaft and Equipment—$705.00**

# 18-inch 1934 Model South Bend Lathe—Countershaft Drive

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 18-inch 1934 Model South Bend** Back-Geared, Screw Cutting Lathe is a heavy powerful tool, practical for production work in the manufacturing plant and general machine shop. This lathe will reduce the diameter of a steel shaft 7/8″ in one cut and has the precision and accuracy for the finest tool and gauge work.

**Mechanical Features** described below apply to all types of 18-inch 1934 Model South Bend Lathes shown in this catalog. See specifications on page 37.

**Back-Geared Headstock** is hand-scraped to lathe bed; has four-step cone for 2½″ belt; eight changes of spindle speeds from 16 to 383 R.P.M., four direct and four back-geared; wrenchless bull gear lock; and spring latch reverse.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a 1 7/16″ hole its entire length. Collet capacity 1/64″ to 1″. Spindle nose 2 5/8″ diam., 6 threads.

**Phosphor Bronze Bearings** for headstock spindle are line bored and lapped to a perfect bearing, and are adjustable for wear. An improved oiling system lubricates the bearings.

**Quick Change Gear Box** provides 48 changes for cutting screw threads from 2 to 112 per inch, right or left-hand; and for automatic longitudinal feeds from .0030″ to .0208″ per revolution of spindle, and for automatic cross feeds from .0011″ to .0078″ per revolution of spindle. See page 41.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; double plug spindle lock; No. 3 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 6¾″. See page 38.

**Apron** has worm drive for both the automatic cross feeds and automatic longitudinal feeds. Half-nuts and lead screw thread are used only for screw thread cutting. An automatic safety device prevents engaging half-nuts and automatic feeds at the same time. See page 40.

**Carriage** has wide deep bridge; is hand-scraped to bed; has T-slots for clamping work or fixtures; has carriage lock for facing and cutting off; and felt wipers for "V" ways of bed.

**Precision Lead Screw,** 1⅜″ diameter, 4 Acme standard screw threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads. See page 40.

**Compound Rest** is graduated 180°; swivels to any angle, and has angular travel of 4 3/16″. Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Tool holder shank 5/8″ x 1⅜″ for cutters ⅜″ square.

**Lathe Bed** is 50% steel, heavily constructed and reinforced by box braces its entire length. Three V-ways and one flat way accurately planed and hand-scraped, align and support the headstock, carriage and tailstock. See page 39.

**Regular Equipment** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

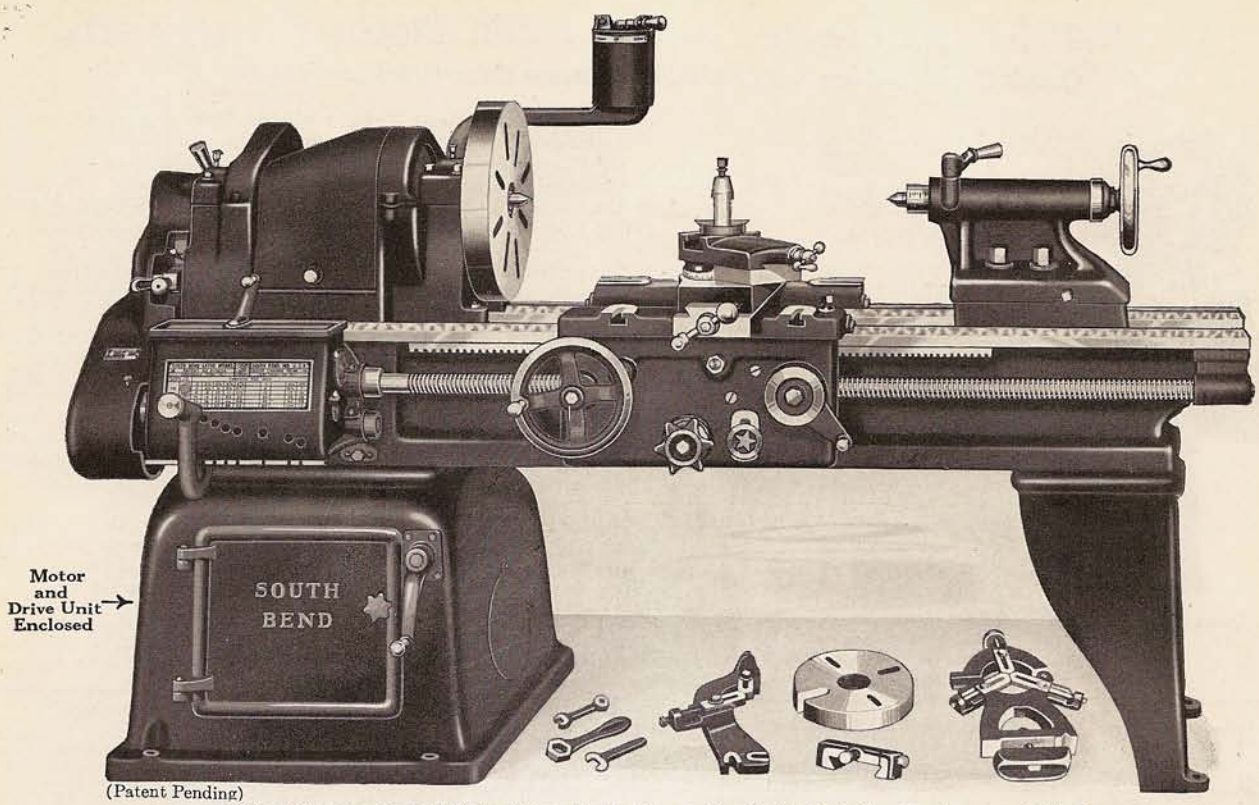
**Attachments and Accessories** such as collet chuck, taper attachment, etc., can be supplied, see pages 50 to 61.

**The 18-inch Lathe** is also available in the Standard Change Gear type as priced below and shown on page 4.

**Net Factory Prices 18-inch 1934 Model Lathes Including Countershaft and Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 18¼ | 6 | 29½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-C** | Sagah | 2400 | **$585.00** | **94-C** | Sapho | 2440 | **$655.00** |
| 18¼ | 7 | 41½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-D** | Sehoe | 2500 | **610.00** | **94-D** | Setra | 2540 | **630.00** |
| 18¼ | 8 | 53½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-E** | Siati | 2600 | **635.00** | **94-E** | Sibar | 2640 | **705.00** |
| 18¼ | 10 | 77½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-G** | Sombu | 2800 | **639.00** | **94-G** | Socks | 2840 | **759.00** |
| 18¼ | 12 | 101½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-H** | Sumpt | 3100 | **767.00** | **94-H** | Subwa | 3140 | **837.00** |
| 18¼ | 14 | 125½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-K** | Sylog | 3325 | **829.00** | **94-K** | Syogi | 3365 | **899.00** |
| 18¼ | 16 | 149½ | 1 7/16 | 12 5/8 | 2½ | 167 | 2 | **43-M** | Syryl | 3575 | **899.00** | **94-M** | Sytny | 3615 | **969.00** |

Prices of Lathes with 12-foot, 14-foot and 16-foot beds include center leg. If Countershaft is not wanted, deduct $45.00 from above prices.




(Patent Pending)

**18″ x 8′ Underneath Belt Motor Driven Quick Change Gear Lathe Including Equipment—$975.00**

# 18-inch 1934 South Bend Underneath Belt Motor Driven Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 18-inch Underneath Belt Motor Driven** Quick Change Gear Lathe, shown above, is similar to the 18-inch Countershaft Driven Lathe illustrated on page 2, and has the same mechanical features and specifications; the only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive** is a compact, self-contained unit, completely enclosed within the cabinet leg, under the headstock, away from dirt and chips. The motor and lower cone pulley are mounted on an adjustable tilting cradle which is controlled by the belt release crank on the front of the cabinet leg. A hinged guard covers the spindle cone pulley. For illustrations of the Underneath Belt Motor Drive mechanism and further description, see page 34.

**Powerful and Efficient in Operation.** Smooth even power is transmitted by V-belts from motor to lower drive unit and by flat leather belt to headstock cone pulley. This modern method of driving the lathe spindle is quiet, efficient, and powerful, and permits handling work with the greatest precision and accuracy.

**Belt Tension Adjustments** are provided for regulating tension of V-belts from motor to driving unit and for obtaining any desired tension of the vertical belt between the lower drive unit and the headstock cone pulley.

**Changing Spindle Speeds.** The belt release crank on the front of the cabinet leg permits easy shifting of the belt from one step of the cone pulley to another for changing the spindle speeds. A half turn of the belt release crank lifts the tilting cradle 1½ inches and locks it in position, which permits the operator to place the belt on any step of spindle desired.

**Regular Equipment** included in price of lathe consists of: Large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan blue print and book, "How to Run a Lathe."

**Electrical Equipment** included in the price consists of: Motor drive mechanism mounted in cabinet leg under headstock; 2 H.P., 1200 R.P.M. instant reversing motor (G.E., Westinghouse or equal make); drum reversing switch; wiring enclosed in metal conduit; five V-belts, motor to drive pulley; double ply flat leather belt and wiring diagram blue print.

**The 18-inch Underneath Belt Motor Driven Lathe,** shown above, is also available in the Standard Change Gear type, which is described on page 4 and priced below.

**When Ordering** a Motor Driven Lathe give specifications of the electric current to be used. See page 36 for information on how to order motor driven lathes.

### Net Factory Prices 18-inch 1934 Model South Bend Underneath Belt Motor Driven Lathes

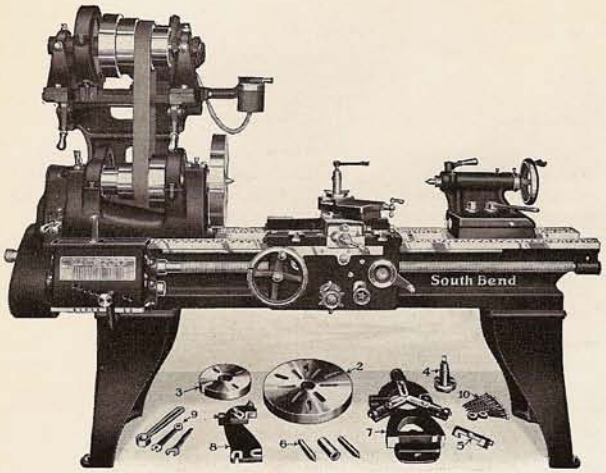
**Prices Include Regular Equipment, and Electrical Equipment as Listed Above**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 18¼ | 6 | 29½ | 1 7/16 | 12 5/8 | 2 | 3090 | **143-C** | Depam | **$ 855.00** | **$ 926.00** | **$ 940.00** | **194-C** | Delek | **$ 925.00** | **$ 996.00** | **$1010.00** |
| 18¼ | 7 | 41½ | 1 7/16 | 12 5/8 | 2 | 3190 | **143-D** | Depen | **880.00** | **951.00** | **965.00** | **194-D** | Demak | **950.00** | **1021.00** | **1035.00** |
| 18¼ | 8 | 53½ | 1 7/16 | 12 5/8 | 2 | 3290 | **143-E** | Depur | **905.00** | **976.00** | **990.00** | **194-E** | Demel | **975.00** | **1046.00** | **1060.00** |
| 18¼ | 10 | 77½ | 1 7/16 | 12 5/8 | 2 | 3490 | **143-G** | Derap | **959.00** | **1030.00** | **1044.00** | **194-G** | Demup | **1029.00** | **1100.00** | **1114.00** |
| 18¼ | 12 | 101½ | 1 7/16 | 12 5/8 | 2 | 3790 | **143-H** | Deros | **1037.00** | **1108.00** | **1122.00** | **194-H** | Denal | **1107.00** | **1178.00** | **1192.00** |
| 18¼ | 14 | 125½ | 1 7/16 | 12 5/8 | 2 | 4015 | **143-K** | Deser | **1099.00** | **1170.00** | **1184.00** | **194-K** | Denem | **1169.00** | **1240.00** | **1254.00** |
| 18¼ | 16 | 149½ | 1 7/16 | 12 5/8 | 2 | 4265 | **143-M** | Denop | **1169.00** | **1240.00** | **1254.00** | **194-M** | Demno | **1239.00** | **1310.00** | **1324.00** |

Lathes with 12-foot, 14-foot and 16-foot beds are equipped with center leg which is included in the price of the lathe.

# 18-inch 1934 South Bend Silent V-Belt Motor Driven Lathe

## Quick Change Gear and Standard Change Gear Precision Lathes




18"x 8' Quick Change Gear Silent V-Belt Motor Driven Lathe. .$895.00

**The 18-inch Silent V-Belt Motor Driven** Quick Change Gear Lathe shown at the left is similar to the 18-inch Countershaft Driven Lathe illustrated on page 2, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with the Silent V-Belt Motor Drive instead of Countershaft Drive.

**Silent V-Belt Motor Drive** is efficient, powerful and noiseless in operation. Motor and driving cone are mounted on tilting table above headstock of lathe. Drive is by V-Belts from motor to driving pulley and by flat leather belt to spindle cone pulley. For detailed description of this drive see page 36.

**Regular Equipment** included in price of lathe consists of: Silent motor drive unit; large and small face plates; tool post; thread cutting stop; two 60° lathe centers and spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price consists of: 2 H.P. 1200 R.P.M. instant reversing motor (G.E., Westinghouse or equal); drum reversing switch; wiring enclosed in metal conduit; five V-belts, motor to drive pulley; double ply flat leather cone pulley belt, and wiring diagram.

### Net Factory Prices 18-inch 1934 Model South Bend Silent V-Belt Motor Driven Lathes

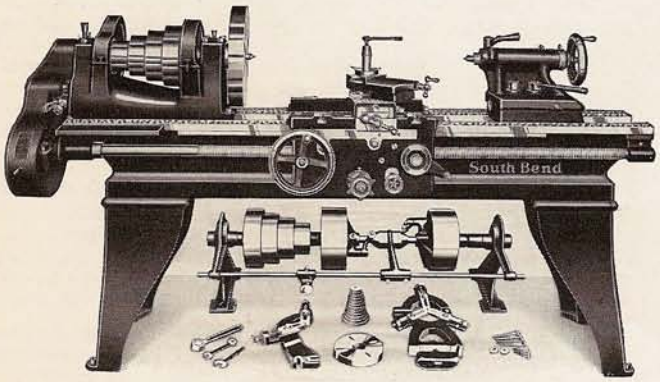
**Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Belting**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 18¼ | 6 | 29½ | 1 7/16 | 12⅝ | 2 | 2940 | **343-C** | Sober | **$ 775.00** | **$ 846.00** | **$ 860.00** | **394-C** | Sacks | **$ 845.00** | **$ 916.00** | **$ 930.00** |
| 18¼ | 7 | 41½ | 1 7/16 | 12⅝ | 2 | 3040 | **343-D** | Sorel | **800.00** | **871.00** | **885.00** | **394-D** | Sarge | **870.00** | **941.00** | **955.00** |
| 18¼ | 8 | 53½ | 1 7/16 | 12⅝ | 2 | 3140 | **343-E** | Sanro | **825.00** | **896.00** | **910.00** | **394-E** | Semin | **895.00** | **966.00** | **980.00** |
| 18¼ | 10 | 77½ | 1 7/16 | 12⅝ | 2 | 3340 | **343-G** | Sucre | **879.00** | **950.00** | **964.00** | **394-G** | Seoul | **949.00** | **1020.00** | **1034.00** |
| 18¼ | 12* | 101½ | 1 7/16 | 12⅝ | 2 | 3640 | **343-H** | Sugar | **957.00** | **1028.00** | **1042.00** | **394-H** | Simpe | **1027.00** | **1098.00** | **1112.00** |
| 18¼ | 14* | 125½ | 1 7/16 | 12⅝ | 2 | 3865 | **343-K** | Synth | **1019.00** | **1090.00** | **1104.00** | **394-K** | Sinks | **1089.00** | **1160.00** | **1174.00** |
| 18¼ | 16* | 149½ | 1 7/16 | 12⅝ | 2 | 4115 | **343-M** | Sykdy | **1089.00** | **1160.00** | **1174.00** | **394-M** | Sizod | **1159.00** | **1230.00** | **1244.00** |

*Includes Center Leg.

# 18-inch Standard Change Gear 1934 Model South Bend Lathe

## Back-Geared, Screw Cutting Precision Lathe—Countershaft Drive




18" x 8' Standard Change Gear Countershaft Driven Lathe.....$635.00

**Attachments and Accessories** such as draw-in collet chuck, taper attachment, thread indicator, etc., can be supplied for the 18-inch 1934 Model Lathes. For descriptions and prices, see pages 50 to 61.

**The 18-inch Standard Change Gear Lathe** is identical with the 18-inch Quick Change Gear Lathe illustrated on page 2, except that the quick change gear box is replaced by a set of Independent Change Gears. Features and specifications on page 2 apply to this Standard Change Gear Lathe.

**Change Gears** are used to cut standard screw threads, right or left-hand, from 2 to 40 per inch, as shown on chart below, and to provide a wide range of automatic longitudinal feeds and automatic cross feeds. Special change gear equipment for cutting standard screw threads from 2 to 80 per inch can be supplied at $12.00 extra, when purchased with lathe. See page 42.

**18-inch Standard Change Gear Lathe** is also available with Underneath Belt Motor Drive as shown on page 3, and Silent V-Belt Motor Drive as shown above.

**Equipment Included in Price** of Lathe consists of: Countershaft; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**SCREW THREAD CUTTING CHART**

STANDARD CHANGE GEAR LATHE

18"

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 2 | 48 | 24 |
| 3 | 48 | 36 |
| 4 | 48 | 48 |
| 5 | 48 | 60 |
| 6 | 48 | 72 |
| 7 | 48 | 84 |
| 8 | 48 | 96 |
| 9 | 48 | 108 |
| 10 | 48 | 120 |
| 11 | 24 | 66 |
| 11½ | 24 | 69 |
| 12 | 24 | 72 |
| 13 | 24 | 78 |
| 14 | 24 | 84 |
| 16 | 24 | 96 |
| 18 | 24 | 108 |
| 20 | 24 | 120 |
| 22 | 24-1-2 | 66 |
| 24 | 24-1-2 | 72 |
| 26 | 24-1-2 | 78 |
| 28 | 24-1-2 | 84 |
| 30 | 24-1-2 | 90 |
| 32 | 24-1-2 | 96 |
| 36 | 24-1-2 | 108 |
| 40 | 24-1-2 | 120 |

Metal Index Chart attached to Lathe

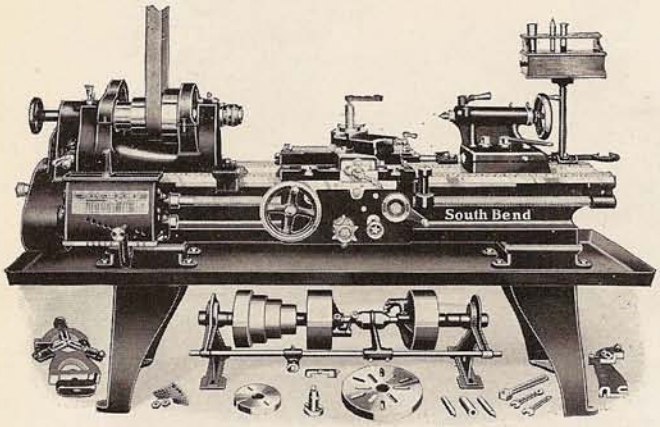
### Prices 18-inch 1934 Standard Change Gear Lathes with Countershaft and Equipment

| Cat. No. of Lathe | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **43-C** | 18¼ | 6 | 29½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 2400 | Sagah | **$585.00** |
| **43-D** | 18¼ | 7 | 41½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 2500 | Sehoe | **610.00** |
| **43-E** | 18¼ | 8 | 53½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 2600 | Siati | **635.00** |
| **43-G** | 18¼ | 10 | 77½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 2800 | Sombu | **689.00** |
| **43-H** | 18¼ | 12* | 101½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 3100 | Sumpt | **767.00** |
| **43-K** | 18¼ | 14* | 125½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 3325 | Sylog | **829.00** |
| **43-M** | 18¼ | 16* | 149½ | 1 7/16 | 12⅝ | 2½ | 167 | 2 | 3575 | Syryl | **899.00** |

*Includes center leg. If Countershaft is not wanted, deduct $45.00 from above prices.

# 18-inch 1934 Model Tool Room Lathe—Countershaft Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




18″ x 8′ Tool Room Lathe, Countershaft Drive.....$977.00

**The 18-inch South Bend Tool Room Precision Lathe,** illustrated at left, is recommended for the finest class of tool, gauge and fixture work in the modern tool room. This lathe is ideal for making precision taps, master thread gauges, dies, tools, etc., and will meet the most exacting demands of the expert mechanic for accuracy and precision.

**18-inch Tool Room Precision Lathe** is built up of the same units as used on the 18-inch Quick Change Gear Lathe illustrated and described on page 2, and has the same mechanical features and specifications.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with lathe, or individually as desired. For complete information on attachments, see pages 50 to 61.

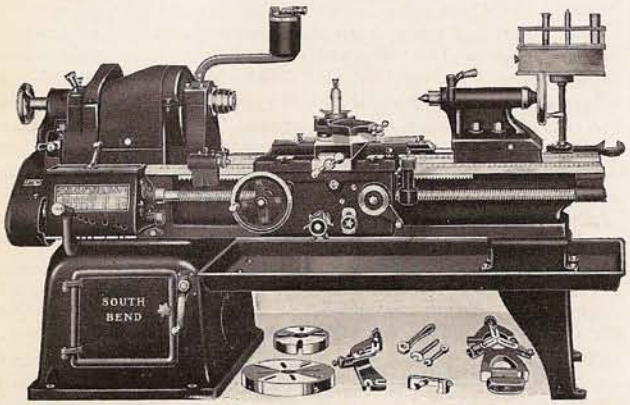
**Regular Equipment Included In Price** of lathe consists of: countershaft; large face plate; small face plate; tool post; adjustable thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Net Factory Prices 18-inch 1934 Model South Bend Tool Room Precision Lathes—Countershaft Drive**

| Size and Catalog Number | No. 894-C—18″ x 6′ | | No. 894-E—18″ x 8′ | | No. 894-G—18″ x 10′ | |
|---|---|---|---|---|---|---|
| 18-inch Tool Room Quick Change Gear Precision Lathe, Countershaft Drive, with Regular Lathe Equipment but without Tool Room Attachments | Code Word: Sapho | Price: $655.00 | Code Word: Sibar | Price: $705.00 | Code Word: Socks | Price: $ 759.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Adult | 55.00 | Adult | 55.00 | Adult | 55.00 |
| Extra Collets 1/64-inch up to 1-inch capacity by 64ths. Each | Comet | 5.00 | Comet | 5.00 | Comet | 5.00 |
| Taper Attachment | Dunns | 100.00 | Dunns | 100.00 | Dunns | 100.00 |
| Thread Indicator | Agrol | 15.00 | Agrol | 15.00 | Agrol | 15.00 |
| Oil Pan | Okres | 55.00 | Omens | 65.00 | Oaleh | 75.00 |
| Micrometer Carriage Stop | Coral | 17.00 | Ccral | 17.00 | Coral | 17.00 |
| Collet Cabinet and Bracket | Catch | 15.00 | Catch | 15.00 | Catch | 15.00 |
| **Prices of Tool Room Lathe, Complete as Illustrated Above** | Sexon | $917.00 | Stove | $977.00 | Sedog | $1041.00 |
| Distance Between Centers of Lathe | 29½ in. | | 53½ in. | | 77½ in. | |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | 2732 lbs. | | 2932 lbs. | | 3132 lbs. | |

# 18-inch 1934 Tool Room Lathe—Underneath Belt Motor Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




18″ x 8′ Tool Room Lathe, Underneath Belt Motor Drive.....$1229.00

**The 18-inch South Bend Underneath Belt Motor Driven Tool Room Precision Lathe,** illustrated at left, is similar to the 18-inch Countershaft Driven Tool Room Lathe shown above, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive Mechanism** used on this lathe is illustrated and further described on page 34.

**Tool Room Lathe Attachments** may be purchased complete with lathe, or individually. See pages 50 to 61.

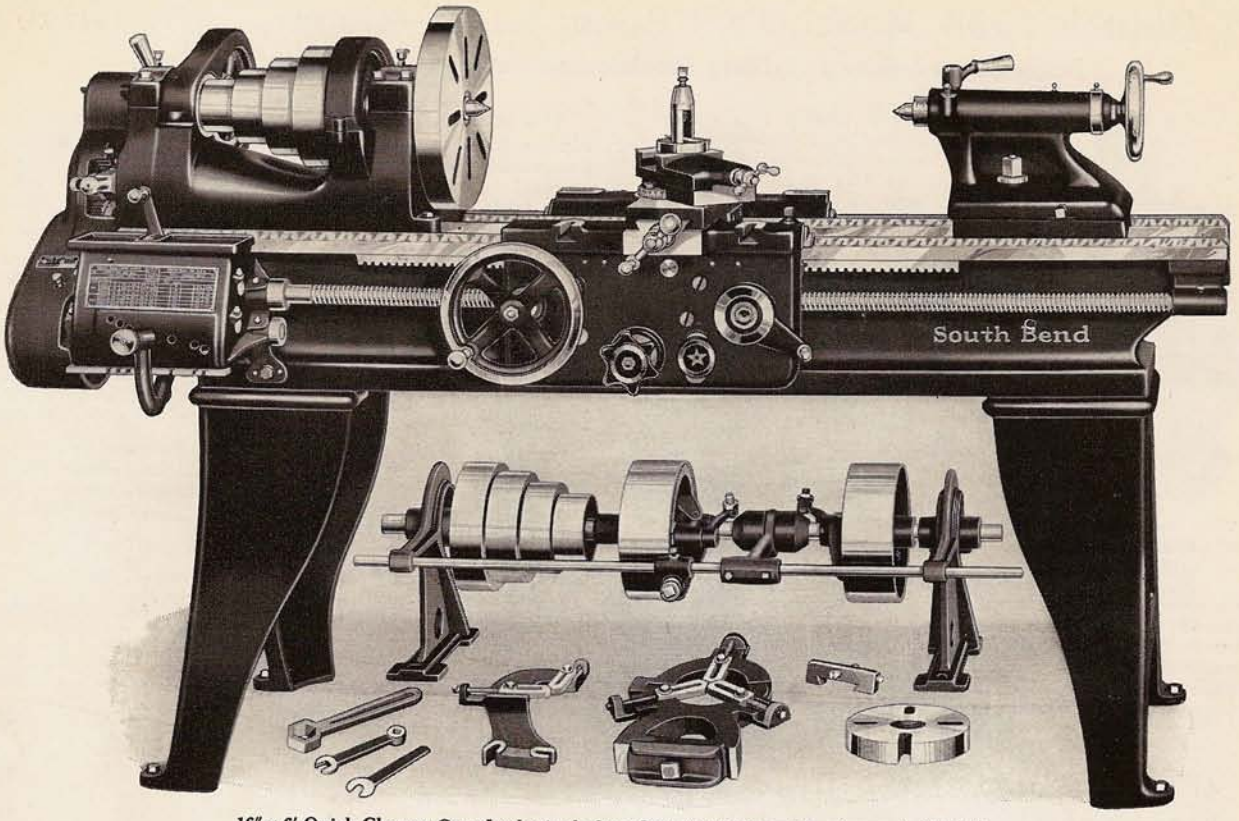
**Regular Equipment** consists of: motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of lathe consists of 2-H.P. 1200 R.P.M. instant reversing motor (Westinghouse, General Electric, or equal make); drum reversing switch; wiring between motor and switch, enclosed in metal conduit; five V-belts; one flat leather belt and wiring directions.

**Net Factory Prices 18-inch 1934 Model South Bend Tool Room Precision Lathes—Underneath Belt Motor Drive**

| Catalog No. 1894-E, 18″ x 8′ Tool Room Quick Change Gear Precision Lathe, with Underneath Belt Motor Drive, Regular Lathe Equipment and Electrical Equipment but without Tool Room Attachments | With 3 Phase-60 Cycle A. C. Motor | | With 1 Phase-60 Cycle A. C. Motor | | With Direct Current Motor | |
|---|---|---|---|---|---|---|
| | Code Word: Demel | Price: $ 975.00 | Code Word: Demel | Price: $1046.00 | Code Word: Demel | Price: $1060.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Adult | 55.00 | Adult | 55.00 | Adult | 55.00 |
| Extra Collets 1/64-inch up to 1-inch capacity by 64ths. Each | Comet | 5.00 | Comet | 5.00 | Comet | 5.00 |
| Taper Attachment | Dunns | 100.00 | Dunns | 100.00 | Dunns | 100.00 |
| Thread Indicator | Agrol | 15.00 | Agrol | 15.00 | Agrol | 15.00 |
| Chip Pan | Bopol | 47.00 | Bopol | 47.00 | Bopol | 47.00 |
| Micrometer Carriage Stop | Coral | 17.00 | Coral | 17.00 | Coral | 17.00 |
| Collet Cabinet and Bracket | Catch | 15.00 | Catch | 15.00 | Catch | 15.00 |
| **Prices of Tool Room Lathe, Complete as Illustrated Above** | Dezob | $1229.00 | Dezuc | $1300.00 | Dibad | $1314.00 |
| Distance Between Centers of Lathe | 53½ in. | | 53½ in. | | 53½ in. | |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | 3550 lbs. | | 3630 lbs. | | 3651 lbs. | |

**For Prices of Tool Room Lathes complete with 6-ft. bed deduct $60.00 from above prices. For 10-ft. bed add $64.00.**




**16″ x 6′ Quick Change Gear Lathe including Countershaft and Equipment—$540.00**

# 16-inch 1934 Model South Bend Lathe—Countershaft Drive

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 16-inch 1934 Model South Bend** Back-Geared, Screw Cutting Lathe is a rigid powerful lathe, recommended for the manufacturing plant, tool room and general machine shop, because of its extreme accuracy and general all-round usefulness. This lathe will reduce the diameter of a steel shaft ¾″ in one cut and has the precision for the finest tool and gauge work.

**Mechanical Features** described below apply to all types of 16-inch South Bend Lathes. See specifications page 37.

**Back-Geared Headstock** is hand-scraped to lathe bed; has four-step cone for 2¼″ belt; eight changes of spindle speeds from 18 to 598 R.P.M., four direct and four back-geared; wrenchless bull gear lock; and spring latch reverse.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a 1⅜″ hole its entire length. Collet capacity 1/64″ to ⅞″. Spindle nose 2⅜″ diam., 6 threads.

**Phosphor Bronze Bearings** for headstock spindle are line bored and lapped to a perfect bearing, and are adjustable for wear. An improved oiling system lubricates the bearings.

**Quick Change Gear Box** provides 48 changes for cutting screw threads from 2 to 112 per inch, right or left-hand; and for automatic longitudinal feeds from .0030″ to .0208″ per revolution of spindle, and for automatic cross feeds from .0011″ to .0078″ per revolution of spindle. See page 41.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; double plug spindle lock; No. 3 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 5¾″. See page 38.

**Apron** has worm drive for both the automatic cross feeds and automatic longitudinal feeds. Half-nuts and lead screw thread are used only for screw thread cutting. An automatic safety device prevents engaging half-nuts and automatic feeds at the same time. See page 40.

**Carriage** has wide deep bridge; is hand-scraped to bed; has T-slots for clamping work or fixtures; has carriage lock for facing and cutting off; and felt wipers for "V" ways.

**Precision Lead Screw,** 1⅛″ diameter, 6 Acme standard screw threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads. See page 40.

**Compound Rest** is graduated 180°; swivels to any angle, and has angular travel of 3¾″. Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Tool holder shank ⅝″ x 1⅜″ for cutters ⅜″ square.

**Lathe Bed** is 50% steel, heavily constructed and reinforced by box braces its entire length. Three V-ways and one flat way accurately planed and hand-scraped, align and support the headstock, carriage and tailstock. See page 39.

**Regular Equipment** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

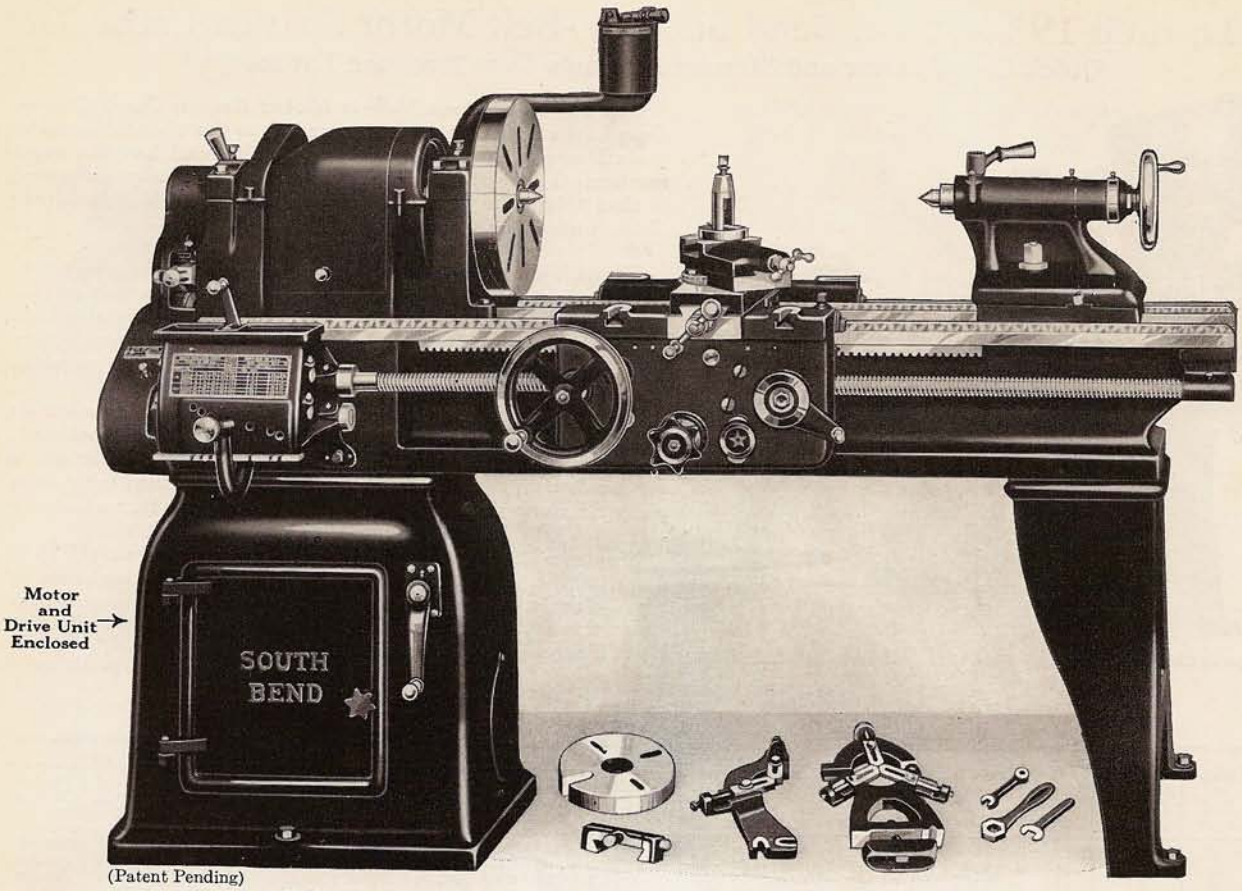
**Attachments and Accessories** such as collet chuck, taper attachment, etc., can be supplied, see pages 50 to 61.

**The 16-inch Lathe** is also available in the Standard Change Gear type as priced below and shown on page 8

**Net Factory Prices 16-inch 1934 Model Lathes Including Countershaft and Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 16¼ | 6 | 34 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | **41-C** | Mater | 1840 | **$480.00** | **92-C** | Malta | 1875 | **$540.00** |
| 16¼ | 7 | 46 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | **41-D** | Medow | 1920 | **500.00** | **92-D** | Melbo | 1955 | **560.00** |
| 16¼ | 8 | 58 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | **41-E** | Milky | 2000 | **520.00** | **92-E** | Mitre | 2035 | **580.00** |
| 16¼ | 10 | 82 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | **41-G** | Money | 2160 | **564.00** | **92-G** | Movir | 2195 | **624.00** |
| 16¼ | 12 | 106 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | **41-H** | Mules | 2390 | **627.00** | **92-H** | Muday | 2425 | **687.00** |
| 16¼ | 14 | 130 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | **41-K** | Musiz | 2615 | **682.00** | **92-K** | Murzo | 2650 | **742.00** |

Prices of Lathes with 12-foot and 14-foot bed include center leg. If Countershaft is not wanted, deduct $31.00 from above prices.




(Patent Pending)

**16″ x 6′ Underneath Belt Motor Driven Quick Change Gear Lathe Including Equipment—$752.00**

# 16-inch 1934 South Bend Underneath Belt Motor Driven Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 16-inch Underneath Belt Motor Driven** Quick Change Gear Lathe, shown above, is similar to the 16-inch Countershaft Driven Lathe illustrated on page 6, and has the same mechanical features and specifications; the only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive** is a compact, self-contained unit, completely enclosed within the cabinet leg, under the headstock, away from dirt and chips. The motor and lower cone pulley are mounted on an adjustable tilting cradle which is controlled by the belt release crank on the front of the cabinet leg. A hinged guard covers the spindle cone pulley. For illustrations of the Underneath Belt Motor Drive mechanism and further description, see page 34.

**Powerful and Efficient in Operation.** Smooth even power is transmitted by V-belts from motor to lower drive unit and by flat leather belt to headstock cone pulley. This modern method of driving the lathe spindle is quiet, efficient, and powerful, and permits handling work with the greatest precision and accuracy.

**Changing Spindle Speeds.** The belt release crank on the front of the cabinet leg permits easy shifting of the belt from one step of the cone pulley to another for changing the spindle speeds. A half turn of the belt release crank lifts the tilting cradle 1½ inches and locks it in position, which permits the operator to place the belt on any step of spindle desired.

**Belt Tension Adjustments** are provided for regulating tension of V-belts from motor to driving unit and for obtaining any desired tension of the vertical belt between the lower drive unit and the headstock cone pulley.

**Regular Equipment** included in price of lathe consists of: Large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan blue print and book, "How to Run a Lathe."

**Electrical Equipment** included in the price consists of: Motor drive mechanism mounted in cabinet leg under headstock; 1 H.P., 1200 R.P.M. instant reversing motor (G.E., Westinghouse or equal make); drum reversing switch; wiring enclosed in metal conduit; three V-belts, motor to drive pulley; double ply flat leather belt and wiring diagram blue print.

**The 16-inch Underneath Belt Motor Driven Lathe,** shown above, is also available in the Standard Change Gear type, which is described on page 8 and priced below.

**When Ordering** a Motor Driven Lathe give specifications of the electric current to be used. See page 36 for information.

### Net Factory Prices 16-inch 1934 Model South Bend Underneath Belt Motor Driven Lathes

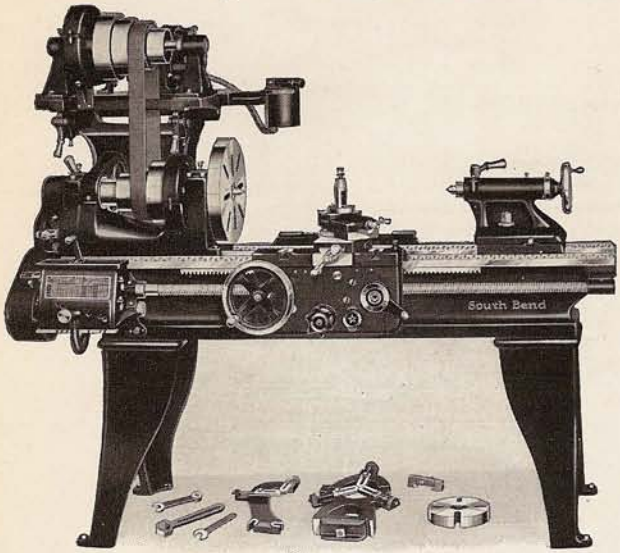
**Prices Include Regular Equipment, and Electrical Equipment as Listed Above**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 16¼ | 6 | 34 | 1⅜ | 11⅛ | 1 | 2300 | **141-C** | Deheg | **$692.00** | **$730.00** | **$758.00** | **192-C** | Defif | **$752.00** | **$790.00** | **$ 818.00** |
| 16¼ | 7 | 46 | 1⅜ | 11⅛ | 1 | 2380 | **141-D** | Dejag | **712.00** | **750.00** | **778.00** | **192-D** | Defog | **772.00** | **810.00** | **838.00** |
| 16¼ | 8 | 58 | 1⅜ | 11⅛ | 1 | 2460 | **141-E** | Dejok | **732.00** | **770.00** | **798.00** | **192-E** | Degef | **792.00** | **830.00** | **858.00** |
| 16¼ | 10 | 82 | 1⅜ | 11⅛ | 1 | 2620 | **141-G** | Dekol | **776.00** | **814.00** | **842.00** | **192-G** | Degoh | **836.00** | **874.00** | **902.00** |
| 16¼ | 12 | 106 | 1⅜ | 11⅛ | 1 | 2850 | **141-H** | Dekum | **839.00** | **877.00** | **905.00** | **192-H** | Dehaf | **899.00** | **937.00** | **965.00** |
| 16¼ | 14 | 130 | 1⅜ | 11⅛ | 1 | 3075 | **141-K** | Detra | **894.00** | **932.00** | **960.00** | **192-K** | Dewoy | **954.00** | **992.00** | **1020.00** |

Lathes with 12-foot and 14-foot bed are equipped with center leg, which is included in price of Lathe.

# 16-inch 1934 South Bend Silent V-Belt Motor Driven Lathe

## Quick Change Gear and Standard Change Gear Precision Lathes




16" x 6' Quick Change Gear Silent V-Belt Motor Driven Lathe...$682.00

**The 16-inch Silent V-Belt Motor Driven** Quick Change Gear Lathe shown at the left is similar to the 16-inch Countershaft Driven Lathe illustrated on page 6, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with the Silent V-Belt Motor Drive instead of Countershaft Drive.

**Silent V-Belt Motor Drive** is efficient, powerful and noiseless in operation. Motor and driving cone are mounted on tilting table above headstock of lathe. Drive is by V-Belts from motor to driving pulley and by flat leather belt to spindle cone pulley. For detailed description of this drive see page 36.

**Regular Equipment** included in price of lathe consists of: Silent motor drive unit; large and small face plates; tool post; thread cutting stop; two 60° lathe centers and spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price consists of: 1 H.P. 1200 R.P.M. instant reversing motor (G.E., Westinghouse or equal); drum reversing switch; wiring enclosed in metal conduit; three V-belts, motor to drive pulley; double ply flat leather cone pulley belt, and wiring diagram.

### Net Factory Prices 16-inch 1934 Model South Bend Silent V-Belt Motor Driven Lathes

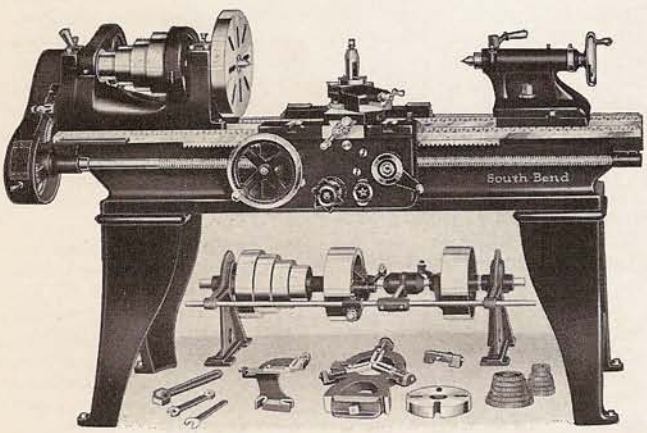
Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Belting

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 16¼ | 6 | 34 | 1⅜ | 11⅛ | 1 | 2230 | 341-C | Mirac | $622.00 | $660.00 | $688.00 | 392-C | Madge | $682.00 | $720.00 | $748.00 |
| 16¼ | 7 | 46 | 1⅜ | 11⅛ | 1 | 2310 | 341-D | Moats | 642.00 | 680.00 | 708.00 | 392-D | Magpi | 702.00 | 740.00 | 768.00 |
| 16¼ | 8 | 58 | 1⅜ | 11⅛ | 1 | 2390 | 341-E | Moral | 662.00 | 700.00 | 728.00 | 392-E | Mears | 722.00 | 760.00 | 788.00 |
| 16¼ | 10 | 82 | 1⅜ | 11⅛ | 1 | 2550 | 341-G | Music | 706.00 | 744.00 | 772.00 | 392-G | Metro | 766.00 | 804.00 | 832.00 |
| 16¼ | 12 | 106 | 1⅜ | 11⅛ | 1 | 2780 | 341-H | Mybeu | 769.00 | 807.00 | 835.00 | 392-H | Mires | 829.00 | 867.00 | 895.00 |
| 16¼ | 14 | 130 | 1⅜ | 11⅛ | 1 | 3005 | 341-K | Myceb | 824.00 | 862.00 | 890.00 | 392-K | Migeb | 884.00 | 922.00 | 950.00 |

Lathes with 12-foot and 14-foot bed are equipped with center leg which is included in price of the lathe.

# 16-inch Standard Change Gear 1934 Model South Bend Lathe

## Back-Geared, Screw Cutting Precision Lathe—Countershaft Drive




16" x 6' Standard Change Gear Countershaft Driven Lathe .....$480.00

**The 16-inch Standard Change Gear Lathe** is identical with the 16-inch Quick Change Gear Lathe illustrated on page 6, except that the quick change gear box is replaced by a set of Independent Change Gears. Features and specifications on page 6 apply to this Standard Change Gear Lathe.

**Change Gears** are used to cut standard screw threads, right or left-hand, from 2 to 40 per inch, as shown on chart below, and to provide a wide range of automatic longitudinal feeds and automatic cross feeds. Special change gear equipment for cutting standard screw threads from 2 to 80 per inch can be supplied at $9.00 extra, when purchased with the lathe. For further information see page 42.

**16-inch Standard Change Gear Lathe** is also available with Underneath Belt Motor Drive and Silent V-Belt Motor Drive.

**Equipment Included in Price** of Lathe consists of: Countershaft; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Attachments and Accessories** such as draw-in collet chuck, taper attachment, etc., can be supplied. See pages 50 to 61.

### Prices 16-inch 1934 Standard Change Gear Lathes with Countershaft and Equipment

| Cat. No. of Lathe | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 41-C | 16¼ | 6 | 34 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | 1840 | Mater | $480.00 |
| 41-D | 16¼ | 7 | 46 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | 1920 | Medow | 500.00 |
| 41-E | 16¼ | 8 | 58 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | 2000 | Milky | 520.00 |
| 41-G | 16¼ | 10 | 82 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | 2160 | Money | 564.00 |
| 41-H | 16¼ | 12* | 106 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | 2390 | Mules | 627.00 |
| 41-K | 16¼ | 14* | 130 | 1⅜ | 11⅛ | 2¼ | 225 | 1 | 2615 | Musiz | 682.00 |

*Includes center leg. If Countershaft is not wanted, deduct $31.00 from above prices.

**SCREW THREAD CUTTING CHART**

STANDARD CHANGE GEAR LATHE

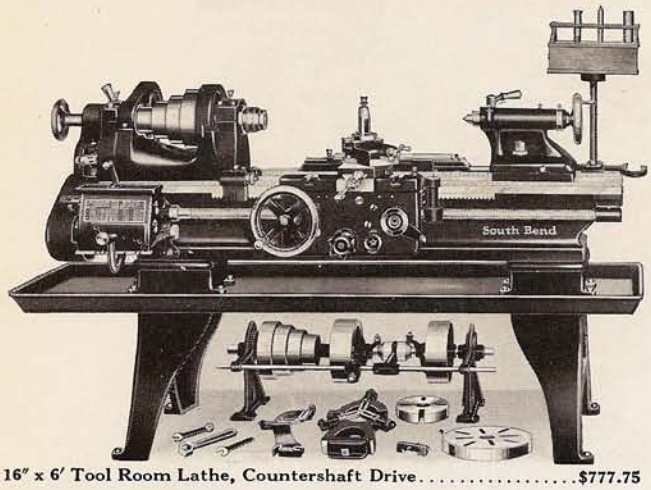
13"-15"-16"

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 2 | 72 | 24 |
| 3 | 48 | 24 |
| 4 | 48 | 32 |
| 5 | 48 | 40 |
| 6 | 48 | 48 |
| 7 | 48 | 56 |
| 8 | 48 | 64 |
| 9 | 48 | 72 |
| 10 | 48 | 80 |
| 11 | 24 | 44 |
| 11½ | 24 | 46 |
| 12 | 24 | 48 |
| 13 | 24 | 52 |
| 14 | 24 | 56 |
| 16 | 24 | 64 |
| 18 | 24 | 72 |
| 20 | 24 | 80 |
| 22 | 24-1-2 | 44 |
| 24 | 24-1-2 | 48 |
| 26 | 24-1-2 | 52 |
| 28 | 24-1-2 | 56 |
| 30 | 24-1-2 | 60 |
| 32 | 24-1-2 | 64 |
| 36 | 24-1-2 | 72 |
| 40 | 24-1-2 | 80 |

Metal Index Chart attached to Lathe

# 16-inch 1934 Model Tool Room Lathe—Countershaft Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




16″ x 6′ Tool Room Lathe, Countershaft Drive.....$777.75

**The 16-inch South Bend Tool Room Precision Lathe,** illustrated at left, is recommended for the finest class of tool, gauge and fixture work in the modern tool room. This lathe is ideal for making precision taps, master thread gauges, dies, tools, etc., and will meet the most exacting demands of the expert mechanic for accuracy and precision.

**16-inch Tool Room Precision Lathe** is built up of the same units as used on the 16-inch Quick Change Gear Lathe illustrated and described on page 6, and has the same mechanical features and specifications.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with lathe, or individually as desired. For complete information on attachments, see pages 50 to 61.

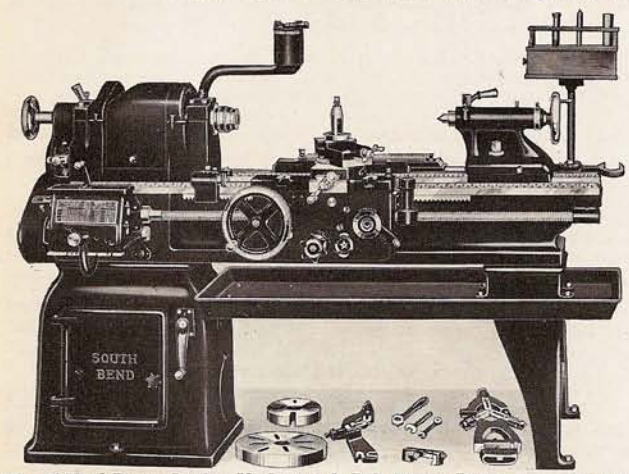
**Regular Equipment Included in Price** of lathe consists of: countershaft; large face plate; small face plate; tool post; adjustable thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

### Net Factory Prices 16-inch 1934 Model South Bend Tool Room Precision Lathes—Countershaft Drive

| Size and Catalog Number | No. 892-C—16″ x 6′ | | No. 892-D—16 ″ x 7′ | | No. 892-E—16″ x 8′ | |
|---|---|---|---|---|---|---|
| 16-inch Tool Room Quick Change Gear Precision Lathe, Countershaft Drive, with Regular Lathe Equipment but without Tool Room Attachments | Code Word: Malta | Price: $540.00 | Code Word: Melbo | Price: $560.00 | Code Word: Mitre | Price: $580.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Adore | 50.00 | Adore | 50.00 | Adore | 50.00 |
| Extra Collets 1/64-inch up to 7/8-inch capacity by 64ths. Each | Clear | 4.75 | Clear | 4.75 | Clear | 4.75 |
| Taper Attachment | Dress | 90.00 | Dress | 90.00 | Dress | 90.00 |
| Thread Indicator | Aflot | 13.00 | Aflot | 13.00 | Aflot | 13.00 |
| Oil Pan | Okres | 50.00 | Olean | 55.00 | Omens | 60.00 |
| Micrometer Carriage Stop | Climb | 15.00 | Climb | 15.00 | Climb | 15.00 |
| Collet Cabinet and Bracket | Cadro | 15.00 | Cadro | 15.00 | Cadro | 15.00 |
| **Prices of Tool Room Lathe Complete as Illustrated Above** | Mufat | $777.75 | Myajo | $802.75 | Myron | $827.75 |
| Distance Between Centers of Lathe | | 34 in. | | 46 in. | | 58 in. |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | | 2125 lbs. | | 2205 lbs. | | 2285 lbs. |

# 16-inch 1934 Tool Room Lathe—Underneath Belt Motor Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




16″ x 6′ Tool Room Lathe, Underneath Belt Motor Drive.....$974.75

**The 16-inch South Bend Underneath Belt Motor Driven Tool Room Precision Lathe,** illustrated at left, is similar to the 16-inch Countershaft Driven Tool Room Lathe shown above, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive Mechanism** used on this lathe is illustrated and further described on page 34.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with lathe, or individually as desired. See pages 50 to 61.

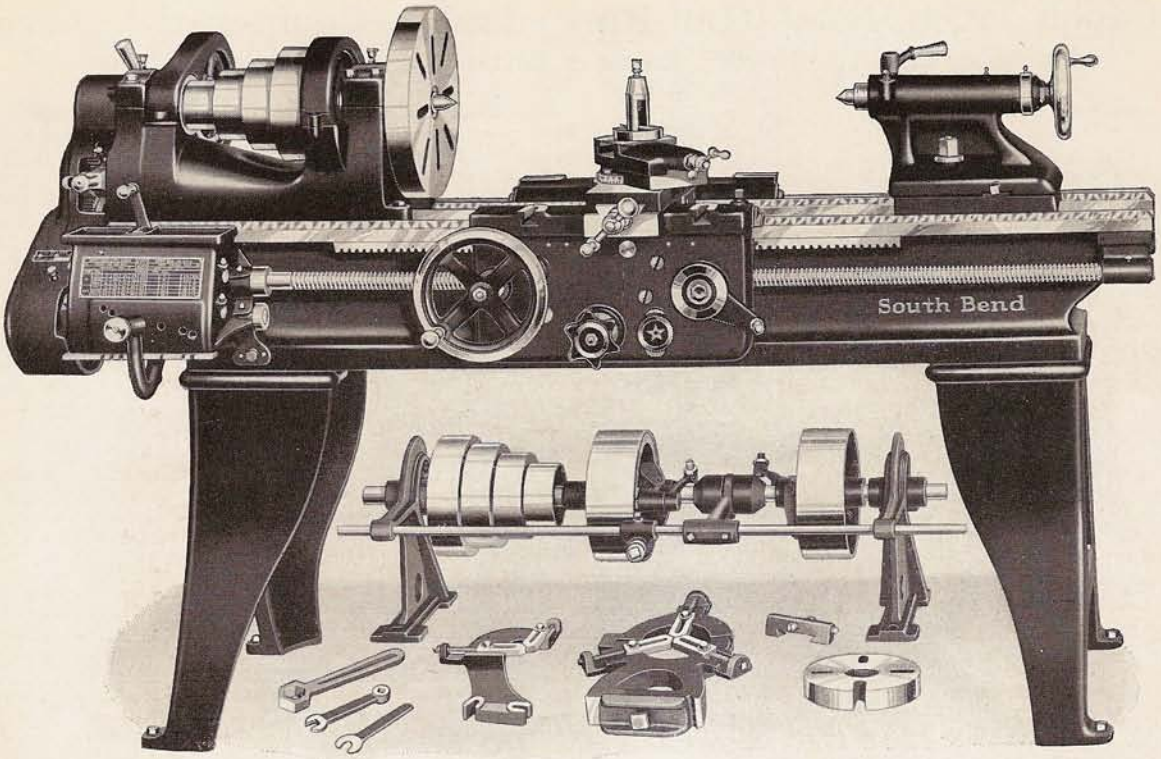
**Regular Equipment** consists of: motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of lathe consists of 1-H.P. 1200 R.P.M. instant reversing motor (Westinghouse, General Electric, or equal make); drum reversing switch; wiring between motor and switch, enclosed in metal conduit; three V-Belts; one flat leather belt and directions for wiring.

### Net Factory Prices 16-inch 1934 Model South Bend Tool Room Precision Lathes—Underneath Belt Motor Drive

| Catalog No. 1892-C—16″ x 6′ Tool Room Quick Change Gear Precision Lathe, with Underneath Belt Motor Drive, Regular Lathe Equipment and Electrical Equipment, but without Tool Room Attachments | With 3 Phase-60 Cycle A. C. Motor | | With 1 Phase-60 Cycle A. C. Motor | | With Direct Current Motor | |
|---|---|---|---|---|---|---|
| | Code Word: Defif | Price: $752.00 | Code Word: Defif | Price: $ 790.00 | Code Word: Defif | Price: $ 818.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Adore | 50.00 | Adore | 50.00 | Adore | 50.00 |
| Extra Collets 1/64-inch up to 7/8-inch capacity by 64ths. Each | Clear | 4.75 | Clear | 4.75 | Clear | 4.75 |
| Taper Attachment | Dress | 90.00 | Dress | 90.00 | Dress | 90.00 |
| Thread Indicator | Aflot | 13.00 | Aflot | 13.00 | Aflot | 13.00 |
| Chip Pan | Boplo | 35.00 | Boplo | 35.00 | Boplo | 35.00 |
| Micrometer Carriage Stop | Climb | 15.00 | Climb | 15.00 | Climb | 15.00 |
| Collet Cabinet and Bracket | Cadro | 15.00 | Cadro | 15.00 | Cadro | 15.00 |
| **Prices of Tool Room Lathe Complete as Illustrated Above** | Deyoz | $974.75 | Deyub | $1012.75 | Deziz | $1040.75 |
| Distance Between Centers of Lathe | | 34 in. | | 34 in. | | 34 in. |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | | 2525 lbs. | | 2560 lbs. | | 2580 lbs. |

**For prices of Tool Room Lathes complete with 7 ft. bed add $25.00 to above prices. For 8 ft. bed add $50.00.**




15″ x 6′ Quick Change Gear Lathe Including Countershaft and Equipment—$485.00

# 15-inch 1934 Model South Bend Lathe—Countershaft Drive

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 15-inch 1934 Model South Bend** Back-Geared, Screw Cutting Lathe is a practical lathe for the manufacturing plant and general machine shop. The 1934 Model has features and improvements that have made it a popular size for tool room purposes. This lathe will reduce the diameter of a steel shaft 11/16″ in one cut and has the accuracy for all fine tool and gauge work.

**Mechanical Features** described below apply to all types of 15-inch South Bend Lathes. See specifications page 37.

**Back-Geared Headstock** is hand-scraped to lathe bed; has four-step cone for 2″ belt; eight changes of spindle speeds from 20 to 579 R.P.M., four direct and four back-geared; wrenchless bull gear lock; and spring latch reverse.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a 1⅛″ hole its entire length. Collet capacity 1/64″ to ¾″. Spindle nose 2¼″ diam., 6 threads.

**Phosphor Bronze Bearings** for headstock spindle are line bored and lapped to a perfect bearing, and are adjustable for wear. An improved oiling system lubricates the bearings.

**Quick Change Gear Box** provides 48 changes for cutting screw threads from 2 to 112 per inch, right or left-hand; and for automatic longitudinal feeds from .0030″ to .0208″ per revolution of spindle, and for automatic cross feeds from .0011″ to .0078″ per revolution of spindle. See page 41.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; double plug spindle lock; No. 3 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 5¼″. See page 38.

**Apron** has worm drive for both the automatic cross feeds and automatic longitudinal feeds. Half-nuts and lead screw thread are used only for screw thread cutting. An automatic safety device prevents engaging half-nuts and automatic feeds at the same time. See page 40.

**Carriage** has wide deep bridge; is hand-scraped to bed; has T-slots for clamping work or fixtures; has carriage lock for facing and cutting off; and felt wipers for "V" ways.

**Precision Lead Screw,** 1⅛″ diameter, 6 Acme standard screw threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads. See page 40.

**Compound Rest** is graduated 180°; swivels to any angle, and has angular travel of 3⅛″. Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Tool holder shank ½″ x 1⅛″ for cutters 5/16″ square.

**Lathe Bed** is 50% steel, heavily constructed and reinforced by box braces its entire length. Three V-ways and one flat way accurately planed and hand-scraped, align and support the headstock, carriage and tailstock. See page 39.

**Regular Equipment** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

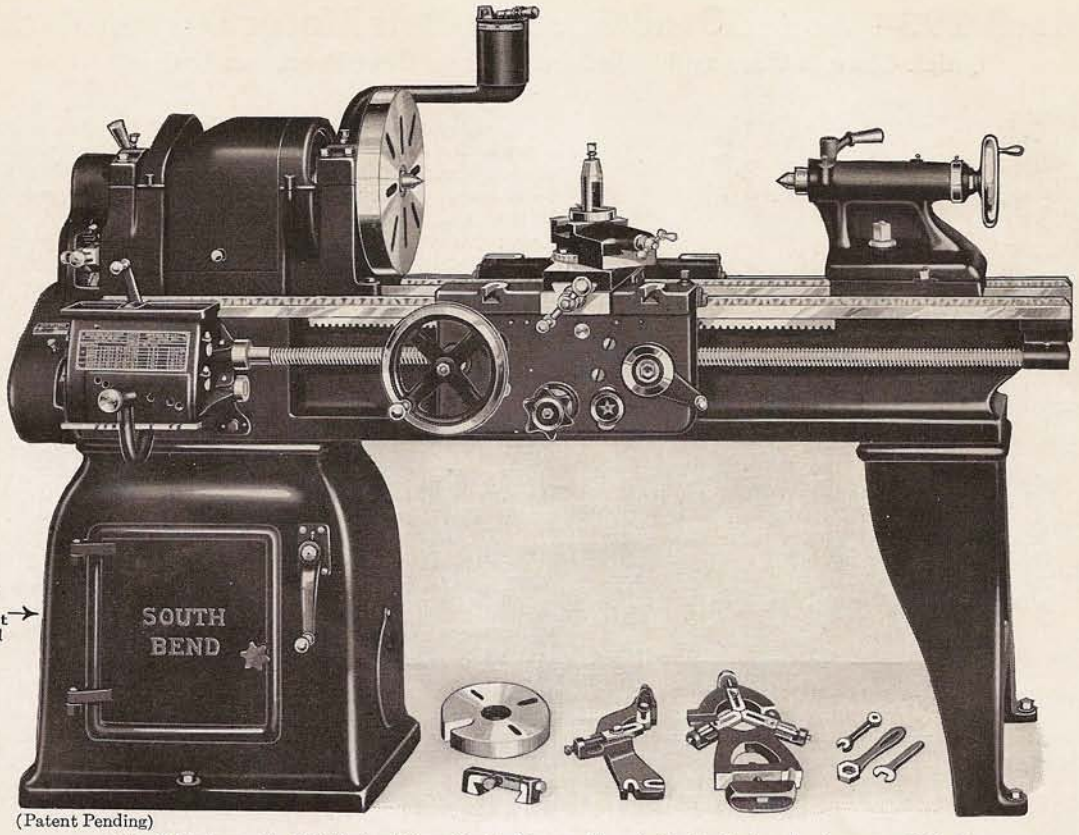
**Attachments and Accessories** such as collet chuck, taper attachment, etc., can be supplied, see pages 50 to 61.

**The 15-inch Lathe** is also available in the Standard Change Gear type as priced below and shown on page 12.

**Net Factory Prices 15-inch 1934 Model South Bend Lathes Including Countershaft and Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 15¼ | 5 | 24½ | 1⅛ | 10⅝ | 2 | 225 | 1 | **39-B** | Lance | 1550 | **$412.00** | **88-B** | Latin | 1575 | **$467.00** |
| 15¼ | 6 | 36½ | 1⅛ | 10⅝ | 2 | 225 | 1 | **39-C** | Lewis | 1625 | **430.00** | **88-C** | Lemon | 1650 | **485.00** |
| 15¼ | 7 | 48½ | 1⅛ | 10⅝ | 2 | 225 | 1 | **39-D** | Liver | 1700 | **448.00** | **88-D** | Liqor | 1725 | **503.00** |
| 15¼ | 8 | 60½ | 1⅛ | 10⅝ | 2 | 225 | 1 | **39-E** | Lovit | 1780 | **468.00** | **88-E** | Lower | 1805 | **523.00** |
| 15¼ | 10 | 84½ | 1⅛ | 10⅝ | 2 | 225 | 1 | **39-G** | Lunar | 1945 | **512.00** | **88-G** | Lupin | 1970 | **567.00** |

If Countershaft is not wanted, deduct $30.00 from above prices.




(Patent Pending)

**15" x 6' Underneath Belt Motor Driven Quick Change Gear Lathe Including Equipment—$695.00**

# 15-inch 1934 South Bend Underneath Belt Motor Driven Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 15-inch Underneath Belt Motor Driven** Quick Change Gear Lathe, shown above, is similar to the 15-inch Countershaft Driven Lathe illustrated on page 10, and has the same mechanical features and specifications; the only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive** is a compact, self-contained unit, completely enclosed within the cabinet leg, under the headstock, away from dirt and chips. The motor and lower cone pulley are mounted on an adjustable tilting cradle which is controlled by the belt release crank on the front of the cabinet leg. A hinged guard covers the spindle cone pulley. For illustrations of the Underneath Belt Motor Drive mechanism and further description, see page 34.

**Powerful and Efficient in Operation.** Smooth even power is transmitted by V-belts from motor to lower drive unit and by flat leather belt to headstock cone pulley. This modern method of driving the lathe spindle is quiet, efficient, and powerful, and permits handling work with the greatest precision and accuracy.

**Changing Spindle Speeds.** The belt release crank on the front of the cabinet leg permits easy shifting of the belt from one step of the cone pulley to another for changing the spindle speeds. A half turn of the belt release crank lifts the tilting cradle 1½ inches and locks it in position, which permits the operator to place the belt on any step of spindle desired.

**Belt Tension Adjustments** are provided for regulating tension of V-belts from motor to driving unit and for obtaining any desired tension of the vertical belt between the lower drive unit and the headstock cone pulley.

**Regular Equipment** included in price of lathe consists of: Large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan blue print and book, "How to Run a Lathe."

**Electrical Equipment** included in the price consists of: Motor drive mechanism mounted in cabinet leg under headstock; 1 H.P., 1200 R.P.M. instant reversing motor (G.E., Westinghouse or equal make); drum reversing switch; wiring enclosed in metal conduit; three V-belts, motor to drive pulley; double ply flat leather belt and wiring diagram blue print.

**The 15-inch Underneath Belt Motor Driven Lathe,** shown above, is also available in the Standard Change Gear type, which is described on page 12 and priced below.

**When Ordering** a Motor Driven Lathe give specifications of the electric current to be used. See page 36 for information.

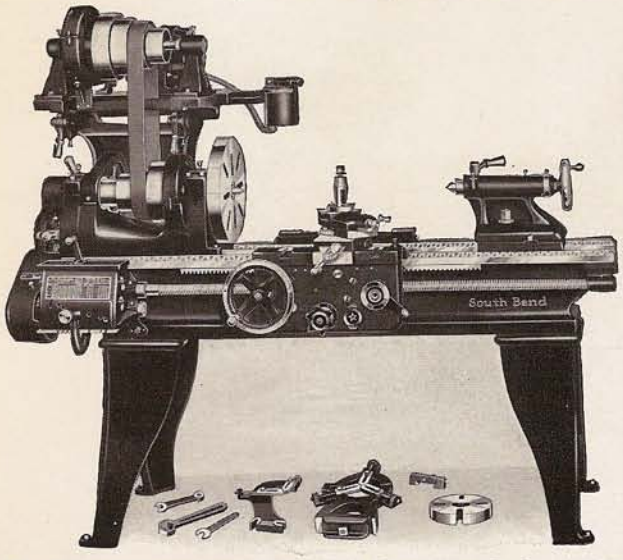
### Net Factory Prices 15-inch 1934 Model South Bend Underneath Belt Motor Driven Lathes

**Prices Include Regular Equipment, and Electrical Equipment as Listed Above**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 15¼ | 5 | 24½ | 1⅛ | 10⅝ | 1 | 1995 | **139-B** | Decie | **$622.00** | **$660.00** | **$638.00** | **188-B** | Debez | **$677.00** | **$715.00** | **$743.00** |
| 15¼ | 6 | 36½ | 1⅛ | 10⅝ | 1 | 2070 | **139-C** | Dedab | **640.00** | **678.00** | **706.00** | **188-C** | Deboc | **695.00** | **733.00** | **761.00** |
| 15¼ | 7 | 48½ | 1⅛ | 10⅝ | 1 | 2145 | **139-D** | Dedec | **658.00** | **696.00** | **724.00** | **188-D** | Debud | **713.00** | **751.00** | **779.00** |
| 15¼ | 8 | 60½ | 1⅛ | 10⅝ | 1 | 2225 | **139-E** | Dedof | **678.00** | **716.00** | **744.00** | **188-E** | Decaz | **733.00** | **771.00** | **799.00** |
| 15¼ | 10 | 84½ | 1⅛ | 10⅝ | 1 | 2390 | **139-G** | Defac | **722.00** | **760.00** | **788.00** | **188-G** | Deceb | **777.00** | **815.00** | **843.00** |

# 15-inch 1934 South Bend Silent V-Belt Motor Driven Lathe

## Quick Change Gear and Standard Change Gear Precision Lathes




15″ x 6′ Quick Change Gear Silent V-Belt Motor Driven Lathe. .$625.00

**The 15-inch Silent V-Belt Motor Driven** Quick Change Gear Lathe shown at the left is similar to the 15-inch Countershaft Driven Lathe illustrated on page 10, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with the Silent V-Belt Motor Drive instead of Countershaft Drive.

**Silent V-Belt Motor Drive** is efficient, powerful and noiseless in operation. Motor and driving cone are mounted on tilting table above headstock of lathe. Drive is by V-Belts from motor to driving pulley and by flat leather belt to spindle cone pulley. For detailed description of this drive see page 36.

**Regular Equipment** included in price of lathe consists of: Silent motor drive unit; large and small face plates; tool post; thread cutting stop; two 60° lathe centers and spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price consists of: 1 H.P. 1200 R.P.M. instant reversing motor (G.E., Westinghouse or equal); drum reversing switch; wiring enclosed in metal conduit; three V-belts, motor to drive pulley; double ply flat leather cone pulley belt, and wiring diagram.

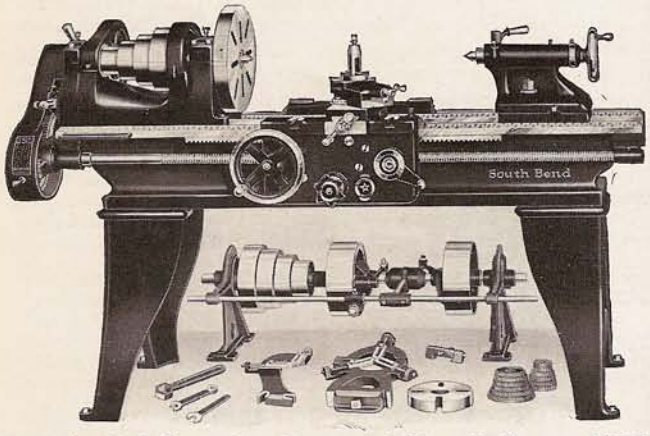
**Net Factory Prices 15-inch 1934 Model South Bend Silent V-Belt Motor Driven Lathes**

**Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Belting**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 15¼ | 5 | 24½ | 1⅛ | 10⅝ | 1 | 1925 | **339-B** | Loane | **$552.00** | **$590.00** | **$618.00** | **388-B** | Labor | **$607.00** | **$645.00** | **$673.00** |
| 15¼ | 6 | 36½ | 1⅛ | 10⅝ | 1 | 2000 | **339-C** | Longe | **570.00** | **608.00** | **636.00** | **388-C** | Leone | **625.00** | **663.00** | **691.00** |
| 15¼ | 7 | 48½ | 1⅛ | 10⅝ | 1 | 2075 | **339-D** | Lotus | **588.00** | **626.00** | **654.00** | **388-D** | Leper | **643.00** | **681.00** | **709.00** |
| 15¼ | 8 | 60½ | 1⅛ | 10⅝ | 1 | 2155 | **339-E** | Luela | **608.00** | **646.00** | **674.00** | **388-E** | Licen | **663.00** | **701.00** | **729.00** |
| 15¼ | 10 | 84½ | 1⅛ | 10⅝ | 1 | 2320 | **339-G** | Lyric | **652.00** | **690.00** | **718.00** | **388-G** | Lindy | **707.00** | **745.00** | **773.00** |

# 15-inch Standard Change Gear 1934 Model South Bend Lathe

## Back-Geared, Screw Cutting Precision Lathe—Countershaft Drive




15″ x 6′ Standard Change Gear Countershaft Driven Lathe.....$430.00

**Attachments and Accessories** such as draw-in collet chuck, taper attachment, thread indicator etc., can be supplied for these lathes. See pages 50 to 61.

**The 15-inch Standard Change Gear Lathe** is identical with the 15-inch Quick Change Gear Lathe illustrated on page 10, except that the quick change gear box is replaced by a set of Independent Change Gears. Features and specifications on page 10 apply to this Standard Change Gear Lathe.

**Change Gears** are used to cut standard screw threads, right or left-hand, from 2 to 40 per inch, as shown on chart below, and to provide a wide range of automatic longitudinal feeds and automatic cross feeds. Special change gear equipment for cutting standard screw threads from 2 to 80 per inch can be supplied at $9.00 extra, when purchased with lathe. See page 42.

**15-inch Standard Change Gear Lathe** is also available with Underneath Belt Motor Drive as shown on page 11, and Silent V-Belt Motor Drive as shown above.

**Equipment Included in Price** of Lathe consists of: Countershaft; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**SCREW THREAD CUTTING CHART**

STANDARD CHANGE GEAR LATHE

13"-15"-16"

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 2 | 72 | 24 |
| 3 | 48 | 24 |
| 4 | 48 | 32 |
| 5 | 48 | 40 |
| 6 | 48 | 48 |
| 7 | 48 | 56 |
| 8 | 48 | 64 |
| 9 | 48 | 72 |
| 10 | 48 | 80 |
| 11 | 24 | 44 |
| 11½ | 24 | 46 |
| 12 | 24 | 48 |
| 13 | 24 | 52 |
| 14 | 24 | 56 |
| 16 | 24 | 64 |
| 18 | 24 | 72 |
| 20 | 24 | 80 |
| 22 | 24-1-2 | 44 |
| 24 | 24-1-2 | 48 |
| 26 | 24-1-2 | 52 |
| 28 | 24 1-2 | 56 |
| 30 | 24-1-2 | 60 |
| 32 | 24 1-2 | 64 |
| 36 | 24-1-2 | 72 |
| 40 | 24 1-2 | 80 |

Metal Index Chart attached to Lathe

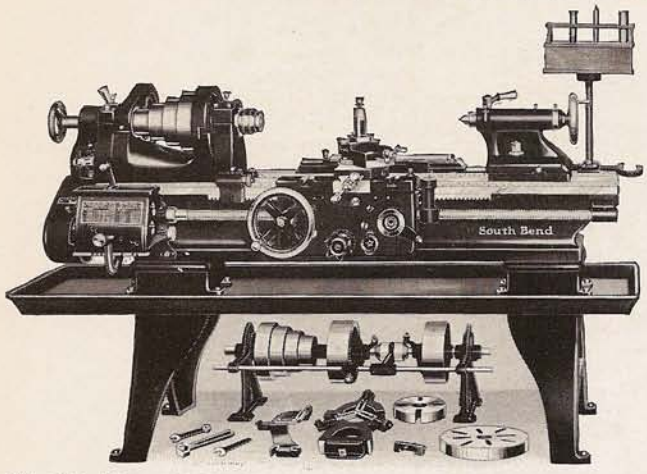
**Prices 15-inch 1934 Standard Change Gear Lathes with Countershaft and Equipment**

| Cat. No. of Lathe | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **39-B** | 15¼ | 5 | 24½ | 1⅛ | 10⅝ | 2 | 225 | 1 | 1550 | Lance | **$412.00** |
| **39-C** | 15¼ | 6 | 36½ | 1⅛ | 10⅝ | 2 | 225 | 1 | 1625 | Lewis | **430.00** |
| **39-D** | 15¼ | 7 | 48½ | 1⅛ | 10⅝ | 2 | 225 | 1 | 1700 | Liver | **448.00** |
| **39-E** | 15¼ | 8 | 60½ | 1⅛ | 10⅝ | 2 | 225 | 1 | 1780 | Lovit | **468.00** |
| **39-G** | 15¼ | 10 | 84½ | 1⅛ | 10⅝ | 2 | 225 | 1 | 1945 | Lunar | **512.00** |

If Countershaft is not wanted, deduct $30.00.

# 15-inch 1934 Model Tool Room Lathe—Countershaft Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




15" x 6' Tool Room Lathe, Countershaft Drive.....$709.25

**The 15-inch South Bend Tool Room Precision Lathe,** illustrated at left, is recommended for the finest class of tool, gauge and fixture work in the modern tool room. This lathe is ideal for making precision taps, master thread gauges, dies, tools, etc., and will meet the most exacting demands of the expert mechanic for accuracy and precision.

**15-inch Tool Room Precision Lathe** is built up of the same units as used on the 15-inch Quick Change Gear Lathe illustrated and described on page 10, and has the same mechanical features and specifications.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with lathe, or individually as desired. For complete information on attachments, see pages 50 to 61.

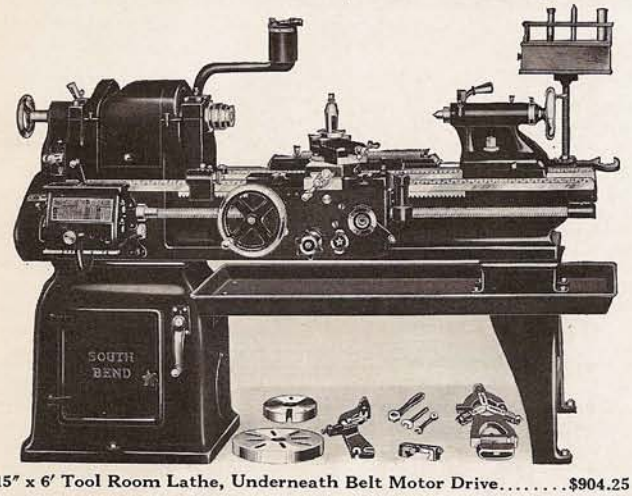
**Regular Equipment Included In Price** of lathe consists of: countershaft; large face plate; small face plate; tool post; adjustable thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Net Factory Prices 15-inch 1934 Model South Bend Tool Room Precision Lathes—Countershaft Drive**

| 15-inch Tool Room Quick Change Gear Precision Lathe Countershaft Drive, with Regular Lathe Equipment but without Tool Room Attachments | No. 888-B—15" x 5' | | No. 888-C—15" x 6' | | No. 888-D—15" x 7' | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Latin | $467.00 | Lemon | $485.00 | Liqor | $503.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any size | Above | 45.00 | Above | 45.00 | Above | 45.00 |
| Extra Collets 1/64-inch up to 3/4-inch capacity by 64ths. Each | Civit | 4.25 | Civit | 4.25 | Civit | 4.25 |
| Taper Attachment | Doted | 85.00 | Doted | 85.00 | Doted | 85.00 |
| Thread Indicator | Aesop | 12.00 | Aesop | 12.00 | Aesop | 12.00 |
| Oil Pan | Ohern | 45.00 | Okres | 49.00 | Olean | 53.00 |
| Micrometer Carriage Stop | Cigar | 14.00 | Cigar | 14.00 | Cigar | 14.00 |
| Collet Cabinet and Bracket | Cnarl | 15.00 | Cnarl | 15.00 | Cnarl | 15.00 |
| **Prices of Tool Room Lathe, Complete as Illustrated Above** | Likos | $687.25 | Lomar | $709.25 | Lunes | $731.25 |
| Distance Between Centers of Lathe | 24½ in. | | 36½ in. | | 48½ in. | |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | 1785 lbs. | | 1860 lbs. | | 1935 lbs. | |

# 15-inch 1934 Tool Room Lathe—Underneath Belt Motor Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




15" x 6' Tool Room Lathe, Underneath Belt Motor Drive.....$904.25

**The 15-inch South Bend Underneath Belt Motor Driven Tool Room Precision Lathe,** illustrated at left, is similar to the 15-inch Countershaft Driven Tool Room Lathe shown above, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive Mechanism** used on this lathe is illustrated and further described on page 34.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with lathe, or individually as desired. See pages 50 to 61.

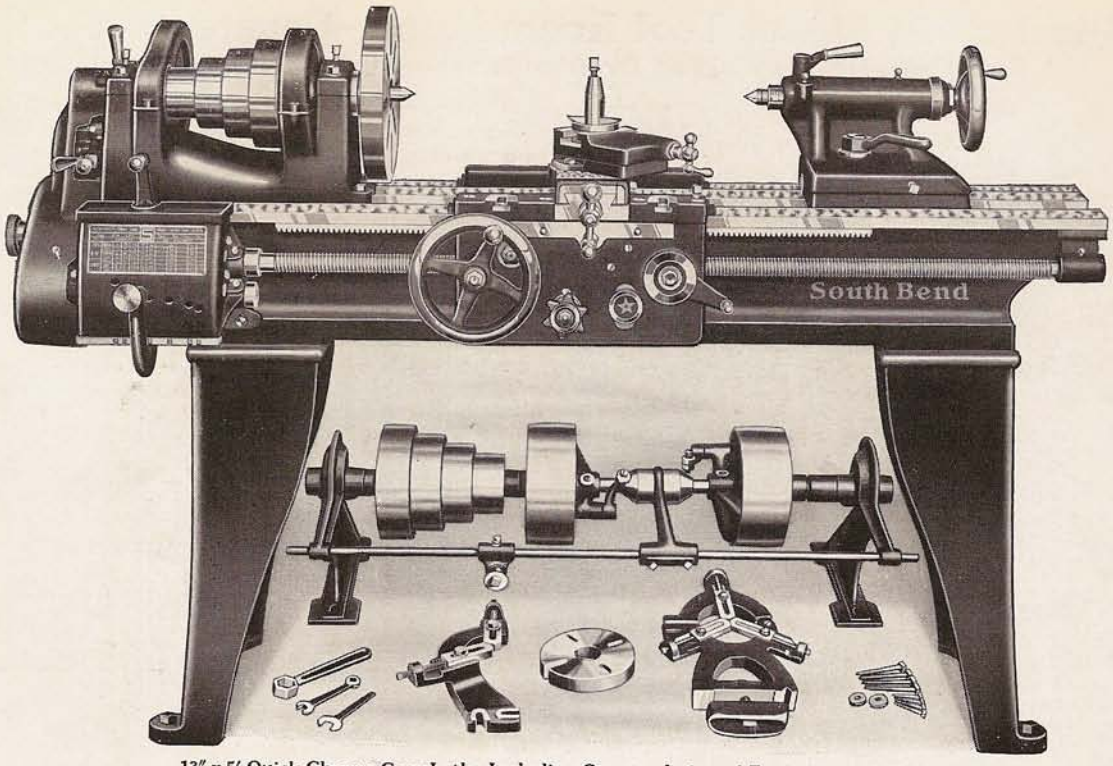
**Regular Equipment** consists of: motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of lathe consists of 1-H.P. 1200 R.P.M. instant reversing motor (Westinghouse, General Electric, or equal make); drum reversing switch; wiring between motor and switch, enclosed in metal conduit; three V-Belts; one flat leather belt and directions for wiring.

**Net Factory Prices 15-inch 1934 Model South Bend Tool Room Precision Lathes—Underneath Belt Motor Drive**

| **Catalog No. 1888-C,** 15" x 6' Tool Room Quick Change Gear Precision Lathe, with Underneath Belt Motor Drive, Regular Lathe Equipment and Electrical Equipment but without Tool Room Attachments | With 3 Phase-60 Cycle A. C. Motor | | With 1 Phase-60 Cycle A. C. Motor | | With Direct Current Motor | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Deboc | $695.00 | Deboc | $733.00 | Deboc | $761.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Above | 45.00 | Above | 45.00 | Above | 45.00 |
| Extra Collets 1/64-inch up to 3/4-inch capacity by 64ths. Each | Civit | 4.25 | Civit | 4.25 | Civit | 4.25 |
| Taper Attachment | Doted | 85.00 | Doted | 85.00 | Doted | 85.00 |
| Thread Indicator | Aesop | 12.00 | Aesop | 12.00 | Aesop | 12.00 |
| Chip Pan | Boplo | 34.00 | Boplo | 34.00 | Boplo | 34.00 |
| Micrometer Carriage Stop | Cigar | 14.00 | Cigar | 14.00 | Cigar | 14.00 |
| Collet Cabinet and Bracket | Cnarl | 15.00 | Cnarl | 15.00 | Cnarl | 15.00 |
| **Prices of Tool Room Lathe, Complete as Illustrated Above** | Dewuz | $904.25 | Deyav | $942.25 | Deyix | $ 970.25 |
| Distance Between Centers of Lathe | 36½ in. | | 36½ in. | | 36½ in. | |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | 2255 lbs. | | 2290 lbs. | | 2310 lbs. | |

**For prices of Tool Room Lathes complete with 5 ft. bed deduct $22.00 from above price. For 7 ft. bed add $22.00.**




13″ x 5′ Quick Change Gear Lathe Including Countershaft and Equipment—$402.00

# 13-inch 1934 Model South Bend Lathe—Countershaft Drive

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 13-inch 1934 Model South Bend** Back-Geared, Screw Cutting Precision Lathe is practical for the manufacturing plant, machine shop, tool room and laboratory. This lathe will reduce the diameter of a steel shaft $\frac{5}{8}$″ in one cut, and has the accuracy for the finest tool and gauge work.

**Mechanical Features** described below apply to all types of 13-inch South Bend Lathes. See specifications page 37.

**Back-Geared Headstock** is hand-scraped to lathe bed; has four-step cone for 1¾″ belt; eight changes of spindle speeds from 23 to 605 R.P.M., four direct and four back-geared; wrenchless bull gear lock; and spring latch reverse.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a 1″ hole its entire length. Collet capacity $\frac{1}{64}$″ to $\frac{5}{8}$″. Spindle nose 1⅞″ diam., 8 threads.

**Phosphor Bronze Bearings** for headstock spindle are line bored and lapped to a perfect bearing, and are adjustable for wear. An improved oiling system lubricates the bearings.

**Quick Change Gear Box** provides 48 changes for cutting screw threads from 2 to 112 per inch, right or left-hand; and for automatic longitudinal feeds from .0030″ to .0208″ per revolution of spindle, and for automatic cross feeds from .0011″ to .0078″ per revolution of spindle. See page 41.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; double plug spindle lock; No. 3 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 4¼″. See page 38.

**New Apron** has automatic cross feed and automatic longitudinal feed (both controlled by a friction clutch). Half-nuts are provided for screw thread cutting. An automatic safety device prevents engaging half-nuts and automatic feeds at the same time. See page 40.

**Carriage** has wide deep bridge, hand-scraped to bed; two T-slots for clamping work; carriage lock for facing and cutting off; felt wipers for V-ways.

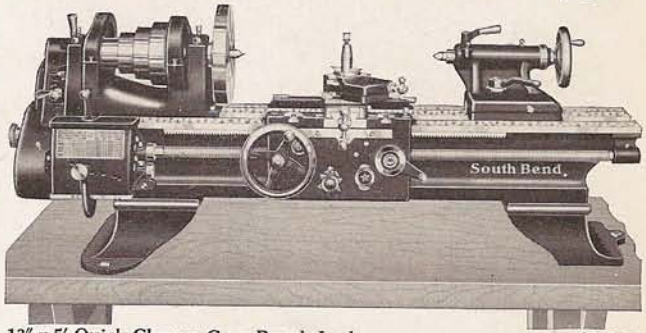
**Precision Lead Screw,** 1″ diameter, 6 Acme standard threads per inch, for cutting screw threads. See page 40.

**Compound Rest** is graduated 180°, swivels to any angle and has an angular travel of 3″. Shown on page 39.

**Lathe Bed** is 50% steel, heavily constructed and reinforced by box braces its entire length. See page 39.

**Regular Equipment** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**The 13-inch Lathe** is also available in the Standard Change Gear type as priced below and shown on page 16.

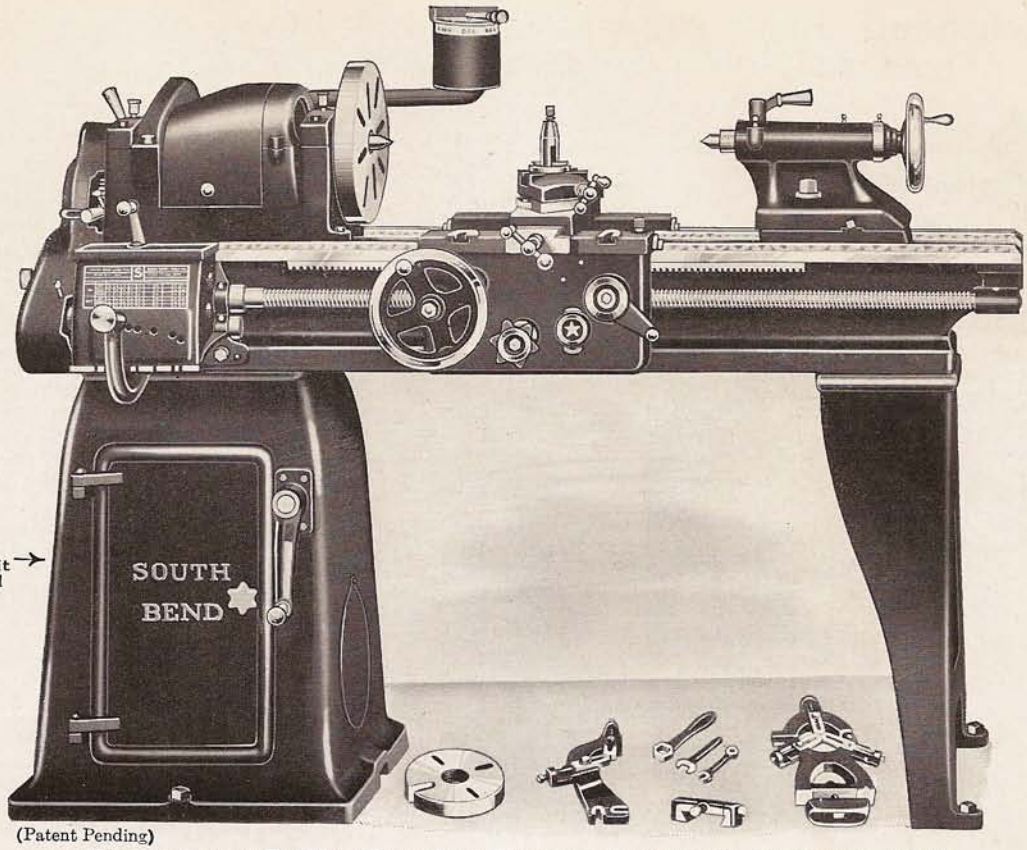



13″ x 5′ Quick Change Gear Bench Lathe ..... $392.00

**Net Factory Prices 13-inch 1934 Model South Bend Lathes Including Countershaft and Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 13¼ | 4 | 16 | 1 | 9 | 1¾ | 250 | ¾ | **35-A** | Gaget | 1040 | **$337.00** | **86-A** | Galup | 1060 | **$387.00** |
| 13¼ | 5 | 28 | 1 | 9 | 1¾ | 250 | ¾ | **35-B** | Geldy | 1090 | **352.00** | **86-B** | Gehos | 1110 | **402.00** |
| 13¼ | 6 | 40 | 1 | 9 | 1¾ | 250 | ¾ | **35-C** | Gisot | 1140 | **367.00** | **86-C** | Gifts | 1160 | **417.00** |
| 13¼ | 7 | 52 | 1 | 9 | 1¾ | 250 | ¾ | **35-D** | Goldy | 1195 | **384.00** | **86-D** | Gobli | 1215 | **434.00** |
| 13¼ | 8 | 64 | 1 | 9 | 1¾ | 250 | ¾ | **35-E** | Guset | 1255 | **403.00** | **86-E** | Gusik | 1275 | **453.00** |

If Countershaft is not wanted, deduct $20.00 from above prices. If bench legs are wanted instead of floor legs, deduct $10.00.




(Patent Pending)

**13″ x 5′ Underneath Belt Motor Driven Quick Change Gear Lathe Including Equipment—$575.00**

# 13-inch 1934 Model South Bend Underneath Belt Motor Driven Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 13-inch Underneath Belt Motor Driven** Quick Change Gear Lathe, shown above is similar to the 13-inch Quick Change Gear Countershaft Driven Lathe illustrated and described on page 14 of this catalog, and has the same mechanical features and specifications; the only difference is that the above lathe is equipped with Underneath Belt Motor Drive instead of Overhead Countershaft Drive.

**Underneath Belt Motor Drive** is a compact, self-contained unit, completely enclosed within the cabinet leg, under the headstock, away from dirt and chips. The motor and lower cone pulley are mounted on an adjustable tilting cradle which is controlled by the belt release crank on the front of the cabinet leg. A hinged guard covers the spindle cone pulley. For illustrations of the Underneath Belt Motor Drive mechanism and further description, see page 34.

**Powerful and Efficient in Operation.** Smooth even power is transmitted by V-belts from motor to lower drive unit and by flat leather belt to headstock cone pulley. This modern method of driving the lathe spindle is quiet, efficient, and powerful, and permits handling work with the greatest precision and accuracy.

**Belt Tension Adjustments** are provided for regulating tension of V-belts from motor to driving unit and for obtaining any desired tension of the vertical belt between the lower drive unit and the headstock cone pulley.

**Changing Spindle Speeds.** The belt release crank on the front of the cabinet leg permits easy shifting of the belt from one step of the cone pulley to another for changing the spindle speeds. A half turn of the belt release crank lifts the tilting cradle 1½ inches and locks it in position, which permits the operator to place the belt on any step of spindle desired.

**Regular Equipment** included in price of lathe consists of: Large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan blue print and book, "How to Run a Lathe."

**Electrical Equipment** included in the price consists of: Motor drive mechanism mounted in cabinet leg under headstock; ¾ H.P., instant reversing motor (General Electric, Westinghouse or equal make); drum reversing switch; wiring enclosed in metal conduit; two V-belts, motor to drive pulley; double ply flat leather belt and wiring diagram blue print.

**Attachments and Accessories** such as draw-in collet chuck, collets, etc., can be supplied. See pages 50-61.

**The 13-inch Underneath Belt Motor Driven Lathe,** shown above, is also available in the Standard Change Gear type, which is described on page 16 and priced below.

**When Ordering** a Motor Driven Lathe give specifications of the electric current to be used. See page 36 for information.

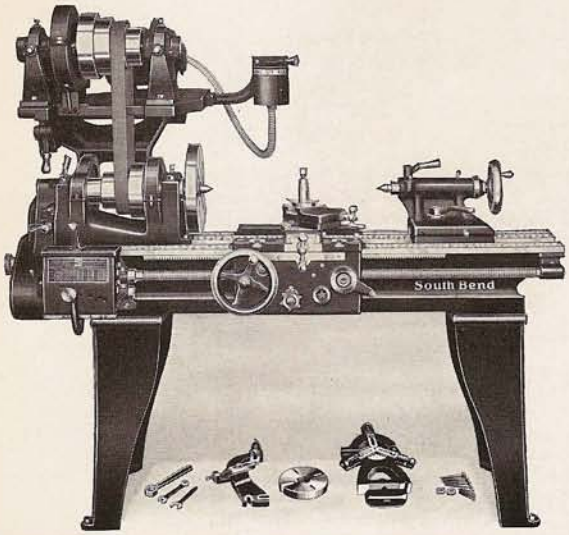
### Net Factory Prices 13-inch 1934 Model South Bend Underneath Belt Motor Driven Lathes

**Prices Include Regular Equipment, and Electrical Equipment as Listed Above**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 13¼ | 4 | 16 | 1 | 9 | ¾ | 1460 | **135-A** | Dayer | **$510.00** | **$ 520.00** | **$535.00** | **186-A** | Davus | **$560.00** | **$570.00** | **$585.00** |
| 13¼ | 5 | 28 | 1 | 9 | ¾ | 1510 | **135-B** | Dazar | **525.00** | **535.00** | **550.00** | **186-B** | Dawap | **575.00** | **585.00** | **600.00** |
| 13¼ | 6 | 40 | 1 | 9 | ¾ | 1560 | **135-C** | Dazit | **540.00** | **550.00** | **565.00** | **186-C** | Dawir | **590.00** | **600.00** | **615.00** |
| 13¼ | 7 | 52 | 1 | 9 | ¾ | 1615 | **135-D** | Dazov | **557.00** | **567.00** | **582.00** | **186-D** | Dawos | **607.00** | **617.00** | **632.00** |
| 13¼ | 8 | 64 | 1 | 9 | ¾ | 1675 | **135-E** | Debay | **576.00** | **586.00** | **601.00** | **186-E** | Dawut | **626.00** | **636.00** | **651.00** |

# 13-inch South Bend 1934 Silent V-Belt Motor Driven Lathe

## Quick Change Gear and Standard Change Gear Precision Lathes




13″x 5′ Quick Change Gear Silent Motor Driven Lathe. .$535.00

**The 13-inch 1934 Model South Bend** Silent V-Belt Motor Driven Quick Change Gear Lathe, shown at the left, is similar to the 13-inch Quick Change Gear Countershaft Driven Lathe illustrated and described on page 14, and has the same mechanical features and specifications; the only difference is that this lathe is equipped with the Silent V-Belt Motor Drive instead of Countershaft Drive.

**Silent V-Belt Motor Drive** is efficient, powerful and noiseless in operation. Motor and driving cone are mounted on tilting table above headstock of lathe. The tilting table is fitted with locking cam and belt adjustment. Drive is by V-belts from motor to driving pulley and by flat leather belt to spindle cone pulley. For detailed description of this drive, see page 36.

**Regular Equipment Included in Price** of the 13-inch Silent V-Belt Motor Driven Lathe consists of: Silent motor drive unit; large and small face plates; tool post; thread cutting stop; two 60° lathe centers and spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

**Electrical Equipment Included in Price** of the 13-inch Silent V-Belt Motor Driven Lathe consists of: ¾ H.P. instant reversing motor (General Electric, Westinghouse, or equal make); drum reversing switch; wiring enclosed in metal conduit; two V-belts motor to drive pulley; double ply flat leather cone pulley belt, and wiring diagram.

### Net Factory Prices 13-inch 1934 Model South Bend Silent V-Belt Motor Driven Lathes

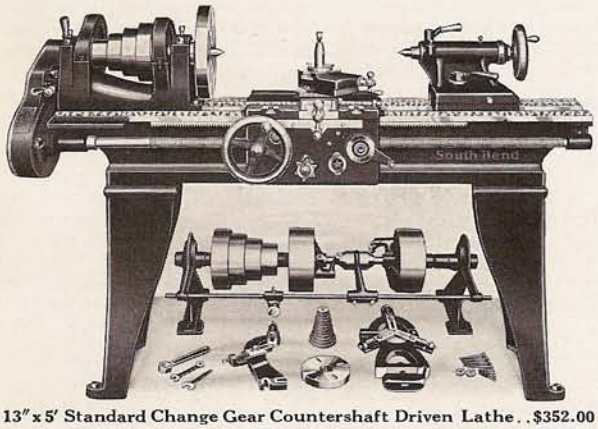
**Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Belting**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 13¼ | 4 | 16 | 1 | 9 | ¾ | 1410 | **335-A** | Glubr | **$ 470.00** | **$492.00** | **$506.00** | **386-A** | Gazed | **$520.00** | **$542.00** | **$556.00** |
| 13¼ | 5 | 28 | 1 | 9 | ¾ | 1460 | **335-B** | Guest | **485.00** | **507.00** | **521.00** | **386-B** | Gemic | **535.00** | **557.00** | **571.00** |
| 13¼ | 6 | 40 | 1 | 9 | ¾ | 1510 | **335-C** | Gramp | **500.00** | **522.00** | **536.00** | **386-C** | Giraf | **550.00** | **572.00** | **586.00** |
| 13¼ | 7 | 52 | 1 | 9 | ¾ | 1565 | **335-D** | Grief | **517.00** | **539.00** | **553.00** | **386-D** | Gotam | **567.00** | **589.00** | **603.00** |
| 13¼ | 8 | 64 | 1 | 9 | ¾ | 1625 | **335-E** | Gwilt | **536.00** | **558.00** | **572.00** | **386-E** | Gneza | **586.00** | **608.00** | **622.00** |

If Bench Legs are wanted in lieu of Floor Legs, deduct $7.00.

# 13-inch Standard Change Gear 1934 Model South Bend Lathe

## Back-Geared, Screw Cutting Precision Lathe—Countershaft Drive




13″ x 5′ Standard Change Gear Countershaft Driven Lathe. .$352.00

**The 13-inch Standard Change Gear Lathe** is identical with the 13-inch Quick Change Gear Lathe illustrated on page 14, except that the quick change gear box is replaced by a set of Independent Change Gears. Features and specifications on page 14 apply to this Standard Change Gear Lathe.

**Change Gears** are used to cut standard screw threads, right or left-hand, from 2 to 40 per inch, as shown on chart below, and to provide a wide range of automatic longitudinal and cross feeds. Special gear equipment for cutting standard screw threads from 2 to 80 can be supplied at $7.00 extra, when purchased with lathe. See page 42.

**13-inch Standard Change Gear Lathe** is also available with Underneath Belt Motor Drive shown on page 15, and Silent V-Belt Motor Drive shown above.

**Regular Equipment Included in the Price** of the 13-inch Standard Change Gear Countershaft Driven Lathe consists of: Double friction countershaft; large face plate; small face plate; tool post complete; adjustable thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Attachments and Accessories** such as draw-in collet chuck, taper attachment, thread indicator, etc., can be supplied for these lathes. See pages 50 to 61.

**SCREW THREAD CUTTING CHART**

STANDARD CHANGE GEAR LATHE

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| | 13"-15"-16" | |
| 2 | 72 | 24 |
| 3 | 48 | 24 |
| 4 | 48 | 32 |
| 5 | 48 | 40 |
| 6 | 48 | 48 |
| 7 | 48 | 56 |
| 8 | 48 | 64 |
| 9 | 48 | 72 |
| 10 | 48 | 80 |
| 11 | 24 | 44 |
| 11½ | 24 | 46 |
| 12 | 24 | 48 |
| 13 | 24 | 52 |
| 14 | 24 | 56 |
| 16 | 24 | 64 |
| 18 | 24 | 72 |
| 20 | 24 | 80 |
| | 13"-15"-16" | |
| 22 | 24-1-2 | 44 |
| 24 | 24-1-2 | 48 |
| 26 | 24-1-2 | 52 |
| 28 | 24 1-2 | 56 |
| 30 | 24-1-2 | 60 |
| 32 | 24 1-2 | 64 |
| 36 | 24-1-2 | 72 |
| 40 | 24 1-2 | 80 |

**Metal Index Chart attached to Lathe**

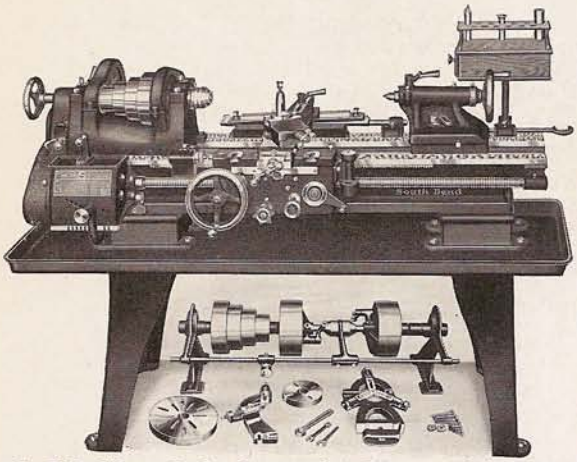
### Prices 13-inch 1934 Model Standard Change Gear Lathes with Countershaft and Equipment

| Cat. No. of Lathe | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Counter-shaft Speed R.P.M. | Power Required H.P. | Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **35-A** | 13¼ | 4 | 16 | 1 | 9 | 1¾ | 250 | ¾ | 1040 | Gaget | **$337.00** |
| **35-B** | 13¼ | 5 | 28 | 1 | 9 | 1¾ | 250 | ¾ | 1090 | Geldy | **352.00** |
| **35-C** | 13¼ | 6 | 40 | 1 | 9 | 1¾ | 250 | ¾ | 1140 | Gisot | **367.00** |
| **35-D** | 13¼ | 7 | 52 | 1 | 9 | 1¾ | 250 | ¾ | 1195 | Goldy | **384.00** |
| **35-E** | 13¼ | 8 | 64 | 1 | 9 | 1¾ | 250 | ¾ | 1255 | Guset | **403.00** |

If Countershaft is not wanted, deduct $20.00. If Bench legs are wanted instead of floor legs, deduct $10.00.

# 13-inch 1934 Model Tool Room Lathe—Countershaft Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type



13" x 5' Tool Room Lathe, Countershaft Drive.....$595.00

**The 13-inch 1934 Model South Bend Tool Room Precision Lathe,** illustrated at left, is recommended for the finest class of tool, gauge and fixture work in the modern tool room. This lathe is ideal for making precision taps, master thread gauges, dies, tools, etc., and will meet the most exacting demands of the expert mechanic for accuracy and precision.

**13-inch Tool Room Precision Lathe** is built up of the same units as used on the 13-inch Quick Change Gear Lathe illustrated and described on page 14, and has the same mechanical features and specifications. This lathe is also available in Underneath Belt Motor Drive type shown below.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with the lathe, or individually as desired. For illustrations, description and prices of attachments, see pages 50 to 61 of this catalog.

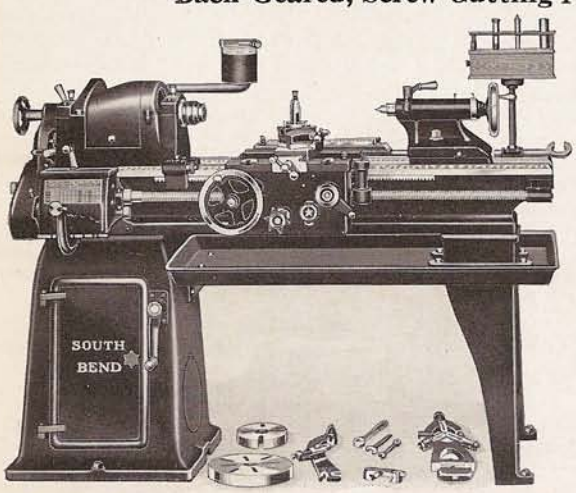
**Regular Equipment Included in the Price** of the 13-inch South Bend Tool Room Precision Lathe with Overhead Countershaft Drive consists of: Double friction countershaft; large face plate; small face plate; tool post complete; adjustable thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Net Factory Prices 13-inch 1934 Model South Bend Tool Room Precision Lathes—Countershaft Drive**

| 13-inch Tool Room Quick Change Gear Precision Lathe, Countershaft Drive, with Regular Lathe Equipment but without Tool Room Attachments | No. 886-B—13" x 5' | | No. 886-C—13" x 6' | | No. 886-D—13" x 7' | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Gehos | $402.00 | Gifts | $417.00 | Gobli | $434.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | About | 40.00 | About | 40.00 | About | 40.00 |
| Extra Collets ¼-inch up to ⅝-inch capacity by 64ths. Each | Chose | 4.00 | Chose | 4.00 | Chose | 4.00 |
| Taper Attachment | Digit | 75.00 | Digit | 75.00 | Digit | 75.00 |
| Thread Indicator | Advis | 11.00 | Advis | 11.00 | Advis | 11.00 |
| Oil Pan | Ohern | 38.00 | Okres | 41.00 | Olean | 44.00 |
| Micrometer Carriage Stop | Chain | 13.00 | Chain | 13.00 | Chain | 13.00 |
| Collet Cabinet and Bracket | Cnoke | 12.00 | Cnoke | 12.00 | Cnoke | 12.00 |
| **Prices of Tool Room Lathe, Complete as Illustrated Above** | Grose | $595.00 | Gefop | $613.00 | Gobis | $633.00 |
| Distance Between Centers of Lathe | | 28 in. | | 40 in. | | 52 in |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | | 1290 lbs. | | 1340 lbs. | | 1395 lbs. |

# 13-inch 1934 Tool Room Lathe—Underneath Belt Motor Drive

## Back-Geared, Screw Cutting Precision Lathe—Quick Change Gear Type




13"x5' Tool Room Lathe, Underneath Belt Motor Drive. $757.00

**The 13-inch 1934 Model South Bend Underneath Belt Motor Driven Tool Room Precision Lathe,** illustrated at left, is similar to the 13-inch Countershaft Driven Tool Room Lathe shown above, and has the same mechanical features and specifications. The only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive Mechanism** used on this lathe is illustrated and further described on page 34.

**Tool Room Lathe Attachments** itemized in the tabulation below may be purchased complete with lathe, or individually as desired. For complete information on attachments, see pages 50 to 61.

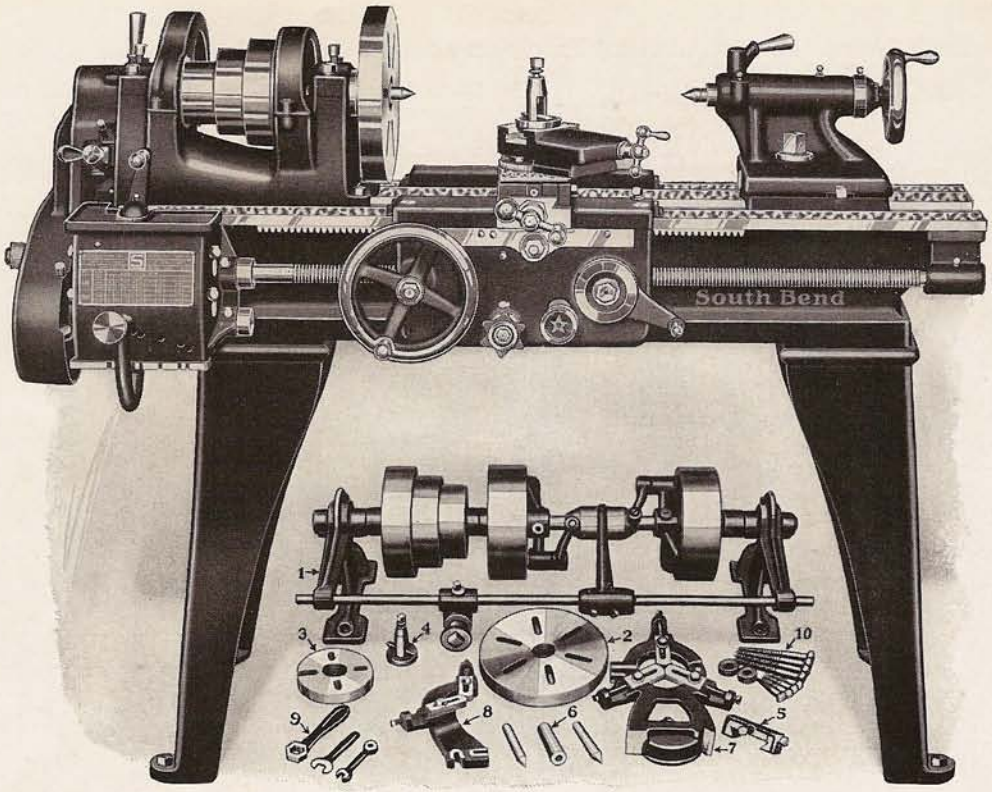
**Regular Equipment Included in the Price** of the 13-inch Underneath Belt Motor Driven Tool Room Lathe consists of: Motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in the price of this lathe consists of: ¾ H.P. instant reversing motor (Westinghouse, General Electric, or equal make); drum reversing switch; wiring between motor and switch, enclosed in metal conduit; two V-belts; one flat leather belt and directions for wiring.

**Net Factory Prices 13-inch 1934 Model South Bend Tool Room Precision Lathes—Underneath Belt Motor Drive**

| **Catalog No. 1886-B,** 13" x 5' Tool Room Quick Change Gear Lathe, with Underneath Belt Motor Drive, Lathe Equipment and Electrical Equipment, but not Tool Room Attachments. | With 3 Phase-60 Cycle A. C. Motor | | With 1 Phase-60 Cycle A. C. Motor | | With Direct Current Motor | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Dawap | $575.00 | Dawap | $585.00 | Dawap | $600.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | About | 40.00 | About | 40.00 | About | 40.00 |
| Extra Collets ¼-inch up to ⅝-inch capacity by 64ths. Each | Chose | 4.00 | Chose | 4.00 | Chose | 4.00 |
| Taper Attachment | Digit | 75.00 | Digit | 75.00 | Digit | 75.00 |
| Thread Indicator | Advis | 11.00 | Advis | 11.00 | Advis | 11.00 |
| Chip Pan | Bonga | 27.00 | Bonga | 27.00 | Bonga | 27.00 |
| Micrometer Carriage Stop | Chain | 13.00 | Chain | 13.00 | Chain | 13.00 |
| Collet Cabinet and Bracket | Cnoke | 12.00 | Cnoke | 12.00 | Cnoke | 12.00 |
| **Prices of Tool Room Lathe, Complete as Illustrated Above** | Devet | $757.00 | Dewat | $767.00 | Dewev | $782.00 |
| Distance Between Centers of Lathe | | 28 in. | | 28 in. | | 28 in. |
| Weight of Lathe and Tool Room Attachments Crated for Shipment | | 1665 lbs. | | 1675 lbs. | | 1660 lbs. |

**For prices of Tool Room Lathes complete with 6 ft. bed add $18.00 to above prices. For 7 ft. bed add $38.00.**




**11″ x 4′ Quick Change Gear Lathe Including Countershaft and Equipment—$340.00**

# 11-inch 1934 Model South Bend Lathe—Countershaft Drive

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 11-inch 1934 Model South Bend** Back-Geared Screw Cutting Precision Lathe is an excellent tool for small manufacturing and production work. This lathe will reduce the diameter of a steel shaft ½″ in one cut and has the accuracy for the finest tool and gauge work.

**Back-Geared Headstock** is hand-scraped to lathe bed; has three-step cone for 1½″ belt; six changes of spindle speeds from 34 to 512 R.P.M., three direct and three back-geared; wrenchless bull gear; and spring latch reverse.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a ⅞″ hole its entire length. Collet capacity 1/64″ to 9/16″. Spindle nose 1⅝″ diam., 8 threads.

**Phosphor Bronze Bearings** for headstock spindle are line bored and lapped to a perfect bearing, and are adjustable for wear. An improved oiling system lubricates the bearings.

**Quick Change Gear Box** provides 48 changes for cutting screw threads from 2 to 112 per inch, right or left-hand; and for automatic longitudinal feeds from .0030″ to .0208″ per revolution of spindle, and for automatic cross feeds from .0011″ to .0078″ per revolution of spindle. See page 41.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; double plug spindle lock; No. 2 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 3″. See page 38.

**New Apron** has automatic cross feed and automatic longitudinal feed (both controlled by a friction clutch). Half-nuts are provided for screw thread cutting. An automatic safety device prevents engaging half-nuts and automatic feeds at the same time. See page 40.

**Carriage** has wide deep bridge, hand-scraped to bed; carriage lock for facing and cutting off, felt wipers for V-ways.

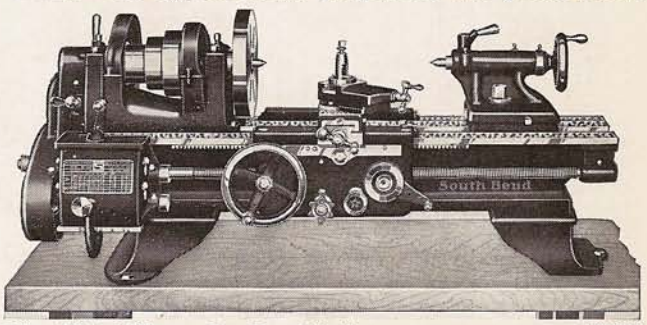
**Precision Lead Screw,** ⅞″ diameter, 8 Acme standard threads per inch, for cutting screw threads. See page 40.

**Compound Rest** is graduated 180°, swivels to any angle and has an angular travel of 2 9/16″. Shown on page 39.

**Lathe Bed** is 50% steel, heavily constructed and reinforced by box braces its entire length. See page 39.

**Regular Equipment** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**The 11-inch Lathe** is also available in the Standard Change Gear type as shown on page 21 and priced below.

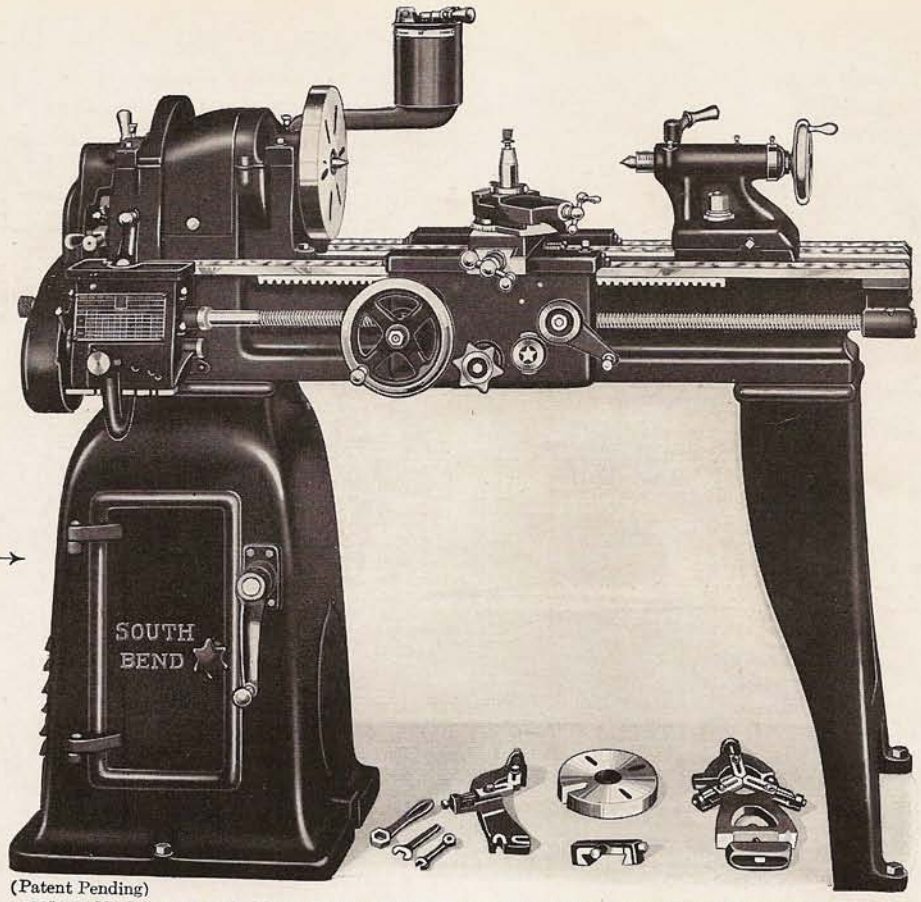



**11″ x 4′ Quick Change Gear Bench Lathe.....$330.00**

**Net Factory Prices 11-inch 1934 South Bend Lathes Including Countershaft and Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 11¼ | 3 | 12 | ⅞ | 7⅝ | 1½ | 255 | ½ | **33-Y** | Eazir | 650 | **$276.00** | **84-Y** | Eabot | 665 | **$316.00** |
| 11¼ | 3½ | 18 | ⅞ | 7⅝ | 1½ | 255 | ½ | **33-Z** | Ebuka | 680 | **288.00** | **84-Z** | Elken | 695 | **328.00** |
| 11¼ | 4 | 24 | ⅞ | 7⅝ | 1½ | 255 | ½ | **33-A** | Ecsty | 710 | **300.00** | **84-A** | Emdor | 725 | **340.00** |
| 11¼ | 5 | 36 | ⅞ | 7⅝ | 1½ | 255 | ½ | **33-B** | Edres | 780 | **312.00** | **84-B** | Eolin | 795 | **352.00** |
| 11¼ | 5½ | 42 | ⅞ | 7⅝ | 1½ | 255 | ½ | **33-S** | Efmot | 815 | **324.00** | **84-S** | Epmjo | 830 | **364.00** |

If Countershaft is not wanted deduct $14.00 from above prices. If Bench Legs are wanted instead of Floor Legs, deduct $10.00.




(Patent Pending)

**11" x 4' Underneath Belt Motor Driven Quick Change Gear Lathe Including Equipment—$479.00**

# 11-inch 1934 South Bend Underneath Belt Motor Driven Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 11-inch Underneath Belt Motor Driven** Quick Change Gear Lathe, shown above, is similar to the 11-inch Countershaft Driven Lathe illustrated on page 18, and has the same mechanical features and specifications; the only difference is that this lathe is equipped with Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Belt Motor Drive** is a compact, self-contained unit, completely enclosed within the cabinet leg, under the headstock, away from dirt and chips. The motor and lower cone pulley are mounted on an adjustable tilting cradle which is controlled by the belt release crank on the front of the cabinet leg. A hinged guard covers the spindle cone pulley. For illustrations of the Underneath Belt Motor Drive mechanism and further description, see page 34.

**Powerful and Efficient in Operation.** Smooth even power is transmitted by V-belts from motor to lower drive unit and by flat leather belt to headstock cone pulley. This modern method of driving the lathe spindle is quiet, efficient, and powerful, and permits handling work with the greatest precision and accuracy.

**Changing Spindle Speeds.** The belt release crank on the front of the cabinet leg permits easy shifting of the belt from one step of the cone pulley to another for changing the spindle speeds. A half turn of the belt release crank lifts the tilting cradle 1½ inches and locks it in position, which permits the operator to place the belt on any step of spindle desired.

**Belt Tension Adjustments** are provided for regulating tension of V-belts from motor to driving unit and for obtaining any desired tension of the vertical belt between the lower drive unit and the headstock cone pulley.

**Regular Equipment** included in price of lathe consists of: Large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve for headstock; center rest; follower rest; wrenches; lag screws and washers; installation plan blue print and book, "How to Run a Lathe."

**Electrical Equipment** included in the price consists of: Motor drive mechanism mounted in cabinet leg under headstock; ½ H.P., instant reversing motor (General Electric, Westinghouse or equal make); drum reversing switch; wiring enclosed in metal conduit; one V-belt, motor to drive pulley; double ply flat leather belt and wiring diagram blue print.

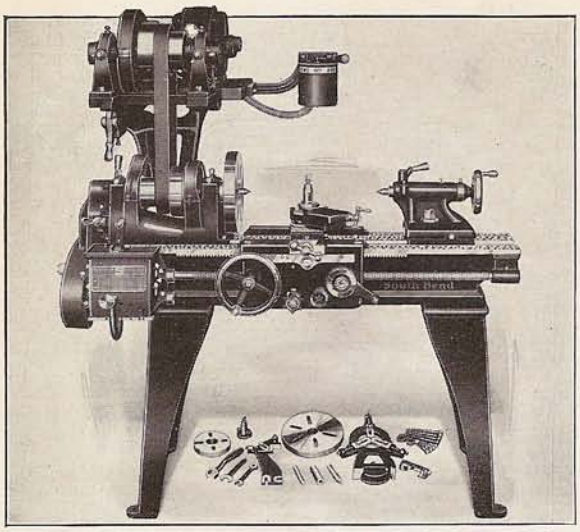
**The 11-inch Underneath Belt Motor Driven Lathe,** shown above, is also available in the Standard Change Gear type, which is priced in the tabulation below.

**When Ordering** a Motor Driven Lathe give specifications of the electric current to be used. See page 36.

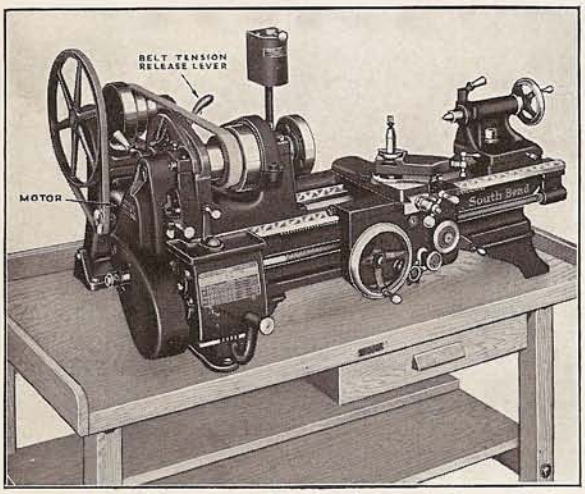
### Net Factory Prices 11-inch 1934 Model South Bend Underneath Belt Motor Driven Lathes

**Prices Include Regular Equipment, and Electrical Equipment as Listed Above**

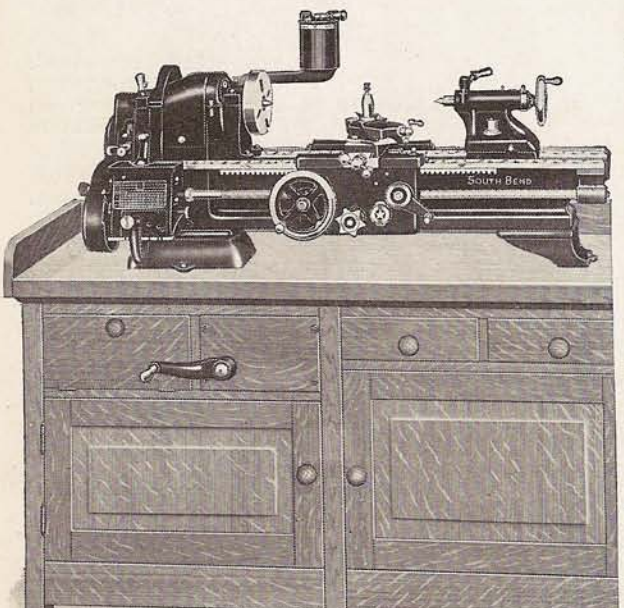
| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Size Motor Used H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 11¼ | 3 | 12 | ⅞ | 7⅝ | ½ | 905 | **133-Y** | Datip | **$415.00** | **$416.00** | **$419.00** | **184-Y** | Darup | **$455.00** | **$456.00** | **$459.00** |
| 11¼ | 3½ | 18 | ⅞ | 7⅝ | ½ | 935 | **133-Z** | Datur | **427.00** | **428.00** | **431.00** | **184-Z** | Dasal | **467.00** | **468.00** | **471.00** |
| 11¼ | 4 | 24 | ⅞ | 7⅝ | ½ | 965 | **133-A** | Davan | **439.00** | **440.00** | **443.00** | **184-A** | Dasem | **479.00** | **480.00** | **483.00** |
| 11¼ | 5 | 36 | ⅞ | 7⅝ | ½ | 1035 | **133-B** | Davep | **451.00** | **452.00** | **455.00** | **184-B** | Dasop | **491.00** | **492.00** | **495.00** |
| 11¼ | 5½ | 42 | ⅞ | 7⅝ | ½ | 1070 | **133-S** | Davor | **463.00** | **464.00** | **467.00** | **184-S** | Datam | **503.00** | **504.00** | **507.00** |



11″x4′ South Bend 1934 Model Silent V-Belt Motor Driven Lathe, Quick Change Gear Type.....$433.00




11″x4′ South Bend 1934 Model Horizontal Motor Driven Bench Lathe, Quick Change Gear Type.....$379.00
(Bench for Lathe is extra, see page 56.)




11″x4′ South Bend 1934 Model Underneath Belt Motor Driven Bench Lathe, Quick Change Gear Type..$469.00
(Bench for Lathe is extra, see page 56.)

# 11-inch Silent V-Belt Motor Driven Lathe

## Quick Change—Standard Change—Bench or Floor Leg Type

**The 11-inch Silent V-Belt Motor Driven Lathe,** shown at left, is the same as the 11-inch Lathe illustrated on page 18, and has the same mechanical features and specifications; the only difference is that it has Silent V-Belt Motor Drive with tension adjustment and release for easy shifting of cone pulley belt as shown on page 36.

**Regular Equipment** included in price of lathe consists of: Silent motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in the price of this lathe consists of: ½ H.P. instant reversing motor (Westinghouse, General Electric or equal make); drum reversing switch; wiring between motor and switch; conduit; wiring diagram; one V-belt and one flat leather belt.

**Prices of 11-inch Silent V-Belt Motor Driven Lathes—Floor Leg Type**

**With ½ H.P. Instant Reversing 3-Phase, 60-Cycle, A.C. Motor**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Standard Change Gear | | | Quick Change Gear | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat. No. | Code Word | Price | Cat. No. | Code Word | Price |
| 11¼ | 3 | 12 | 860 | 333-Y | Eflam | $369.00 | 384-Y | Eadow | $409.00 |
| 11¼ | 3½ | 18 | 890 | 333-Z | Eguil | 381.00 | 384-Z | Ebert | 421.00 |
| 11¼ | 4 | 24 | 920 | 333-A | Ehams | 393.00 | 384-A | Ecrow | 433.00 |
| 11¼ | 5 | 36 | 990 | 333-B | Eioaw | 405.00 | 384-B | Edaze | 445.00 |
| 11¼ | 5½ | 42 | 1025 | 333-S | Ejpbx | 417.00 | 384-S | Efpik | 457.00 |

For Bench Legs instead of Floor Legs, deduct $7.00.
For Instant Reversing Motor: For 1-phase, add $11.00; for Direct Current add $7.00.

# 11-inch Horizontal V-Belt Motor Driven Lathe

## Quick Change—Standard Change—Bench Lathe

**The 11-inch Horizontal Motor Driven Bench Lathe,** illustrated at left, is the same as the 11-inch Lathe illustrated on page 18, and has the same mechanical features and specifications; the only difference is that it has Improved Horizontal V-Belt Motor Drive with tension adjustment and release for easy shifting of cone pulley belt. See page 27.

**Lathe, Motor Drive Unit, etc.,** are itemized in the tabulation below and may be ordered with the lathe or individually as desired.

**Regular Equipment** included in price of lathe consists of: Large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book: "How to Run a Lathe."

**Prices of 11-inch Horizontal Motor Driven Bench Lathe**

| 11-inch South Bend Quick Change Gear Bench Lathe with Regular Equipment, but not Bench..... | 11″x3′ 484-YN Enyom | 11″x3½′ 484-ZN Enzak | 11″x4′ 484-AN Enzde | 11″x5′ 484-BN Enzel | 11″x5½′ 484-SN Enzim |
|---|---|---|---|---|---|
| | $292.00 | $304.00 | $316.00 | $328.00 | $340.00 |
| **Price of Motor Drive Equipment** | | | | | |
| Adjustable Belt Tension Countershaft... | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| ½ H.P. 1800 R.P.M. Instant Reversing Motor (1-phase, 60-cycle, A.C. 110 or 220-volt) ..... | 38.00 | 38.00 | 38.00 | 38.00 | 38.00 |
| V-Groove Pulley for Motor..... | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type)..... | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Wiring (connected to switch and tagged for motor) ..... | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Stand for supporting reversing switch.... | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| V-Belt, motor to drive unit..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1½″x67″..... | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 |
| **Price, Lathe and Equipment, Complete..** | $355.00 | $367.00 | $379.00 | $391.00 | $403.00 |
| Distance Between Centers of Lathe..... | 12 in. | 18 in. | 24 in. | 36 in. | 42 in. |
| Weight Crated, Lathe and Drive Equip... | 655 lbs. | 685 lbs. | 715 lbs. | 785 lbs. | 820 lbs. |

For Instant Reversing Motors: For 3-phase deduct $1.00, for D.C. add $3.00.
If Standard Change Gear Lathe is wanted, deduct $40.00 from above prices.

# 11-inch Underneath Belt Motor Driven Lathe

## Quick Change—Standard Change—Bench Lathe

**The 11-inch Underneath Belt Motor Driven Bench Lathe,** illustrated at left, is similar to the 11-inch Lathe illustrated on page 18, and has the same mechanical features and specifications; the only difference is that it has Underneath Belt Motor Drive with tension adjustment and release for easy shifting of cone pulley belt as shown on page 35.

**Regular Equipment** included in price of lathe consists of: Underneath belt motor drive unit; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

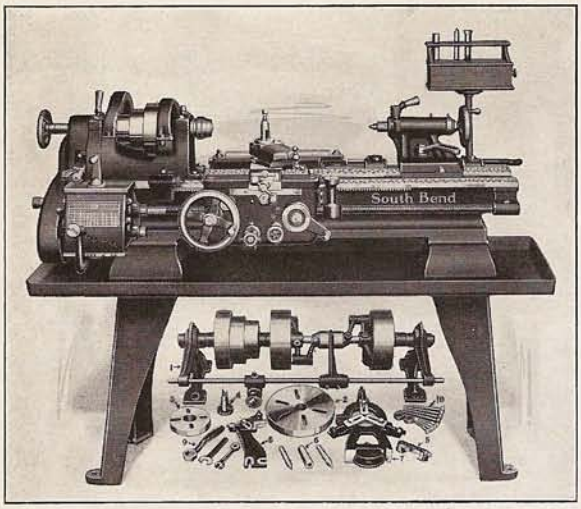
**Electrical Equipment** included in the price of this lathe consists of: ½ H.P. instant reversing motor (Westinghouse, General Electric or equal make); drum reversing switch; wiring between motor and switch; conduit; wiring diagram; one V-belt and one flat leather belt.

**Prices of 11-inch Underneath Belt Motor Driven Bench Lathes**

**With ½ H.P. Instant Reversing 3-phase, 60-cycle, A.C. Motor**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Standard Change Gear | | | Quick Change Gear | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat. No. | Code Word | Price | Cat. No. | Code Word | Price |
| 11¼ | 3 | 12 | 705 | 133-YB | Yahez | $405.00 | 184-YB | Yagiz | $445.00 |
| 11¼ | 3½ | 18 | 735 | 133-ZB | Yahib | 417.00 | 184-ZB | Yagob | 457.00 |
| 11¼ | 4 | 24 | 765 | 133-AB | Yahoc | 429.00 | 184-AB | Yagwa | 469.00 |
| 11¼ | 5 | 36 | 835 | 133-BB | Yahya | 441.00 | 184-BB | Yagye | 481.00 |
| 11¼ | 5½ | 42 | 870 | 133-SB | Yahze | 453.00 | 184-SB | Yahco | 493.00 |

For Instant Reversing Motor: For 1-phase add $1.00; for Direct Current add $4.00.




**11″x4′ South Bend 1934 Model Tool Room Precision Lathe, Countershaft Drive.....$504.50**

# 11-inch Tool Room Lathe—Countershaft Drive

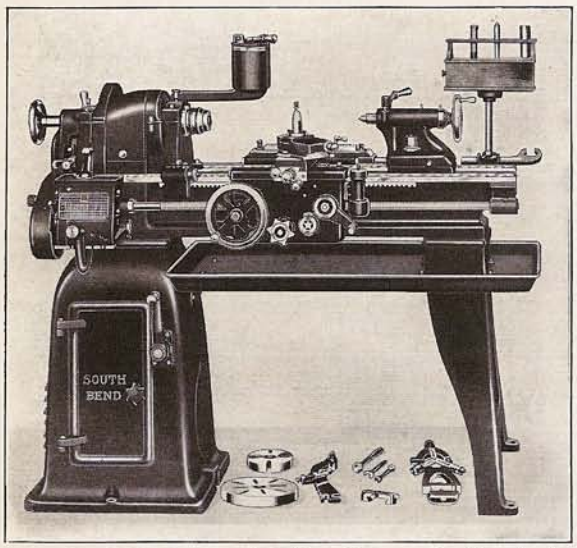
## Quick Change, Back-Geared, Screw Cutting Lathe

**The 11-inch South Bend Tool Room Precision Lathe,** illustrated at left, has the accuracy and precision for the finest class of tool, jig and fixture work. It is practical for making precision master taps, thread gauges, dies, tools, etc. Built of same units as 11-inch Quick Change Gear Lathe described on page 18, and has same features and specifications. May be ordered as Oil Pan Lathe by omitting tool room attachments.

**Regular Equipment** included in price of lathe is same as listed with the 11-inch Quick Change Gear Lathe on page 18.

**Prices 11-inch Tool Room Precision Lathe—Countershaft Drive**

| Size and Catalog Number | 11″x4′ No. 884-A | | 11″x5′ No. 884-B | | 11″x5½′ No. 884-S | |
|---|---|---|---|---|---|---|
| 11-inch Tool Room Lathe, Countershaft Drive, with Lathe Equipment but without Tool Room Attachments | Code Word | Price | Code Word | Price | Code Word | Price |
| | Emdor | $340.00 | Eolin | $352.00 | Epmjo | $364.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size. | Abode | 35.00 | Abode | 35.00 | Abode | 35.00 |
| Extra Collets $\frac{1}{64}$-inch up to $\frac{2}{64}$-inch Capacity by 64ths. Each | Cello | 3.50 | Cello | 3.50 | Cello | 3.50 |
| Taper Attachment | Devor | 65.00 | Devor | 65.00 | Devor | 65.00 |
| Thread Indicator | Acres | 10.00 | Acres | 10.00 | Acres | 10.00 |
| Oil Pan | Odium | 27.00 | Olhern | 29.00 | Oekon | 30.00 |
| Micrometer Carriage Stop | Ceded | 12.00 | Ceded | 12.00 | Ceded | 12.00 |
| Collet Cabinet and Bracket | Crome | 12.00 | Crome | 12.00 | Crome | 12.00 |
| **Prices of Tool Room Lathe, Complete** | Ewhot | $504.50 | Eajun | $518.50 | Eilex | $531.50 |
| Distance Between Centers of Lathe | 24 in. | | 36 in. | | 42 in. | |
| Weight Crated, Lathe and Attachments | 857 lbs. | | 927 lbs. | | 962 lbs. | |




**11″x4′ South Bend 1934 Model Tool Room Precision Lathe, Underneath Belt Motor Drive.....$635.50**

# 11-inch Tool Room Lathe—Under Drive

## Quick Change, Back-Geared, Screw Cutting Lathe

**The 11-inch South Bend Tool Room Precision Lathe,** illustrated at left, is similar to the 11-inch Countershaft Driven Tool Room Lathe shown above, and has the same mechanical features, specifications and lathe equipment; the only difference is that it is equipped with Underneath Belt Motor Drive instead of Overhead Countershaft Drive.

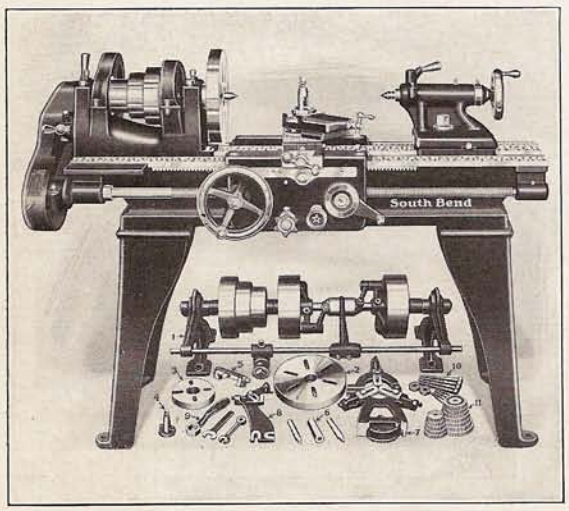
**The Underneath Belt Motor Drive Mechanism,** motor and switch used on this lathe are illustrated and further described on page 34.

**Electrical Equipment** included in the price of this lathe consists of: ½ H.P., instant reversing motor (Westinghouse, General Electric or equal make); drum reversing switch; wiring between motor and switch; conduit; wiring diagram; one V-belt and one flat leather belt.

**Prices 11-inch Tool Room Precision Lathe—Underneath Belt Motor Drive**

| Catalog No. 1884-A—11″x4′ Tool Room Lathe with Underneath Belt Motor Drive, Lathe Equipment and Electrical Equipment, but without Tool Room Attachments | With 3 Phase-60 Cycle A.C. Motor | | With 1 Phase-60 Cycle A.C. Motor | | With Direct Current Motor | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Dasem | $479.00 | Dasem | $480.00 | Dasem | $483.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet. Any Size. | Abode | 35.00 | Abode | 35.00 | Abode | 35.00 |
| Extra Collets $\frac{1}{64}$-inch up to $\frac{2}{64}$-inch Capacity by 64ths. Each | Cello | 3.50 | Cello | 3.50 | Cello | 3.50 |
| Taper Attachment | Devor | 65.00 | Devor | 65.00 | Devor | 65.00 |
| Thread Indicator | Acres | 10.00 | Acres | 10.00 | Acres | 10.00 |
| Chip Pan | Bonul | 19.00 | Bonul | 19.00 | Bonul | 19.00 |
| Micrometer Carriage Stop | Ceded | 12.00 | Ceded | 12.00 | Ceded | 12.00 |
| Collet Cabinet and Bracket | Crome | 12.00 | Crome | 12.00 | Crome | 12.00 |
| **Prices of Tool Room Lathe, Complete** | Detar | $635.50 | Detov | $636.50 | Devas | $639.50 |
| Distance Between Centers of Lathe | 24 in. | | 24 in. | | 24 in. | |
| Weight Crated, Lathe and Attachments | 1075 lbs. | | 1085 lbs. | | 1085 lbs. | |

For Lathe with 5 ft. bed and attachments add $14.00. For 5½ ft. add $27.00.




**11″x4′ South Bend 1934 Model Standard Change Gear Precision Lathe, Countershaft Drive.....$300.00**
**(See description on page 42.)**

# 11-inch Standard Change Gear Floor Leg Lathe

## Back-Geared, Screw Cutting Lathe—Countershaft Drive

**The 11-inch 1934 Model Standard Change Gear Precision Lathe** is identical with the 11-inch Quick Change Gear Lathe illustrated on page 18, except that the quick change gear box is replaced by a set of independent change gears. Features and specifications on page 18 apply to this Standard Change Gear Lathe.

**Change Gears** are used to cut standard screw threads, right or left-hand, from 4 to 40 per inch, and to provide a wide range of automatic longitudinal feeds and automatic cross feeds. Special change gear equipment for cutting screw threads from 4 to 80 per inch can be supplied at $6.00 extra, when ordered with lathe.

**Equipment Included in Price** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

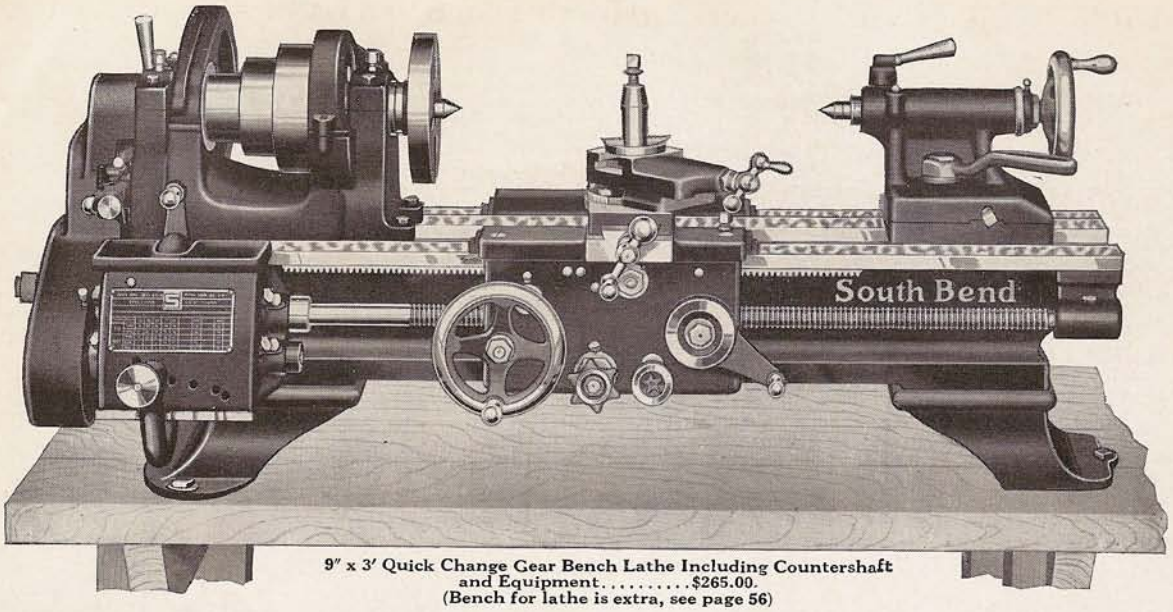
**Prices of 11-inch Standard Change Gear Lathe**

| Cat. No. | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|
| **33-Y** | 11¼ | 3 | 12 | 650 | Eazir | **$276.00** |
| **33-Z** | 11¼ | 3½ | 18 | 680 | Ebuka | **288.00** |
| **33-A** | 11¼ | 4 | 24 | 710 | Ecsty | **300.00** |
| **33-B** | 11¼ | 5 | 36 | 780 | Edres | **312.00** |
| **33-S** | 11¼ | 5½ | 42 | 815 | Efmot | **324.00** |

If Countershaft is not wanted, deduct $14.00. If Bench Legs are wanted, deduct $10.00.

| SCREW THREAD CUTTING CHART | | |
|---|---|---|
| THREADS PER INCH | STUD GEAR | SCREW GEAR |
| 4 | 64 | 32 |
| 5 | 64 | 40 |
| 6 | 64 | 48 |
| 7 | 64 | 56 |
| 8 | 32 | 32 |
| 9 | 64 | 72 |
| 10 | 32 | 40 |
| 11 | 32 | 44 |
| 11½ | 32 | 46 |
| 12 | 32 | 48 |
| 13 | 32 | 52 |
| 14 | 32 | 56 |
| 16 | 32 | 64 |
| 18 | 32 | 72 |
| 20 | 32 | 80 |
| 22 | 16 | 44 |
| 24 | 16 | 48 |
| 26 | 16 | 52 |
| 28 | 16 | 56 |
| 30 | 16 | 60 |
| 32 | 16 | 64 |
| 36 | 16 | 72 |
| 40 | 16 | 80 |

**Chart for Threads**




**9" x 3' Quick Change Gear Bench Lathe Including Countershaft and Equipment.....$265.00.**
**(Bench for lathe is extra, see page 56)**

# 9-inch 1934 Model South Bend Bench Lathe—Countershaft Drive

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes

**The 9-inch 1934 Model South Bend** Back-Geared, Screw Cutting Precision Lathe is a practical tool for the shop machining small, accurate work. It has the precision and accuracy for the finest tool and gauge work and is practical for repair and maintenance work. This lathe has the power to reduce the diameter of a steel shaft 3/8" in one cut.

**Mechanical Features** described below apply to all types of 9-inch South Bend Lathes as illustrated on pages 22 to 25 inclusive. See specifications on page 37.

**Back-Geared Headstock** is hand-scraped to lathe bed; has three-step cone for 1¼" belt; six changes of spindle speeds from 39 to 596 R.P.M., three direct and three back-geared; wrenchless bull gear lock, and spring latch reverse.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a ¾" hole its entire length. Collet capacity 1/64" to ½". Spindle nose 1½" diam., 8 threads.

**Phosphor Bronze Bearings** for headstock spindle are line bored and lapped to a perfect bearing, and are adjustable for wear. An improved oiling system lubricates the bearings.

**Quick Change Gear Box** provides 48 changes for cutting screw threads from 2 to 112 per inch, right or left hand; and for automatic longitudinal feeds from .0030" to .0208" per revolution of spindle, and for automatic cross feeds from .0011" to .0078" per revolution of spindle. See page 41.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; double plug spindle lock; No. 2 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 2⅛". See page 38.

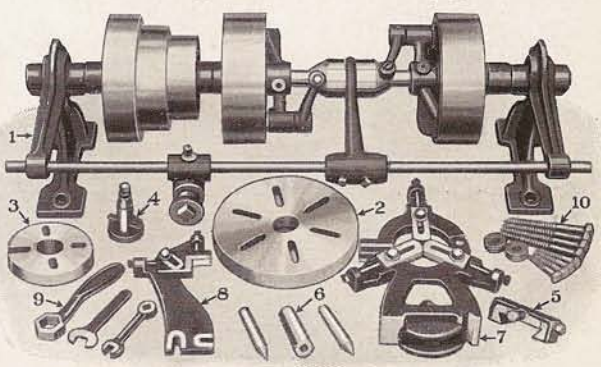
**Apron** has worm drive for both the automatic cross feeds and automatic longitudinal feeds. Half-nuts and lead screw thread are used only for screw thread cutting. An automatic safety device prevents engaging half-nuts and automatic feeds at the same time. See page 40.

**Carriage** has wide deep bridge hand-scraped to bed, provides rigid support for the tool rest; carriage lock for facing and cutting off; felt wipers for V-ways.

**Precision Lead Screw** ¾" diameter, 8 Acme standard screw threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads. See page 40.

**Compound Rest** graduated 180°; swivels to any angle and has angular travel of 1⅞". Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Tool holder shank ⅜" x 13/16" for cutters ¼" square.

**Lathe Bed** is 50% steel, heavily constructed and reinforced by box braces its entire length. Three V-ways and one flat way, accurately planed and hand-scraped, align and support the headstock, carriage and tailstock. See page 39.




**Countershaft and Equipment Included in Price of Lathe.**

**Regular Equipment** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Attachments and Accessories** such as collet chuck, taper attachment, etc., can be supplied, see pages 50 to 61.

**The 9-inch Lathe** is also available in the Standard Change Gear type as shown on page 24 and priced below.

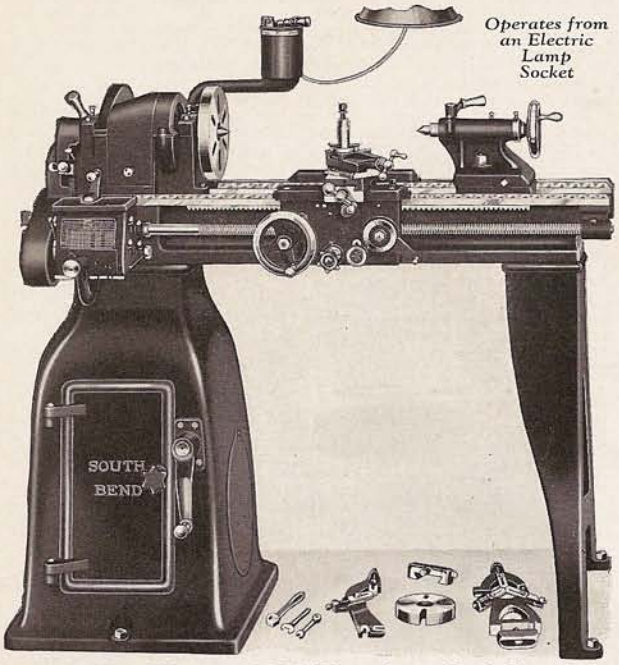
**Net Factory Prices 9-inch 1934 South Bend Bench Lathes Including Countershaft and Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Cone Pulley Belt Inches | Countershaft Speed R.P.M. | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 9¼ | 2½ | 9⅜ | ¾ | 6⅜ | 1¼ | 255 | ¼ | **30-XB** | Bakip | 395 | **$215.00** | **80-XB** | Bahak | 405 | **$255.00** |
| 9¼ | 3 | 16⅜ | ¾ | 6⅜ | 1¼ | 255 | ¼ | **30-YB** | Bakur | 420 | **225.00** | **80-YB** | Bagup | 430 | **265.00** |
| 9¼ | 3½ | 21⅜ | ¾ | 6⅜ | 1¼ | 255 | ¼ | **30-ZB** | Bakys | 445 | **235.00** | **80-ZB** | Bahel | 455 | **275.00** |
| 9¼ | 4 | 27⅜ | ¾ | 6⅜ | 1¼ | 255 | ¼ | **30-AB** | Balan | 470 | **245.00** | **80-AB** | Bahon | 480 | **285.00** |
| 9¼ | 4½ | 34⅜ | ¾ | 6⅜ | 1¼ | 255 | ½ | **30-RB** | Balep | 495 | **255.00** | **80-RB** | Bahup | 505 | **295.00** |

If Countershaft is not wanted, deduct $13.00.

# 9-inch 1934 Model Underneath Belt Motor Driven Floor Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes




9″ x 3′ 1934 Model Underneath Belt Motor Driven Quick Change Gear Lathe with Regular Lathe Equipment.....$373.00

**The Underneath Belt Motor Driven Lathe** is new in design, modern in appearance, powerful and noiseless in operation. Drive mechanism and spindle cone pulley are enclosed.

**The 9-inch Underneath Belt Motor Driven Lathe** illustrated at left, is similar to the 9-inch lathe shown on page 22 and has the same mechanical features and specifications; the only difference is that it has Underneath Belt Motor Drive and Floor Legs.

**Underneath Motor Drive** included in price of lathe consists of Motor and drive unit enclosed in cabinet leg under headstock. Drive is by V-belt from motor to drive unit and by flat belt to spindle cone pulley. A drum reversing switch controls the ¼ H.P. instant reversing motor. Cone pulley belt has tension adjustment for any desired pulling power and release lever for easy shifting. V-Belt from motor to drive unit has independent tension adjustment. See page 34.

**Regular Equipment** included in price of lathe consists of: Underneath Motor Drive; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in the price of this lathe consists of: ¼ H.P., instant reversing motor (Westinghouse, General Electric or equal make); drum reversing switch; wiring diagram; wiring enclosed in metal conduit; one V-belt and one flat belt.

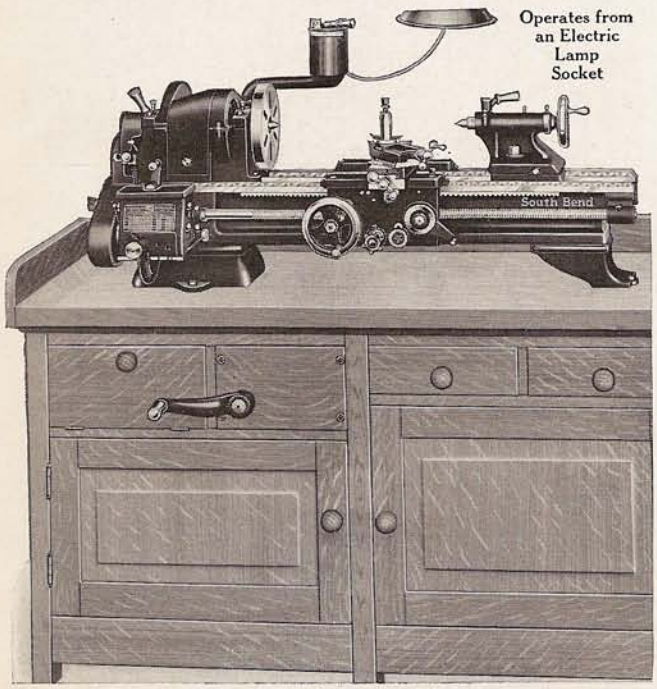
**Prices of 9-inch Underneath Motor Driven Lathe**
**With ¼ H.P. 1-phase, 60-cycle, A.C. Instant Reversing Motor**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Standard Change Gear | | | Quick Change Gear | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat. No. | Code Word | Net Factory Price | Cat. No. | Code Word | Net Factory Price |
| 9¼ | 2½ | 9⅜ | 770 | 130 X | Dapol | $323.00 | 180 X | Damuk | $363.00 |
| 9¼ | 3 | 16⅜ | 795 | 130 Y | Dapum | 333.00 | 180 Y | Danag | 373.00 |
| 9¼ | 3½ | 21⅜ | 820 | 130 Z | Darak | 343.00 | 180 Z | Danok | 383.00 |
| 9¼ | 4 | 27⅜ | 845 | 130 A | Darel | 353.00 | 180 A | Danul | 393.00 |
| 9¼ | 4½ | 34⅜ | 870 | 130 R | Daron | 363.00 | 180 R | Dapah | 403.00 |

Instant Reversing Motors: For 3-Phase Motor deduct $1.00; for D.C. Motor add $4.00. If Start-and-Stop Reversing Motor for 1-phase, 60-cycle, A.C. 110-volt, is wanted in lieu of Instant Reversing Motor, deduct $15.00 from above prices.

# 9-inch 1934 Model Underneath Belt Motor Driven Bench Lathe

## Back-Geared, Screw Cutting, Quick Change and Standard Change Gear Precision Lathes




9″ x 3′ 1934 Model Underneath Belt Motor Driven Quick Change Gear Precision Lathe, less Bench—$363.00

**Bench** is not included in the price of the above lathe but is extra. For prices, see page 56.

**The 9-inch Underneath Belt Motor Driven Bench Lathe,** illustrated at left, is similar to the 9-inch Lathe shown on page 22, and has the same mechanical features and specifications; the only difference is that it has Underneath Belt Motor Drive instead of Overhead Countershaft Drive.

**Underneath Motor Drive** included in price of lathe consists of motor and drive unit with bracket for mounting under bench. Drive is by V-belt from motor to drive unit and by flat belt to spindle cone pulley. A drum reversing switch controls the ¼ H.P. instant reversing motor. Cone pulley belt has tension adjustment for any desired pulling power and release lever for easy shifting. V-belt from motor to drive unit has independent tension adjustment. See page 35.

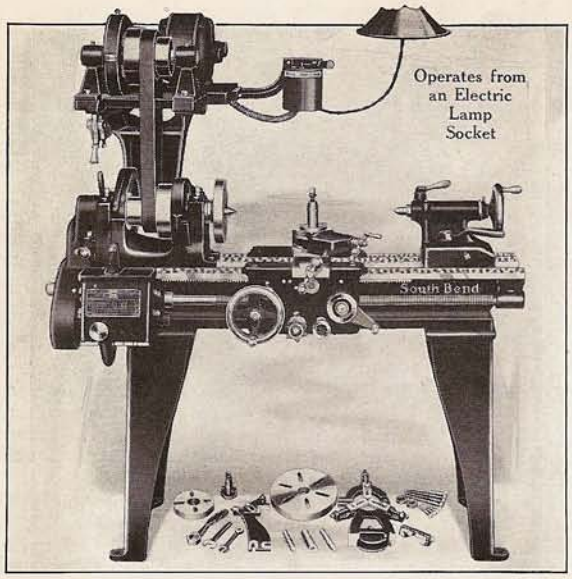
**Regular Equipment** included in price of lathe consists of: Underneath motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Electical Equipment** included in the price of this lathe consists of: ¼ H.P., instant reversing motor (Wesinghouse, General Electric or equal make); drum reversing switch; wiring between motor and switch; conduit; wiring diagram; one V-belt and one flat leather belt.

**9-inch Underneath Motor Driven Bench Lathe**
**With ¼ H.P. 1-phase, 60-cycle, A.C. Instant Reversing Motor**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Standard Change Gear | | | Quick Change Gear | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cat. No. | Code Word | Net Factory Price | Cat. No. | Code Word | Net Factory Price |
| 9¼ | 2½ | 9⅜ | 570 | 130 XB | Eburf | $313.00 | 180 XB | Eblet | $353.00 |
| 9¼ | 3 | 16⅜ | 595 | 130 YB | Ebvig | 323.00 | 180 YB | Ebord | 363.00 |
| 9¼ | 3½ | 21⅜ | 620 | 130 ZB | Ebzol | 333.00 | 180 ZB | Ebreb | 373.00 |
| 9¼ | 4 | 27⅜ | 645 | 130 AB | Ecamp | 343.00 | 180 AB | Ebsec | 383.00 |
| 9¼ | 4½ | 34⅜ | 670 | 130 RB | Ecdul | 353.00 | 180 RB | Ebtac | 393.00 |

Instant Reversing Motors: For 3-Phase Motor deduct $1.00; for D.C. Motor add $4.00. If Start-and-Stop Reversing Motor for 1-phase, 60-cycle, A.C. 110-volt, is wanted in lieu of Instant Reversing Motor, deduct $15.00 from above prices.




**9"x3' South Bend 1934 Model Silent V-Belt Motor Driven Lathe, Quick Change Gear Type.....$324.00**

# 9-inch Silent V-Belt Motor Driven Lathe

## Quick Change—Standard Change—Bench or Floor Leg Type

**The 9-inch Silent V-Belt Motor Driven Lathe,** shown at left, is the same as the 9-inch Lathe illustrated on page 22, and has the same mechanical features and specifications; the only difference is that it has floor legs; and Silent V-Belt Motor Drive with tension adjustment and release for easy shifting of cone pulley belt; see page 36.

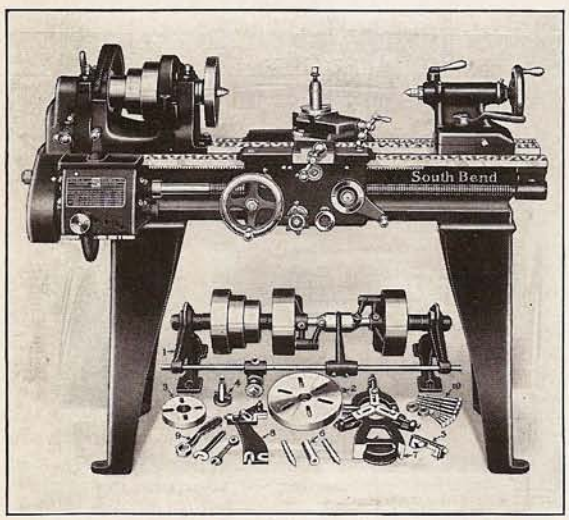
**Silent Motor Drive Unit,** ¼ H.P. start-stop reversing motor and reversing switch are mounted on an adjustable table above the lathe. Drive is by V-belt from motor to drive pulley and by flat leather belt to lathe spindle cone. An adjustment provides for any desired belt tension.

**Regular Equipment** included in price of lathe consists of: Silent motor drive unit; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Prices of 9-inch Silent V-Belt Motor Driven Floor Leg Lathes**

| 9-inch South Bend Quick Change Gear Floor Leg Lathe with Silent V-Belt Drive Unit and Regular Equipment | 9"x2½' 380-X Balus | 9"x3' 380-Y Bamap | 9"x3½' 380-Z Bamut | 9"x4' 380-A Bapar | 9"x4½' 380-R Banur |
|---|---|---|---|---|---|
| | $293.75 | $303.75 | $313.75 | $323.75 | $333.75 |
| **Price of Motor Drive Equipment** | | | | | |
| ¼ H.P. Start-Stop Rev. Split-Phase Motor, 1725 R.P.M. (1-ph., 60-cy., A.C. 110-volt) | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Wiring connected to switch—tagged for motor | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1¼"x45" | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Price, Lathe and Equipment, Complete** | $314.00 | $324.00 | $334.00 | $344.00 | $354.00 |
| Distance Between Spindle Centers | 9⅜ in. | 16⅜ in. | 21⅜ in. | 27⅜ in. | 34⅜ in. |
| Weight Crated, Lathe and Drive Equipment | 630 lbs. | 655 lbs. | 680 lbs. | 705 lbs. | 730 lbs. |

Instant Reversing Motor add: For 3-phase $16.50; for 1-phase $17.50; for D.C. $21.50.
If Standard Change Gear Lathe is wanted, deduct $40.00 from above prices.
For Bench Legs in lieu of Floor Legs deduct $7.00 from above prices.




**9"x3' South Bend 1934 Model Countershaft Driven Floor Leg Lathe, Quick Change Gear Type.....$275.00**

# 9-inch Quick Change Gear Floor Leg Lathe

## Back-Geared, Screw Cutting Lathe—Countershaft Drive

**The 9-inch 1934 Model Quick Change Gear Precision Lathe,** illustrated at left, is the same as the 9-inch Countershaft Driven Bench Lathe on page 22 and has the same mechanical features and specifications; the only difference is that this lathe has Floor Legs instead of Bench Legs.

**The Quick Change Gear Box** provides forty-eight changes for cutting standard screw threads, right or left-hand, from 2 to 112 per inch, including 11½ pipe thread, and provides for a wide range of automatic longitudinal feeds and automatic cross feeds. See page 41.

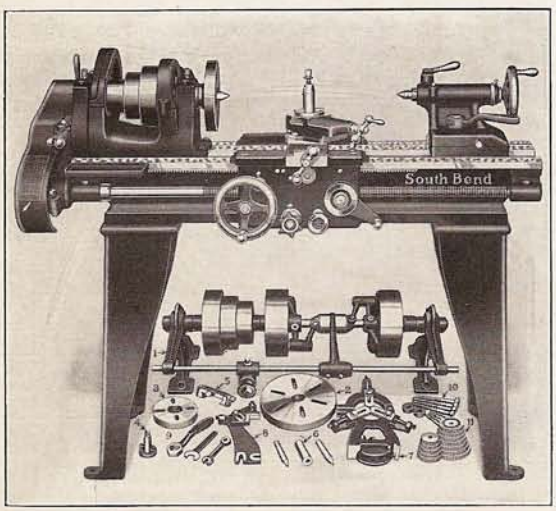
**Regular Equipment** included in price of lathe consists of: Double friction countershaft; large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Double Friction Countershaft** supplied with this 9-inch Lathe is equipped with two friction clutch pulleys, one of which is operated by a straight belt and the other by a crossed belt. This permits the lathe spindle to be rotated both forward and in reverse.

**Prices of 9-inch Quick Change Gear Lathe—Countershaft Drive**

| Cat. No. | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Power Required H.P. | Approx. Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|---|---|---|
| **80-X** | 9¼ | 2½ | 9⅜ | ¾ | 6⅜ | ¼ | 457 | Bafol | **$265.00** |
| **80-Y** | 9¼ | 3 | 16⅜ | ¾ | 6⅜ | ¼ | 482 | Bafum | **275.00** |
| **80-Z** | 9¼ | 3½ | 21⅜ | ¾ | 6⅜ | ¼ | 507 | Bafyn | **285.00** |
| **80-A** | 9¼ | 4 | 27⅜ | ¾ | 6⅜ | ¼ | 532 | Bagaj | **295.00** |
| **80-R** | 9¼ | 4½ | 34⅜ | ¾ | 6⅜ | ¼ | 557 | Bagek | **305.00** |

If Countershaft is not wanted, deduct $13.00.
If Bench Legs are wanted, deduct $10.00.




**9"x3' South Bend 1934 Model Standard Change Gear Precision Lathe, Countershaft Drive.....$235.00**

# 9-inch Standard Change Gear Floor Leg Lathe

## Back-Geared, Screw Cutting Lathe—Countershaft Drive

**The 9-inch 1934 Model Standard Change Gear Precision Lathe** is the same as the 9-inch Quick Change Gear Lathe shown on page 22, except that the quick change gear box is replaced by a set of independent change gears; and the lathe has floor legs instead of bench legs. For features and specifications see page 22.

**Change Gears** are used to cut standard screw threads, right or left-hand, from 4 to 40 per inch, and for automatic longitudinal feeds and automatic cross feeds. Special change gear equipment for cutting screw threads from 4 to 80 per inch can be supplied at $5.00 extra, when ordered with lathe.

**Equipment Included in Price** consists of: Countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Prices of 9-inch Standard Change Gear Lathe**

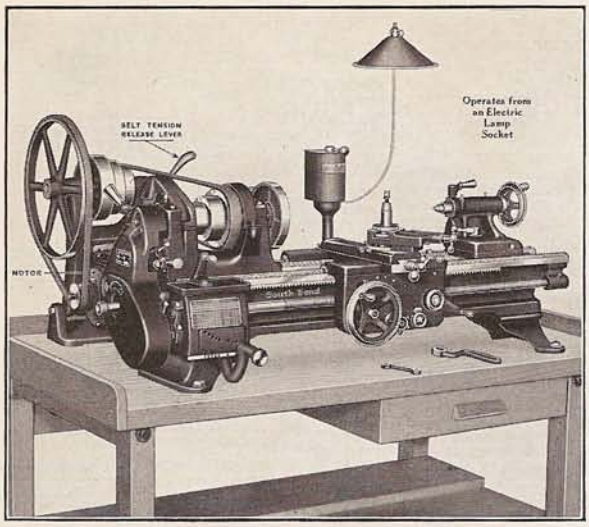
| Cat. No. | Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|
| **30-X** | 9¼ | 2½ | 9⅜ | 447 | Bajal | **$225.00** |
| **30-Y** | 9¼ | 3 | 16⅜ | 472 | Bajem | **235 00** |
| **30-Z** | 9¼ | 3½ | 21⅜ | 497 | Bajyr | **245.00** |
| **30-A** | 9¼ | 4 | 27⅜ | 522 | Bakam | **255.00** |
| **30-R** | 9¼ | 4½ | 34⅜ | 547 | Baken | **265.00** |

If Countershaft is not wanted, deduct $13.00.
If Bench Legs are wanted in lieu of Floor Legs, deduct $10.00.

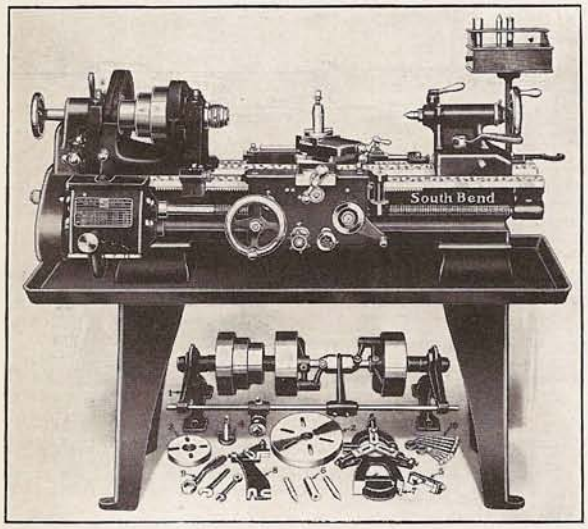
**SCREW THREAD CUTTING CHART**

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 4 | 64 | 32 |
| 5 | 64 | 40 |
| 6 | 64 | 48 |
| 7 | 64 | 56 |
| 8 | 32 | 32 |
| 9 | 64 | 72 |
| 10 | 32 | 40 |
| 11 | 32 | 44 |
| 11½ | 32 | 46 |
| 12 | 32 | 48 |
| 13 | 32 | 52 |
| 14 | 32 | 56 |
| 16 | 32 | 64 |
| 18 | 32 | 72 |
| 20 | 32 | 80 |
| 22 | 16 | 44 |
| 24 | 16 | 48 |
| 26 | 16 | 52 |
| 28 | 16 | 56 |
| 30 | 16 | 60 |
| 32 | 16 | 64 |
| 36 | 16 | 72 |
| 40 | 16 | 80 |

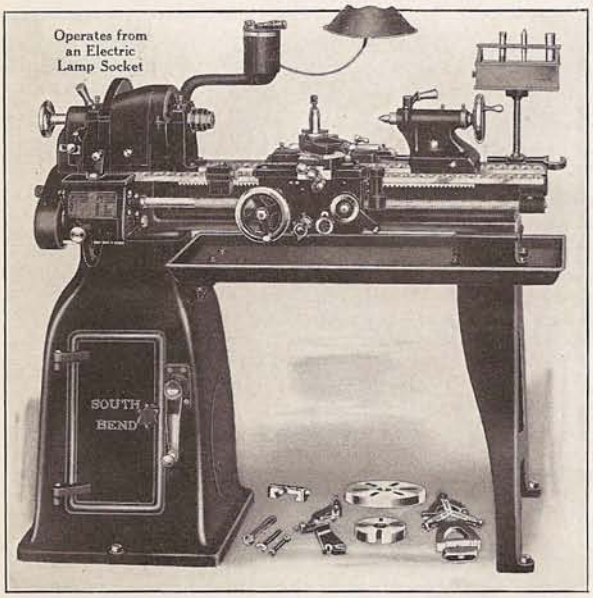
**Chart for Threads**




**9" x 3' Horizontal Motor Driven Bench Lathe, Quick Change Gear Type, Less Bench, 1934 Model.....$284.00**
**(Bench for Lathe is extra, see page 56.)**




**9"x3' South Bend 1934 Model Tool Room Precision Lathe, Countershaft Drive.....$416.50**




**9"x3' South Bend 1934 Model Tool Room Precision Lathe, Underneath Belt Motor Drive.....$507.50**

# 9-inch Horizontal V-Belt Motor Driven Lathe

## Quick Change—Standard Change—Bench Lathes

**The 9-inch Horizontal Motor Driven Bench Lathe,** illustrated at left, is the same as the lathe shown on page 22 and has the same mechanical features and specifications; the only difference is that it has Improved Horizontal V-Belt Motor Drive with tension adjustment and release for easy shifting of the cone pulley belt. See page 27.

**Prices of Lathe, Motor, Drive Unit,** etc., are itemized in the tabulation below so that you may order them complete or individually as desired.

**Regular Equipment** included in price of lathe consists of: Large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plan and book, "How to Run a Lathe."

**Prices of 9-inch Horizontal Motor Driven Bench Lathe**

| 9-inch South Bend Quick Change Gear Bench Lathe with Graduated Compound Rest, Regular Equipment, but without Bench | 9"x2½' 480-XN Ensad | 9"x3' 480-YN Ensig | 9"x3½' 480-ZN Entaf | 9"x4' 480-AN Enteg | 9"x4½' 480-RN Entza |
|---|---|---|---|---|---|
| | $242.00 | $252.00 | $262.00 | $272.00 | $282.00 |
| **Price of Motor Drive Equipment** | | | | | |
| Adjustable Belt Tension Countershaft | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| ¼ H.P. 1725 R.P.M. Start-and-Stop Reversing Motor (1-phase, 60-cycle, A.C. 110 volt) | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum type) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Wiring connected to switch—tagged for motor | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Stand for Supporting Reversing Switch | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| V-Belt, Motor to Drive Unit | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1¼"x64" | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| **Price, Lathe and Equipment, Complete** | $274.00 | $284.00 | $294.00 | $304.00 | $314.00 |
| Distance Between Centers of Lathe | 9⅜ in. | 16⅜ in. | 21⅜ in. | 27⅜ in. | 34⅜ in. |
| Weight Crated, Lathe and Drive Equipment | 446 lbs. | 471 lbs. | 496 lbs. | 521 lbs. | 546 lbs. |

Instant Reversing Motor: For 3-phase, add $16.50; for 1-phase, add $17.50; for D.C., add $21.50. If Standard Change Gear Lathe is wanted, deduct $40.00.

# 9-inch Tool Room Lathe—Countershaft Drive

## Quick Change, Back-Geared, Screw Cutting Precision Lathe

**The 9-inch South Bend Tool Room Precision Lathe,** illustrated at left, has the accuracy and precision for the finest class of tool, jig and fixture work. It is practical for making precision master taps, thread gauges, dies, tools, etc. This lathe is built up of the same units as used on the 9-inch Quick Change Gear Lathe illustrated and described on page 22, and has the same mechanical features and specifications.

**Regular Equipment** included in price of lathe is the same as listed with the 9-inch Quick Change Gear Countershaft Drive Lathe on page 22.

**Prices 9-inch Tool Room Precision Lathe—Countershaft Drive**

| **Size and Catalog Number** 9-inch Tool Room Quick Change Gear Precision Lathe, Countershaft Drive, with Regular Equipment, but without Tool Room Attachments | 9" x 3' No. 880-Y | | 9" x 4' No. 880-A | | 9" x 4½' No. 880-R | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Bafum | $275.00 | Bagaj | $295.00 | Bagek | $305.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Aaron | 32.00 | Aaron | 32.00 | Aaron | 32.00 |
| Extra Collets ⅛-inch up to ½-inch capacity by 64ths, Each | Cabot | 2.50 | Cabot | 2.50 | Cabot | 2.50 |
| Taper Attachment | Dashe | 55.00 | Dashe | 55.00 | Dashe | 55.00 |
| Thread Indicator | Abaft | 9.00 | Abaft | 9.00 | Abaft | 9.00 |
| Oil Pan | Oasis | 20.00 | Odium | 22.00 | Often | 23.00 |
| Micrometer Carriage Stop | Calef | 11.00 | Calef | 11.00 | Calef | 11.00 |
| Collet Cabinet and Bracket | Caged | 12.00 | Caged | 12.00 | Caged | 12.00 |
| **Prices of Tool Room Lathe, Complete** | Bacup | $416.50 | Bamoq | $438.50 | Bijav | $449.50 |
| Distance Between Spindle Centers | 16⅜ in. | | 27⅜ in. | | 34⅜ in. | |
| Weight Crated, Lathe and Attachments | 582 lbs. | | 632 lbs. | | 657 lbs. | |

# 9-inch Tool Room Lathe—Underneath Drive

## Quick Change, Back-Geared, Screw Cutting Precision Lathe

**The 9-inch South Bend Tool Room Precision Lathe,** illustrated at left, is the same as the 9-inch Countershaft Driven Tool Room Lathe shown above, and has the same mechanical features, specifications and lathe equipment; the only difference is that it is equipped with Underneath Belt Motor Drive instead of Overhead Countershaft Drive.

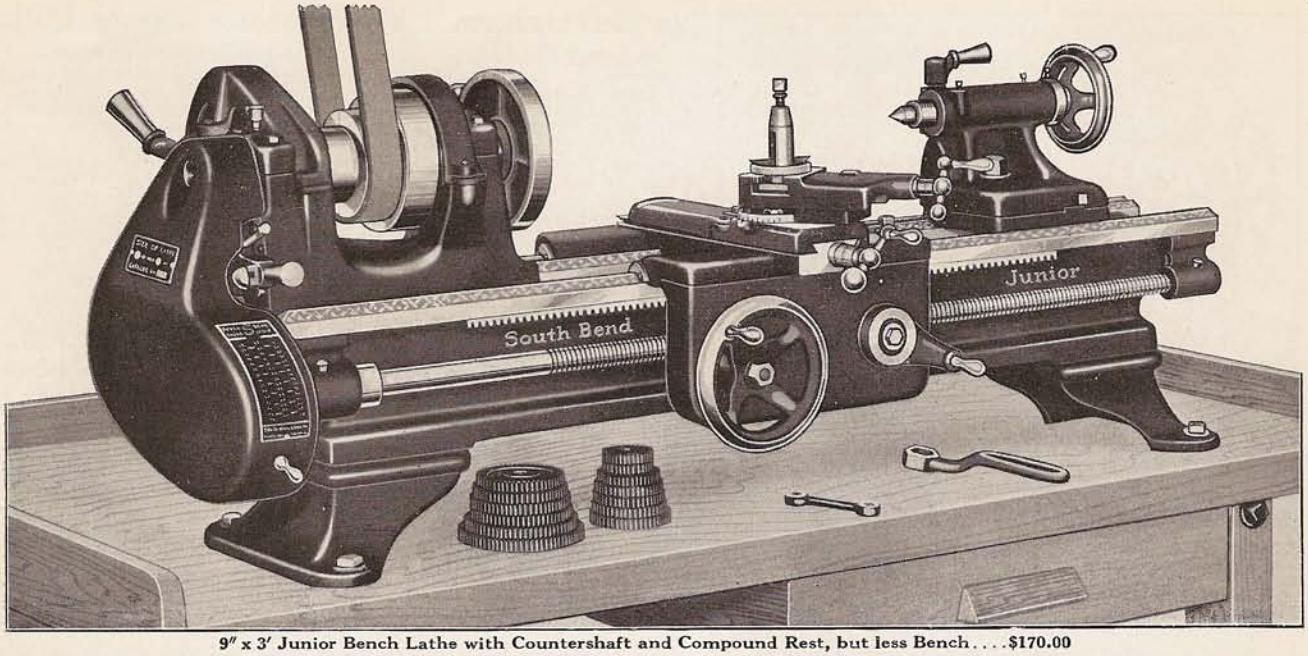
**Underneath Belt Motor Drive** mechanism used on this lathe is illustrated and described in detail on page 34 of this catalog.

**Electrical Equipment** included in the price of this lathe consists of: ¼ H.P. instant reversing motor (Westinghouse, General Electric or equal make); drum reversing switch; wiring between motor and switch; conduit; wiring diagram; V-belt; and flat leather belt.

**Prices 9-inch Tool Room Precision Lathe—Underneath Belt Motor Drive**

| Catalog No. 1880-Y—9" x 3' Tool Room Quick Change Gear Precision Lathe, with Underneath Belt Motor Drive, Regular Equipment and Electrical Equipment, but without Tool Room Attachments | With 3 Phase-60 Cycle A.C. Motor | | With 1 Phase-60 Cycle A.C. Motor | | With Direct Current Motor | |
|---|---|---|---|---|---|---|
| | Code Word | Price | Code Word | Price | Code Word | Price |
| | Danag | $372.00 | Danag | $373.00 | Danag | $377.00 |
| **TOOL ROOM ATTACHMENTS** | | | | | | |
| Draw-in Collet Chuck (Hand Wheel Type) with One Collet, Any Size | Aaron | 32.00 | Aaron | 32.00 | Aaron | 32.00 |
| Extra Collets ⅛-inch up to ½-inch capacity by 64ths, Each | Cabot | 2.50 | Cabot | 2.50 | Cabot | 2.50 |
| Taper Attachment | Dashe | 55.00 | Dashe | 55.00 | Dashe | 55.00 |
| Thread Indicator | Abaft | 9.00 | Abaft | 9.00 | Abaft | 9.00 |
| Chip Pan | Bonmy | 14.00 | Bonmy | 14.00 | Bonmy | 14.00 |
| Micrometer Carriage Stop | Calef | 11.00 | Calef | 11.00 | Calef | 11.00 |
| Collet Cabinet and Bracket | Caged | 12.00 | Caged | 12.00 | Caged | 12.00 |
| **Prices of Tool Room Lathe, Complete** | Dokar | $507.50 | Dokov | $508.50 | Dolas | $512.50 |
| Distance Between Spindle Centers | 16⅜ in. | | 16⅜ in. | | 16⅜ in. | |
| Weight Crated, Lathe and Attachments | 885 lbs. | | 885 lbs. | | 895 lbs. | |

For Lathe with 4 ft. bed add $22.00. For 4½ ft. add $33.00.




**9″ x 3′ Junior Bench Lathe with Countershaft and Compound Rest, but less Bench. . . .$170.00**

# 9-inch Junior 1934 South Bend Countershaft Driven Bench Lathe

## Back-Geared, Screw Cutting Precision Lathe—Automatic Longitudinal Geared Screw Feed

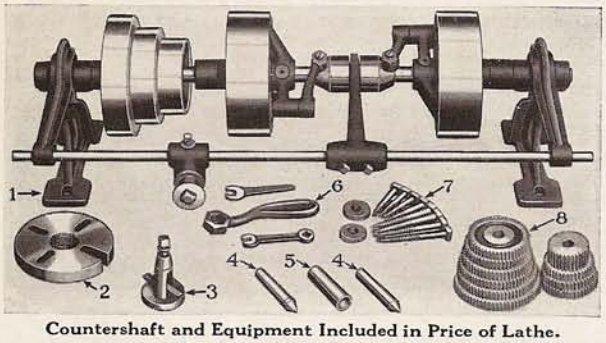
The 9-inch Junior Lathe is built of the same units as the 9-inch Standard and Quick Change Gear Lathes. (See page 22). Headstock, tailstock, bed, saddle, compound rest, lead screw, workmanship and inspection tests are identical. No sacrifice in quality, accuracy, power, or durability has been made to obtain the remarkably low price of the 9-inch Junior Lathe.

**The 9-inch Junior South Bend** Back-Geared, Screw Cutting Lathe is a precision tool for machining all kinds of metal, wood, composition, fibre, etc. Has the power to reduce the diameter of a steel shaft ⅜″ in one cut. It is an ideal tool for accurate work in the manufacturing plant, experimental shop, repair shop, home shop and laboratory.

**Back-Geared Headstock** is hand-scraped to lathe bed; has three-step cone pulley for 1¼″ belt; six spindle speeds, 39 to 596 R.P.M., three direct and three back-geared; wrenchless bull gear lock; and spring latch reverse for threads and feeds.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a ¾″ hole its entire length. Spindle nose 1½″ diam., 8 threads. Has No. 2 Morse Taper center. Bearings are phosphor bronze, lapped and adjustable for wear.

**Carriage** has wide deep bridge; is hand-scraped to bed; has lock for facing and cutting-off; and V-way wipers.




**Countershaft and Equipment Included in Price of Lathe.**

The large face plate, follower rest, center rest and thread cutting stop are omitted from the equipment of the Junior Lathe. Usually these accessories are not needed but they may be purchased separately, if required, see page 61. Power cross feed is also omitted and half-nut feed instead of worm drive is used for the power longitudinal carriage feeds.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; graduated spindle; improved spindle lock; No. 2 Morse Taper spindle center, hardened, ground and self-ejecting; spindle travel 2⅛″. See page 38.

**Precision Lead Screw,** ¾″ diameter, 8 Acme threads per inch; guaranteed to meet most exacting requirements for cutting screw threads, making taps, dies, thread gauges, etc.

**Screw Thread Cutting.** Change gears are supplied for cutting right and left-hand threads 4 to 40 per inch, including 11½ pipe thread. Index plate illustrated is attached to lathe. Change gears also provide for various feed changes from fine to coarse. Special change gear equipment for cutting standard screw threads from 4 to 80 per inch can be supplied at $5.00 extra, when ordered with the lathe.

**Compound Rest** is graduated 180°; swivels to any angle, and has angular travel of 1⅞″. Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Takes tool shank ⅜″ x 13/16″ for ¼″ sq. cutter bit.

**Lathe Bed** is one piece casting of gray iron with 50% steel mixture, heavily constructed and reinforced by box braces; has three V-ways and one flat way.

**The Double Friction Countershaft** has two friction clutch pulleys which permit lathe to be operated both forward and in reverse.

**Regular Equipment** included in price of lathe consists of: Double friction countershaft; change gears for screw threads and feeds; graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; wrenches; installation plan and book, "How to Run a Lathe."

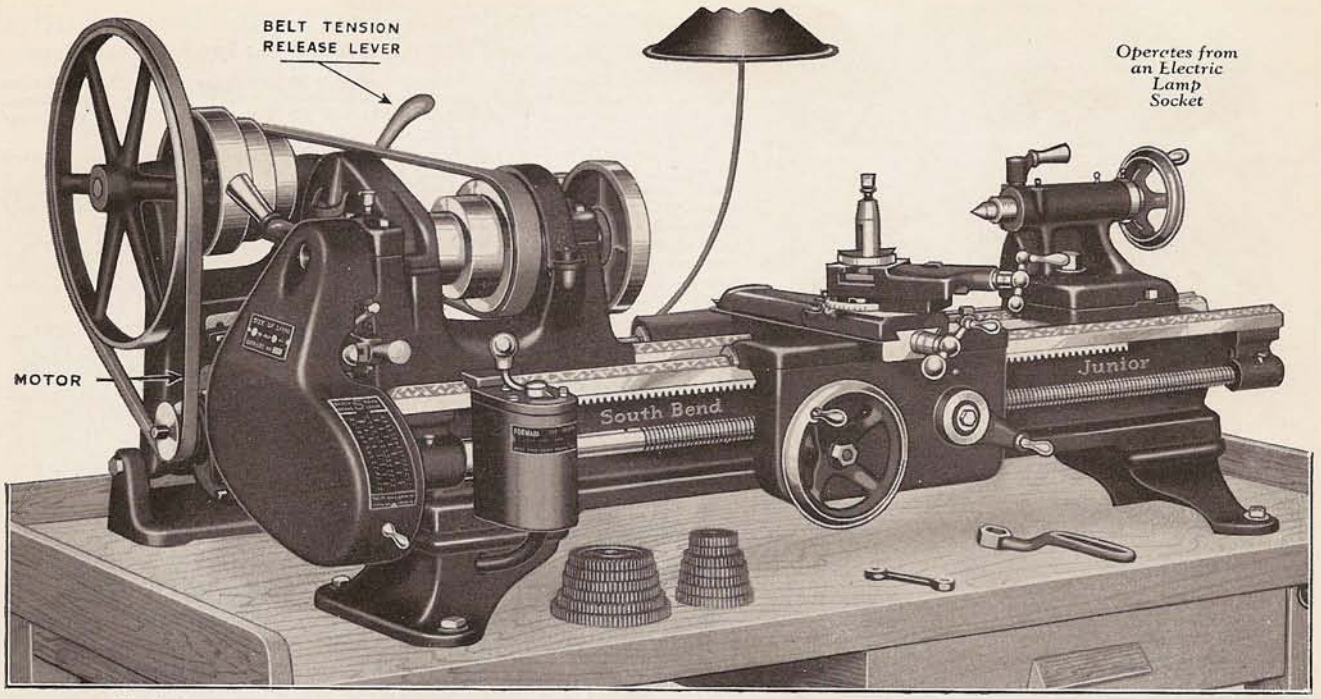
**SCREW THREAD CUTTING CHART**

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 4 | 64 | 32 |
| 5 | 64 | 40 |
| 6 | 64 | 48 |
| 7 | 64 | 56 |
| 8 | 32 | 32 |
| 9 | 64 | 72 |
| 10 | 32 | 40 |
| 11 | 32 | 44 |
| 11½ | 32 | 46 |
| 12 | 32 | 48 |
| 13 | 32 | 52 |
| 14 | 32 | 56 |
| 16 | 32 | 64 |
| 18 | 32 | 72 |
| 20 | 32 | 80 |
| 22 | 16 | 44 |
| 24 | 16 | 48 |
| 26 | 16 | 52 |
| 28 | 16 | 56 |
| 30 | 16 | 60 |
| 32 | 16 | 64 |
| 36 | 16 | 72 |
| 40 | 16 | 80 |

**Chart for Threads**

**Prices 9-inch Junior 1934 South Bend Bench Lathes with Regular Lathe Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Power Required H.P. | Approx. Weight Crated Pounds | Without Countershaft | | | With Countershaft | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | Net Factory Price | Cat. No. | Code Word | Net Factory Price |
| 9¼ | 2½ | 9⅜ | ¾ | 6⅜ | ¼ | 350 | 22-XBW | Bydlo | $147.00 | 22-XB | Babef | $160.00 |
| 9¼ | 3 | 16⅜ | ¾ | 6⅜ | ¼ | 375 | 22-YBW | Bydum | 157.00 | 22-YB | Babig | 170.00 |
| 9¼ | 3½ | 21⅜ | ¾ | 6⅜ | ¼ | 400 | 22-ZBW | Byfil | 167.00 | 22-ZB | Bacaf | 180.00 |
| 9¼ | 4 | 27⅜ | ¾ | 6⅜ | ¼ | 425 | 22-ABW | Byfmo | 177.00 | 22-AB | Baceg | 190.00 |
| 9¼ | 4½ | 34⅜ | ¾ | 6⅜ | ¼ | 450 | 22-RBW | Bygel | 187.00 | 22-RB | Bacoj | 200.00 |




**9″ x 3′ Junior 1934 Horizontal Motor Driven Bench Lathe, with Motor Drive Equipment, but less Bench.....$188.00**

# 9-inch Junior 1934 Model Horizontal Motor Driven Bench Lathe

## Back-Geared, Screw Cutting Precision Lathe—Automatic Longitudinal Geared Screw Feed

*Lathe is Equipped With Adjustable Belt Tension Countershaft*

**The 9-inch Junior South Bend Horizontal** Motor Driven Lathe illustrated above is the same as the 9-inch Junior Bench Lathe shown on the opposite page and has the same mechanical features and specifications. The only difference is that this lathe has the improved Horizontal Motor Drive instead of Countershaft Drive. For list of specifications applying to this lathe see page 37.

**Improved Horizontal V-Belt Motor Drive,** illustrated below, is a simple, powerful and efficient drive for the bench lathe. The motor drive unit is mounted on the bench, back of the lathe. A V-belt transmits the power from the motor to the drive pulley and a flat leather belt is used between the cone pulleys.

**Adjustable Belt Tension Countershaft** has a belt tension adjustment for both the cone pulley belt and motor belt, also a belt tension release for the cone pulley. The motor and drive pulley are attached to the countershaft frame. This arrangement requires a minimum amount of bench space.

**Belt Release Lever** (B Fig. 2) permits the countershaft to tilt forward on pivot (A Fig. 2) which relieves the cone pulley belt tension and permits easy shifting of the belt from one step of the cone pulley to another. A separate adjustment is provided for adjusting the belt tension for any desired pulling power and for taking up the stretch in the belt.

**The ¼ H.P. Reversing Motor** has independent tension adjustment for the V-Belt (C Fig. 2). The motor may be connected to an electric lamp socket.

**Drum Reversing Switch** controls the starting, stopping or reversing of the motor. Switch is conveniently located on front of lathe by means of a bracket.

**Screw Thread Cutting.** Change gears are supplied for cutting standard screw threads from 4 to 40 per inch, right or left-hand, including 11½ pipe thread. Change gears also provide for various feed changes from fine to coarse. Special change gear equipment for cutting standard screw threads from 4 to 80 per inch, can be supplied at $5.00 extra, when ordered with lathe.

**Regular Equipment** included in price of lathe consists of: Graduated compound rest; change gears for screw threads and feeds; face plate; tool post; two 60° lathe centers; spindle sleeve; wrenches; installation plan and, "How to Run a Lathe."

**Motor, Switch, Belting,** etc., (itemized in the price tabulation below) may be purchased with lathe, or separately.

**SCREW THREAD CUTTING CHART**

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 4 | 64 | 32 |
| 5 | 64 | 40 |
| 6 | 64 | 48 |
| 7 | 64 | 56 |
| 8 | 32 | 32 |
| 9 | 64 | 72 |
| 10 | 32 | 40 |
| 11 | 32 | 44 |
| 11½ | 32 | 46 |
| 12 | 32 | 48 |
| 13 | 32 | 52 |
| 14 | 32 | 56 |
| 16 | 32 | 64 |
| 18 | 32 | 72 |
| 20 | 32 | 80 |
| 22 | 16 | 44 |
| 24 | 16 | 48 |
| 26 | 16 | 52 |
| 28 | 16 | 56 |
| 30 | 16 | 60 |
| 32 | 16 | 64 |
| 36 | 16 | 72 |
| 40 | 16 | 80 |

**Chart for Threads**

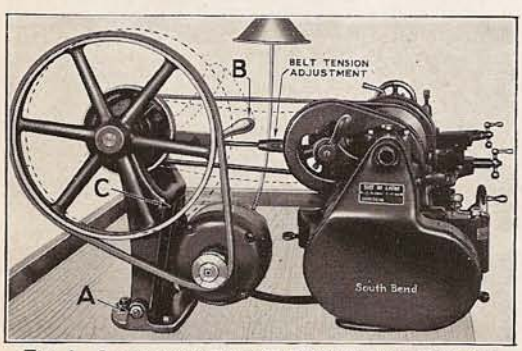
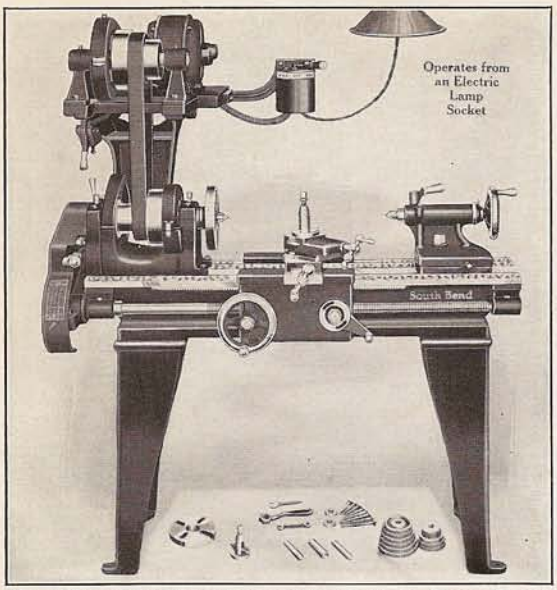



**Fig. 2. Improved Adjustable Belt Tension Countershaft for Horizontal Motor Driven Lathe.**

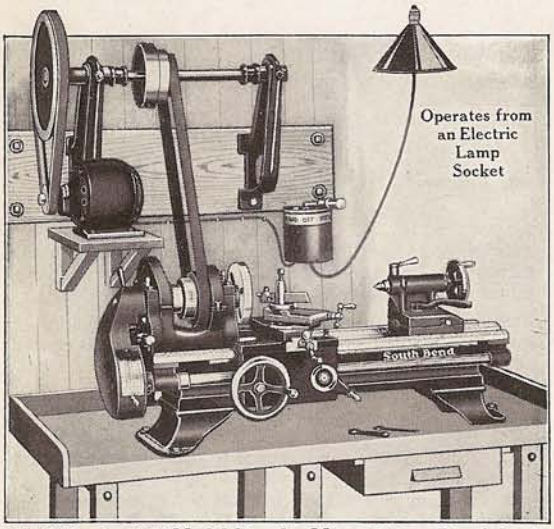
**Prices of 9-inch Junior Horizontal V-Belt Motor Driven Bench Lathes**

| 9-inch Junior South Bend Bench Lathe with Graduated Compound Tool Rest, Regular Equipment, but not Bench... | 9″x2½′ 422-XN Enkat | 9″x3′ 422-YN Enkoy | 9″x3½′ 422-ZN Enlav | 9″x4′ 422-AN Enlix | 9″x4½′ 422-RN Enloz |
|---|---|---|---|---|---|
| | $147.00 | $157.00 | $167.00 | $177.00 | $187.00 |
| **Price of Motor Drive Equipment** | | | | | |
| Adjustable Belt Tension Countershaft..... | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| ¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt)..... | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor..... | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type)..... | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Bracket for Supporting Switch..... | .50 | .50 | .50 | .50 | .50 |
| Wiring (Wired to Switch and tagged for Motor). | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1¼″ x 64″..... | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| **Price, Lathe and Equipment, Complete**..... | $178.00 | $188.00 | $198.00 | $208.00 | $218.00 |
| Distance Between Spindle Centers of Lathe..... | 9⅜ in. | 16⅜ in. | 21⅜ in. | 27⅜ in. | 34⅜ in. |
| Shipping Weight, Lathe and Drive Equipment.. | 391 lbs. | 416 lbs. | 441 lbs. | 466 lbs. | 491 lbs. |

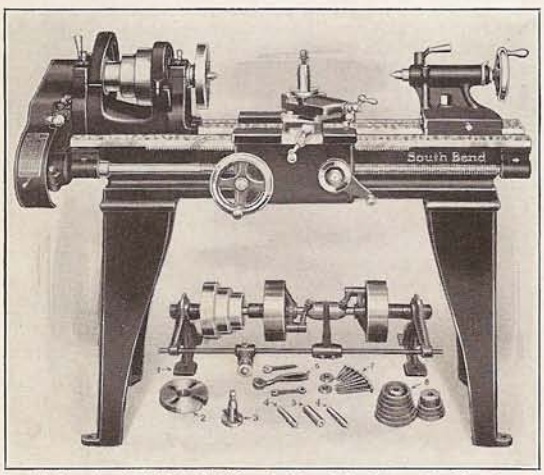
Instant Reversing Motor, in lieu of Start-and-Stop Type Motor: For 3-phase add $16.50; for 1-phase add $17.50; for Direct Current add $21.50.




**9″ x 3′ Junior 1934 Model Silent V-Belt Motor Driven Lathe with Regular Equipment.....$229.00**




**9″ x 3′ Junior 1934 Model Simplex Motor Driven Bench Lathe with Regular Equipment.....$187.00**
**(Bench for Lathe is Extra, see Page 56)**




**9″ x 3′ Junior 1934 Model South Bend Lathe with Overhead Countershaft Drive and Regular Equipment.....$180.00**

**Floor Legs** are of sturdy construction and provide a substantial support for the lathe bed and save the expense and trouble of building or purchasing a bench.

# 9-inch Junior Silent V-Belt Motor Driven Lathe

## Back-Geared, Screw Cutting Lathe—Floor Leg or Bench Type

**The 9-inch Junior Lathe** illustrated at left is the same as the 9-inch Lathe shown on page 26 and has the same mechanical features and specifications; the only difference is that it has Silent V-Belt Motor Drive instead of Countershaft Drive and may be had with either bench or floor legs.

**The Silent Motor Drive Unit** and a ¼ H.P. reversing motor are mounted above the lathe. A drum reversing switch controls motor which operates from an electric socket. Drive is by V-Belt from motor to driving pulley and by flat belt to spindle cone. Cone pulley belt has tension adjustment for any desired pulling power and release lever for easy shifting. See page 36.

**Equipment Included in Price** of lathe consists of: Silent Motor Drive Unit; graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears for screw threads and feeds; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

**Prices of 9-inch Junior Silent V-Belt Motor Driven Lathes—Floor Leg Type**

| 9-inch Junior South Bend Floor Leg Lathe with Graduated Compound Rest, Silent Drive Unit and Regular Equipment | 9″x2½′ 322-X Begna | 9″x3′ 322-Y Begro | 9″x3½′ 322-Z Besof | 9″x4′ 322-A Betde | 9″x4½′ 322-R Bevda |
|---|---|---|---|---|---|
| | $198.75 | $208.75 | $218.75 | $228.75 | $238.75 |
| **Price of Motor Drive Equipment** | | | | | |
| ¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt) | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Wiring (Connected to Switch and Motor) | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1¼″ x 36¾″ | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Price, Lathe and Equipment, Complete** | $219.00 | $229.00 | $239.00 | $249.00 | $259.00 |
| Distance Between Spindle Centers of Lathe | 9⅜ in. | 16⅜ in. | 21⅜ in. | 27⅜ in. | 34⅜ in. |
| Shipping Weight Lathe and Drive Equipment | 575 lbs. | 600 lbs. | 625 lbs. | 650 lbs. | 675 lbs. |

Instant Reversing Motor, in lieu of Start-and-Stop Type Motor: For 3-phase add $16.50; for 1-phase add $17.50; for Direct Current add $21.50. For Bench Legs deduct $7.00 from price of lathe.

# 9-inch Junior Simplex Motor Driven Lathe

## Back-Geared, Screw Cutting Lathe—Floor Leg or Bench Type

**The 9-inch Junior Simplex Motor Driven Lathe** illustrated at left is the same as the Lathe shown on page 26 and has the same mechanical features and specifications. The only difference is that this lathe has Simplex V-Belt Motor Drive instead of Countershaft Drive.

**The Simplex Motor Drive Countershaft** may be mounted on wall as shown. Drive is by V-Belt from motor to drive unit and by flat leather belt to spindle cone. The 1725 R.P.M. ¼ H.P. reversing motor may be operated from an electric lamp socket. A drum reversing switch controls the motor.

**Equipment Included in Price** of lathe consists of: Graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears; wrenches; installation plan and book, "How to Run a Lathe."

**Prices of 9-inch Junior Simplex V-Belt Motor Driven Bench Lathes**

| 9-inch Junior South Bend Bench Lathe with Graduated Compound Tool Rest, Lathe Equipment, but not Bench | 9″x2½′ 522-XB Bogud | 9″x3′ 522-YB Bogya | 9″x3½′ 522-ZB Bogze | 9″x4′ 522-AB Bohaz | 9″x4½′ 522-RB Bohdo |
|---|---|---|---|---|---|
| | $147.00 | $157.00 | $167.00 | $177.00 | $187.00 |
| **Price of Motor Drive Equipment** | | | | | |
| Simplex Drive Unit | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 |
| ¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt) | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Wiring (wired to switch—tagged for motor) | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1¼″ x 93″ | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 |
| **Price, Lathe and Equipment, Complete** | $177.00 | $187.00 | $197.00 | $207.00 | $217.00 |
| Distance Between Spindle Centers of Lathe | 9⅜ in. | 16⅜ in. | 21⅜ in. | 27⅜ in. | 34⅜ in. |
| Weight Crated, Lathe & Drive Equipment | 387 lbs. | 412 lbs. | 437 lbs. | 462 lbs. | 487 lbs. |

Instant Reversing Motor, in lieu of Start-and-Stop Type Motor: For 3-phase add $16.50; for 1-phase add $17.50; for Direct Current add $21.50. For Floor Legs add $10.00 to price of lathe.

# 9-inch Junior Countershaft Driven Lathe

## Back-Geared, Screw Cutting Precision Lathe—Floor Leg Type

**The 9-inch Junior Precision Lathe** illustrated at left is the same as the 9-inch Countershaft Driven Lathe shown on page 26, and has the same mechanical features and specifications. The only difference is that it has Floor Legs instead of Bench Legs.

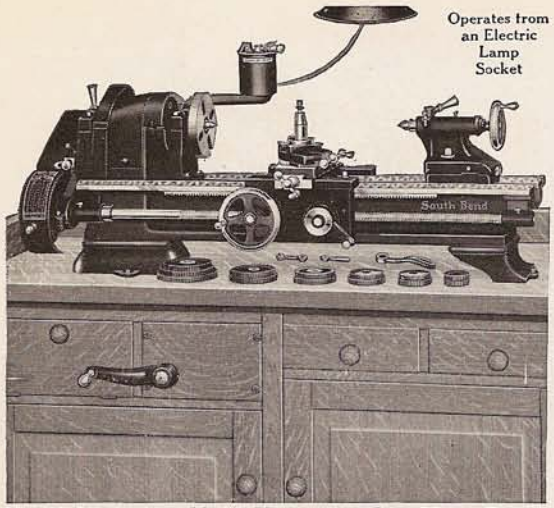
**Equipment Included in Price** of lathe consists of: Double friction countershaft; compound tool rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears for screw thread cutting and automatic longitudinal feeds; wrenches; lag screws and washers; installation plan and book, "How to Run a Lathe."

**Double Friction Countershaft** is equipped with two friction clutch pulleys, one of which is operated by straight belt and the other by a crossed belt. This permits the lathe to be operated both forward and in reverse.

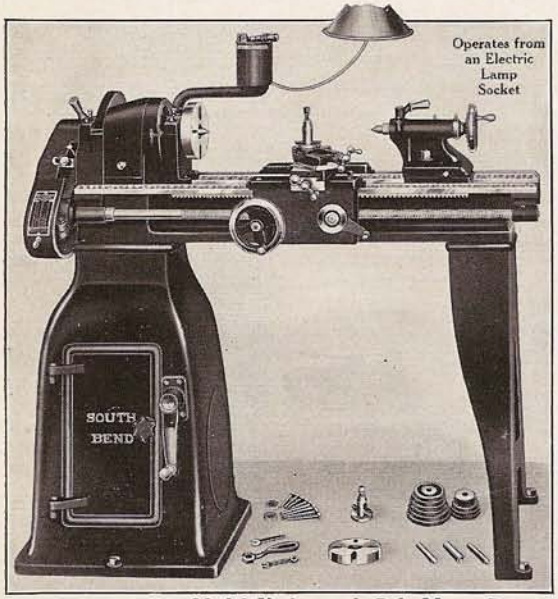
**Prices of 9-inch Junior Floor Leg Lathes with Countershaft Drive**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Thru Spindle Inches | Swing Over Carriage Inches | Power Required H.P. | Approx. Weight Crated Pounds | Cat. No. | Code Word | Net Factory Price |
|---|---|---|---|---|---|---|---|---|---|
| 9¼ | 2½ | 9⅜ | ¾ | 6⅜ | ¼ | 402 | 22-X | Badag | $170.00 |
| 9¼ | 3 | 16⅜ | ¾ | 6⅜ | ¼ | 427 | 22-Y | Badhe | 180.00 |
| 9¼ | 3½ | 21⅜ | ¾ | 6⅜ | ¼ | 452 | 22-Z | Badok | 190.00 |
| 9¼ | 4 | 27⅜ | ¾ | 6⅜ | ¼ | 477 | 22-A | Badul | 200.00 |
| 9¼ | 4½ | 34⅜ | ¾ | 6⅜ | ¼ | 502 | 22-R | Bafah | 210.00 |

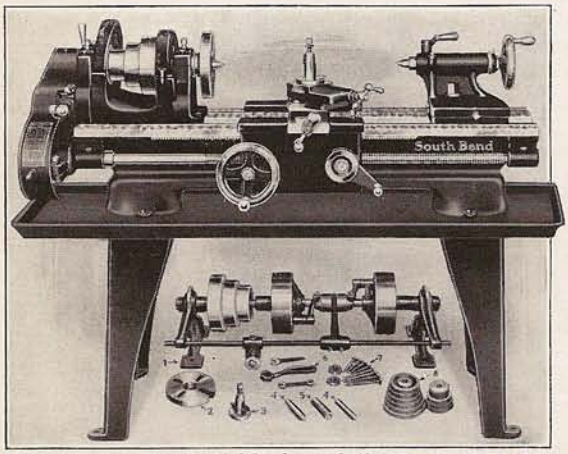
If Countershaft is not wanted, deduct $13.00 from above prices.




**9" x 3' Junior 1934 Model Underneath Belt Motor Driven Bench Lathe with Regular Lathe Equipment.....$268.00**




**9" x 3' Junior 1934 Model Underneath Belt Motor Driven Lathe with Regular Equipment.....$278.00**




**9" x 3' Junior 1934 Model Lathe with Oil Pan and Double Friction Countershaft.....$200.00**

**Motors.** The Silent Motor Driven Oil Pan Lathes, priced at right, include ¼ H. P. start-and-stop type reversing motor for 1-phase, 60-cycle, A. C. For instant Reversing Motor, in lieu of Start-and-Stop Type Motor: For 3-phase add $16.50; for 1-phase add $17.50; for Direct Current add $21.50.

# 9-inch Junior Underneath Motor Driven Lathe

## Back-Geared, Screw Cutting Precision Lathe—Bench Leg Type

**The 9-inch Junior Underneath Belt Motor Driven Bench Lathe** illustrated at left is similar to the lathe shown on page 26, and has the same mechanical features and specifications. The only difference is that this lathe has Underneath Belt Motor Drive instead of Countershaft Drive.

**Underneath Motor Drive** included in price of lathe consists of Motor and drive unit with bracket for mounting under bench. Drive is by V-belt from motor to drive unit and by flat belt to spindle cone pulley. A drum reversing switch controls the ¼ H.P. reversing motor which may be operated from an electric lamp socket. Cone pulley belt has tension adjustment for any desired pulling power and release lever for easy shifting. V-Belt from motor to drive unit has independent tension adjustment. See page 35.

**Equipment Included in Price** of lathe consists of: Graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears for threads and feeds; wrenches; installation plan and "How to Run a Lathe."

**Prices of 9-inch Junior Underneath Motor Driven Bench Lathes**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Cat. No. of Lathe | Code Word | With Instant Reversing Motors | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 9¼ | 2½ | 9⅜ | 515 | 122-XB | Ryrat | $257.00 | $258.00 | $262.00 |
| 9¼ | 3 | 16⅜ | 540 | 122-YB | Ryrev | 267.00 | 268.00 | 272.00 |
| 9¼ | 3½ | 21⅜ | 565 | 122-ZB | Ryroy | 277.00 | 278.00 | 282.00 |
| 9¼ | 4 | 27⅜ | 590 | 122-AB | Ryrta | 287.00 | 288.00 | 292.00 |
| 9¼ | 4½ | 34⅜ | 615 | 122-RB | Ryruz | 297.00 | 298.00 | 302.00 |

If 1-phase, 60-cycle, A. C. 110-volt Start-and-Stop Reversing Motor is wanted in lieu of Instant Reversing Motor, deduct $15.00 from 1-phase prices.

# 9-inch Junior Underneath Motor Driven Lathe

## Back-Geared, Screw Cutting Precision Lathe—Floor Leg Type

**The 9-inch Junior Underneath Belt Motor Driven Lathe** illustrated at left is similar to the lathe shown on page 26, and has the same mechanical features and specifications. The only difference is that this lathe has Underneath Belt Motor Drive and Floor Legs.

**Underneath Motor Drive** included in price of lathe consists of Motor and drive unit enclosed in cabinet leg. Drive is by V-belt from motor to drive unit and by flat belt to spindle cone pulley. A drum reversing switch controls the ¼ H.P. reversing motor which may be operated from an electric lamp socket. Cone pulley belt has tension adjustment for any desired pulling power and release lever for easy shifting. V-Belt from motor to drive unit has independent tension adjustment. See page 34.

**Equipment Included in Price** of lathe consists of: Graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears for screw threads and feeds; wrenches; installation plan and book, "How to Run a Lathe."

**Prices of 9-inch Junior Underneath Motor Driven Lathes—Floor Leg Type**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Approx. Weight Crated Pounds | Cat. No. of Lathe | Code Word | With Instant Reversing Motors | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 9¼ | 2½ | 9⅜ | 715 | 122-X | Facap | $267.00 | $268.00 | $272.00 |
| 9¼ | 3 | 16⅜ | 740 | 122-Y | Facir | 277.00 | 278.00 | 282.00 |
| 9¼ | 3½ | 21⅜ | 765 | 122-Z | Facos | 287.00 | 288.00 | 292.00 |
| 9¼ | 4 | 27⅜ | 790 | 122-A | Facut | 297.00 | 298.00 | 302.00 |
| 9¼ | 4½ | 34⅜ | 815 | 122-R | Fader | 307.00 | 308.00 | 312.00 |

If 1-phase, 60-cycle A. C. 110-volt Start-and-Stop Reversing Motor is wanted in lieu of Instant Reversing Motor deduct $15.00 from 1-phase prices.

# 9-inch Junior South Bend Oil Pan Lathes

## Countershaft Drive—Silent V-Belt Motor Drive

**The 9-inch Junior Lathe,** illustrated at left, is the same as the 9-inch Junior Lathe shown on page 26, except it is equipped with Floor Legs instead of Bench Legs and has Steel Oil Pan. The lathe may be operated by either Overhead Countershaft Drive or Silent V-Belt Motor Drive as shown on page 28.

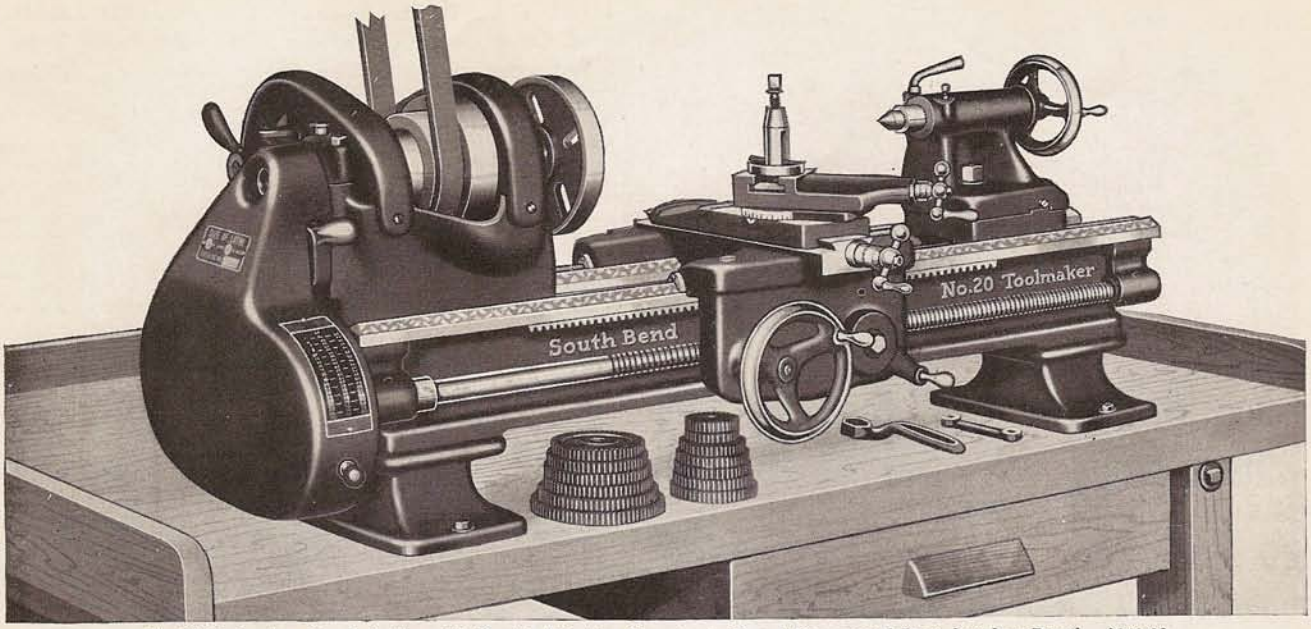
**Regular Equipment** consists of: Double friction countershaft (with countershaft drive lathe); silent motor drive unit (with silent motor drive lathe); graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears for thread cutting and automatic longitudinal feeds; wrenches; lag screws; washers; installation plan and "How to Run a Lathe."

**Electrical Equipment** included in price of Silent Motor Driven lathe consists of: ¼ H.P. 1725 R.P.M. start-and-stop type reversing split-phase motor; V-groove pulley for motor; drum reversing switch; wiring (connected to switch and tagged for motor); one V-belt, motor to drive unit; and flat leather belt (1¼" x 36¾"); wiring diagram blue print.

**Prices 9-inch Junior Oil Pan Lathes—Countershaft & Motor Drive**
Motor Driven Lathe has ¼ H. P. Start—Stop Reversing Motor

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Carriage Inches | Motor Drive Lathe Weight Crated Pounds* | Countershaft Drive | | | Silent Motor Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cat. No. | Code Word | Net Factory Price | Cat. No. | Code Word | 1-Phase 60-Cycle A.C. Motor |
| 9¼ | 3 | 16⅜ | 6⅜ | 645 | 222-Y | Tiguc | $200.00 | 3222-Y | Kekmo | $249.00 |
| 9¼ | 3½ | 21⅜ | 6⅜ | 670 | 222-Z | Tigwa | 211.00 | 3222-Z | Kelak | 260.00 |
| 9¼ | 4 | 27⅜ | 6⅜ | 695 | 222-A | Tihco | 222.00 | 3222-A | Kelel | 271.00 |
| 9¼ | 4½ | 34⅜ | 6⅜ | 720 | 222-R | Tihez | 233.00 | 3222-R | Kelno | 282.00 |

*Weights of Countershaft Drive Lathes are approximately 175 lbs. less.




**9″ x 3′ Toolmaker Bench Lathe with Double Friction Countershaft and Compound Rest, but less Bench. .$140.00**

# 9-inch Toolmaker 1934 South Bend Countershaft Driven Lathe

## A Back-Geared, Screw Cutting Precision Bench Lathe—Automatic Geared Screw Feed

**The 9-inch Toolmaker South Bend** Back-Geared, Screw-Cutting Lathe is a precision tool for machining all kinds of metal, wood, composition, fibre, etc., and has the power to reduce the diameter of a steel shaft ¼″ in one cut. It is an ideal tool for the experimental shop, repair shop and home shop where a small precision lathe is required.

**Mechanical Features and Specifications** described below apply to all types of South Bend Toolmaker Lathes. See page 37.

**Design.** The 9-inch Toolmaker Lathe is similar in design to the 9-inch Standard and Quick Change Gear Lathes and has the same precision-accuracy. All V-ways and dovetails are hand-scraped and all gears are machine cut and tested.

**Short Bed Lengths** are used with draw-in collet chuck and other attachments for manufacturing small parts in quantities. For the machine shop and general repair shop, the 3-foot and 3½-foot bed lengths are recommended.

**Back-Geared Headstock** is hand-scraped to lathe bed; has 3-step cone pulley for 1-inch belt; six spindle speeds 39 to 596 R.P.M., three direct and three back geared; reverse for threads and feeds and wrenchless bull gear lock.

**Headstock Spindle** is made of high carbon steel, finish ground, and has a ¾″ hole its entire length. Spindle nose 1½″ diam., 8 threads. Has No. 2 Morse Taper center. Collet capacity 1/64″ to ½″. See page 38.

**Spindle Bearings** are nickel-iron alloy cast integral with headstock and have felt wick lubrication. Similar bearings have been known to give 20 years of service.

**Tailstock** is hand-scraped to bed; has set-over for taper turning; spindle is accurately ground to fit barrel and has No. 2 Morse Taper hardened center which is self-ejecting.

**Carriage** has wide deep bridge; is accurately hand-scraped to bed; has lock for facing and cutting off work, and felt wipers for V-ways.

**Precision Lead Screw.** ¾″ diameter 8 Acme standard threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads, making taps, dies, precision thread gauges, etc.

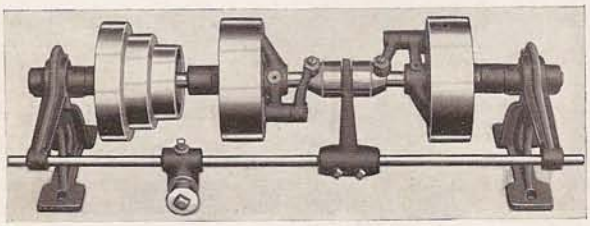
**Compound Rest** is graduated 180°; swivels to any angle, and has angular travel of 1⅞″. Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Takes tool holder shank ⅜″ x 13/16″ for ¼″ square cutter bit.

**Lathe Bed** is gray iron with 50% steel mixture. Three V-ways and one flat way accurately planed and hand-scraped, align headstock, carriage and tailstock.

**Screw Thread Cutting.** Change gears are supplied for cutting screw threads from 4 to 40 per inch, right or left-hand, including 11½ pipe thread. Change gears also provide for feed changes from fine to coarse. Special change gear equipment for cutting screw threads from 4 to 80 per inch, can be supplied at $5.00 extra, when ordered with lathe.

**The Double Friction Countershaft** has two friction clutch pulleys. This permits the lathe to be operated both forward and in reverse. Countershaft speed 255 R.P.M.

**Regular Equipment** included in price of lathe consists of: Double friction countershaft; change gears for screw threads and feeds; graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; wrenches; installation plan and book, "How to Run a Lathe."



**Double Friction Countershaft.**

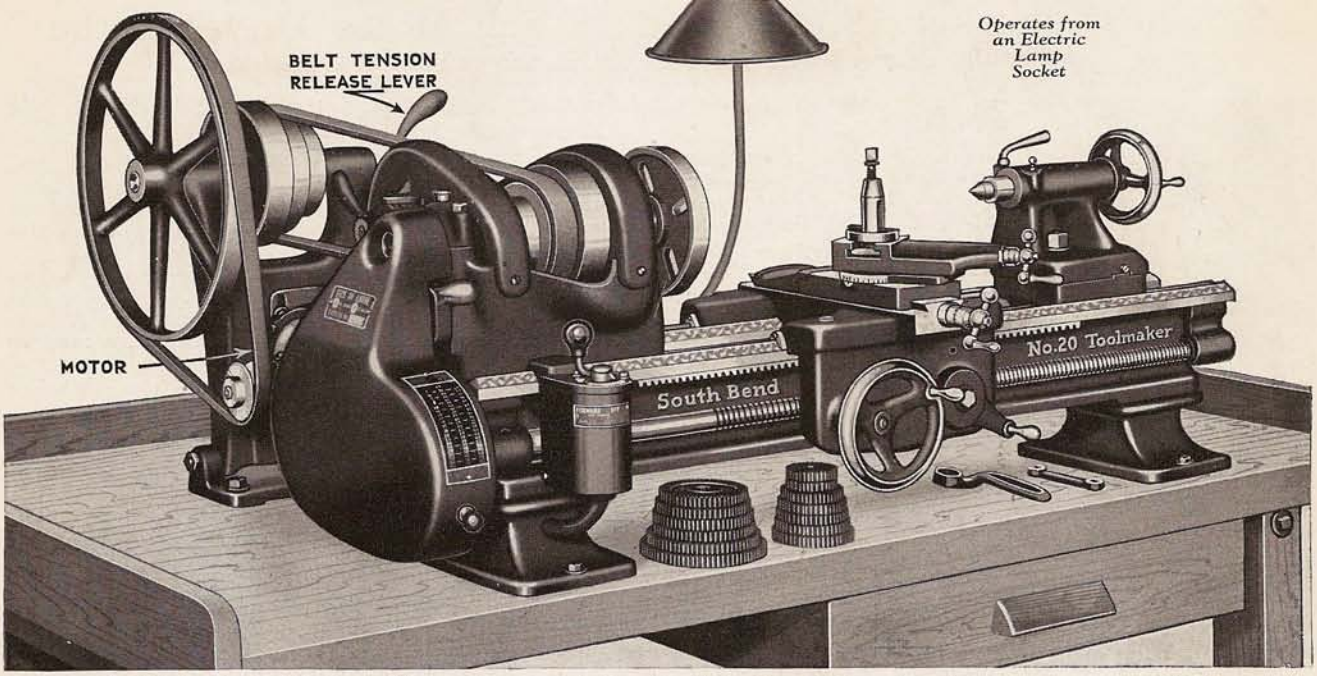
**Prices of 9-inch Toolmaker 1934 South Bend Bench Lathes with Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Through Spindle Inches | Swing Over Carriage Inches | Power Required H.P. | Approx. Weight Crated Pounds | Without Countershaft | | | With Double Friction Countershaft | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. | Code Word | Factory Price | Cat. No. | Code Word | Factory Price |
| 9¼ | 2 | 6 | ¾ | 5¾ | ¼ | 285 | 20-TB | Hefan | $108.00 | 20-TBW | Hegap | $120.00 |
| 9¼ | 2½ | 12 | ¾ | 5¾ | ¼ | 305 | 20-XB | Hefep | 118.00 | 20-XBW | Hegir | 130.00 |
| 9¼ | 3 | 18 | ¾ | 5¾ | ¼ | 325 | 20-YB | Hefna | 128.00 | 20-YBW | Hegos | 140.00 |
| 9¼ | 3½ | 24 | ¾ | 5¾ | ¼ | 345 | 20-ZB | Hefor | 138.00 | 20-ZBW | Hegpa | 150.00 |
| 9¼ | 4 | 30 | ¾ | 5¾ | ¼ | 365 | 20-AB | Hefty | 148.00 | 20-ABW | Hegso | 160.00 |

**SCREW THREAD CUTTING CHART**

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 4 | 64 | 32 |
| 5 | 64 | 40 |
| 6 | 64 | 48 |
| 7 | 64 | 56 |
| 8 | 32 | 32 |
| 9 | 64 | 72 |
| 10 | 32 | 40 |
| 11 | 32 | 44 |
| 11½ | 32 | 46 |
| 12 | 32 | 48 |
| 13 | 32 | 52 |
| 14 | 32 | 56 |
| 16 | 32 | 64 |
| 18 | 32 | 72 |
| 20 | 32 | 80 |
| 22 | 16 | 44 |
| 24 | 16 | 48 |
| 26 | 16 | 52 |
| 28 | 16 | 56 |
| 30 | 16 | 60 |
| 32 | 16 | 64 |
| 36 | 16 | 72 |
| 40 | 16 | 80 |

**Chart for Threads Attached to Each 9-inch Toolmaker Lathe**




**9″ x 3′ Toolmaker 1934 Horizontal Motor Driven Bench Lathe, with Motor Drive Equipment, but less bench.....$158.00**

# 9-inch Toolmaker 1934 South Bend Horizontal Motor Driven Lathe

## A Back-Geared, Screw Cutting Precision Bench Lathe—Automatic Geared Screw Feed

*Lathe is Equipped With Adjustable Belt Tension Countershaft*

**The 9-inch No. 20 "Toolmaker" South Bend** Horizontal Motor Driven Lathe illustrated above is the same as the 9-inch Toolmaker Bench Lathe shown on the opposite page and has the same mechanical features and specifications. The only difference is that this lathe has the improved Horizontal Motor Drive instead of Countershaft Drive. For list of specifications applying to this lathe see page 37.

**Improved Horizontal V-Belt Motor Drive,** illustrated below, is a simple, powerful and efficient drive for the bench lathe. The motor drive unit is mounted on the bench, back of the lathe. A V-belt transmits the power from the motor to the drive pulley and a flat leather belt is used between the cone pulleys on the drive unit and headstock spindle cone.

**Adjustable Belt Tension Countershaft** has a belt tension adjustment for both the cone pulley belt and motor belt, also a belt tension release for the cone pulley belt. The motor and drive pulley are attached to the countershaft frame. This arrangement requires a minimum amount of bench space.

**Belt Release Lever** (B Fig. 2) permits the countershaft to tilt forward on pivot (A Fig. 2) which relieves the cone pulley belt tension and permits easy shifting of the belt from one step of the cone pulley to another. A separate adjustment is provided for adjusting the belt tension for any desired pulling power and for taking up the stretch in the belt.

**The ¼ H.P. Reversing Motor** has independent tension adjustment for the V-belt (C Fig. 2). The motor may be connected to an electric lamp socket.

**Drum Reversing Switch** permits starting, stopping or reversing of the motor. Switch is conveniently located on front of lathe by means of a bracket, as shown above.

**Screw Thread Cutting.** Change gears are supplied for cutting standard screw threads from 4 to 40 per inch, right or left-hand, including 11½ pipe thread. Change gears also provide for various feed changes from fine to coarse. Special change gear equipment for cutting standard screw threads from 4 to 80 per inch, can be supplied at $5.00 extra when ordered with the lathe.

**Regular Equipment** included in price of lathe consists of: Graduated compound rest; change gears for screw threads and feeds; face plate; tool post; two 60° lathe centers; spindle sleeve; wrenches; installation plan and "How to Run a Lathe."

**Motor, Switch, Belting,** etc., (itemized in the price tabulation below) may be purchased with lathe, or separately.

**SCREW THREAD CUTTING CHART**

| THREADS PER INCH | STUD GEAR | SCREW GEAR |
|---|---|---|
| 4 | 64 | 32 |
| 5 | 64 | 40 |
| 6 | 64 | 48 |
| 7 | 64 | 56 |
| 8 | 32 | 32 |
| 9 | 64 | 72 |
| 10 | 32 | 40 |
| 11 | 32 | 44 |
| 11½ | 32 | 46 |
| 12 | 32 | 48 |
| 13 | 32 | 52 |
| 14 | 32 | 56 |
| 16 | 32 | 64 |
| 18 | 32 | 72 |
| 20 | 32 | 80 |
| 22 | 16 | 44 |
| 24 | 16 | 48 |
| 26 | 16 | 52 |
| 28 | 16 | 56 |
| 30 | 16 | 60 |
| 32 | 16 | 64 |
| 36 | 16 | 72 |
| 40 | 16 | 80 |

**Chart for Threads**

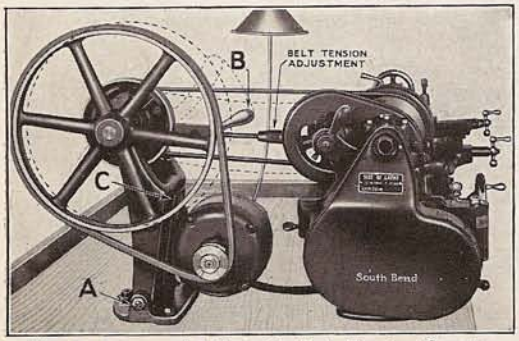



**Fig. 2. Improved Adjustable Belt Tension Countershaft for Horizontal Motor Driven Lathes.**

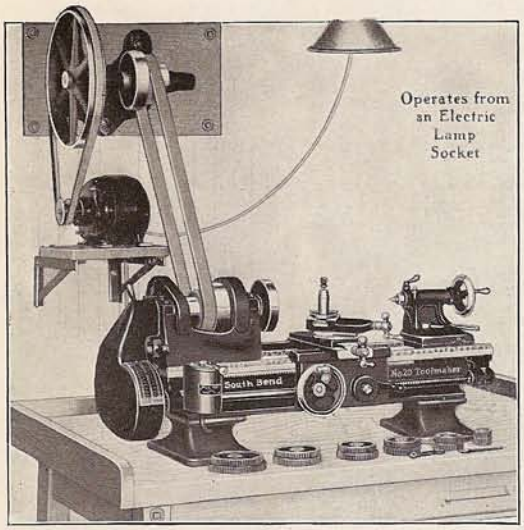
**Prices of 9-inch Toolmaker 1934 Horizontal Motor Driven Bench Lathe**

| 9-inch Toolmaker South Bend Bench Lathe with Graduated Compound Rest, Regular Equipment, but not Bench... | 9″x2′ 420-TN Dobek | 9″x2½′ 420-XN Dobil | 9″x3′ 420-YN Dobke | 9″x3½′ 420-ZN Dobmo | 9″x4′ 420-AN Docak |
|---|---|---|---|---|---|
| | $108.00 | $118.00 | $128.00 | $138.00 | $148.00 |
| **Price of Motor Drive Equipment** | | | | | |
| Adjustable Belt Tension Countershaft..... | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 |
| ¼ H.P. Start-and-Stop Type Reversing Split-phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt)..... | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor..... | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type)..... | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Bracket for Supporting Switch..... | .50 | .50 | .50 | .50 | .50 |
| Wiring (Wired to Switch and tagged for Motor) | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit..... | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1″ x 64″..... | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| **Price, Lathe and Equipment, Complete**..... | $138.00 | $148.00 | $158.00 | $168.00 | $178.00 |
| Distance Between Spindle Centers of Lathe.... | 6 in. | 12 in. | 18 in. | 24 in. | 30 in. |
| Shipping Weight, Lathe and Motor Drive Eq ... | 300 lbs. | 320 lbs. | 340 lbs. | 360 lbs. | 380 lbs. |

Instant Reversing Motor, in lieu of Start-and-Stop Reversing Type Motor, add: For 3-phase, $16.50; For 1-phase, add $17.50; for Direct Current, add $21.50.

# 9-inch Toolmaker 1934 Simplex V-Belt Motor Driven Lathe

## A Popular Priced Motor Drive for the Bench or Floor Leg Lathe




**9" x 3' Toolmaker 1934 Simplex Motor Driven Bench Lathe with Regular Lathe Equipment....$156.00**
**(Bench for Lathe is Extra, see Page 56)**

### Simplex V-Belt Motor Drive

The Simplex Motor Drive is ideal for those who prefer to use their own motor. Any ¼ H.P. or ⅓ H.P., 1725 R.P.M. motor may be used. The motor may be attached to the wall as shown above or it may be placed on the bench, back of the lathe. This type of drive can also be supplied for ceiling mounting.

**Back-Geared, Screw Cutting Precision Lathe—Floor Leg or Bench Type**
*Automatic Longitudinal Geared Screw Feed*

**The 9-inch Toolmaker Simplex V-Belt Motor Driven Lathe** illustrated at left is the same as the Lathe shown on page 30, and has the same mechanical features and specifications. The only difference is that this lathe has Simplex V-Belt Motor Drive instead of Countershaft Drive and may be had with either floor legs or bench legs.

**Simplex Motor Drive Countershaft** and motor may be mounted on the wall as shown, or on bench, back of the lathe. Drive is by V-Belt from motor to drive unit and by flat leather belt to spindle cone. A drum reversing switch controls the ¼ H.P. reversing motor which may be operated from an electric lamp socket.

**Prices of Lathe, Motor, Switch, Belting,** etc., are itemized below so that you may order them complete or individually as desired.

**Regular Equipment** included in price of lathe consists of: Graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; change gears for screw threads and feeds; wrenches; installation plan and book, "How to Run a Lathe."

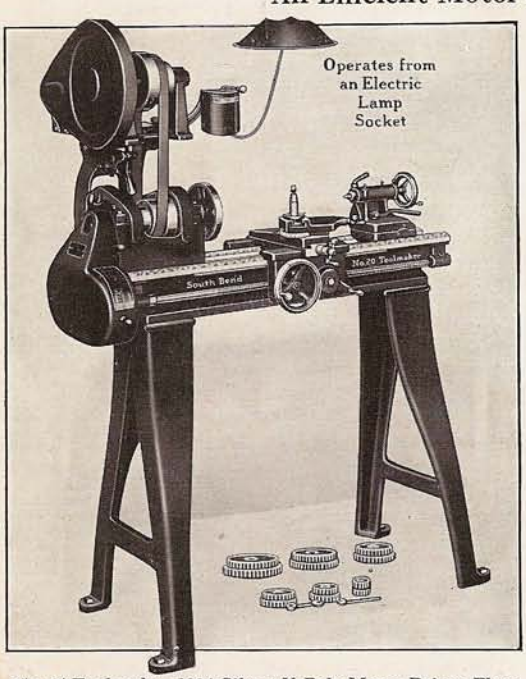
**Prices of 9-inch Toolmaker 1934 Simplex V-Belt Motor Driven Lathe**

| | 9"x2' 520-TB Docel | 9"x2 ½' 520-XB Docka | 9"x3' 520-YB Dodal | 9"x3 ½' 520-ZB Dodem | 9"x4' 520-AB Dodry |
|---|---|---|---|---|---|
| 9-inch Toolmaker Bench Lathe with Graduated Compound Rest and Regular Equipment, but not Bench | $108.00 | $118.00 | $128.00 | $138.00 | $148.00 |
| **Price of Motor Drive Equipment** | | | | | |
| V-Belt Countershaft for Simplex Drive | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| ¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt) | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Bracket for Supporting Switch | .50 | .50 | .50 | .50 | .50 |
| Wiring (Wired to Switch and tagged for Motor) | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1" x 64" | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| **Price, Lathe and Equipment, Complete** | $136.00 | $146.00 | $156.00 | $166.00 | $176.00 |
| Distance Between Spindle Centers of Lathe | 6 in. | 12 in. | 18 in. | 24 in. | 30 in. |
| Shipping Wt., Lathe and Motor Drive Equip. | 300 lbs. | 320 lbs. | 340 lbs. | 360 lbs. | 380 lbs. |

For Instant Reversing Motor: For 3-Ph. add $16.50; for 1-Ph. add $17.50; for Direct Current add $21.50.
For Floor Legs instead of Bench Legs, add $10.00 to price of lathe.

# 9-inch Toolmaker 1934 Silent V-Belt Motor Driven Lathe

## An Efficient Motor Drive for the Bench or Floor Leg Lathe




**9" x 3' Toolmaker 1934 Silent V-Belt Motor Driven Floor Leg Lathe with Regular Equipment.....$190.00**

### Silent V-Belt Motor Drive

**The Silent V-Belt Motor Driven Lathe** is a complete unit requiring no extra driving equipment. It may be set up and operated any place in the shop and occupies the same floor space as the ordinary belt driven lathe. See page 36.

**Back-Geared, Screw Cutting Precision Lathe—Floor Leg or Bench Type**
*Automatic Longitudinal Geared Screw Feed*

**The 9-inch Toolmaker Silent V-Belt Motor Driven Lathe** illustrated at left is the same as the Lathe shown on page 30, and has the same mechanical features and specifications. The only difference is that this lathe has Silent V-Belt Motor Drive instead of Countershaft Drive and may be had with either floor legs or bench legs.

**Silent Motor Drive Unit** and a ¼ H.P. reversing motor are mounted on tilting table above lathe. Cone pulley belt has tension adjustment for any desired pulling power and release lever for easy shifting. Drum reversing switch controls motor which may be operated from electric lamp socket. Drive is by V-belt from motor to countershaft and by flat belt to spindle cone. See page 36.

**Prices of Lathe, Motor, Switch, Belting,** etc., are itemized in the tabulation below so that you may order them complete or individually as desired.

**Regular Equipment** included in price of lathe consists of: Silent Motor drive unit; graduated compound rest; face plate; tool post, ring and wedge; two 60° lathe centers; spindle sleeve; change gears for screw threads and feeds; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

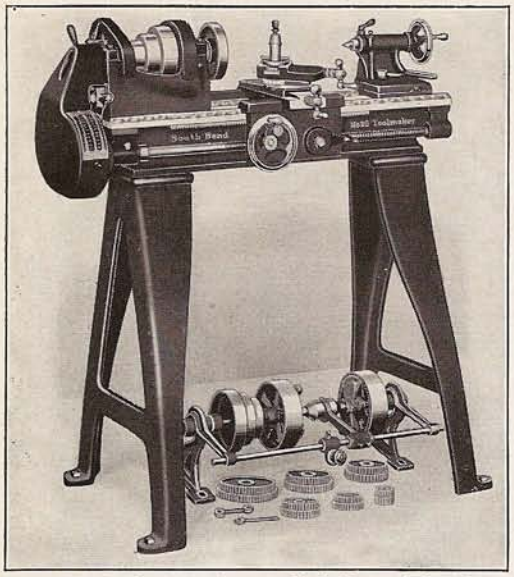
**Prices of 9-inch Toolmaker 1934 Silent V-Belt Motor Driven Lathe**

| | 9"x2' 320-T Dofam | 9"x2 ½' 320-X Dofip | 9"x3' 320-Y Dofsy | 9"x3 ½' 320-Z Dogro | 9"x4' 320-A Dogty |
|---|---|---|---|---|---|
| 9-inch Toolmaker Back-Geared, Screw Cutting Floor Leg Lathe with Graduated Compound Rest, Silent Drive Unit and Regular Equipment | $150.00 | $160.00 | $170.00 | $180.00 | $190.00 |
| **Price of Motor Drive Equipment** | | | | | |
| ¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt) | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| V-Groove Pulley for Motor | .50 | .50 | .50 | .50 | .50 |
| Reversing Switch (Drum Type) | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Wiring (Wired to Switch—Tagged for Motor) | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| V-Belt, Motor to Drive Unit | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Flat Leather Belt, 1" x 36¾" | .75 | .75 | .75 | .75 | .75 |
| **Price, Lathe and Equipment, Complete** | $170.00 | $180.00 | $190.00 | $200.00 | $210.00 |
| Distance Between Spindle Centers of Lathe | 6 in. | 12 in. | 18 in. | 24 in. | 30 in. |
| Shipping Wt., Lathe and Motor Drive Equip. | 430 lbs. | 450 lbs. | 470 lbs. | 490 lbs. | 510 lbs. |

For Instant Reversing Motor: For 3-Ph. add $16.50; for 1-Ph. add $17.50; for Direct Current add $21.50.
For Bench Legs instead of Floor Legs, deduct $7.00 from price of lathe.

# 9-inch Toolmaker 1934 South Bend Countershaft Driven Lathe

## A Practical Lathe for the Machine Shop or Repair Shop



9" x 3' Toolmaker 1934 Countershaft Driven Floor Leg Lathe with Regular Lathe Equipment.....$150.00

**Back-Geared, Screw Cutting Precision Lathe—Floor Leg Type**

*Automatic Longitudinal Geared Screw Feed*

**The 9-inch Toolmaker Countershaft Driven Lathe** illustrated at left, is the same as the 9-inch Countershaft Driven Bench Lathe shown on page 30, and has the same mechanical features and specifications. The only difference is that this lathe has floor legs instead of bench legs.

**The Floor Leg Toolmaker Lathe** is ideal for the machine shop or repair shop. The floor legs provide a substantial support for the lathe bed and eliminate the expense and trouble of building or purchasing a bench. A minimum amount of floor space is required for this type of lathe.

**Regular Equipment** included in price of lathe consists of: Double friction countershaft; graduated compound rest; face plate; tool post, ring and wedge; two 60° lathe centers; spindle sleeve; change gears for screw threads and feeds; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

**Double Friction Countershaft** supplied with lathe is equipped with two friction clutch pulleys, one of which is driven by a straight belt and the other by a crossed belt from the lineshaft. This permits lathe spindle to be operated both forward and in reverse.

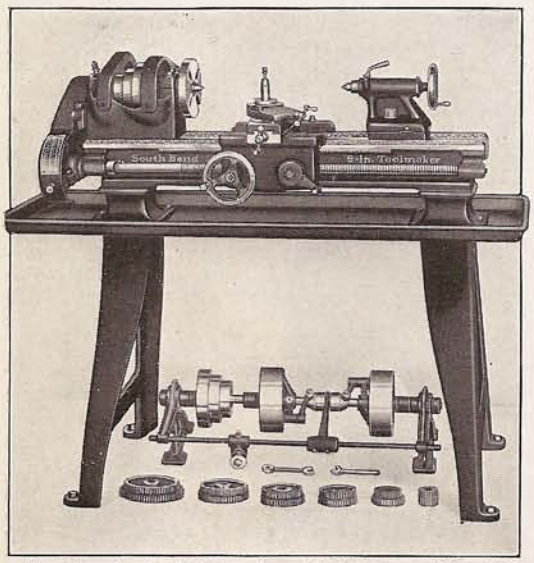
The Countershaft may also be arranged as a two speed drive, using one small and one large pulley on the lineshaft and driving both countershaft clutch pulleys forward. In addition to the regular spindle speeds this arrangement provides six higher spindle speeds for machining small diameters, turning wood, brass, aluminum, etc.

**Prices of 9-inch Toolmaker 1934 South Bend Floor Leg Lathe with Regular Equipment**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Hole Through Spindle Inches | Swing Over Carriage Inches | Power Required H.P. | Countershaft Speed R.P.M. | Approx. Weight Crated Pounds | Without Countershaft | | | With Double Friction Countershaft | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cat. No. | Code Word | Factory Price | Cat. No. | Code Word | Factory Price |
| 9¼ | 2 | 6 | ¾ | 5¾ | ¼ | 255 | 355 | **20-T** | Hejar | **$118.00** | **20-TW** | Hegut | **$130.00** |
| 9¼ | 2½ | 12 | ¾ | 5¾ | ¼ | 255 | 375 | **20-X** | Hejit | **128.00** | **20-XW** | Hegvy | **140.00** |
| 9¼ | 3 | 18 | ¾ | 5¾ | ¼ | 255 | 395 | **20-Y** | Hejov | **138.00** | **20-YW** | Heher | **150.00** |
| 9¼ | 3½ | 24 | ¾ | 5¾ | ¼ | 255 | 415 | **20-Z** | Hejra | **148.00** | **20-ZW** | Hehto | **160.00** |
| 9¼ | 4 | 30 | ¾ | 5¾ | ¼ | 255 | 435 | **20-A** | Hejse | **158.00** | **20-AW** | Hehwy | **170.00** |

# 9-inch Toolmaker 1934 South Bend Oil Pan Lathes

## Countershaft Drive and Silent V-Belt Motor Drive



9" x 3' Toolmaker 1934 Lathe with Oil Pan and Double Friction Countershaft.....$169.00

**Motors.** The Silent Motor Driven Oil Pan Lathes, priced in the tabulation at right, include ¼ H.P. start-and-stop type reversing split-phase motor for 1-phase, 60-cycle, A.C. For Instant Reversing Motor, in lieu of Start-and-Stop Type Motor: For 3-phase add $16.50; for 1-phase add $17.50; for Direct Current add $21.50.

**Back-Geared, Screw Cutting Precision Lathes—Floor Leg Type**

*Automatic Longitudinal Geared Screw Feed*

**The 9-inch Toolmaker Lathe,** illustrated at left, is the same as the Toolmaker Lathe shown on page 30, except that it is equipped with Floor Legs instead of Bench Legs and has a sheet steel Oil Pan. The lathe can be operated by Overhead Countershaft Drive or by Silent V-Belt Motor Drive, as shown on page 32. Both types are priced in the tabulation below.

**Steel Oil Pan** used is made of heavy sheet steel and is of one-piece construction, which is oil tight. The rim of each pan is rolled to strengthen and reinforce the edge. The pan extends beyond the ends of the lathe bed as shown in the illustration. 9-inch Toolmaker Oil Pan Lathes are not supplied in the 2-ft. or 2½-ft. bed lengths.

**Regular Equipment** consists of: Double friction countershaft (with countershaft drive lathe); silent motor drive unit (with silent motor drive lathe); graduated compound rest; face plate; tool post complete; two 60° lathe centers; spindle sleeve; change gears for threads and feeds; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of the Silent Motor Driven Lathe consists of: ¼ H.P. 1725 R.P.M. start-and-stop type reversing split-phase motor; V-groove pulley for motor; drum reversing switch; wiring (connected to switch and tagged for motor); one V-belt, motor to drive unit; and flat leather belt (1" x 36¾"); wiring diagram blue print.

**Prices of 9-inch Toolmaker 1934 Oil Pan Lathes**

**Motor Driven Lathe has ¼ H. P. Start and Stop Type Reversing Motor**

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Carriage Inches | Motor Drive Lathe Wt. Crated Pounds* | Countershaft Drive | | | Silent Motor Drive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cat. No. | Code Word | Net Factory Price | Cat. No. | Code Word | Net Factory Price |
| 9¼ | 3 | 18 | 5¾ | 510 | **220-YW** | Kejah | **$169.00** | **3220-Y** | Kejol | **$209.00** |
| 9¼ | 3½ | 24 | 5¾ | 530 | **220-ZW** | Kejik | **180.00** | **3220-Z** | Kekek | **220.00** |
| 9¼ | 4 | 30 | 5¾ | 550 | **220-AW** | Kejny | **191.00** | **3220-A** | Kekil | **231.00** |

*Weights of Countershaft Drive Lathes are approximately 75 lbs. less.

# South Bend Underneath Belt Motor Drive

## Applying to All Sizes of Underneath Belt Motor Driven Lathes

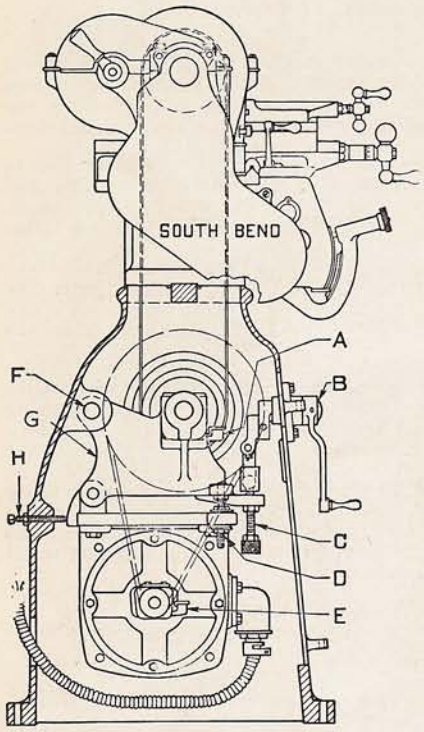



Fig. 1. Cross Section End View of Underneath Belt Motor Driven Lathe.

**The Underneath Belt Motor Driven Lathe** is an entirely new development. The new drive is a remarkable improvement in the method of driving a back geared screw cutting lathe, being perhaps the most outstanding improvement made on a back greared screw cutting lathe in the last decade. It is the lathe of the Future and marks the greatest forward step in lathe design since the back geared screw cutting lathe was developed.

**This New Original Design** was first developed in our plant in 1931 and since that time more than 800 South Bend Underneath Belt Motor Driven Lathes have been placed in use throughout the United States. The engineers in these plants and shops, some of which are the largest in America, are loud in their praise of the power and efficiency of this lathe.

**Power, Efficiency and Modern Design** are outstanding in this new lathe, and it makes an attractive appearance in any shop. Compare the Underneath Belt Motor Driven Lathe with any other lathe of similar size for power, accuracy and appearance.

**Features of This New Drive** include (1) Down drive to spindle, (2) Clear vision because of no overhead obstructions, (3) Silent, powerful efficient drive, (4) Fully enclosed, no moving parts exposed, (5) Belt Tension adjustments for any desired pulling power, (6) Belt Tension Release for shifting belt to change spindle speeds.

**Motor and Driving Unit** are enclosed in the cabinet leg under the headstock. Attached to Cradle (G) Fig. 1, are the countershaft and electric motor. The belt tension release lever (B) controls the position of the cradle and countershaft. When lever (B) is in the "Up" position the entire driving unit is lifted vertically about 1½" so the spindle belt may be shifted. When lever (B) is in the "down" position the driving unit is in position for the operation of the lathe. (A) and (E) are oil cups for lubricating bearings.

**Belt Tension** on the Driving Belt is adjusted by means of two separate adjustment screws (C) and (H). These two adjustments provide a tension from 1 lb. and upward and when the desired tension is obtained the mechanism may be locked at that point. Adjusting screw (D) takes care of the belt tension on the V-belts from the motor to the countershaft and is entirely independent of the driving belt tension adjustment.

**The Motor Drive Mechanism and Cradle Assembly** used on the 18-inch Underneath Belt Motor Driven Lathes, shown on pages 3 and 5, is mounted in a horizontal position instead of a vertical position as shown below; this causes the cabinet leg to extend to the rear, using slightly more floor space than the illustrations below indicate.

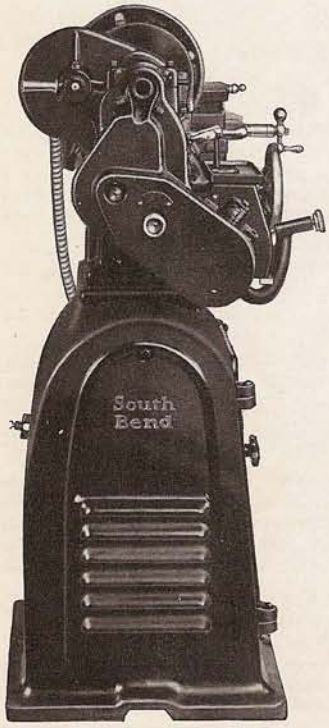



Fig. 2. End view of Underneath Belt Motor Driven Lathe, showing removable ventilated end plate

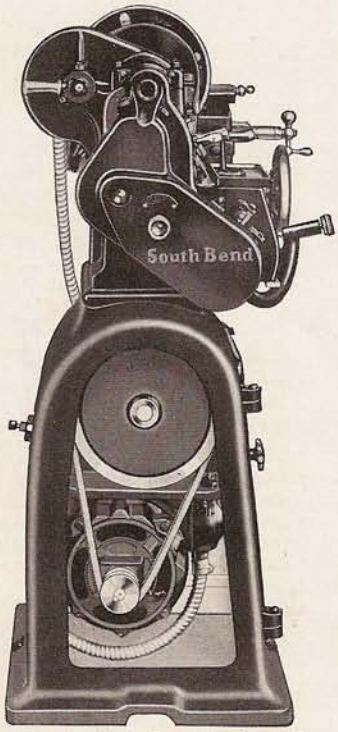
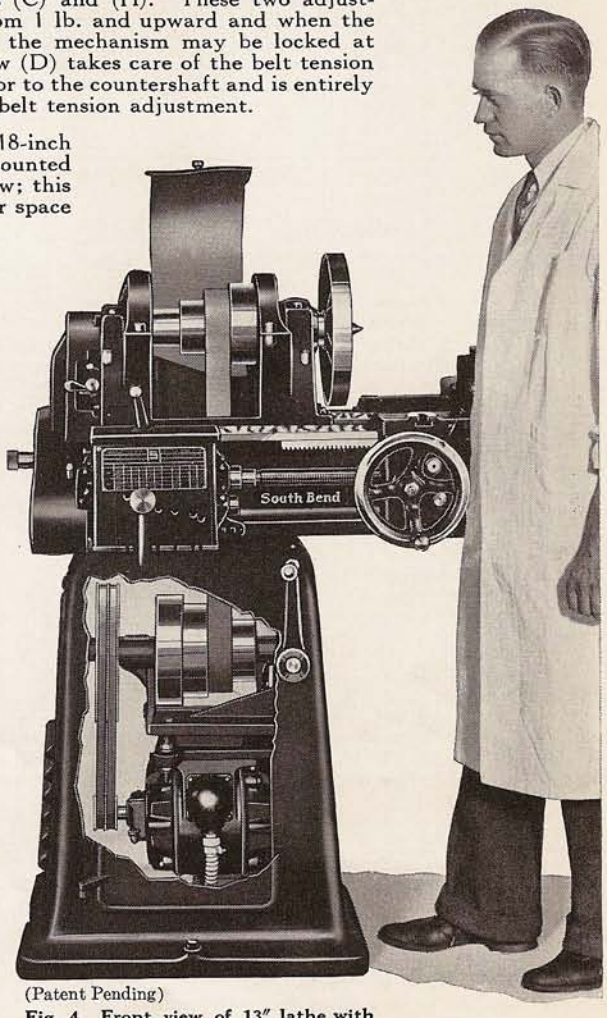



Fig. 3. End view of lathe with end plate removed to show multiple "V" belt drive from motor




(Patent Pending)

Fig. 4. Front view of 13" lathe with door cut away, showing arrangement of driving mechanism

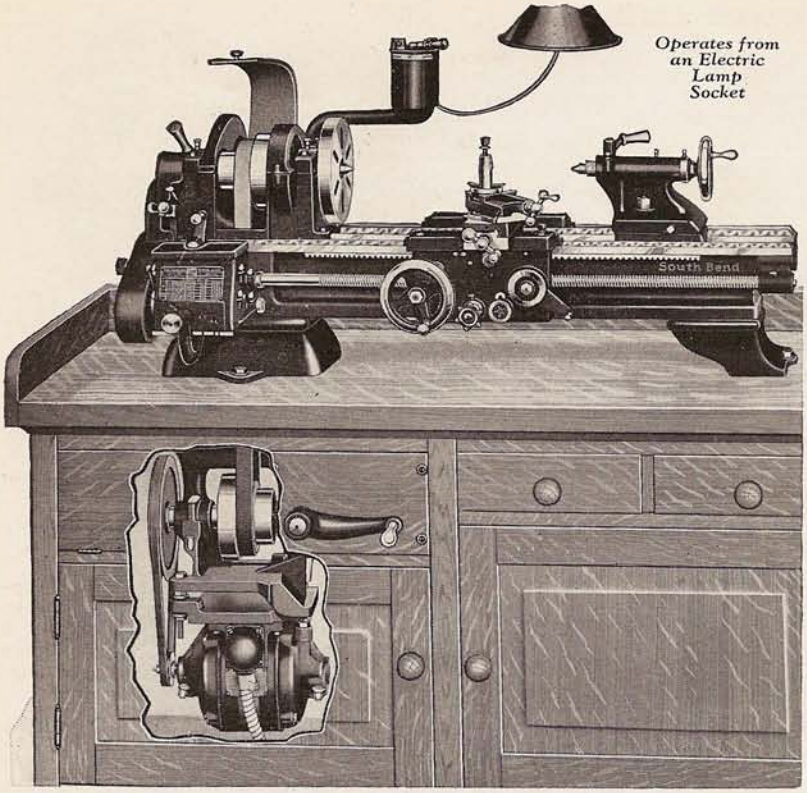



Fig. 1. South Bend Underneath Belt Motor Driven Bench Lathe with Section of Bench Front Cut Away to Show Drive Mechanism. Bench used is illustrated and described on page 56.

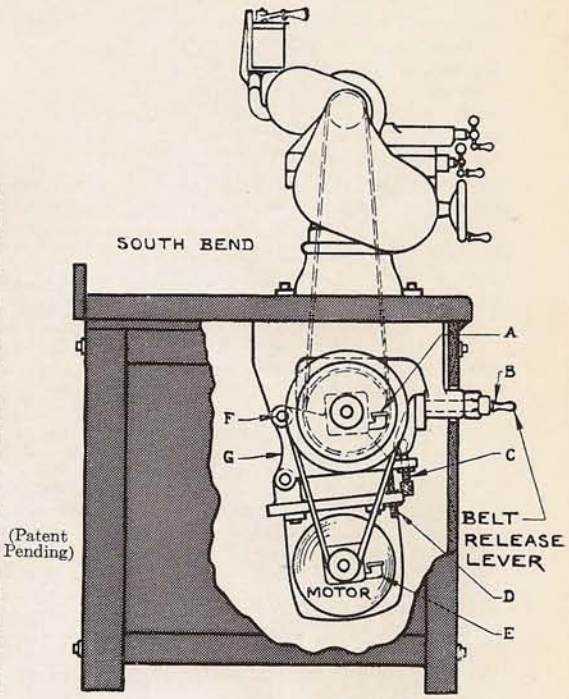



Fig. 2. Cross Section End View of Underneath Belt Motor Driven Bench Lathe.

# Underneath Belt Motor Drive for 9", 11" and 13" Bench Lathes

## Has Cone Pulley Belt Tension Adjustment and Tension Release Lever

**The New Bench Motor Drive** illustrated and described here is recommended for the shop doing all classes of fine accurate work in the cutting of metals. The lathe and drive mechanism when installed on a rigid bench become a self-contained unit that is exceptionally quiet running, smooth and vibrationless at all speeds. The laboratory, machine shop, manufacturing plant and school shop will find the New Underneath Belt Motor Driven Bench Lathe the most outstanding Bench Lathe on the market today regardless of price.

**The Underneath Belt Motor Drive** for 9", 11" and 13" South Bend Bench Lathes is similar to the Underneath Belt Motor Drive for Floor Leg Lathes which is illustrated and described on opposite page. This new drive eliminates all overhead belts and pulleys and is a big improvement over motor drive equipment previously available for bench lathes.

**The Underneath Belt Motor Driven Bench Lathe,** as illustrated above, is supplied in the following sizes and types: 9" Junior; 9" Standard and Quick Change Gear; 11" Standard and Quick Change Gear; and 13" Standard and Quick Change Gear. With the exception of the 13" size, these Underneath Belt Motor Drive Bench Lathes are illustrated, described and priced on pages 20, 23 and 29 of this catalog.

**Features of this new Drive** include: (1) Down Drive to spindle. (2) Clear vision because there are no overhead obstructions. (3) Silent, powerful, efficient drive. (4) Fully enclosed, no moving parts exposed. (5) Screw type belt tension adjustments. (6) Belt Tension Release for easy shifting of cone pulley belt to change spindle speeds.

**Power is transmitted** by V-Belt from reversing motor to driving cone shaft and a flat belt is used between the cone pulleys. The reversing motor and three step cone pulleys with the back-geared headstock of the lathe provide six changes of spindle speeds, both forward and in reverse.

**Motor and Driving Unit** are enclosed in the cabinet type bench under the headstock of lathe. Cradle (G) Fig. 2, is supported by a frame bolted under the bench top. The belt tension release lever (B) controls the position of the cradle (G) which carries the motor and countershaft. When lever (B) is in the "Right" horizontal position the countershaft cone pulley is lifted vertically about 1½" so the cone pulley belt is loose and may be shifted easily. When lever (B) is in the "Left" horizontal position the cone pulley belt is tight and the lathe is ready for operation.

**Belt Tension Adjustment** for the Cone Pulley Belt is provided by means of Adjusting Screw (C). This adjustment provides any desired pulling power and also takes up the stretch of the belt. Adjusting screw (D) provides belt tension adjustment for the V-belt from the motor to the countershaft and is entirely independent of the cone pulley belt tension adjustment.

**The Entire Mechanism** of lathe and drive is fully enclosed for safety, to the operator of the lathe and to the mechanism itself. Dust and dirt cannot get into the windings of the motor, pulleys or belts. Bearings are equipped with oil cups (A) and (E). The operator of the lathe is protected from all moving parts of the lathe and driving mechanism. Control switch is enclosed drum type located conveniently for starting, stopping and reversing the lathe spindle.

**Benches for Underneath Belt Motor Driven Bench Lathes.** The cabinet bench (Type "C"), illustrated above, is recommended for bench lathes equipped with Underneath Belt Motor Drive. The cabinet is specially constructed to house the drive mechanism and to permit easy access to the moving parts. This type of bench is further described and priced on page 56. Bench may be purchased from us complete or may be built from blue prints which we will supply, free of charge, with each lathe.

# Silent V-Belt Motor Driven Lathes

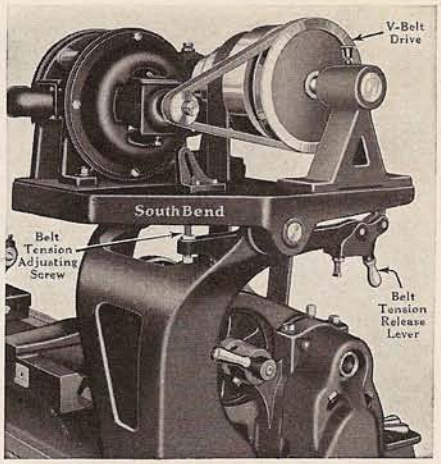
**The Silent V-Belt Motor Drive,** illustrated at right, is used on all Silent Motor Driven Lathes, 9-inch to 18-inch swing, shown throughout this catalog. This drive is practically noiseless in operation and thousands of them are giving excellent service in shops all over the United States.

**Operation of the Silent V-Belt Motor Drive.** Power is supplied by a reversing motor mounted on a tilting table directly above the headstock of the lathe. The tilting table is carefully balanced on the support bracket and is fitted with locking cam and belt adjustment. This cam provides for slacking the belt when changing from step to step on the cone pulleys. A belt guard covers the V-Belt and pulleys when in use.

**Motor Driven Lathes Are Fully Assembled** before shipment. Wiring is enclosed in flexible metal conduit (except on 9-inch Toolmaker Lathes) and the entire drive meets the requirements of Underwriter's Specifications.

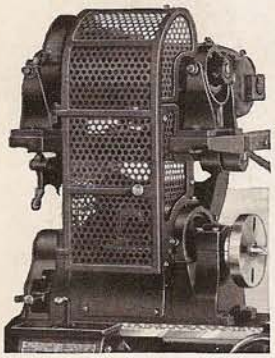
**Multiple V-Belts Used.** Five V-Belts are used on 18-inch Silent V-Belt Motor Driven Lathes from motor to driving shaft. Three V-Belts are used on 16-inch and 15-inch sizes. Two V-Belts on 13-inch size. Single V-Belt on 11-inch and 9-inch sizes.

**Silent Chain Drive Optional.** For those who prefer silent chain drive instead of V-Belt drive, we can supply it as an optional feature at no extra cost on 9-inch Junior lathes and larger.




**Motor Drive with Belt Guard Removed, Showing Silent V-Belt Drive**

## Belt Guard for Motor Drive



**Belt Guards** similar to the guard shown in illustration at left can be supplied for South Bend Silent Motor Driven Lathes and South Bend Horizontal Motor Driven Lathes. The guard encloses the cone pulleys and the cone pulley belt.

**Prices of Belt Guards**

| Size Lathe | Cat. No. | Code | Price |
|---|---|---|---|
| 9 in. | 590 | Kelat | $12.00 |
| 11 in. | 591 | Keros | 13.50 |
| 13 in. | 592 | Korid | 15.00 |
| 15 in. | 593 | Kurey | 18.00 |
| 16 in. | 594 | Kimet | 18.00 |
| 18 in. | 595 | Kajot | 22.00 |

## Drum Type Reversing Switches

**Drum Type Reversing Switch for Reversing Motors**

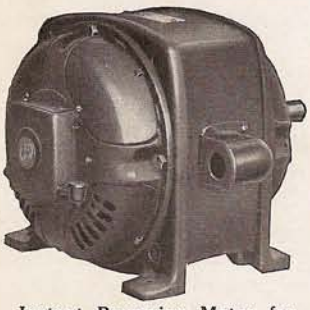
**Drum Type Reversing Switches** are supplied for reversing motors used on South Bend Motor Driven Lathes. This switch is standard equipment on South Bend Motor Driven Lathes and provides for starting, stopping and reversing lathe spindle.

**Prices of Drum Reversing Switches When Sold Separately**

| Cat. No. | Description | Code Word | Price |
|---|---|---|---|
| 790 | For ¼ H.P. Start-Stop Motors only. | Zahsa | $ 5.00 |
| 791 | For ¼ & ½ H.P. Instant Rev. Motors.. | Zahet | 7.00 |
| 792 | For ¾ to 3 H.P. Instant Rev. Motors | Zahiv | 14.85 |

**Push Button and Magnetic Control** switches having overload and undervoltage protection can be supplied at extra cost. Prices furnished on request.

## Instant Reversing Motors and Start-Stop Reversing Motors



Instant Reversing Motor for 1-Phase Alternating Current

**The Instant Reversing Motor** illustrated at left is furnished for all South Bend Lathes from 9-inch to 36-inch swing. The prices shown in this catalog are for lathes with 110 or 220 volt alternating current motors, either 50 or 60-cycle, or for lathes with 115 or 230 volt direct current motors.

Motors we furnish are Westinghouse, General Electric or equal make. We can supply motor driven lathes with special motors such as 30-cycle and 40-cycle A.C. or 32-volt D.C. for operation from home lighting plants. Prices of motor driven lathes with special motors will be furnished on request.

Start-Stop Reversing Type Split Phase Motor

**The Start-Stop Reversing Motors** used on all 9-inch Lathes listed in this catalog are for operation on 110-volt, 60-cycle, single-phase A.C. only. Similar motors for 50-cycle current or 220-volt current can be supplied at slightly higher prices. The motor will operate in either direction but must come to a full stop before the switch lever is thrown from forward to reverse, or vice versa.

Each South Bend Motor Driven Lathe is shipped with wiring diagram showing how to connect the electric lines to switch and motor. Should you wish to use your own motor we can supply the correct size pulley for the motor, if you will specify diameter of shaft, speed of motor and type of belt to be used.

## How to Order South Bend Motor Driven Lathes—all Types

### Electric Current Specifications

**When ordering a Motor Driven Lathe** give the following information regarding the electric current to be used, so that the proper style and type of reversing motor can be fitted to the lathe.

When giving voltage state the exact voltage of motor wanted. When ordering do not specify 110-220-volt motor as we cannot furnish motors for double voltage rating.

**Always Give the Following Information:**

—If Alternating Current state exact voltage, phase, cycle, and number of wires.

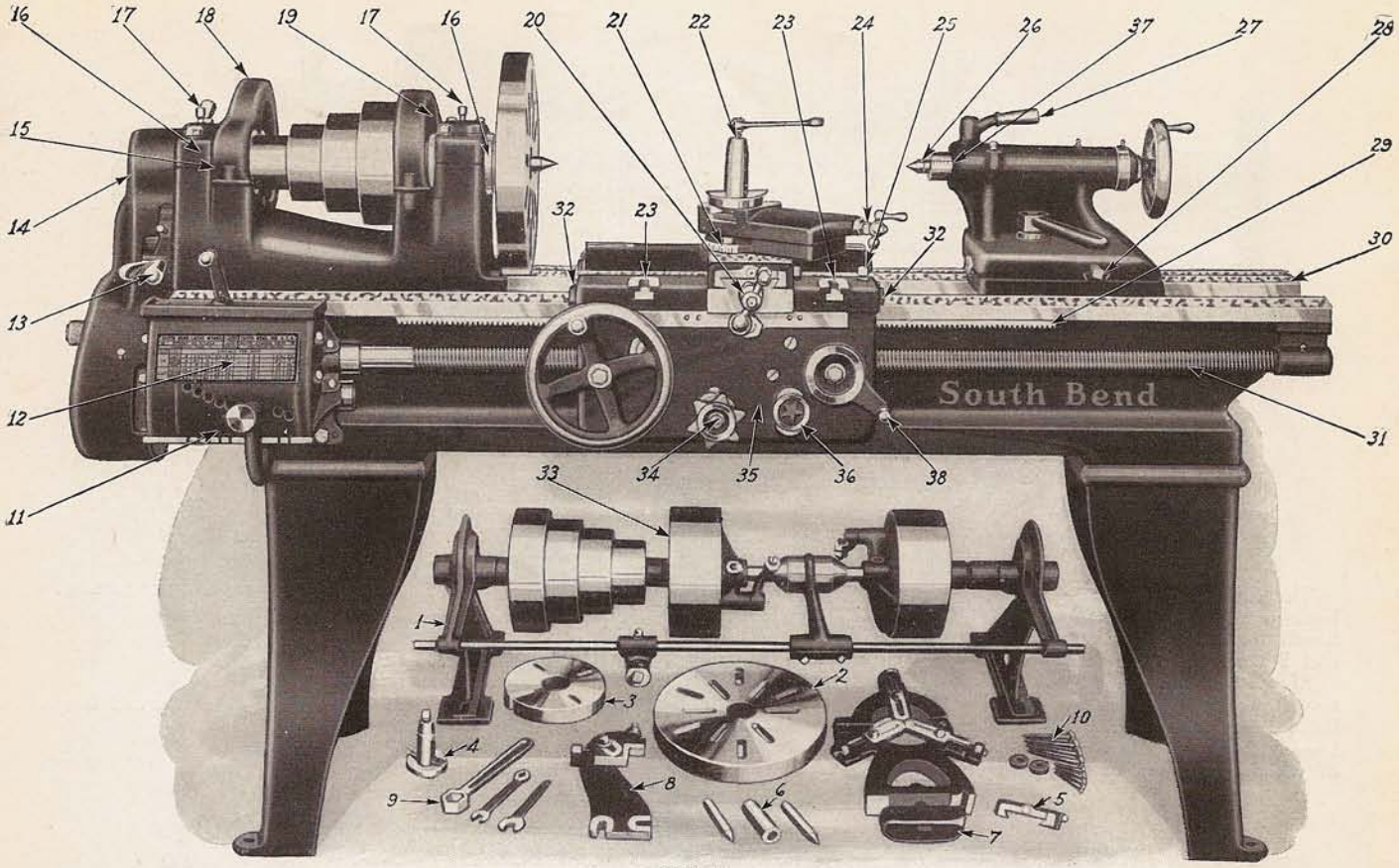
—If Direct Current state exact voltage only.

You can secure your current specifications from the electric power company furnishing your current.

### Use Code Words

When ordering Motor Driven Lathes by telegram or cablegram use code words below to indicate motor specifications. If your motor specifications differ from those that we list below, give us the exact voltage, phase and cycle.

| Code Word | Current Specifications |
|---|---|
| Zapin | 1-phase, 60-cycle, 110-volt, A.C. Ins't. Rev. Motor |
| Zbras | 1-phase, 60-cycle, 220-volt, A.C. Ins't. Rev. Motor |
| Zingo | 3-phase, 60-cycle, 110-volt, A.C. Ins't. Rev. Motor |
| Zompe | 3-phase, 60-cycle, 220-volt, A.C. Ins't. Rev. Motor |
| Zurik | 115-volt D.C. Ins't. Rev. Motor |
| Zuwel | 230-volt D.C. Ins't. Rev. Motor |
| Zados | 1-phase, 60-cycle, 110-volt, Start-Stop A.C. Motor |
| Zalob | 1-phase, 60-cycle, 220-volt, Start-Stop A.C. Motor |



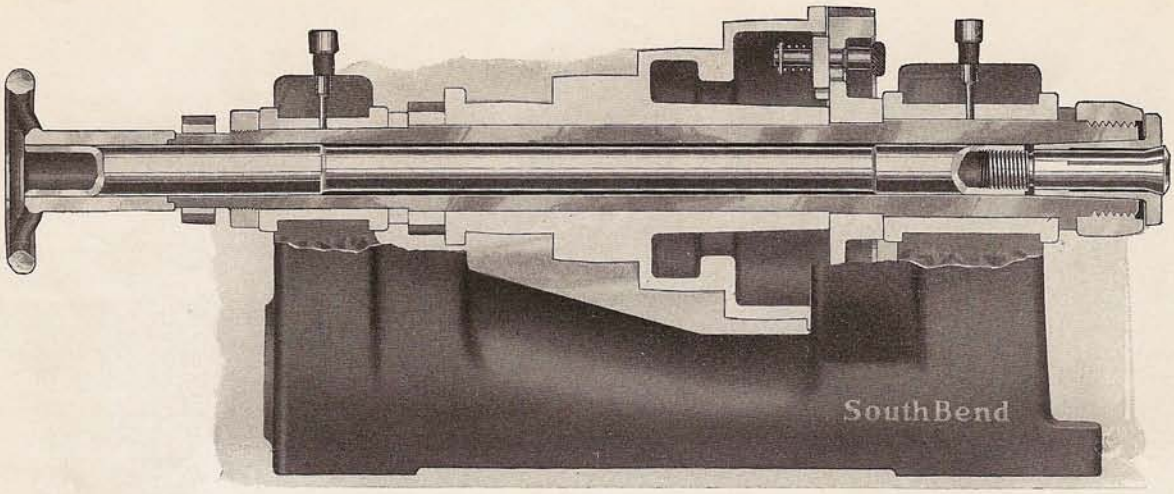

# 1934 Model South Bend Back-Geared, Screw Cutting Lathe

## Showing Basic Design and Names of Principal Parts of Lathe

1 to 10. Equipment included in price.
11. Quick change gear box.
12. Index plate for threads and feeds.
13. Quick-acting spring latch reverse for feeds and threads.
14. Hollow spindle, high carbon steel.
15. Hardened & ground steel thrust collar.
16. Large phosphor bronze bearings.
17. Patent oil cups.
18. Back-gears are guarded.
19. Wrenchless bull gear clamp.
20. Micrometer collar on cross feed screw.
21. Compound rest graduated 180°.
22. Forged steel adjustable tool post.
23. T-slots for clamping work on carriage.
24. Micrometer collar on compound rest screw.
25. Carriage lock for facing and cutting off.
26. Tool steel lathe centers.
27. Tailstock spindle lock.
28. Set-over tailstock for taper turning.
29. Steel rack, cut from solid bar.
30. Semi-steel seasoned lathe bed.
31. Precision lead screw, Acme thread.
32. Felt shear wipers and oilers.
33. Double friction countershaft.
34. Automatic friction feed clutch.
35. Safety device for threads and feeds.
36. Knob for automatic friction feeds.
37. Graduated tailstock spindle.
38. Half-nut lever for thread cutting.

## Specifications of South Bend Lathes 9″ to 36″ Swing, Inclusive

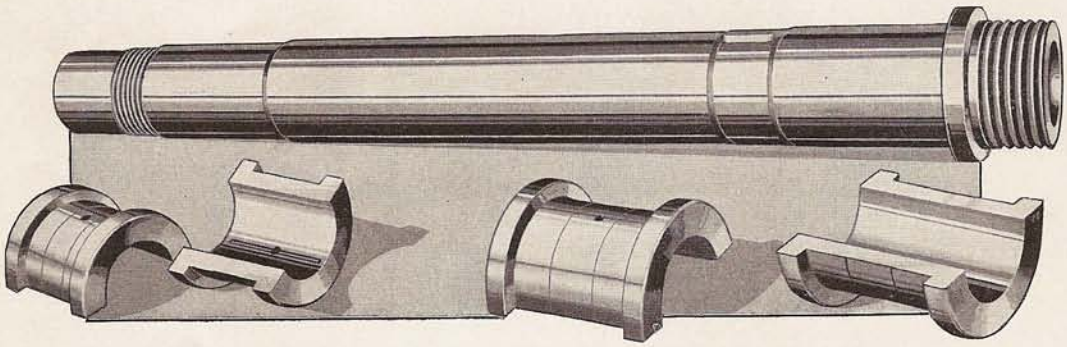
| SIZE AND TYPE OF LATHE | 9-inch Toolmaker | 9-inch Junior, Quick, & Standard | 11-inch Quick and Standard | 13-inch Quick and Standard | 15-inch Quick and Standard | 16-inch Quick and Standard | 18-inch Quick and Standard | 16-24″ Quick and Standard | 36-inch Quick and Standard |
|---|---|---|---|---|---|---|---|---|---|
| Swing over bed | 9¼ in. | 9¼ in. | 11¼ in. | 13¼ in. | 15¼ in. | 16¼ in. | 18¼ in. | 24¼ in. | 36¼ in. |
| Swing over carriage | 5¾ in. | 6⅜ in. | 7⅝ in. | 9 in. | 10⅝ in. | 11⅛ in. | 12⅝ in. | 17 in. | 17 in. |
| Hole through spindle | ¾ in. | ¾ in. | ⅞ in. | 1 in. | 1⅛ in. | 1⅜ in. | 1 1/16 in. | 1⅜ in. | 1⅜ in. |
| Countershaft speed R.P.M. | 255 | 255 | 255 | 250 | 225 | 225 | 167 | 150 | 150 |
| Spindle speed range R.P.M. | 39-596 | 39-596 | 34-512 | 23-605 | 20-579 | 18-598 | 16-383 | 12-398 | 12-398 |
| Width of cone pulley belt | 1 in. | 1¼ in. | 1½ in. | 1¾ in. | 2 in. | 2¼ in. | 2½ in. | 2¼ in. | 2¼ in. |
| Spindle nose diam. and threads | 1½″—8 | 1½″—8 | 1⅝″—8 | 1⅞″—8 | 2¼″—6 | 2⅜″—6 | 2⅝″—6 | 2⅜″—6 | 2⅜″—6 |
| Lathe centers, Morse taper | No. 2 | No. 2 | No. 2 | No. 3 | No. 3 | No. 3 | No. 3 | No. 3 | No. 3 |
| Collet capacity minimum and maximum | 1/64″, 1/2″ | 1/64″, 1/2″ | 1/64″, 9/16″ | 1/64″, 5/8″ | 1/64″, ¾″ | 1/64″, 7/8″ | 1/64″, 1″ | 1/64″, 7/8″ | 1/64″, 7/8″ |
| Lead screw Acme thread, diam. and threads | ¾″—8 | ¾″—8 | ⅞″—8 | 1″—6 | 1⅛″—6 | 1⅛″—6 | 1⅜″—4 | 1⅛″—6 | 1⅛″—6 |
| Angular travel compound rest top | 1⅞ in. | 1⅞ in. | 2 5/16 in. | 3 in. | 3⅛ in. | 3¾ in. | 4 3/16 in. | 3¾ in. | 3¾ in. |
| Tool cross slide travel | 5½ in. | 7 1/16 in. | 8 5/16 in. | 9 in. | 10 in. | 10⅜ in. | 14 5/16 in. | 10⅜ in. | 10⅜ in. |
| Size of motor used | ¼ H.P. | ¼ H.P. | ½ H.P. | ¾ H.P. | 1 H.P. | 1 H.P. | 2 H.P. | 1 H.P. | 1 H.P. |
| Size of lathe tool holder shank | ⅜″x13/16″ | ⅜″x13/16″ | ⅜″x⅞″ | ½″x1 1/16″ | ½″x1 1/16″ | ½″x1 1/16″ | ⅝″x1 3/16″ | ⅝″x1 3/16″ | ⅝″x1 3/16″ |
| Size of turning tool cutter | ¼″ sq. | ¼″ sq. | ¼″ sq. | 5/16″ sq. | 5/16″ sq. | 5/16″ sq. | ⅜″ sq. | ⅜″ sq. | ⅜″ sq. |
| Back gear ratio | 5.4—1 | 5.4—1 | 6—1 | 7—1 | 7—1 | 8—1 | 7—1 | 8—1 | 8—1 |
| Countershaft friction pulley size | 6⅞″x2 5/16″ | 6⅞″x2 5/16″ | 6⅞″x2 5/16″ | 8″x2⅜″ | 10″x3⅝″ | 10″x3⅝″ | 12″x4½″ | 10″x3⅝″ | 10″x3⅝″ |
| Tailstock spindle travel | 2 in. | 2⅛ in. | 3 in. | 4¼ in. | 5¼ in. | 5¾ in. | 6¾ in. | 5¾ in. | 5¾ in. |
| Tailstock set-over | ¾ in. | ¾ in. | ⅞ in. | 15/16 in. | 15/16 in. | 1 in. | 1⅛ in. | 1 in. | 1 in. |
| Power to Reduce Diam. of Steel Shaft in one cut | ¼ in. | ⅜ in. | ½ in. | ⅝ in. | 11/16 in. | ¾ in. | ⅞ in. | ¾ in. | ¾ in. |




## Back-Geared Headstock

The illustration above shows a cross section view of the back-geared headstock used on all sizes of 1934 Model South Bend Quick Change Gear, Standard Change Gear and 9-inch Junior Lathes. The headstock is back-geared, reinforced and webbed, insuring strength and rigidity. The headstock base is accurately hand-scraped and fitted to the lathe bed. Many practical features are embodied in the headstock of the South Bend Lathe, the most important of which are listed in the column at right.

**Eight spindle speeds (13″, 15″, 16″, 18″, 16-24″ and 36″ Lathes).**
**Six spindle speeds (9″ and 11″ Lathes).**
**Hollow spindle for machining bar stock.**
**Back-gears for slow speeds and power.**
**Spindle cone and bull gear balanced for high speeds.**
**Quick-acting bull gear lock for engaging back-gears.**
**Spring latch reverse for feeds and threads on 9″ Jr. and larger.**
**Hardened and ground spindle thrust collar.**
**Three-step spindle cone is supplied on 9″ and 11″ Lathes.**
**Four-step spindle cone (13″, 15″, 16″, 18″, 16-24″ & 36″ Lathes).**



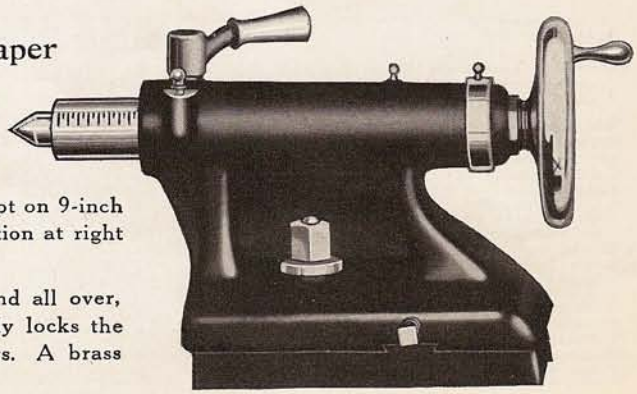
## Headstock Spindle and Bearings

The headstock spindle is made of special quality spindle steel, and has a large hole its entire length through which rods and bars may pass to the lathe chuck and draw-in collet chuck for machining. The taper is accurately bored and is fitted with a taper reducing sleeve for the lathe center. Bearing surfaces of the spindle are ground to master gauges. Threads on end of spindle nose are cut to a precision gauge to insure interchangeability of chucks and face plates. A hardened and ground thrust collar takes thrust of spindle against rear bearing.

Headstock bearings for lathe spindle (except 9-inch Toolmaker) are of high quality phosphor bronze, carefully fitted to the housing, line bored and lapped in position. Lubrication is provided by an improved oiling system through patented oil cups. Adjustment for wear is provided by laminated shims under the bearing caps.

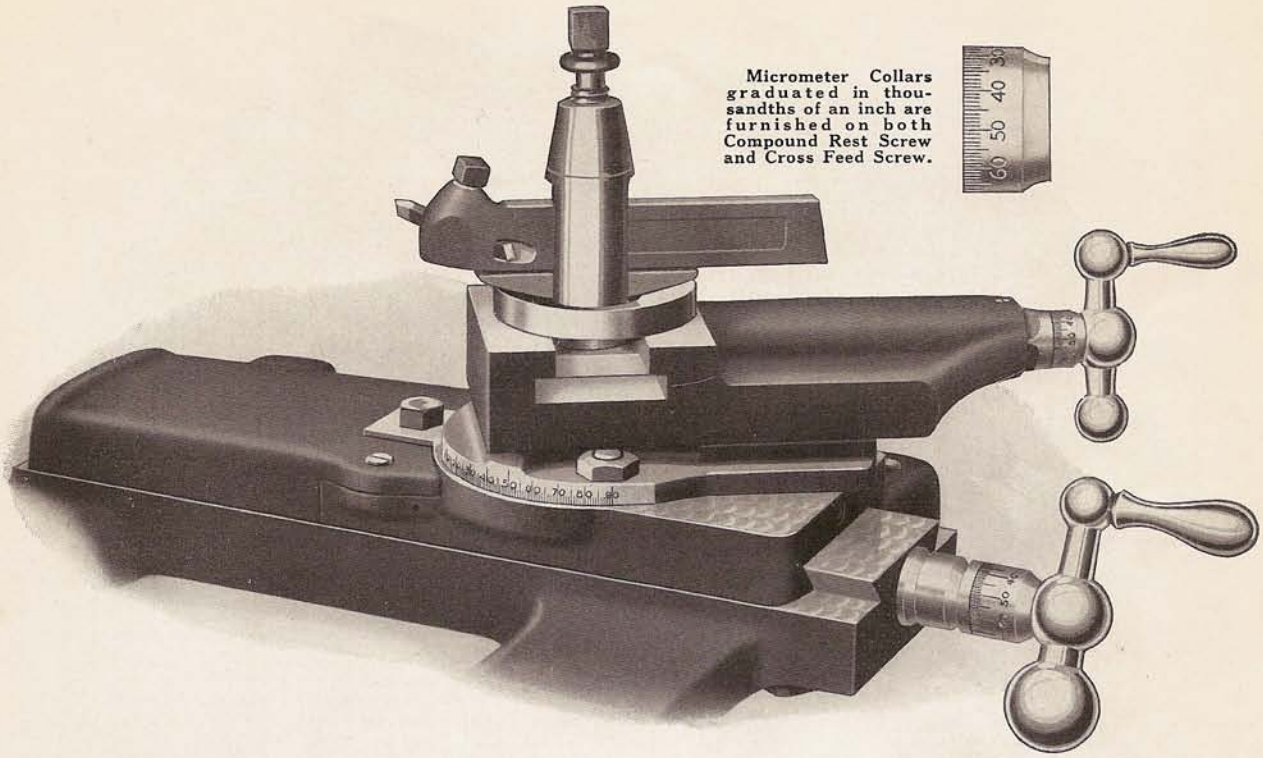
Bearings for 9-inch Toolmaker Lathes are nickel-iron alloy, cast integral with headstock and are line bored and lapped to fit spindle. Lubrication is by improved felt wick oiling system and bearings are adjustable for wear.

## Tailstock with Set-Over for Turning Taper



The tailstock is of an improved design with long bearing on the bed. The tailstock top is offset to allow the compound rest to swivel parallel to the bed, and has set-over for taper turning. The spindle is made of steel, ground and lapped to fit the tailstock barrel, and is graduated in sixteenths of an inch (except on 9-inch Toolmaker Lathe) for drilling to accurate depths. The illustration at right shows tailstock used on the 16-inch South Bend Lathe.

The lathe center is made of tool steel, hardened and ground all over, and is self-ejecting. An improved double plug binder securely locks the tailstock spindle without altering the alignment of the centers. A brass quill and oil well are provided for oiling the center.



Micrometer Collars graduated in thousandths of an inch are furnished on both Compound Rest Screw and Cross Feed Screw.

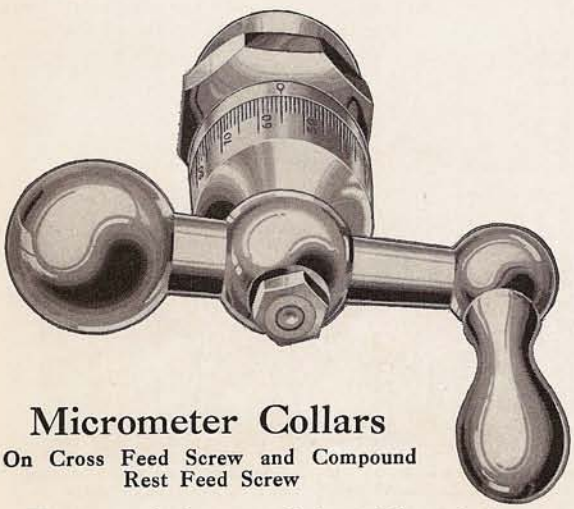
## Graduated Compound Rest

The compound rest swivel is graduated 180 degrees and swivels to any angle on a large central stud. It can be clamped at any desired angle for machining and for turning or boring short tapers. For angular travel of compound rest see specifications shown with each size lathe.

The illustration of the compound rest mounted on the saddle of the lathe shows the advantage of the two feed screws—the compound rest feed screw and the cross feed screw of the saddle. In combination, these two feed screws permit the operator to do all kinds of straight or taper work, as the cutting tool may be fed in any direction. The micrometer graduated collars are described below.

A large T-slot is provided at the top of the compound rest for holding the tool post, boring bars and other attachments. The compound rest base and swivel are surfaced, then hand-scraped and fitted with adjustable gib. Top slide dovetail is hand-scraped and fitted with adjustable gib.

The 9" Toolmaker compound rest is held in place on the base slide by a gib and inverted cone, and is locked in position by a single binding screw on right side of cross slide.



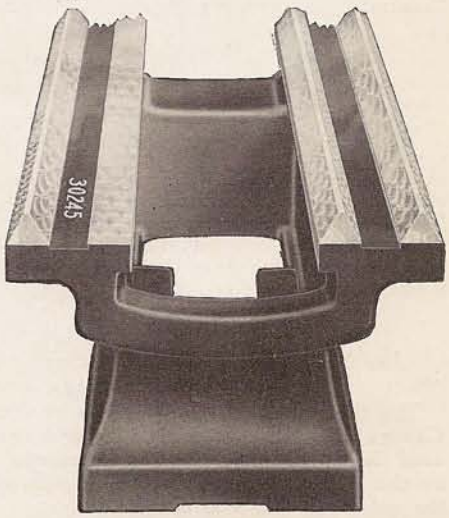
## Micrometer Collars

**On Cross Feed Screw and Compound Rest Feed Screw**

The cross feed screw of the saddle and the compound rest feed screw are each equipped with a micrometer graduated collar, graduated in thousandths of an inch, for adjusting the depth of the cut in turning and boring. An adjustment is provided so that the operator can set the collar at zero whenever desired. The graduated collars on the cross feed screw and the compound rest feed screw permit these screws to be used to advantage on fine, accurate work.

## Lathe Beds

**For All Sizes and Types of South Bend Lathes**

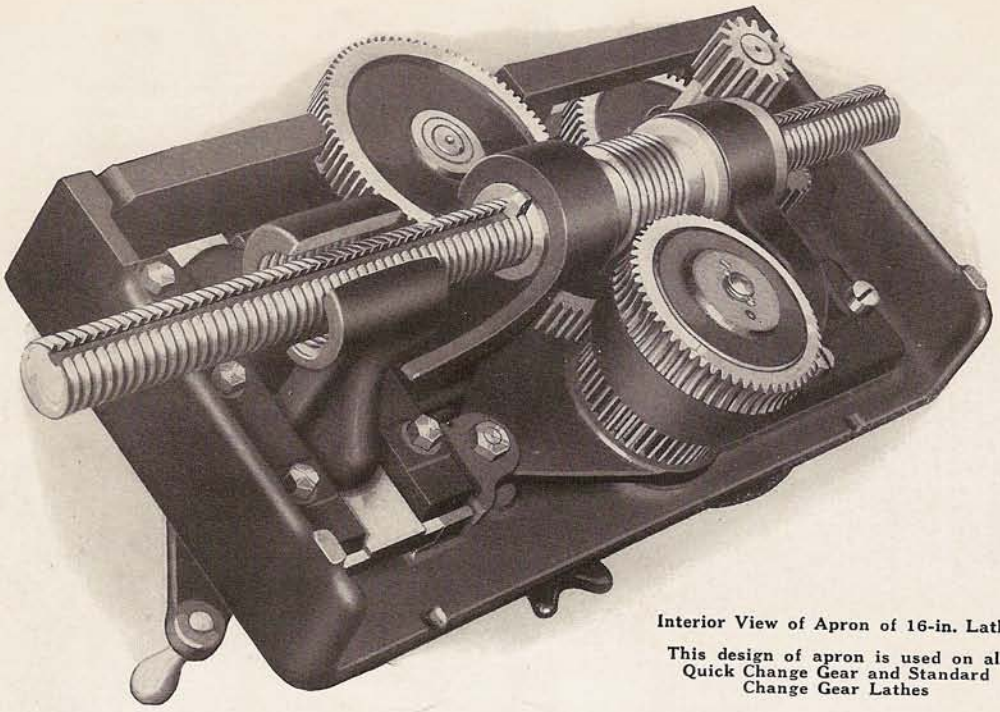


**Lathe beds** are made of a hard, close-grained mixture of grey iron containing 50% steel which gives them strength and wearing qualities. Beds are of heavy construction, reinforced by box braces cast in at short intervals the entire length.

**Lathe Beds Seasoned**

After rough planing, the lathe bed is permitted to season thoroughly before it is finish planed. All lathe beds are machined, hand-scraped and finished by experienced workmen.

The lathe bed is fitted with three "prismatic V-ways" and one flat way as shown by the illustration. The carriage slides on the two large outer V-ways of the bed. The inner V-way and flat way align the headstock and tailstock on the bed.



**Interior View of Apron of 16-in. Lathe**

**This design of apron is used on all Quick Change Gear and Standard Change Gear Lathes**

# Apron on the 1934 Model South Bend Lathe

## Construction Features

The illustration above shows an interior view of the apron used on Quick Change Gear and Standard Change Gear 1934 Model South Bend Lathes, all sizes and types. The apron is strong, powerful and of simple construction. Note the double worm bracket which supports the steel worm drive for automatic feeds; this feature provides great power.

## Automatic Turning Feeds

An automatic friction clutch knob controls both the automatic longitudinal feed and the automatic cross feed. A change from automatic longitudinal feed to automatic cross feed is obtained by means of a feed lever knob which has three positions. "Up" position for automatic longitudinal feed, "down" position for automatic cross feed, and "central" position for neutral when neither feed is in action.

## Splined Lead Screw and Feed Rod

The lead screw is splined which permits it to serve as a feed rod for operating the automatic cross feed and the automatic longitudinal feeds. The lead screw is geared direct to the spindle and permits a wide variety of automatic feed changes.

## Automatic Safety Device

An automatic safety device is provided in the apron of all size South Bend Lathes and prevents either of the automatic feeds from being placed in action while the half-nuts are engaged with the lead screw, for cutting screw threads. Vice versa, the safety device prevents the half-nuts from being engaged with the lead screw while either of the automatic feeds are in action; when either one of the automatic feeds is engaged, the other is locked.

# Precision Lead Screw of the South Bend Lathe

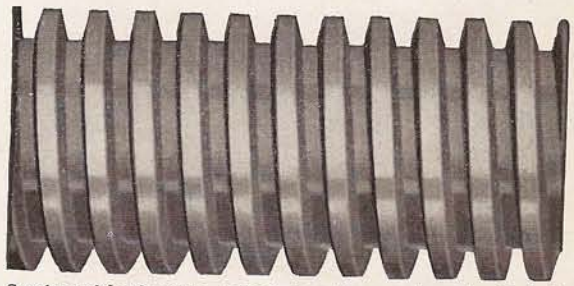
The lead screw of each South Bend Lathe is made of special quality steel and has acme standard threads. The threads are cut with precision-accuracy on a special machine equipped with a Pratt and Whitney master lead screw. Each lead screw is tested for accuracy of lead, form of thread and pitch diameter; and will meet the most exacting requirements in making the finest precision thread gauges, master taps, dies, jigs, etc.

## The Threads of the Lead Screw

**Are Not Used for Driving Either of the Automatic Friction Feeds**

The threads of the lead screw on the South Bend Quick Change Gear and Standard Change Gear Lathes are not used for driving either the automatic longitudinal feed or the automatic cross feed as both feeds are driven by the spline in the lead screw.

When cutting screw threads on a South Bend Lathe, the two half-nuts in the apron are engaged on the lead screw by a cam lever on front of apron. The threads of the lead screw on a South Bend Lathe, with the proper care and attention, should last a lifetime.



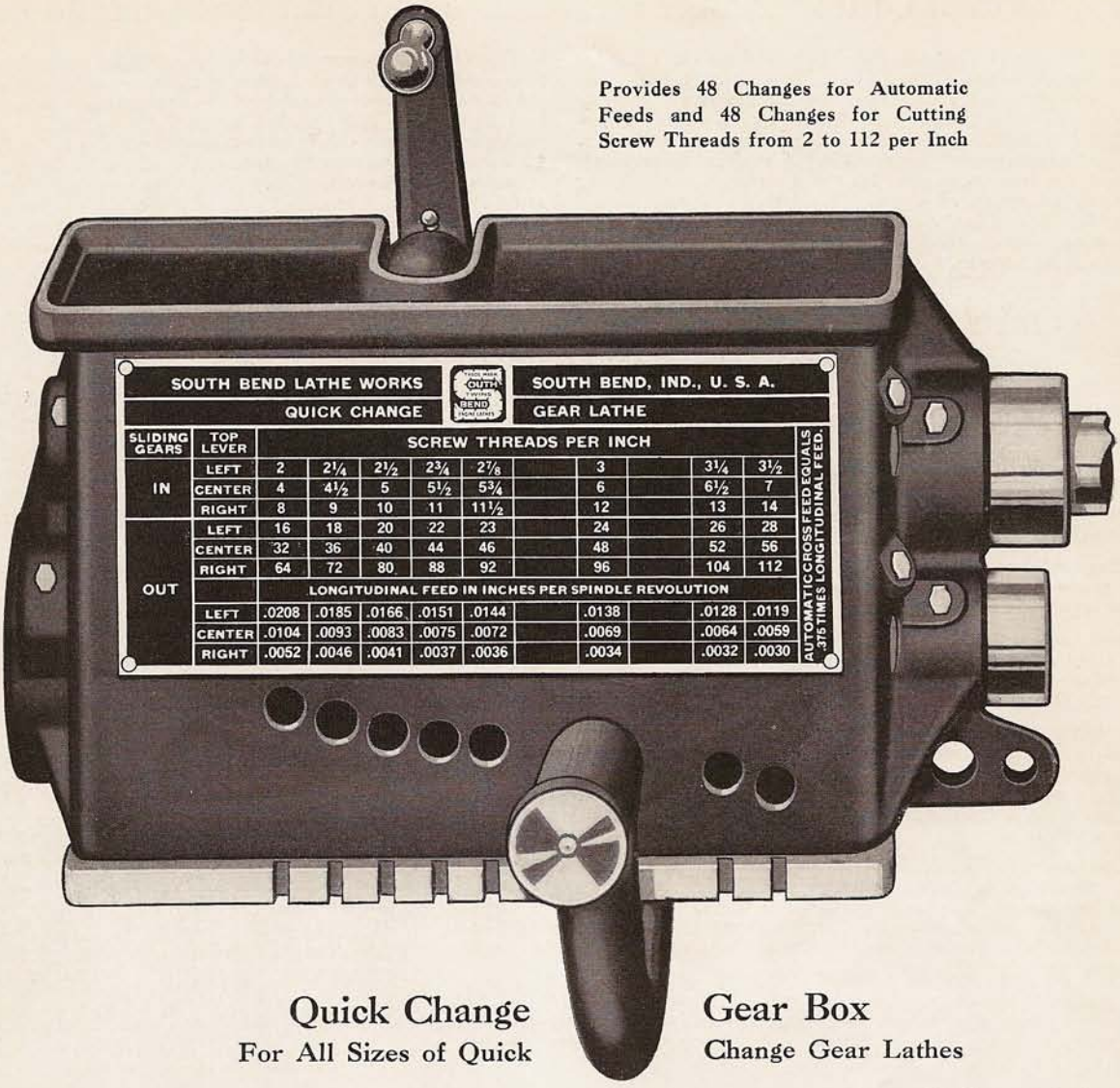
**Section of lead screw, actual diameter, used on the 18-inch South Bend Lathe. It is 1⅜-inch in diameter, 4-pitch**

## The Spline in the Lead Screw

**Is Used for Operating the Automatic Feeds**

The spline in the lead screw (on Standard and Quick Change Gear Lathes) is used to drive a worm and worm gearing which operates the automatic cross feed and automatic longitudinal feed of the apron. This is the most modern practice as it develops a powerful geared feed and eliminates the delicate mechanism used in our older type of lathe that was equipped with a separate feed rod.

Provides 48 Changes for Automatic Feeds and 48 Changes for Cutting Screw Threads from 2 to 112 per Inch




# Quick Change Gear Box

## For All Sizes of Quick Change Gear Lathes

The illustration above shows the quick change gear box with a metal chart attached, indicating the arrangement of the plunger and top lever for cutting screw threads and for obtaining automatic longitudinal feeds and automatic cross feeds on all sizes of South Bend Quick Change Gear Lathes. The size of gear box differs on each size lathe.

### The Improved Sliding Gear

The sliding gear that meshes with the gear box pinion and with the spindle stud, determines the "in" and "out" position as shown on the index plate. This gear has been improved in that it now has a neutral position between the "in" and "out" adjustments, so that the gear is completely out of mesh with one gear before it can mesh with the other gear. This improvement will be found on all South Bend Quick Change Gear Lathes listed in this catalog.

### Standard Screw Thread Cutting Range

The quick change gear box provides forty-eight (48) changes for cutting right or left-hand screw threads from 2 to 112 per inch, including 11½ pipe thread, without removing a gear. The following screw threads can be cut as shown on the quick change gear box chart: 2, 2¼, 2½, 2¾, 2⅞, 3, 3¼, 3½, 4, 4½, 5, 5½, 5¾, 6, 6½, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 23, 24, 26, 28, 32, 36, 40, 44, 46, 48, 52, 56, 64, 72, 80, 88, 92, 96, 104 and 112.

### Automatic Longitudinal Feed Range

Twenty-four (24) automatic longitudinal feeds can be obtained through the quick change gear box as shown on the lower bracket of the chart. All these feed changes can be made without removing a gear. The automatic longitudinal feeds can be operated in either direction, right or left. The range of automatic longitudinal feeds can be obtained from .003" (3/1000 of an inch) to .020" (20/1000 of an inch) per each revolution of spindle as follows: .0030"; .0032"; .0034"; .0036"; .0037"; .0041"; .0046"; .0052"; .0059"; .0064"; .0069"; .0072"; .0075"; .0083"; .0093"; .0104"; .0119"; .0128"; .0138"; .0144"; .0151"; .0166"; .0185", and .0208".

Twenty-four (24) additional coarse automatic longitudinal feeds can be obtained through the quick change gear box by placing the sliding gears in the "in" position as shown in the upper bracket. These coarse feeds are seldom needed except on special work.

### Automatic Cross Feed Range

Twenty-four (24) automatic cross feeds may be obtained through the quick change gear box without removing a gear. These feeds range from .001" (1/1000 of an inch) to .007" (7/1000 of an inch) per revolution of spindle as follows: .0011"; .0012"; .0013"; .00135"; .0014"; .0015"; .0018"; .0020"; .0022"; .0024"; .0026"; .0027"; .0028"; .0031"; .0036"; .0039"; .0045"; .0048"; .0052"; .0054"; .0057"; .0062"; .0069", and .0078".

The Automatic Cross Feeds, as listed in the paragraph above, are obtained by multiplying the automatic longitudinal feeds indicated in the lower bracket of the chart by .375. The resulting figures represent the amount that the cutting tool will travel automatically across the face of the work in thousandths of an inch each revolution of spindle.

# Comparison of Quick Change Gear Lathe and Standard Change Lathe

**The Mechanical Units** of the Quick Change Gear Lathes and Standard Change Gear Lathes shown throughout this catalog, are identical on lathes of the same size, whether Countershaft Drive, Underneath Belt Motor Drive or Silent V-Belt Motor Drive. For example, the headstock, tailstock, saddle, apron, compound rest and lead screw, are the same on all 16-inch Standard Change Gear and Quick Change Gear lathes, with all types of drive. Similarly, the mechanical units of the 18-inch lathe are common to all 18-inch lathes regardless of type or drive and so on for each of the other size lathes illustrated and described.

**The Only Difference** between the Quick Change Gear and Standard Change Gear Lathes is in the equipment used for cutting screw threads and for the operation of the automatic turning feeds. The Quick Change Gear Lathe is equipped with a gear box providing: 48 changes for cutting screw threads; 48 automatic friction longitudinal feeds; and 48 automatic cross feeds without changing or removing a gear. The Standard Change Gear Lathe has a set of independent change gears for cutting screw threads and for obtaining automatic longitudinal and automatic cross feeds. These gears are changed by hand when a different thread or feed is desired.

## Quick Change Gear Lathe

### Screw Thread Cutting and Turning Feeds

**Screw Threads are Cut** on the Quick Change Gear Lathe by engaging the apron half-nuts with the lead screw. The pitch of the thread to be cut is determined by shifting the "sliding gear" A, "top lever" B and "tumbler lever" C of the quick change gear box (see Fig. 1) in accordance with the thread cutting chart which is illustrated at the right. The apron half-nuts and the threads of the lead screw are used only when cutting screw threads.

**The Screw Thread Chart** is read directly as "threads per inch" when cutting screw threads. For example, Fig. No. 1 at right has the three gear box levers set to cut 24 threads to the inch.

**Thread Cutting Range.** All Quick Change Gear South Bend Lathes will cut right and left-hand screw threads from 2 to 112 per inch including 11½ pipe thread. Gears can be supplied at extra cost for cutting special threads not shown on index plate.

**Automatic Turning Feeds,** that is, automatic friction longitudinal feeds and automatic cross feeds are obtained by the use of the automatic friction clutch in the apron, which is operated through a worm gear, driven by a spline in the leadscrew. The fineness or coarseness of the feed is determined by changing the same gear box levers as when cutting screw threads.

**The Automatic Feed Chart** is read directly in "thousandths of an inch per revolution of lathe spindle" when using the automatic longitudinal friction feed. For example, the gear box in Fig. 1 has the gear box levers set for a longitudinal feed of .0138-inches or an automatic cross feed of .0052-inches. To obtain automatic cross feeds multiply the automatic longitudinal feed by .375.

The Quick Change Gear Lathe is popular in the tool room and machine shop because changes in threads and feeds can be made quickly and easily. To set up lathe for any feed or thread, it is only necessary to shift levers.

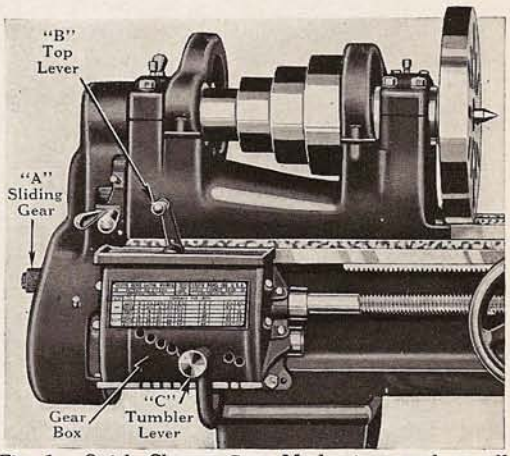



**Fig. 1. Quick Change Gear Mechanism used on all South Bend Quick Change Gear Lathes.** **(See Gear Box Description on Page 41)**

| SOUTH BEND LATHE WORKS — QUICK CHANGE — GEAR LATHE — SOUTH BEND, IND., U. S. A. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SLIDING GEARS | TOP LEVER | SCREW THREADS PER INCH | | | | | | | | | |
| IN | LEFT | 2 | 2¼ | 2½ | 2¾ | 2⅞ | 3 | 3¼ | 3½ | | |
| | CENTER | 4 | 4½ | 5 | 5½ | 5¾ | 6 | 6½ | 7 | | |
| | RIGHT | 8 | 9 | 10 | 11 | 11½ | 12 | 13 | 14 | | |
| OUT | LEFT | 16 | 18 | 20 | 22 | 23 | 24 | 26 | 28 | | |
| | CENTER | 32 | 36 | 40 | 44 | 46 | 48 | 52 | 56 | | |
| | RIGHT | 64 | 72 | 80 | 88 | 92 | 96 | 104 | 112 | | |
| | | LONGITUDINAL FEED IN INCHES PER SPINDLE REVOLUTION | | | | | | | | | |
| | LEFT | .0208 | .0185 | .0166 | .0151 | .0144 | .0138 | .0128 | .0119 | | |
| | CENTER | .0104 | .0093 | .0083 | .0075 | .0072 | .0069 | .0064 | .0059 | | |
| | RIGHT | .0052 | .0046 | .0041 | .0037 | .0036 | .0034 | .0032 | .0030 | | |

AUTOMATIC CROSS FEED EQUALS .375 TIMES LONGITUDINAL FEED.

**Fig. 2. Direct Reading Metal Index Chart Attached to Quick Change Gear Lathes.**

## Standard Change Gear Lathe

### Screw Thread Cutting and Turning Feeds

**Screw Threads are Cut** on the Standard Change Gear Lathe by engaging the apron half-nuts with the lead screw. The pitch of the thread to be cut is determined by changing independent gears, by hand, at the headstock end of the lathe in accordance with the screw thread chart which is illustrated at the right. The apron half-nuts and the threads of the lead screw are used only when cutting threads.

**Thread Cutting Range.** All 9" and 11" Standard Change Gear South Bend Lathes will cut right and left-hand threads from 4 to 40 per inch including 11½ pipe thread. All 13" and larger Standard lathes will cut right and left-hand threads from 2 to 40 per inch including 11½ pipe thread. Gears can be supplied at extra cost for cutting special threads not shown on index plate.

**Special Change Gear Equipment** for cutting fine pitch screw threads up to 80 per inch is available for all South Bend Standard Change Gear Lathes at small extra cost. See page 61 for prices. South Bend Lathes with special change gears for cutting screw threads as fine as 1000 per inch are used in several manufacturing plants.

**Automatic Turning Feeds,** that is, automatic friction longitudinal feeds and automatic cross feeds are obtained by the use of the automatic friction feed clutch in the apron which is operated through a worm gear driven by a spline in the lead screw. The fineness or coarseness of the feed is determined by changing the independent change gears the same as when cutting screw threads. A large gear is furnished with the Standard Change Gear lathe for obtaining very fine turning feeds for finishing.

**Independent Change Gears**

**SCREW THREAD CUTTING CHART**
STANDARD CHANGE GEAR LATHE
13"-15"-16"

| THREADS PER INCH | STUD GEAR | | SCREW GEAR |
|---|---|---|---|
| 2 | 72 | | 24 |
| 3 | 48 | | 24 |
| 4 | 48 | | 32 |
| 5 | 48 | | 40 |
| 6 | 48 | | 48 |
| 7 | 48 | | 56 |
| 8 | 48 | | 64 |
| 9 | 48 | | 72 |
| 10 | 48 | | 80 |
| 11 | 24 | | 44 |
| 11½ | 24 | | 46 |
| 12 | 24 | | 48 |
| 13 | 24 | | 52 |
| 14 | 24 | | 56 |
| 16 | 24 | | 64 |
| 18 | 24 | | 72 |
| 20 | 24 | | 80 |
| 22 | 24-1-2 | | 44 |
| 24 | 24-1-2 | | 48 |
| 26 | 24-1-2 | | 52 |
| 28 | 24-1-2 | | 56 |
| 30 | 24-1-2 | | 60 |
| 32 | 24-1-2 | | 64 |
| 36 | 24-1-2 | | 72 |
| 40 | 24-1-2 | | 80 |

**Fig. 3. Metal Index Chart Attached to Standard Change Gear Lathe**

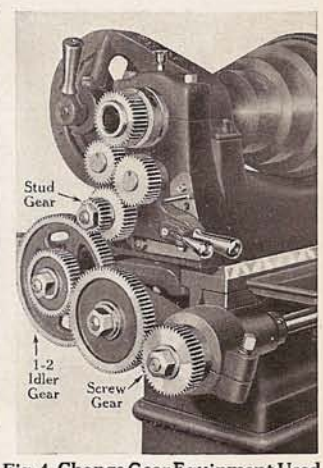



**Fig. 4. Change Gear Equipment Used on Standard Change Gear Lathes.**

**The Screw Thread Cutting Chart,** Fig. 3, shows the arrangement of change gears for cutting various pitches of screw threads. For example to cut 24 threads per inch, a 24-tooth "stud gear" and a 48-tooth "screw gear" are used with a 1-2 compound idler gear and an intermediate gear between them, as shown in Fig. 4.

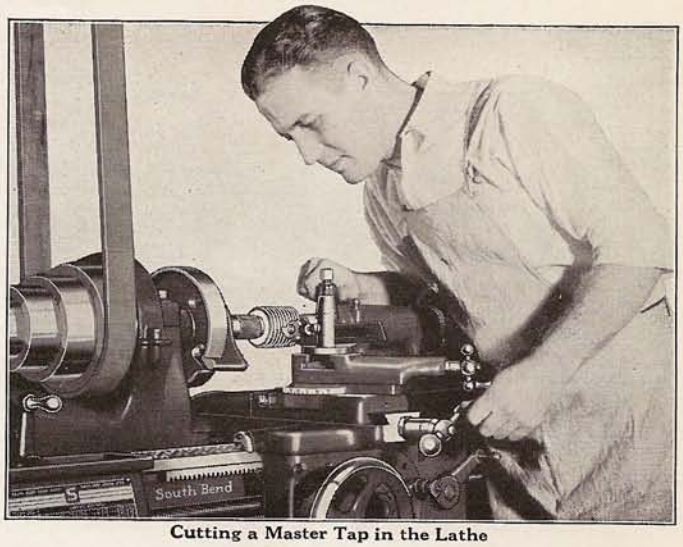
# Screw Threads Cut on the 1934 Model South Bend Lathe

**All Standard Screw Threads,** right or left, including National Coarse (U.S.S.); National Fine (S.A.E.); Sharp "V"; Whitworth; Acme; Square; including pipe thread 11½ threads per inch, can be cut on all sizes and types of South Bend Back-Geared, Screw Cutting Lathes. All the above threads can be cut single or multiple, for example, double, triple, etc. These lathes are capable of making the finest precision master thread gauges, limit thread gauges, finest precision taps and dies. See precision lead screw, page 40.

**Quick Change Gear South Bend Lathes,** all sizes, are equipped with a quick change gear box for cutting standard screw threads from 2 to 112 per inch, right or left. For a list of these threads see page 41.

**Standard Change Gear Lathes,** all sizes, and Junior and Toolmaker South Bend Lathes are supplied with a set of independent change gears for cutting standard screw threads from 4 to 40 per inch on the 9″ and 11″ Lathes, and from 2 to 40 per inch on the 13″ and larger size Lathes. For further information, see page 42.

**Special and Fine Screw Threads** can be cut on the Standard, Junior and Toolmaker Lathes by using special change gear equipment. For further details see page 61.



Cutting a Master Tap in the Lathe


Internal Square Thread


Master Thread Gauge


"V" Thread Tap


Limit Thread Gauge

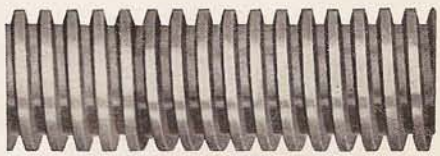

Acme Thread Tap


Internal U. S. Standard Thread


Right Hand Acme Double Screw Thread

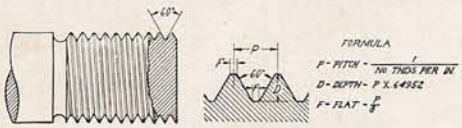

National Coarse (U. S. S.) Screw Thread


Special Screw Showing Various Types of Threads

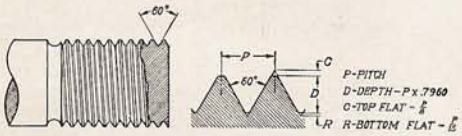

Acme Screw Thread

## STANDARD SCREW THREAD FORMULAS

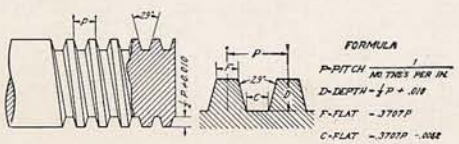
**National Coarse (U. S. S.) Screw Thread**



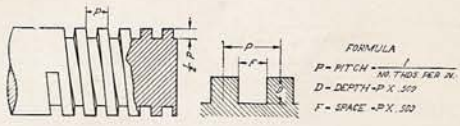

**International Standard Metric Screw Thread**



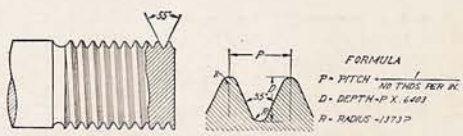

**Acme Screw Thread**



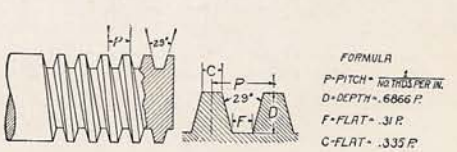

**Square Thread**




**Whitworth Standard Screw Thread**

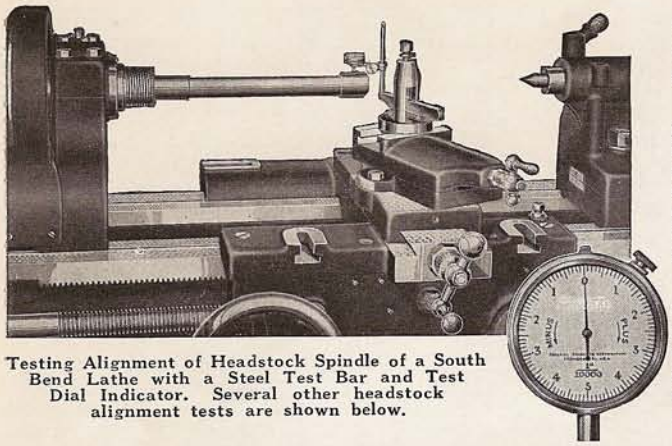



**Brown & Sharpe 29° Worm Thread**



# Accuracy and Precision of 1934 Model South Bend Lathes

64 Accuracy Tests with Precision Instruments Made on Each Size Lathe



Testing Alignment of Headstock Spindle of a South Bend Lathe with a Steel Test Bar and Test Dial Indicator. Several other headstock alignment tests are shown below.

**Every South Bend Lathe** is built with precision-accuracy. The highest standards of accuracy are maintained, from the planing of the lathe bed to the final inspection tests of the lathe in actual operation.

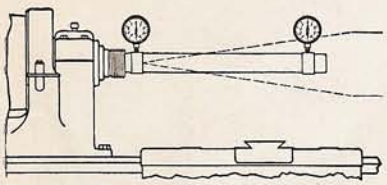
**Sixty-four Major Accuracy Tests** are made on various parts and units of each South Bend Lathe during the process of manufacture and when being assembled. The most accurate measuring instruments, special gauges, test bars, master templets, etc., are used constantly throughout the process of construction to insure precision and interchangeability. These tests assure the highest degree of precision-accuracy in the finished lathe.

**Special Machinery and Equipment.** Our plant is equipped with a large number of special machines designed for the manufacture of South Bend Lathes, exclusively. This permits us to build units of the various sizes of lathes such as the headstock, tailstock, carriage, etc., in lots of 200, 300 and 500 at a time. These methods insure accuracy, increase production and lower the cost.

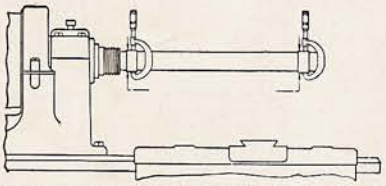
## Precision-Accuracy Tests

### Made on the Lathe

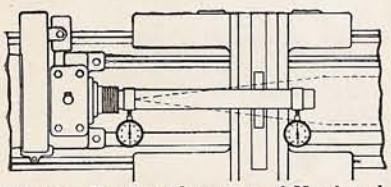
In making the dial indicator tests illustrated below, a 12-inch steel test bar, hardened and accurately ground to fit the spindle, is used. The test indicator will detect an error of one ten-thousandths of an inch. In Tests No. 7 and No. 8, the diameter of the test bar is checked with a micrometer after a trial cut has been taken.



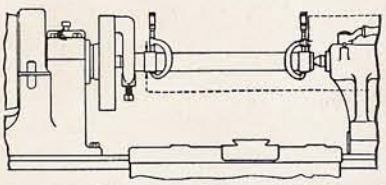
Test 1.—Testing Alignment of Headstock Spindle



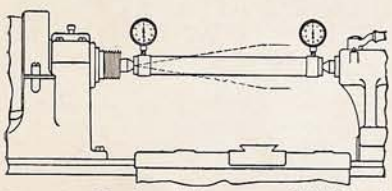
Test 7.—Micrometer Test of Headstock Spindle Alignment



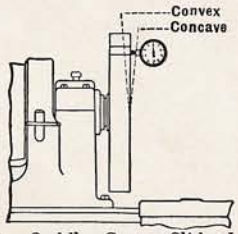
Test 2.—Testing Alignment of Headstock Spindle



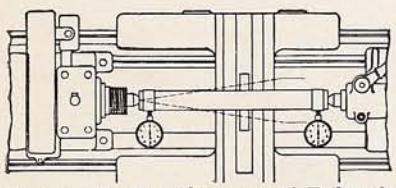
Test 8.—Micrometer Test of Headstock and Tailstock Spindle Alignment



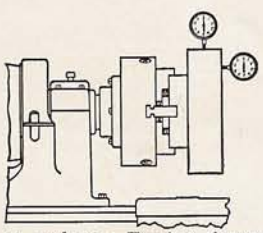
Test 3.—Testing Alignment of Tailstock Spindle with Headstock Spindle




Test 10.—Saddle Cross Slide Indicator Test on Face Plate Cut

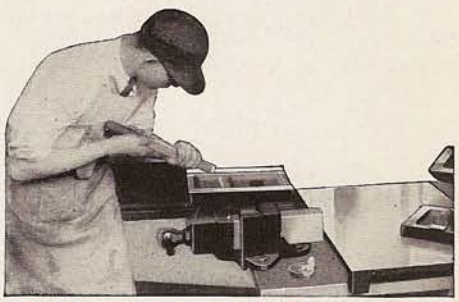


Test 4.—Testing Alignment of Tailstock Spindle with Headstock Spindle

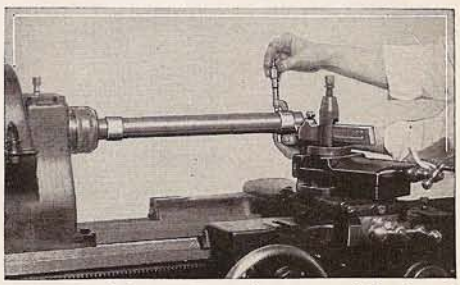


Tests 11 and 12.—Testing Accuracy of Chuck Jaws on Diameter and Face

Maximum error allowed on above tests is .001". Chucks are held to chuck manufacturers' limits, .003".



Hand Scraping Tailstock Base to Lathe Bed



Taking Trial Cut to Test Alignment of Headstock with Lathe Bed

**Factory Precision Tests**

Made on South Bend Lathes

Be Sure Lathe is Perfectly Level Before Making Tests

Size of Lathe 16" x 8' Catalog No. 92-E

| Test No. | DIAL INDICATOR TESTS | Test Record |
|---|---|---|
| 1. | Testing Alignment of Headstock Spindle, Vertical Plane | .0002" High / Low / In / Out |
| 2. | Testing Alignment of Headstock Spindle, Horizontal Plane | .0003" Out |
| 3. | Testing Alignment of Tailstock Spindle With Headstock Spindle, in Vertical Plane | .0002" High / Low |
| 4. | Testing Alignment of Tailstock Spindle With Headstock Spindle, in Horizontal Plane | .0002" In / Out |
| 5. | Testing Alignment of Tailstock Spindle with Headstock Spindle in Vertical Plane (Spindle Extended) | .0003" High / Low |
| 6. | Testing Alignment of Tailstock Spindle with Headstock Spindle, in Horizontal Plane (Spindle Extended) | .0002" In / Out |
| **Test No.** | **TRIAL CUT TESTS WITH LATHE IN OPERATION** | **Test Record** |
| 7. | Micrometer Test of Headstock Spindle Alignment | .0006" |
| 8. | Micrometer Test of Headstock and Tailstock Spindle Alignment | .0004" |
| 9. | Micrometer Test of Headstock and Tailstock Spindle Alignment (Spindle Extended) | .0005" Cone / Cone |
| 10. | Saddle Cross Slide Indicator Test on Face Plate Cut | .001" Cone / Cone |
| 11. | Testing Accuracy of Chuck Jaws on Diameter | .0015" |
| 12. | Testing Accuracy of Chuck Jaws on Face | .002" |
| 13. | Lead Screw Final Lead Test | O.K. |
| 14. | Saddle Bearing on Cross Slide | O.K. |
| | Saddle Bearing on Lathe Bed | O.K. |
| 15. | Countershaft Clutch Test | O.K. |

Assembled By H. J. Grenert Date 2-10-33

Tested By R. S. Young Date 2-10-33

SOUTH BEND LATHE WORKS

**FACTORY TEST CARD**

The illustration above is a reproduction of a factory test card on which records are kept of the final inspection tests of each South Bend Lathe. This test card is filed in our office for permanent record when the lathe is shipped.

# Space Required for Installing South Bend Lathes

## Applying to All Sizes and Types of Bench and Floor Leg Lathes

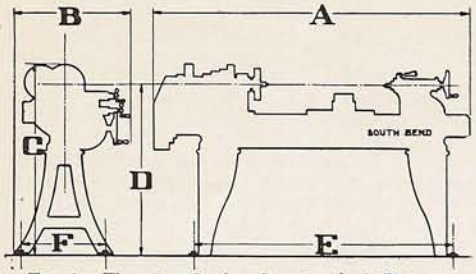



Fig. 1. Floor Leg Lathe, Countershaft Drive

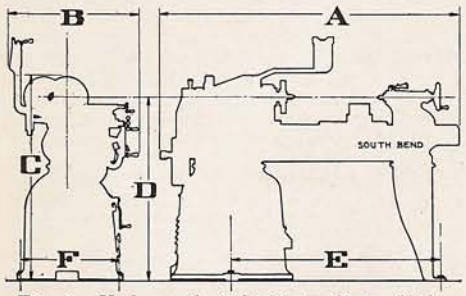



Fig. 2. Underneath Belt Motor Drive Lathe

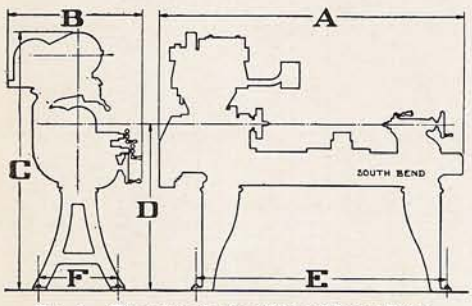



Fig. 3. Floor Leg Lathe, Silent Motor Drive

To find the space required for installing a particular size and type of South Bend Lathe, consult the drawings at left and the table below. "A" equals the over-all length; "B" equals the width; "C" the height, etc.

The most popular size bed length is shown with each size lathe. The space required for a lathe with longer bed length than that given is the same in every dimension except length of lathe. By adding the extra inches to the length listed, you have the length of the lathe desired.

**Bench Lathes** take up approximately the same space on a bench as a floor leg lathe, of similar size, does on the floor.

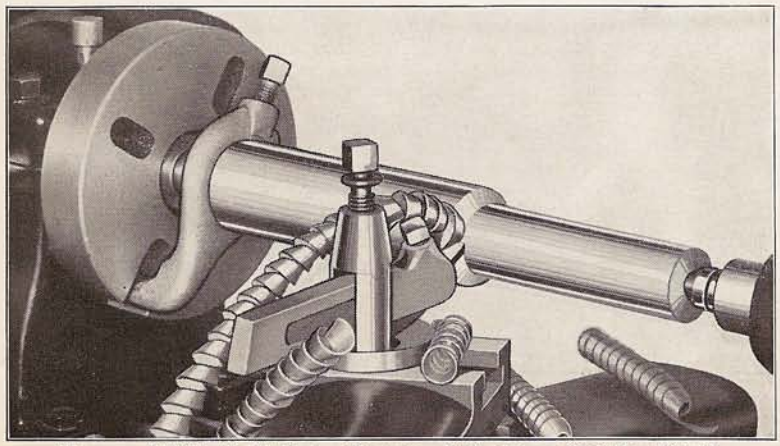
**Space Required for Various Sizes and Types of Lathes**

| Size of Lathe Inches | Length of Bed Feet | Floor Space Required | | Height of Lathe Inches | Height to Center Inches | Approx. Distance Between Bolts in Inches | |
|---|---|---|---|---|---|---|---|
| | | Length of Lathe Inches | Width of Lathe Inches | | | | |
| | | A | B | C | D | E | F |
| **Floor Leg Lathes—Countershaft Drive (See Fig. 1)** | | | | | | | |
| Toolmaker | 3 | 41 | 18 1/2 | 44 1/2 | 41 1/8 | 38 | 16 |
| 9 | 3 | 41 | 20 3/4 | 44 1/2 | 41 | 35 | 18 |
| 11 | 4 | 52 1/2 | 22 1/2 | 44 3/4 | 41 | 45 | 18 3/4 |
| 13 | 5 | 64 3/4 | 26 1/2 | 45 1/2 | 41 1/2 | 52 1/2 | 21 |
| 15 | 5 | 65 1/2 | 27 1/2 | 46 1/2 | 42 | 50 1/4 | 21 |
| 16 | 6 | 77 3/4 | 29 1/2 | 46 3/4 | 42 | 63 1/2 | 20 3/4 |
| 18 | 8 | 103 1/4 | 31 1/2 | 47 1/2 | 42 | 87 1/2 | 20 1/2 |
| 16-24 | 8 | 102 | 29 1/2 | 48 1/2 | 43 | 75 7/8 | 21 3/4 |
| 36 | 8 | 102 | 29 1/2 | 46 3/4 | 42 | 75 3/8 | 21 1/2 |
| **Underneath Belt Motor Driven Lathes (See Fig. 2)** | | | | | | | |
| 9 | 3 | 45 | 24 | 44 1/2 | 41 | 33 | 16 3/4 |
| 11 | 4 | 56 1/2 | 26 1/4 | 44 3/4 | 41 | 42 1/4 | 19 |
| 13 | 5 | 68 1/2 | 28 | 45 1/2 | 41 1/2 | 50 1/4 | 19 1/2 |
| 15 | 5 | 70 | 30 | 46 1/2 | 42 | 47 | 22 1/2 |
| 16 | 6 | 83 | 30 | 46 3/4 | 42 | 59 1/4 | 22 1/2 |
| 18 | 8 | 110 | 44 1/2 | 47 1/2 | 42 | 73 3/8 | 22 3/4 |
| **Floor Leg Lathes—Silent Motor Drive(See Fig. 3)** | | | | | | | |
| Toolmaker | 3 | 41 | 22 1/2 | 60 1/4 | 41 1/8 | 38 | 16 |
| 9 | 3 | 41 | 23 3/4 | 60 1/2 | 41 | 35 | 18 |
| 11 | 4 | 52 1/2 | 26 | 62 | 41 | 45 | 18 3/4 |
| 13 | 5 | 64 3/4 | 28 1/2 | 63 3/4 | 41 1/2 | 52 1/2 | 21 |
| 15 | 5 | 65 1/2 | 32 | 65 1/2 | 42 | 50 1/4 | 21 |
| 16 | 6 | 77 3/4 | 34 3/4 | 67 1/4 | 42 | 63 1/2 | 20 3/4 |
| 18 | 8 | 103 1/4 | 39 1/4 | 69 1/2 | 42 | 87 1/2 | 20 1/2 |
| 16-24 | 8 | 102 | 34 3/4 | 67 3/4 | 43 | 75 7/8 | 21 3/4 |
| 36 | 8 | 102 | 36 | 67 3/4 | 42 | 75 1/4 | 21 1/2 |

# The Cutting Power of South Bend Lathes

## Depth of Chip which can be Taken by Lathes of Various Sizes

**The machining power of South Bend Lathes** is shown in the chart below, which lists the power of the various size Countershaft Drive and Motor Drive Lathes when in operation machining a bar of machinery steel. The illustration below shows a shaft of machinery steel being turned between centers in a 16-inch South Bend Lathe. The chip taken is 3/8" in depth, which reduces the diameter of the shaft 3/4" in one cut.



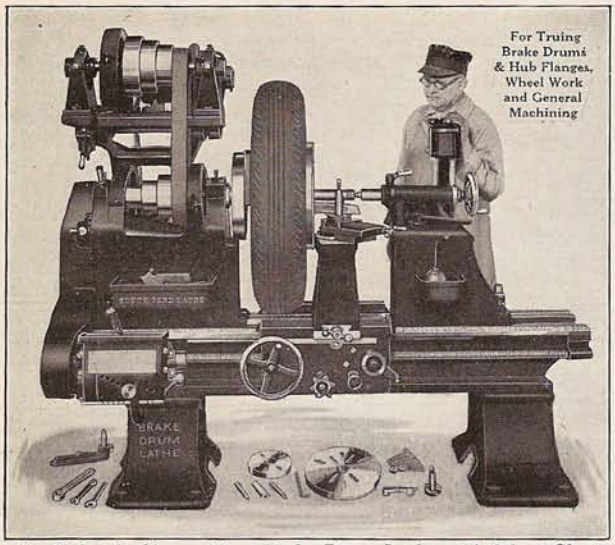
Close-up of 16" Lathe Reducing Diameter of Machinery Steel Bar 3/4-inch

**Chart Showing Cutting Power**
of South Bend Lathes

| Size and Type of Lathe | Reduces diameter of steel shaft in one cut |
|---|---|
| 9" Toolmaker | 1/4 inches |
| 9" Junior | 3/8 inches |
| 9" Quick & Standard | 3/8 inches |
| 11" Quick & Standard | 1/2 inches |
| 13" Quick & Standard | 5/8 inches |
| 15" Quick & Standard | 11/16 inches |
| 16" Quick & Standard | 3/4 inches |
| 18" Quick & Standard | 7/8 inches |

# 36-inch Brake Drum and General Service Lathe—Silent Motor Drive

## Supplied in Quick Change Gear and Standard Change Gear Types




**36" x 6' Quick Change Gear Brake Drum Lathe with Silent Chain Motor Drive.....$902.00**

**The 36-inch South Bend Brake Drum Lathe** with Silent Chain Motor Drive, shown at left, will swing all types of wheels, single and dual, with tire attached, up to 36¼-inches in diameter. All types of brake drums up to 23½-inches in diameter, including drums with hub and axle attached, can be trued in this lathe, which uses the self-centering mandrel and adapter method explained on the opposite page.

**General Servicing Work** such as machining flywheels, differentials and clutch faces, and all general machine work and screw thread cutting, can be done with this lathe, in addition to all kinds of brake drum and wheel work.

**Equipment Included in Price** of Lathe consists of: Large face plate; small face plate; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; wrenches; driver for wheels and drums; change gears (with Standard Change Gear Lathe); installation plan; and directions for operating.

**Electrical Equipment** included in price of Lathe consists of: Silent chain motor drive unit; 1 H.P. 1200 R.P.M. instant reversing motor; reversing drum switch; wiring between motor and switch enclosed in flexible metal conduit; one flat leather belt; and complete directions for wiring.

**Full Details** concerning the different sizes and types of South Bend Brake Drum Lathes are contained in Bulletin No. 4, "How to True Brake Drums," described on the opposite page.

**Net Factory Prices 36-inch 1934 Model South Bend Brake Drum and General Service Lathe—Silent Chain Motor Drive**

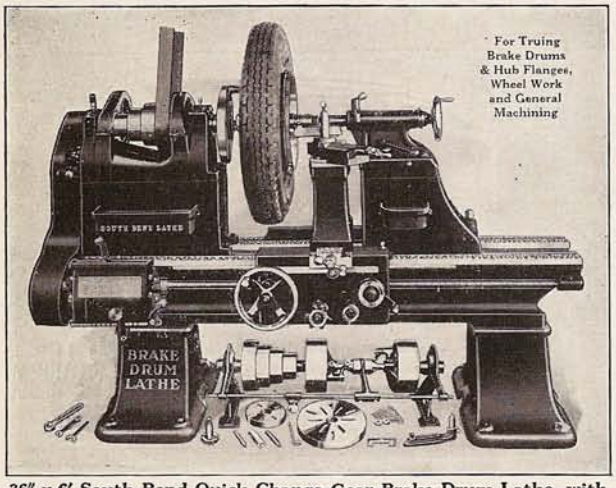
**Prices Include Lathe Equipment, Instant Reversing Motor, Reversing Switch and Belting**

| Swings Wheel Tire Attached Inches | Length of Bed Feet | Distance Between Centers Inches | Power Required H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 36¼ | 6 | 27 | 1 | 2620 | 302-BC | Claud | $ 842.00 | $ 880.00 | $ 908.00 | 304-BC | Cajul | $ 902.00 | $ 940.00 | $ 968.00 |
| 36¼ | 7 | 39 | 1 | 2700 | 302-BD | Coast | 863.00 | 901.00 | 929.00 | 304-BD | Cakah | 923.00 | 961.00 | 989.00 |
| 36¼ | 8 | 51 | 1 | 2780 | 302-BE | Croze | 884.00 | 922.00 | 950.00 | 304-BE | Cakik | 944.00 | 982.00 | 1010.00 |
| 36¼ | 10 | 75 | 1 | 2940 | 302-BG | Culex | 930.00 | 968.00 | 996.00 | 304-BG | Cakje | 990.00 | 1028.00 | 1056.00 |
| 36¼ | 12 | 99 | 1 | 3170 | 302-BH | Conge | 995.00 | 1033.00 | 1061.00 | 304-BH | Conif | 1055.00 | 1093.00 | 1121.00 |
| 36¼ | 14 | 123 | 1 | 3395 | 302-BK | Cofse | 1052.00 | 1090.00 | 1118.00 | 304-BK | Cokiz | 1112.00 | 1150.00 | 1178.00 |

Lathe with 12-foot and 14-foot bed is equipped with center leg, which is included in price of the lathe.

# 36-inch Brake Drum and General Service Lathe—Countershaft Drive

## Supplied in Quick Change Gear and Standard Change Gear Types




**36" x 6' South Bend Quick Change Gear Brake Drum Lathe, with Countershaft and Equipment.....$710.00**

**The 36-inch South Bend Brake Drum Lathe** with Overhead Countershaft Drive, shown at left, will swing all types of wheels, single and dual, with tire attached, up to 36¼-inches in diameter. All types of brake drums up to 23½-inches in diameter, including drums with axles attached, can be trued in this lathe, which uses the self-centering mandrel and adapter method explained on the opposite page.

**General Servicing Work** such as machining flywheels, differentials and clutch faces, and all general machine work and screw thread cutting can be done with this lathe, in addition to all kinds of brake drum and wheel work.

**Equipment Included in Price** of lathe consists of: Countershaft; large face plate; small face plate; tool post; thread cutting stop; driver for wheels and drums; two 60° lathe centers; spindle sleeve; change gears (with Standard Change Gear Lathe); wrenches; installation plan; complete directions for operating lathe and handling brake drum and wheel work.

**Full Details** concerning the different sizes and types of South Bend Brake Drum Lathes are contained in Bulletin No. 4, "How to True Brake Drums," which also shows the latest methods for mounting and truing brake drums and describes the proper equipment. See opposite page.

**Net Factory Prices 36-inch 1934 Model South Bend Brake Drum and General Service Lathe—Countershaft Drive**

| Swings Wheel Tire Attached Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Carriage Inches | Hole Thru Spindle Inches | Power Required H.P. | Standard Change Gear Lathes | | | | Quick Change Gear Lathes | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price | Cat. No. | Code Word | Weight Crated Pounds | Net Factory Price |
| 36¼ | 6 | 27 | 17 | 1⅜ | 1 | 2-BC | Cocoa | 2160 | $650.00 | 4-BC | Cajga | 2195 | $710.00 |
| 36¼ | 7 | 39 | 17 | 1⅜ | 1 | 2-BD | Cario | 2240 | 671.00 | 4-BD | Cajhe | 2275 | 731.00 |
| 36¼ | 8 | 51 | 17 | 1⅜ | 1 | 2-BE | Cuxom | 2320 | 692.00 | 4-BE | Cajig | 2355 | 752.00 |
| 36¼ | 10 | 75 | 17 | 1⅜ | 1 | 2-BG | Cialr | 2480 | 738.00 | 4-BG | Cajko | 2515 | 798.00 |
| 36¼ | 12 | 99 | 17 | 1⅜ | 1 | 2-BH | Cojal | 2710 | 803.00 | 4-BH | Camra | 2745 | 863.00 |
| 36¼ | 14 | 123 | 17 | 1⅜ | 1 | 2-BK | Cofra | 2935 | 860.00 | 4-BK | Capma | 2970 | 920.00 |

Lathe with 12-foot and 14-foot bed is equipped with center leg which is included in price of lathe.

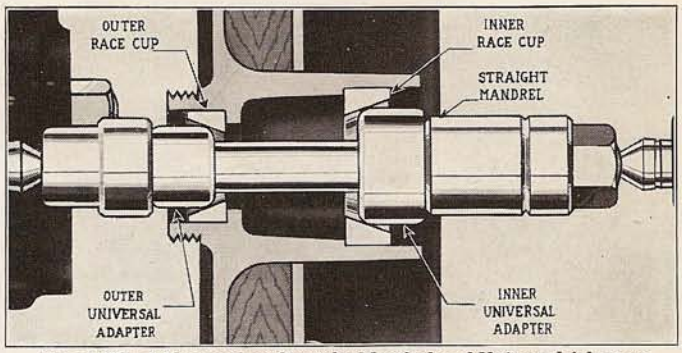
# South Bend Self-Centering Mandrel and Universal Adapter Method

## For Accurately Mounting Brake Drums Between Centers in the Lathe

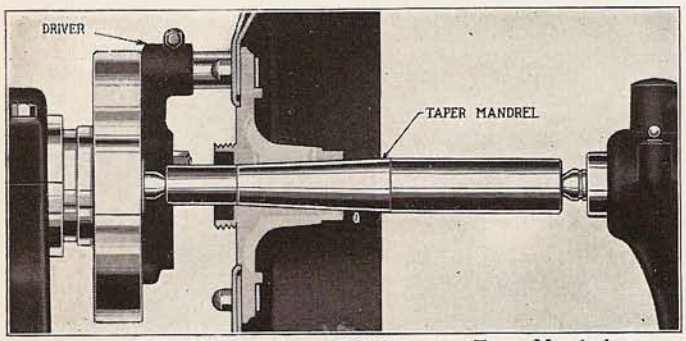
### Mounting Front Wheels in the Lathe

**The Self-Centering Mandrel and Adapter Method** —an exclusive South Bend feature—is the method used for obtaining absolute accuracy in mounting the wheels of autos, buses and trucks between centers in the lathe for testing, truing and machining brake drums and hubs. The method is practical, fast and economical.

**For Mounting Front Wheels,** with but a few exceptions, the Straight Mandrel with Universal Bearing Adapters is used. The adapters fit Timken races or the ball-races in the hub of the wheel so that when the wheel is mounted in the lathe, any machining on the brake drum will be concentric with the axis of the hub. It is the accuracy of the South Bend method of truing brake drums which makes the method so popular with large service shops.




**Front Wheel Mounted on Straight Mandrel and Universal Adapters**




**Rear Wheel Mounted on a Self-Centering Taper Mandrel**

### Mounting Rear Wheels in the Lathe

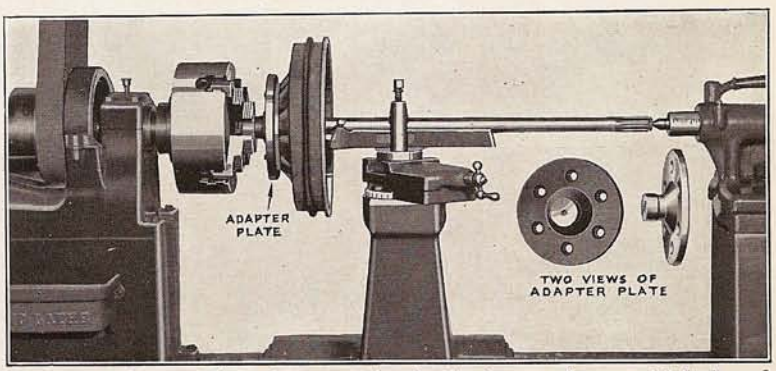
**For Mounting Rear Wheels** either the Straight Mandrel and Adapters or the Self-Centering Taper Mandrel are used. Since the taper of the mandrel is exactly the same as that of the axle of the car, the wheel is concentrically mounted for truing the brake drum.

**Each Taper Mandrel** will fit the rear wheels of several cars and one Straight Mandrel with Universal Adapters will fit the front wheels of practically all cars. Because of this, a small assortment of mandrels and adapters will handle the brake drums from practically all of the cars in common use. Each mandrel and adapter is stamped with an identifying number. A chart which we supply lists the mandrels and adapters required for all cars.

### Mounting Drums of Cars with Hub and Axle Integral

**Brake Drums** of cars having hub and axle integral, such as are now being used by Pontiac, Buick and Chevrolet, are easily machined true in a South Bend Brake Drum Lathe. The hub of the axle with brake drum attached is bolted to an Adapter Plate (shown in illustration at right) which has bolt holes drilled in it corresponding to those in the wheel. The regular bolts and nuts used to fasten the wheel to hub are used when bolting the Adapter Plate to hub. The end of the Adapter Plate is centered in the lathe chuck with the opposite end of the axle shaft centered in the tailstock of the lathe. The brake drum can be machined true and concentric in about five minutes.

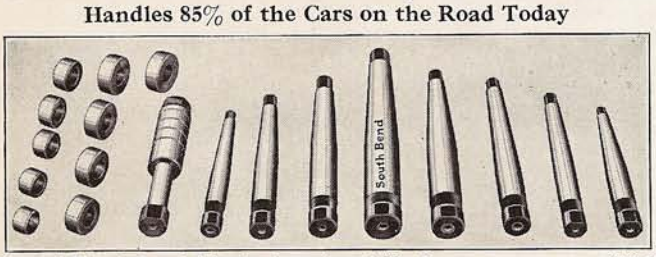
(When ordering Adapter Plate for mounting Brake Drums, specify make and model of car so that plate can be supplied with bolt holes drilled in correct position to fit the bolt holes in the hub).




**No. 112 Adapter Plate** for mounting brake drums of cars with hub and axle integral (code word "Larko"). **Price**.....**$4.00**

## General Mandrel and Adapter Assortment

**Handles 85% of the Cars on the Road Today**



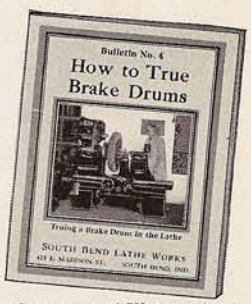

**General Mandrel and Adapter Assortment No. 6**.....**$74.00**

**For the General Shop** handling the truing of brake drums on all cars, light buses and light trucks, General Assortment No. 6 shown above, consisting of one straight mandrel, ten adapters and eight taper mandrels, is highly practical since it will take care of 85% of all makes, including all of the popular priced cars, buses and trucks. For description and prices of all mandrels and adapters, see page 57.

## Brake Drum Bulletin No. 4

**"How to True Brake Drums"**

**For the Shop** already engaged in handling brake and wheel work and for the shop considering entering this line, the 16-page bulletin shown at right will be a valuable reference book. Bulletin No. 4 shows the latest precision methods for doing brake drum truing and wheel servicing work. It also contains a chart listing the proper mandrels and adapters to be used for mounting the wheels of different makes in the lathe.

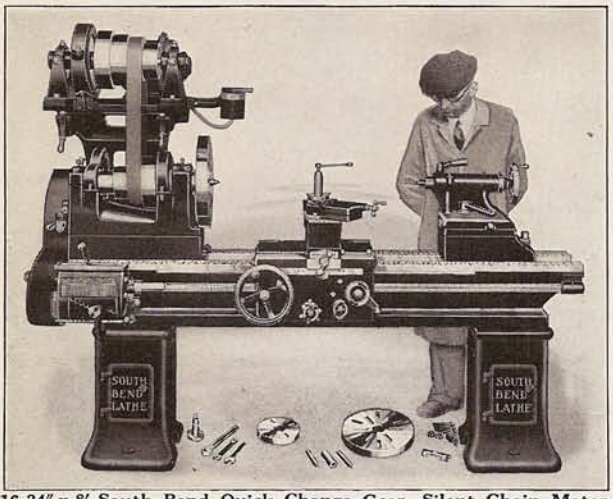



**Contains 35 Illustrations**

**Bulletin No. 4** also illustrates, describes and prices the different sizes and types of lathes available for different types of shops. Mailed upon request, postpaid.

# 16-24" General Purpose Lathe—Countershaft Drive and Motor Drive

## Supplied in Quick Change Gear and Standard Change Gear Types




16-24" x 8' South Bend Quick Change Gear, Silent Chain Motor Driven General Purpose Lathe.....$874.00

**The 16-24-inch General Purpose Lathe,** shown at left, is the regular 16-inch South Bend Lathe equipped with permanent raising blocks under the headstock, tailstock and tool rest to increase the swing of the lathe to 24-inches. Repair Shops, Machine Shops and Motor Service Shops find this lathe practical and efficient for all average machine work, as well as occasional turning and boring operations on jobs of large diameter.

**Principal Features and Specifications** of this lathe are the same (except swing sizes) as those listed under the 16-inch lathe described on page 6.

**Equipment Included in Price** of the 16-24-inch General Purpose Lathe: Silent motor drive unit (with motor drive lathes); countershaft (with countershaft drive lathes); large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; change gears (with Standard Change Gear Lathes); wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of the 16-24-inch Silent Chain Motor Driven Lathe consists of: 1 H.P. 1200 R.P.M. reversing motor; reversing switch; wiring between motor and switch enclosed in flexible metal conduit; the necessary driving belts; and complete directions for wiring.

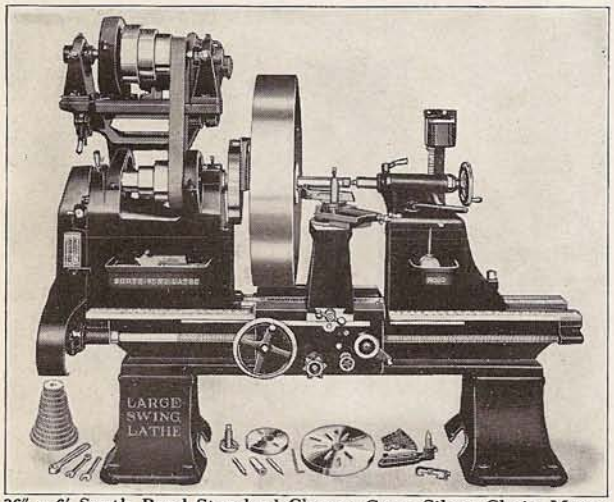
### Net Factory Prices 16-24-inch 1934 Model South Bend General Purpose Lathes

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Carriage Inches | Power Required H.P. | COUNTERSHAFT DRIVE LATHES | | | | | SILENT CHAIN MOTOR DRIVE LATHES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Approx. Weight Crated Pounds | Standard Change Gear Lathe | | Quick Change Gear Lathe | | Approx. Weight Crated Pounds | Standard Change Gear Lathe | | Quick Change Gear Lathe | |
| | | | | | | Cat. No. | Price | Cat. No. | Price | | Cat. No. | 3-Phase 60-Cycle A.C. Motor | Cat. No. | 3-Phase 60-Cycle A.C. Motor |
| 24¼ | 6 | 30 | 17 | 1 | 2025 | 58-C | $580.00 | 76-C | $640.00 | 2485 | 358-C | $772.00 | 376-C | $832.00 |
| 24¼ | 7 | 42 | 17 | 1 | 2105 | 58-D | 601.00 | 76-D | 661.00 | 2565 | 358-D | 793.00 | 376-D | 853.00 |
| 24¼ | 8 | 54 | 17 | 1 | 2185 | 58-E | 622.00 | 76-E | 682.00 | 2645 | 358-E | 814.00 | 376-E | 874.00 |
| 24¼ | 10 | 78 | 17 | 1 | 2345 | 58-G | 668.00 | 76-G | 728.00 | 2805 | 358-G | 860.00 | 376-G | 920.00 |
| 24¼ | 12 | 102 | 17 | 1 | 2575 | 58-H | 733.00 | 76-H | 793.00 | 3035 | 358-H | 925.00 | 376-H | 985.00 |
| 24¼ | 14 | 126 | 17 | 1 | 2800 | 58-K | 790.00 | 76-K | 850.00 | 3260 | 358-K | 982.00 | 376-K | 1042.00 |

Lathe with 12-foot and 14-foot bed is equipped with center leg which is included in price of the lathe.
For 1-phase Instant Reversing Motor, add $38.00 to above prices. For Direct Current Instant Reversing Motor and Reversing Switch, add $66.00.

# 36-inch General Purpose Lathe—Countershaft Drive and Motor Drive

## Supplied in Quick Change Gear and Standard Change Gear Types




36" x 6' South Bend Standard Change Gear, Silent Chain Motor Driven General Purpose Lathe.....$842.00

**The 36-inch General Purpose Lathe,** shown at left, is the regular 16-inch South Bend Lathe equipped with permanent raising blocks under the headstock, tailstock and tool rest to increase the swing of the lathe to 36-inches. Repair shops, machine shops and motor service shops find this lathe practical and efficient for all average machine work, as well as occasional turning and boring operations on jobs of large diameter.

**Principal Features and Specifications** of this lathe are the same (except swing sizes) as those listed under the 16-inch lathe described on page 6.

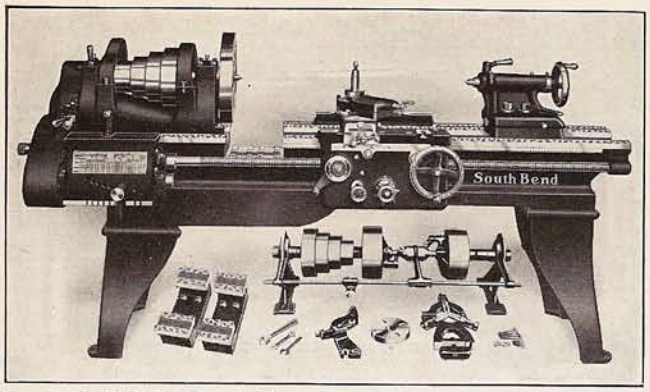
**Equipment Included in Price** of the 36-inch General Purpose Lathe: Silent motor drive unit (with motor drive lathes); countershaft (with countershaft drive lathes); large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; change gears (with Standard Change Lathes); wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of the 36-inch Silent Chain Motor Driven Lathe consists of: 1 H.P. 1200 R.P.M. reversing motor; reversing switch; wiring between motor and switch enclosed in flexible metal conduit; the necessary driving belts; and complete directions for wiring.

### Net Factory Prices 36-inch 1934 Model South Bend General Purpose Lathes

| Swing Over Bed Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Carriage Inches | Power Required H.P. | COUNTERSHAFT DRIVE LATHES | | | | | SILENT CHAIN MOTOR DRIVE LATHES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Approx. Weight Crated Pounds | Standard Change Gear Lathe | | Quick Change Gear Lathe | | Approx. Weight Crated Pounds | Standard Change Gear Lathe | | Quick Change Gear Lathe | |
| | | | | | | Cat. No. | Price | Cat. No. | Price | | Cat. No. | 3-Phase 60-Cycle A.C. Motor | Cat. No. | 3-Phase 60-Cycle A.C. Motor |
| 33¼ | 6 | 27 | 17 | 1 | 2195 | 2-BC | $650.00 | 4-BC | $710.00 | 2620 | 302-BC | $842.00 | 304-BC | $ 902.00 |
| 36¼ | 7 | 39 | 17 | 1 | 2275 | 2-BD | 671.00 | 4-BD | 731.00 | 2700 | 302-BD | 863.00 | 304-BD | 923.00 |
| 36¼ | 8 | 51 | 17 | 1 | 2355 | 2-BE | 692.00 | 4-BE | 752.00 | 2780 | 302-BE | 884.00 | 304-BE | 944.00 |
| 36¼ | 10 | 75 | 17 | 1 | 2515 | 2-BG | 738.00 | 4-BG | 798.00 | 2940 | 302-BG | 930.00 | 304-BG | 990.00 |
| 36¼ | 12 | 99 | 17 | 1 | 2745 | 2-BH | 803.00 | 4-BH | 863.00 | 3170 | 302-BH | 995.00 | 304-BH | 1055.00 |
| 36¼ | 14 | 123 | 17 | 1 | 2970 | 2-BK | 860.00 | 4-BK | 920.00 | 3395 | 302-BK | 1052.00 | 304-BK | 1112.00 |

Lathe with 12-foot and 14-foot bed is equipped with center leg, which is included in price of the lathe.
For 1-phase Instant Reversing Motor, add $38.00 to above prices. For Direct Current Instant Reversing Motor and Reversing Switch, add $66.00.




Countershaft Drive Gap Lathe and Equipment. Note Reinforced Bed

# Gap Lathes—Countershaft Drive

**Supplied in Quick Change and Standard Change Gear Types**

**The South Bend Gap Lathe,** shown at left, is supplied in six sizes: 11″, 13″, 15″, 16″, 18″ and 24″ swing. Each size of Gap Bed Lathe has the same mechanical features and specifications as regular straight bed lathes of similar size, described in this catalog, except for the gap in the bed, removable bridges, and transposed control of the apron.

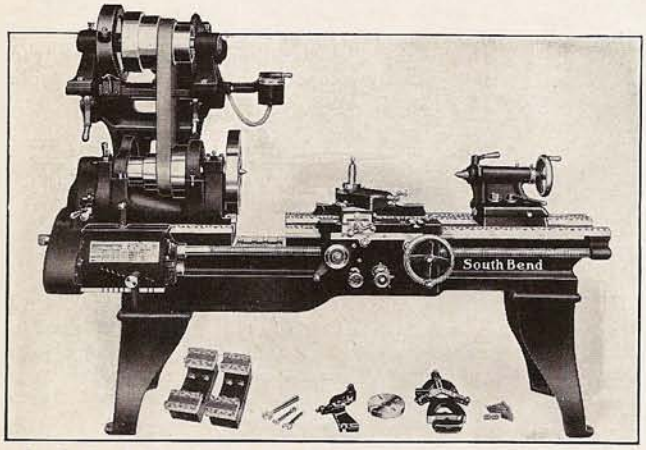
**The Gap Lathe** is practical for shops having occasion to bore or machine work of large diameter, because of the added swing obtainable in removing one or both bridges.

**Regular Equipment Includes:** Removable bridges; countershaft; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; change gears (with Standard Change Gear Lathes); wrenches; installation plan and book, "How to Run a Lathe."

**Net Factory Prices of Popular Sizes of South Bend Double Gap Lathes—Countershaft Drive***

| Size of Lathe Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Gap Inches | Total Width of Gap Inches | Power Required H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | Quick Change Gear Lathes | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. of Lathe | Code Word | Net Factory Price | Cat. No. of Lathe | Code Word | Net Factory Price |
| 11 | 4 | 24 | 16 | 5 | ½ | 800 | 633-A | Ehibt | $ 335.00 | 684-A | Ecany | $ 375.00 |
| 11 | 5 | 36 | 16 | 5 | ½ | 870 | 633-B | Einty | 347.00 | 684-B | Edlow | 387.00 |
| 11 | 5½ | 42 | 16 | 5 | ½ | 905 | 633-S | Epone | 359.00 | 684-S | Emosp | 399.00 |
| 13 | 5 | 28 | 19 | 7 | ¾ | 1210 | 635-B | Gleta | 397.00 | 686-B | Gestr | 447.00 |
| 13 | 6 | 40 | 19 | 7 | ¾ | 1260 | 635-C | Glost | 412.00 | 686-C | Giant | 462.00 |
| 13 | 7 | 52 | 19 | 7 | ¾ | 1315 | 635-D | Golfe | 429.00 | 686-D | Gicyn | 479.00 |
| 15 | 6 | 36½ | 22 | 8 | 1 | 1775 | 639-C | Lucky | 485.00 | 688-C | Levor | 540.00 |
| 15 | 7 | 48½ | 22 | 8 | 1 | 1850 | 639-D | Ludlo | 503.00 | 688-D | Links | 558.00 |
| 15 | 10 | 84½ | 22 | 8 | 1 | 2095 | 639-G | Lynch | 567.00 | 688-G | Lozen | 622.00 |
| 16 | 6 | 34 | 24 | 8¼ | 1 | 2015 | 641-C | Mince | 540.00 | 692-C | Macon | 600.00 |
| 16 | 8 | 58 | 24 | 8¼ | 1 | 2175 | 641-E | Month | 580.00 | 692-E | Medic | 640.00 |
| 16 | 10 | 82 | 24 | 8¼ | 1 | 2335 | 641-G | Mytha | 624.00 | 692-G | Melte | 684.00 |
| 16 | 12 | 106 | 24 | 8¼ | 1 | 2565 | 641-H | Mykro | 687.00 | 692-H | Mezto | 747.00 |
| 18 | 6 | 29½ | 26 | 10 | 2 | 2610 | 643-C | Seaso | 655.00 | 694-C | Sabin | 725.00 |
| 18 | 8 | 53½ | 26 | 10 | 2 | 2810 | 643-E | Sedri | 705.00 | 694-E | Sande | 775.00 |
| 18 | 14 | 125½ | 26 | 10 | 2 | 3535 | 643-K | Sekda | 899.00 | 694-K | Sawte | 969.00 |
| 24† | 8 | 43 | 36 | 15 | 3 | 4840 | 657-E | Weave | 1380.00 | 698-E | Wably | 1480.00 |
| 24† | 12 | 91 | 36 | 15 | 3 | 5490 | 657-H | Wedna | 1565.00 | 698-H | Wades | 1665.00 |
| 24† | 14 | 115 | 36 | 15 | 3 | 5760 | 657-K | Wefto | 1649.00 | 698-K | Wafle | 1749.00 |
| 24† | 16 | 139 | 36 | 15 | 3 | 6040 | 657-M | Wegnr | 1737.00 | 698-M | Wagun | 1837.00 |

*Available in several bed lengths not listed in tabulation above; details on request. †24-inch Lathe Bulletin on request.




South Bend Gap Lathe with Silent Motor Drive and Equipment

# Gap Lathes—Silent Motor Drive

**Supplied in Quick Change and Standard Change Gear Types**

**The South Bend Gap Lathe** with Silent Motor Drive is available in the same sizes and is identical with the Countershaft Driven Gap Lathe shown above, except that it is equipped with Silent Motor Drive unit. See page 36.

**Equipment Included in the Price** of each Silent Motor Driven Gap Lathe consists of: Removable bridges; complete silent motor drive unit; large and small face plates; tool post; thread cutting stop; two 60° lathe centers; spindle sleeve; center rest; follower rest; change gears (with Standard Change Gear Lathes); wrenches; installation plan and book, "How to Run a Lathe."

**Electrical Equipment** included in price of South Bend Silent Motor Driven Gap Lathes consists of: instant reversing motor; drum reversing switch; wiring between motor and switch enclosed in flexible metal conduit; wiring directions and the necessary drive belts.

**Net Factory Prices of Popular Sizes of South Bend Double Gap Lathes—Silent Motor Drive***

| Swing of Lathe Inches | Length of Bed Feet | Distance Between Centers Inches | Swing Over Gap Inches | Total Width of Gap Inches | Power Required H.P. | Approx. Weight Crated Pounds | Standard Change Gear Lathes | | | | | Quick Change Gear Lathes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cat. No. of Lathe | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor | Cat. No. of Lathe | Code Word | 3-Phase 60-Cycle A.C. Motor | 1-Phase 60-Cycle A.C. Motor | Direct Current Motor |
| 11 | 4 | 24 | 16 | 5 | ½ | 995 | 3633-A | Siset | $ 428.00 | $ 439.00 | $ 435.00 | 3684-A | Siput | $ 468.00 | $ 479.00 | $ 475.00 |
| 11 | 5 | 36 | 16 | 5 | ½ | 1065 | 3633-B | Sisiv | 440.00 | 451.00 | 447.00 | 3684-B | Sirar | 480.00 | 491.00 | 487.00 |
| 11 | 5½ | 42 | 16 | 5 | ½ | 1100 | 3633-S | Siste | 452.00 | 463.00 | 459.00 | 3684-S | Sirov | 492.00 | 503.00 | 499.00 |
| 13 | 5 | 28 | 19 | 7 | ¾ | 1560 | 3635-B | Gudel | 530.00 | 552.00 | 566.00 | 3686-B | Ganex | 580.00 | 602.00 | 616.00 |
| 13 | 6 | 40 | 19 | 7 | ¾ | 1610 | 3635-C | Gusom | 545.00 | 567.00 | 581.00 | 3686-C | Gapiz | 595.00 | 617.00 | 631.00 |
| 13 | 7 | 52 | 19 | 7 | ¾ | 1665 | 3635-D | Golaz | 562.00 | 584.00 | 598.00 | 3686-D | Gilah | 612.00 | 634.00 | 648.00 |
| 15 | 6 | 36½ | 22 | 8 | 1 | 2125 | 3639-C | Lorib | 625.00 | 663.00 | 691.00 | 3688-C | Lahop | 680.00 | 718.00 | 746.00 |
| 15 | 7 | 48½ | 22 | 8 | 1 | 2200 | 3639-D | Lotac | 643.00 | 681.00 | 709.00 | 3688-D | Lexaq | 698.00 | 736.00 | 764.00 |
| 15 | 10 | 84½ | 22 | 8 | 1 | 2445 | 3639-G | Lusaf | 707.00 | 745.00 | 773.00 | 3688-G | Lifus | 762.00 | 800.00 | 828.00 |
| 16 | 6 | 34 | 24 | 8¼ | 1 | 2370 | 3641-C | Mekug | 682.00 | 720.00 | 748.00 | 3692-C | Mabut | 742.00 | 780.00 | 808.00 |
| 16 | 8 | 58 | 24 | 8¼ | 1 | 2530 | 3641-E | Minul | 722.00 | 760.00 | 788.00 | 3692-E | Mafor | 782.00 | 820.00 | 848.00 |
| 16 | 10 | 82 | 24 | 8¼ | 1 | 2690 | 3641-G | Misat | 766.00 | 804.00 | 832.00 | 3692-G | Megac | 826.00 | 864.00 | 892.00 |
| 16 | 12 | 106 | 24 | 8¼ | 1 | 2920 | 3641-H | Moris | 829.00 | 867.00 | 895.00 | 3692-H | Mehop | 889.00 | 927.00 | 955.00 |
| 18 | 6 | 29½ | 26 | 10 | 2 | 3110 | 3643-C | Sulax | 845.00 | 916.00 | 930.00 | 3694-C | Selif | 915.00 | 986.00 | 1000.00 |
| 18 | 8 | 53½ | 26 | 10 | 2 | 3310 | 3643-E | Secip | 895.00 | 966.00 | 980.00 | 3694-E | Sidom | 965.00 | 1036.00 | 1050.00 |
| 18 | 14 | 125½ | 26 | 10 | 2 | 4035 | 3643-K | Sulen | 1089.00 | 1160.00 | 1174.00 | 3694-K | Sunet | 1159.00 | 1230.00 | 1244.00 |
| 24† | 8 | 43 | 36 | 15 | 3 | 5715 | 3657-E | Relop | 1688.00 | 1788.00 | 1825.00 | 3698-E | Rekak | 1788.00 | 1888.00 | 1925.00 |
| 24† | 12 | 91 | 36 | 15 | 3 | 6365 | 3657-H | Remam | 1873.00 | 1973.00 | 2010.00 | 3698-H | Rekno | 1973.00 | 2073.00 | 2110.00 |
| 24† | 14 | 115 | 36 | 15 | 3 | 6635 | 3657-K | Remip | 1957.00 | 2057.00 | 2094.00 | 3698-K | Rekup | 2057.00 | 2157.00 | 2194.00 |
| 24† | 16 | 139 | 36 | 15 | 3 | 6915 | 3657-M | Remur | 2045.00 | 2145.00 | 2182.00 | 3698-M | Relem | 2145.00 | 2245.00 | 2282.00 |

*Available in several bed lengths not listed in tabulation above; details on request. †24-inch Lathe Bulletin on request.

**NOTE:** Gap Lathes cannot be supplied with Underneath Belt Motor Drive.

# Attachments for 1934 Model South Bend Lathes

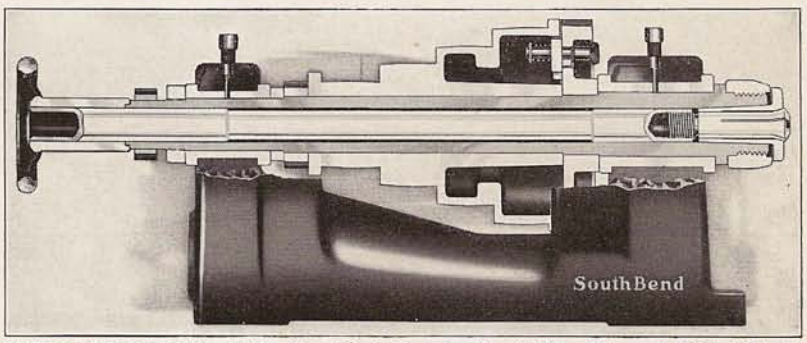
## 38 Practical Lathe Attachments for Each Size Lathe

**South Bend Lathes** are noted for the number of practical attachments with which they can be equipped to take care of such work as milling, keyway cutting, grinding, turning tapers, etc., in the tool room, manufacturing plant or general machine shop. Most of these attachments may be purchased with the lathe or ordered later when needed. These attachments are illustrated, described and priced on the following pages for each size South Bend Lathe. Many of the attachments listed are designed for use only on South Bend Lathes and cannot be fitted to lathes of other makes.

# Draw-in Collet Chuck Attachments for South Bend Lathes

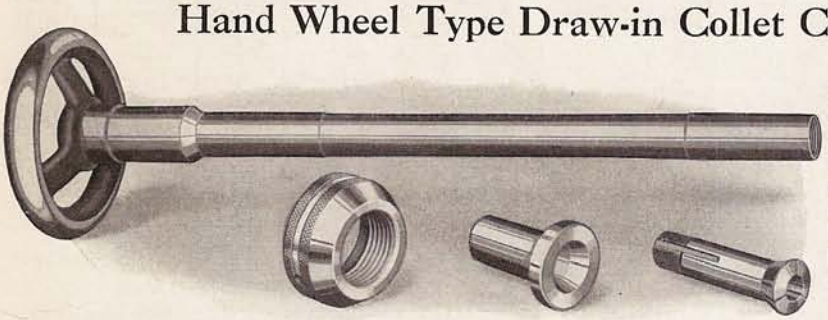
**The Draw-in Collet Chuck** is used on the lathe in the tool room for making small accurate tools and in the manufacturing plant for making small parts for watches, typewriters, sewing machines, radios, etc. It is the most accurate type of chuck made and will center any small work instantly. The hollow draw bar permits bars and rods to be passed through the lathe spindle and held in the chuck for machining.

The Hollow Draw Bar extends through the lathe spindle and is threaded at one end, which causes the hardened and ground steel split collet to tighten or release the work when the draw bar is rotated.




**A Cross Section of the Lathe Headstock Showing Hand Wheel Draw-in Collet Chuck**

# Hand Wheel Type Draw-in Collet Chuck Attachment



**Hand Wheel Type Draw-in Collet Chuck with One Split Collet, Tapered Closing Sleeve, and Nose Cap for Protecting Spindle Nose Threads**

**Prices of Hand Wheel Draw-in Collet Chuck with One Round Split Collet***

| Size of Lathe | Catalog No. | Hole in Lathe Spindle | Collet Capacity in Sixty-Fourths (for Round Work) | Code Word | Price Each |
|---|---|---|---|---|---|
| Toolmaker | 4307 | ¾ in. | 1/64 in. up to ½ in. | Abgek | $29.00 |
| 9 in. | 4309 | ¾ in. | 1/64 in. up to ½ in. | Aaron | 32.00 |
| 11 in. | 4311 | ⅞ in. | 1/64 in. up to 9/16 in. | Abode | 35.00 |
| 13 in. | 4313 | 1 in. | 1/64 in. up to ⅝ in. | About | 40.00 |
| 15 in. | 4315 | 1⅛ in. | 1/64 in. up to ¾ in. | Above | 45.00 |
| 16 in. | 4316 | 1⅜ in. | 1/64 in. up to ⅞ in. | Adore | 50.00 |
| 18 in. | 4318 | 1 7/8 in. | 1/64 in. up to 1 in. | Adult | 55.00 |

*For prices of extra collets see page 51.

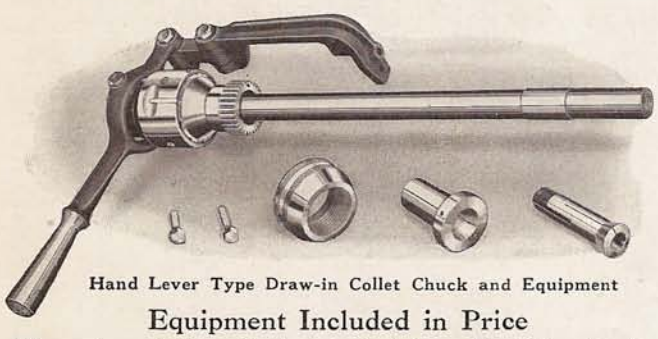
The Hand Wheel Type Draw-in Collet Chuck attachment is used to great advantage in the tool room in making small tools and parts where accuracy is essential. It is also suitable for small lot production work in the manufacturing plant. The work is held in the collet chuck by turning the hand wheel to the right and released by turning it to the left. It is necessary to stop the lathe spindle in order to open or close the chuck.

The capacity of the draw-in collet chuck is limited by the size of the hole in the spindle of the lathe on which it is used. See tabulation at left.

### Equipment Included In Price

The price of the attachment includes hand wheel and hollow draw bar, spindle nose cap and spanner wrench, tapered closing sleeve of tool steel, hardened and ground, and one round split collet of any size desired up to the maximum capacity of the lathe.

# Hand Lever Type Draw-in Collet Chuck Attachment



**Hand Lever Type Draw-in Collet Chuck and Equipment**

### Equipment Included in Price

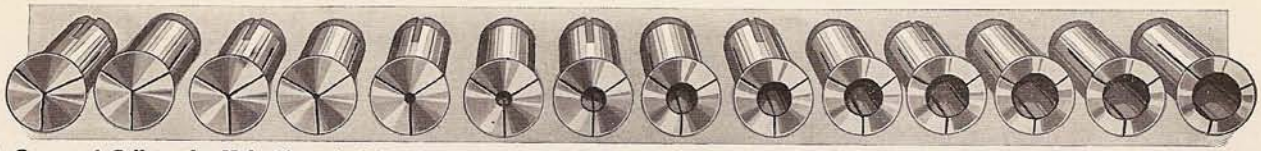
The price of the attachment includes adjustable chuck closing mechanism and hollow draw bar, spindle nose cap and spanner wrench, tapered closing sleeve of tool steel, hardened and ground, and one round split collet of any size desired up to the maximum capacity of the lathe.

The Hand Lever Type Draw-in Collet Chuck is recommended for rapid production work in manufacturing small interchangeable parts where accuracy and precision are required. This chuck permits releasing and feeding bar stock through the collet without stopping the lathe. This is accomplished by means of an adjustable chuck closer. The gripping action of the collet can be adjusted to any desired tension by regulating the cylinder of the chuck closer.

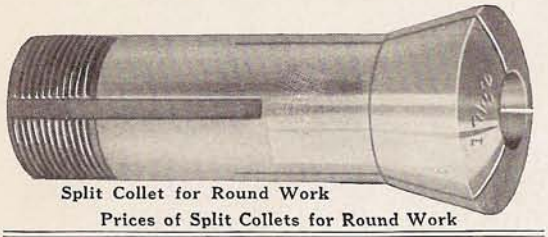
**Net Factory Prices of Hand Lever Draw-in Collet Chuck Attachment with One Round Split Collet***

| Size of Lathe | Catalog No. | Hole in Lathe Spindle | Collet Capacity in 64ths (for Round Work) | Code Word | Price Each |
|---|---|---|---|---|---|
| Toolmaker | 5207 | ¾ in. | 1/64 in. up to ½ in. | Allaz | $ 75.00 |
| 9 in. | 5209 | ¾ in. | 1/64 in. up to ½ in. | Allen | 80.00 |
| 11 in. | 5211 | ⅞ in. | 1/64 in. up to 9/16 in. | Among | 90.00 |
| 13 in. | 5213 | 1 in. | 1/64 in. up to ⅝ in. | Andes | 105.00 |
| 15 in. | 5215 | 1⅛ in. | 1/64 in. up to ¾ in. | Askew | 120.00 |
| 16 in. | 5216 | 1⅜ in. | 1/64 in. up to ⅞ in. | Aster | 130.00 |
| 18 in. | 5218 | 1 7/8 in. | 1/64 in. up to 1 in. | Atoll | 160.00 |

*For prices of extra collets see page 51.



**A Group of Collets the Hole Size of which Range from $\frac{1}{16}$-inch up to $\frac{7}{8}$-inch in diameter in Steps of Sixteenths (16ths) of an inch.**

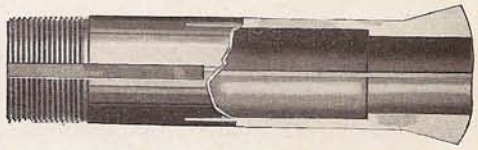


**Split Collet for Round Work**

# Split Collets for Round Work

## Used in Draw-in Collet Chuck Attachments

Split Collets for round work, as illustrated at left, are widely used for manufacturing and in the tool room. Collets for Draw-in Collet Chuck Attachments used on all South Bend Lathes are made of tool steel, hardened and tempered. They are ground both outside and inside to insure accuracy. The left end is threaded for the hollow draw bar of the draw-in chuck and has a keyway to prevent the collet from turning while holding the work. The other end is tapered to conform to the tapered closing sleeve of the attachment. Three slots divide the tapered end of the collet into segments. This permits the collet to grip or release the work as it is drawn into or released from the tapered closing sleeve in the lathe spindle.



**Cross Section View of Split Collet showing its accurate construction**

**Prices of Split Collets for Round Work**

| Size of Lathe | Catalog No. | Hole in Lathe Spindle | Collet Capacity in Sixty-Fourths (for Round Work) | Code Word | Price Each |
|---|---|---|---|---|---|
| Toolmaker | 609-T | $\frac{3}{4}$ in. | $\frac{1}{64}$ in. up to $\frac{1}{2}$ in. | Cadhy | $2.50 |
| 9 in. | 609 | $\frac{3}{4}$ in. | $\frac{1}{64}$ in. up to $\frac{1}{2}$ in. | Cabot | 2.50 |
| 11 in. | 611 | $\frac{7}{8}$ in. | $\frac{1}{64}$ in. up to $\frac{9}{16}$ in. | Cello | 3.50 |
| 13 in. | 613 | 1 in. | $\frac{1}{64}$ in. up to $\frac{5}{8}$ in. | Chose | 4.00 |
| 15 in. | 615 | $1\frac{1}{8}$ in. | $\frac{1}{64}$ in. up to $\frac{3}{4}$ in. | Civit | 4.25 |
| 16 in. | 616 | $1\frac{3}{8}$ in. | $\frac{1}{64}$ in. up to $\frac{7}{8}$ in. | Clear | 4.75 |
| 18 in. | 618 | $1\frac{7}{16}$ in. | $\frac{1}{64}$ in. up to 1 in. | Comet | 5.00 |

No. 609½—Special Collet for Toolmaker and 9-inch lathes, has $\frac{3}{16}$-inch hole in front end for holding Jewelers' Plunger Blanks....$3.00
No. 611½—Special Collet for 11-inch lathes, $\frac{5}{8}$" capacity....$4.00
No. 613½—Special Collet for 13-inch lathes, $\frac{13}{16}$" capacity....$4.50

## Range of Collet Sizes for South Bend Lathes

Collets for round work are furnished from $\frac{3}{64}$-inch hole diameter to hole capacity of hollow draw bar by 64ths, 32nds, and 16ths of an inch, as shown in the price tabulation above. Collets of special hole sizes such as odd diameter drill and wire gauges, and metric sizes can be furnished if required.

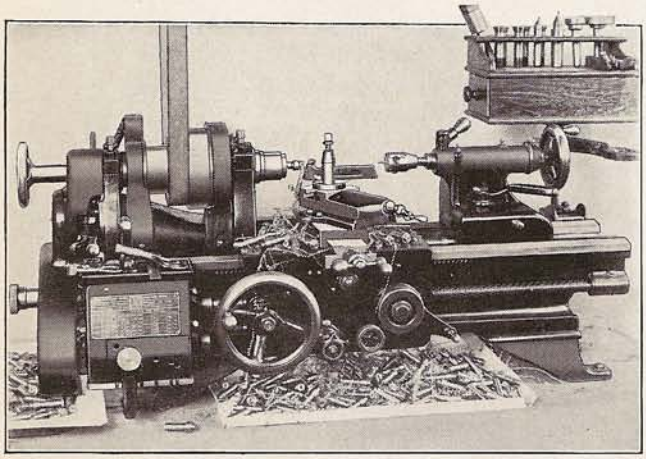
## Ordering Extra Collets for Draw-in Collet Chucks

When ordering extra collets for Draw-in Collet Chuck Attachments, specify size of hole wanted in collet and size of lathe in which the collet is to be used. The tabulation above shows the size range of collets for each size lathe.

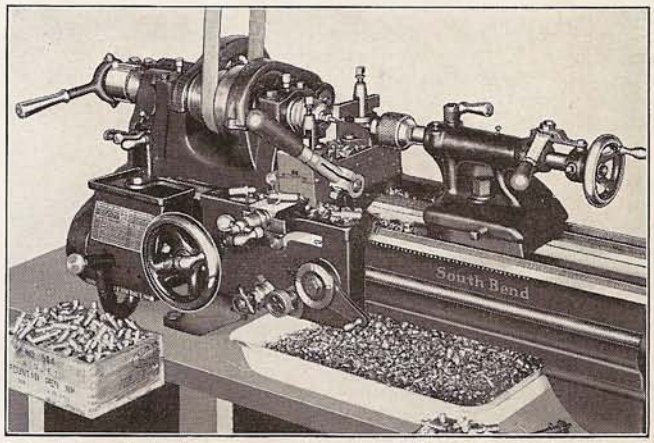
**Square** **Hexagon** **Step Collet**

## Special Split Collets

The illustrations above show three special split collets for holding square, hexagonal or round stock. Prices quoted on request.

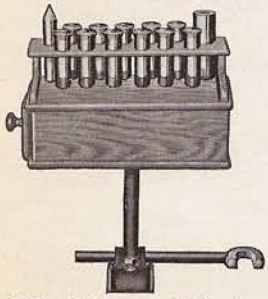


**9-inch South Bend Bench Lathe Equipped with a Hand Wheel Draw-in Collet Chuck Attachment for Manufacturing Small Screws**




**Forming and Cutting-Off Duplicate Parts Held in the Hand Lever Type Draw-in Collet Chuck Attachment**

## Collet Cabinet and Bracket



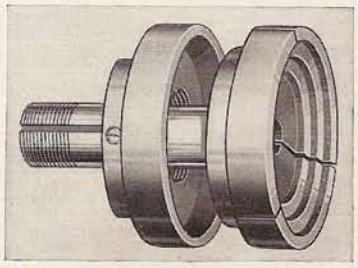
**Collet Cabinet and Bracket**

Holds collets, centers, wrenches, small tools, etc. Made of oak, finished in natural color with two coats of shellac. Price includes cabinet, rack for holding draw bar of draw-in collet chuck, and bracket for attaching cabinet to lathe. Collets shown are not included in price of cabinet.

**Prices of Collet Cabinet and Bracket**

| Size Lathe | Cat. No. | Code | Price |
|---|---|---|---|
| Toolmaker | 1079 | Cadfo | $12.00 |
| 9 in. | 1081 | Caged | 12.00 |
| 11 in. | 1082 | Crome | 12.00 |
| 13 in. | 1083 | Cnoke | 12.00 |
| 15 in. | 1084 | Cnarl | 15.00 |
| 16 in. | 1085 | Cadro | 15.00 |
| 18 in. | 1086 | Catch | 15.00 |

## Step Chuck and Closer



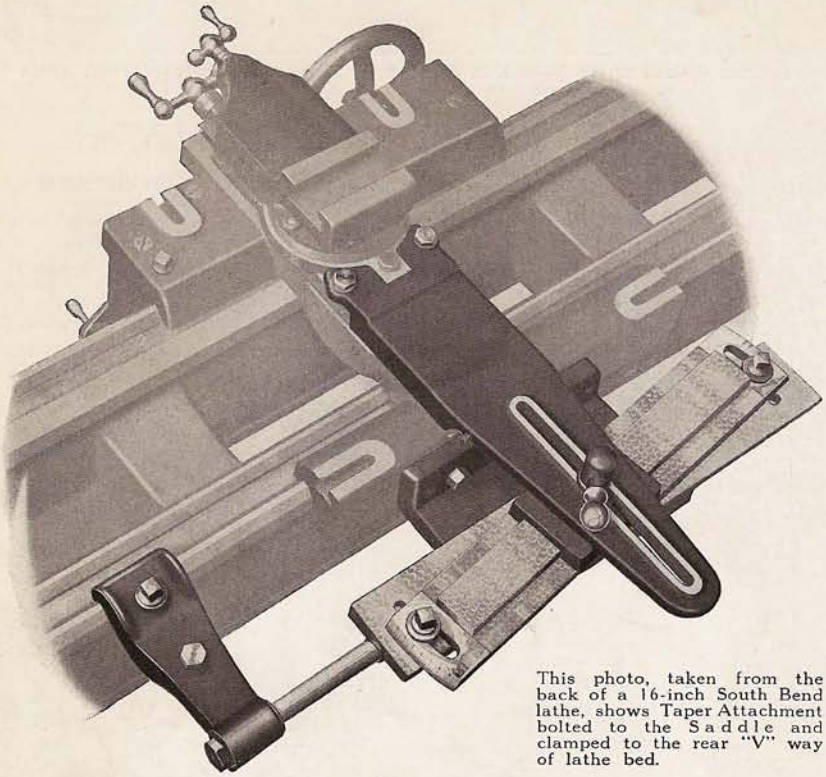
**Step Chuck and Closer for Holding Discs and Other Round Flat Work**

The step chuck is used for rapid and accurate chucking of gear blanks and other round work. Operates similar to the split collets described above and is used with either hand wheel or hand lever type draw-in chuck mechanism.

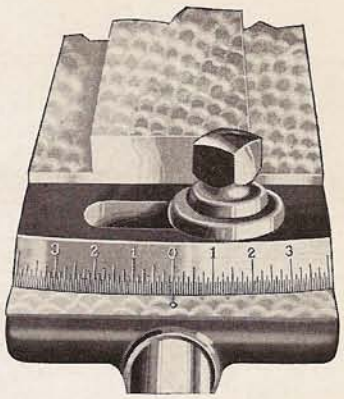
Step chucks are supplied to order, either stepped and ready to use or blanks which are split but not stepped and may be bored to the required diameter. Step chucks are made of steel, cast iron, or brass. Prices on application.

# Graduated Taper Attachment for South Bend Lathes

## For Turning and Boring All Classes of Taper Work



This photo, taken from the back of a 16-inch South Bend lathe, shows Taper Attachment bolted to the Saddle and clamped to the rear "V" way of lathe bed.



### Close-up of Graduation

#### On End of Swivel Bar

The Swivel Bar, which controls the Taper, is graduated—one end in inches per foot of taper and the other end in degrees. The attachment can be set for any Taper up to 3 inches per foot.

The Taper Attachment is used for tool room work, manufacturing and production work for turning and boring all classes of taper work. It is especially practical on production work where a large number of duplicate parts are to be taper machined by turning or boring. The attachment may be left on the lathe at all times when doing either taper or straight work. It requires only a couple of minutes to change the taper attachment from straight to taper machining or vice versa. The attachment is of the same general design for each size lathe, differing only in dimension.

### Fitting the Taper Attachment

It is advisable to order the Graduated Taper Attachment with the lathe so that it can be accurately fitted at factory; however, it can be purchased and fitted by the customer any time after the lathe is in operation in his shop as the back of the saddle is planed and drilled to receive it.

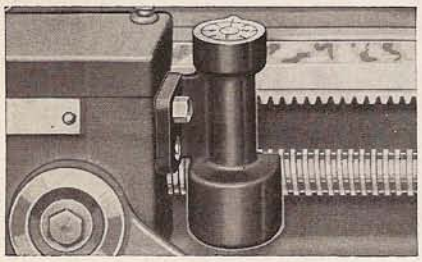
### Attachment Operates Entire Length of Bed

The Taper Attachment is bolted to the Lathe carriage and can be set for taper turning or boring at any position along the entire length of the lathe bed. The Attachment does not interfere with straight turning as it does not operate unless the clamp on the back "V" of the bed is locked.

**Net Factory Prices of Graduated Taper Attachment**

| Size of Lathe | Catalog No. | Maximum Taper | | | Approx. Shipping Weight | Code Word | Price Attachment |
|---|---|---|---|---|---|---|---|
| | | At One Setting | Per Foot | In Degrees | | | |
| *Toolmaker | 207 | 7 in. | 3 in. | 14 | 30 lbs. | Dasla | *$50.00 |
| 9 in. | 209 | 9 in. | 3 in. | 14 | 40 lbs. | Dashe | 55.00 |
| 11 in. | 211 | 9 in. | 3 in. | 14 | 50 lbs. | Devor | 65.00 |
| 13 in. | 213 | 10 in. | 3 in. | 14 | 65 lbs. | Digit | 75.00 |
| 15 in. | 215 | 10 in. | 3 in. | 14 | 80 lbs. | Doted | 85.00 |
| 16 in. | 216 | 12 in. | 3 in. | 14 | 100 lbs. | Dress | 90.00 |
| 18 in. | 218 | 12 in. | 3 in. | 14 | 120 lbs. | Dunns | 100.00 |

*Must be fitted to lathe in our factory.

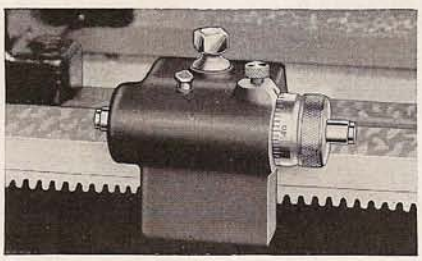


### Thread Dial Indicator

This attachment eliminates the necessity of reversing the lathe to return the carriage to the starting point to catch the thread at the beginning of each successive cut that is taken. The dial is numbered and graduated to show when to clamp the half-nuts on the lead screw for the next cut.

**Prices of Thread Dial Indicator**

| Size of Lathe | Cat. No. | Code Word | Price | Size of Lathe | Cat. No. | Code Word | Price |
|---|---|---|---|---|---|---|---|
| Toolmaker | 807 | Abfah | $ 8.00 | 13 in. | 813 | Advis | $11.00 |
| 9 in. | 809 | Abaft | 9.00 | 15 in. | 815 | Aesop | 12.00 |
| 11 in. | 811 | Acres | 10.00 | 16 in. | 816 | Aflot | 13.00 |
| | | | | 18 in. | 818 | Agrol | 15.00 |

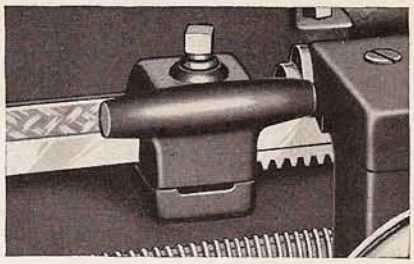


### Micrometer Carriage Stop

This attachment is useful in accurate facing, turning, boring, etc. It is used for stopping the carriage at any point along lathe bed. Can be used on either side of carriage. Has a micrometer adjustment. The stop is hardened on both ends and may be locked for doing duplicate work.

**Prices of Micrometer Carriage Stop**

| Size of Lathe | Cat. No. | Code Word | Price | Size of Lathe | Cat. No. | Code Word | Price |
|---|---|---|---|---|---|---|---|
| Toolmaker | 968 | Caboc | $10.00 | 13 in. | 973 | Chain | $13.00 |
| 9 in. | 971 | Calef | 11.00 | 15 in. | 974 | Cigar | 14.00 |
| 11 in. | 972 | Ceded | 12.00 | 16 in. | 975 | Climb | 15.00 |
| | | | | 18 in. | 976 | Coral | 17.00 |



### Plain Carriage Stop

A practical and inexpensive carriage stop for general facing, turning, boring, etc. Can be used on either side of carriage, at any point along the lathe bed. Attachment has positive clamp with collar screw which locks stop to front V-way of bed without marring the hand-scraped surface.

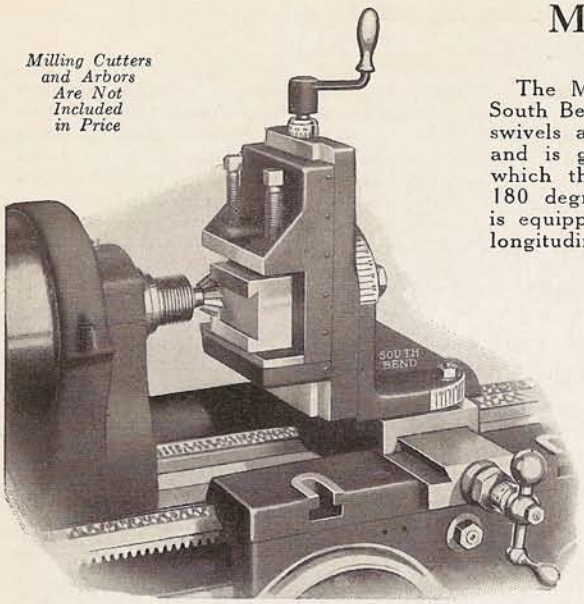
**Prices of Plain Carriage Stop**

| Size of Lathe | Cat. No. | Code Word | Price | Size of Lathe | Cat. No. | Code Word | Price |
|---|---|---|---|---|---|---|---|
| Toolmaker | 751 | Tajso | $2.25 | 13 in. | 754 | Takto | $3.00 |
| 9 in. | 752 | Tajut | 2 50 | 15 in. | 755 | Takwy | 3.50 |
| 11 in. | 753 | Takre | 2 75 | 16 in. | 756 | Talit | 4.00 |
| | | | | 18 in. | 757 | Talov | 4.50 |

# Milling and Keyway Cutting Attachment

**For All Sizes and Types of South Bend Lathes**

*Milling Cutters and Arbors Are Not Included in Price*



Milling a Dovetail on a Lathe Using the Milling Attachment

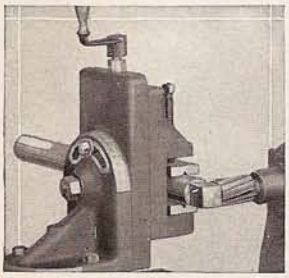
The Milling and Keyway Cutting Attachment is made for all sizes of South Bend Lathes from 9-inch to 36-inch. It fits on compound rest base, swivels all the way around in a horizontal plane like the compound rest and is graduated 180 degrees. In addition, the upright Angle Plate to which the vise is attached swivels in a vertical plane, and is graduated 180 degrees. The vertical adjusting screw at the top of the attachment is equipped with a micrometer graduated collar. The automatic cross and longitudinal feeds of the carriage can be used as well as the hand feeds.

A lathe fitted with a milling and keyway cutting attachment makes an excellent equipment for the small shop that has not enough work to invest in an expensive milling machine.

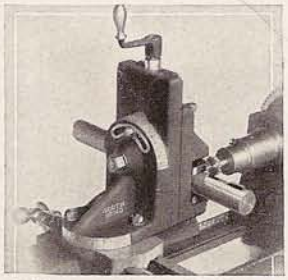
**The Equipment** consists of milling attachment, two standard V-blocks for holding round work, one crank handle for feed screw, one double end wrench, T-bolts and nuts for installing.

**Net Factory Prices of Milling and Keyway Cutting Attachment**

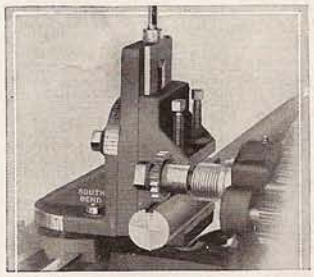
| Size of Lathe | Cat. No. | Vertical Feed | Cross Feed | Vise Will Hold | Depth of Jaws | Width of Jaws | Weight Each | Code Word | Price Each |
|---|---|---|---|---|---|---|---|---|---|
| Toolmaker | 9 | 2½ in. | 5½ in. | 1⅜ in. | ⅛ in. | 3 in. | 20 lbs. | Vadaf | $40.00 |
| 9 in. | 1 | 3 in. | 7 in. | 1½ in. | ⅛ in. | 3½ in. | 25 lbs. | Vagon | 45.00 |
| 11 in. | 2 | 4 in. | 8 in. | 1½ in. | ⅛ in. | 3½ in. | 30 lbs. | Valet | 50.00 |
| 13 in. | 3 | 4¼ in. | 9 in. | 2¾ in. | 1⅝ in. | 4⅞ in. | 40 lbs. | Victo | 55.00 |
| 15 in. | 4 | 6 in. | 9¾ in. | 3½ in. | 1¾ in. | 5½ in. | 50 lbs. | Visit | 65.00 |
| 16 in. | 5 | 6 in. | 9¾ in. | 4 in. | 2 in. | 5¾ in. | 65 lbs. | Varen | 75.00 |
| 18 in. | 5½ | 6½ in. | 14 in. | 4 in. | 2 in. | 5¾ in. | 75 lbs. | Voxar | 90.00 |



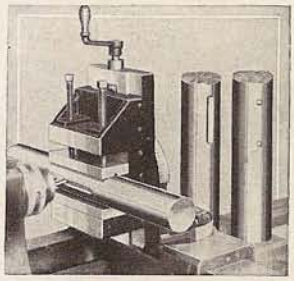
Squaring the End of a Shaft



Milling a Woodruff Keyway



Milling a Standard Keyway

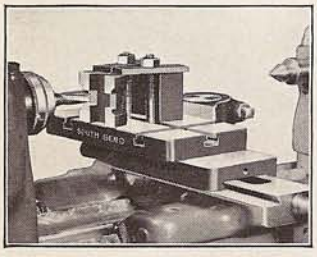


End-Milling a Keyway in Shaft

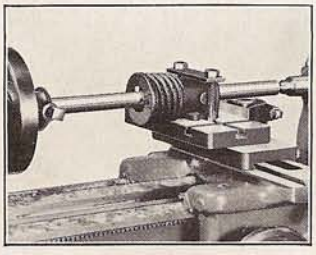
## Milling and Boring Table for 9-inch Toolmaker Lathe

The adjustable milling and boring table is practical for milling, boring, keyway cutting, squaring end of shafts, etc., as illustrated below. The table is attached to compound rest base of lathe, has three T-slots for clamping work. May be adjusted for height by moving up or down on a central post about which the table swivels. Equipment consists of table, post, and clamp bolt.

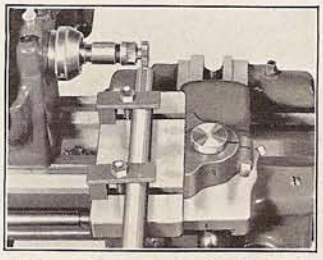
**No. 903, Milling and Boring Table for 9-inch Toolmaker Lathes, Code Word, "Yakab." Price.....$15.00**



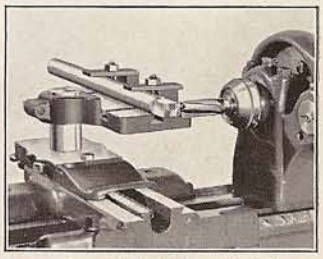
Milling Face of Bronze Bearing on Milling and Boring Table



Boring a Small Engine Cylinder on Milling and Boring Table



Milling Keyway in Steel Shaft on Milling and Boring Table



Squaring End of Steel Shaft on Milling and Boring Table

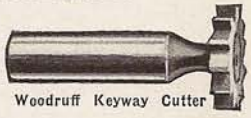
## Milling Cutters and Arbors for Milling Attachment

Plain Milling Cutter

Side Milling Cutter

Spiral End Mill

Collet Chuck for Woodruff Cutters



Woodruff Keyway Cutter

Arbor for Side and Plain Milling Cutters

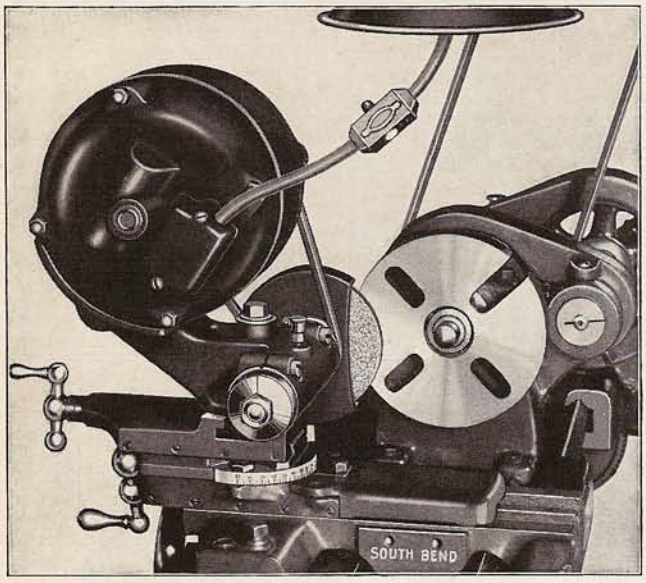
Screw Arbor for Angular Milling Cutter

Angular Milling Cutter

We can supply any of the above popular milling cutters and arbors in all standard and special sizes. Cutters are of high speed steel and are made by one of the leading tool manufacturers. They are guaranteed to be of the highest quality. We will be glad to quote you prices on any of the above, if you will mention the size and type you desire.

# No. 14 Electric Grinder for South Bend Lathes

## For Grinding Hardened or Tempered Tools and Parts




No. 14 Electric Grinder Mounted on Compound Rest of Lathe

The No. 14 Electric Grinder makes a valuable addition to the screw cutting lathe in any shop that is not equipped with a modern tool room cutter and reamer grinder. It is practical for grinding straight, taper or spiral reamers, lathe centers, milling cutters, taps, dies, valves, pistons, bushings, hardened and tempered tools, parts, etc.

### Operates from Electric Light Socket

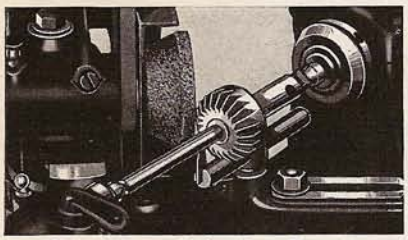
Price of grinder includes 1-phase, 60-cycle, 110-volt, A.C. motor. If D.C. motor is wanted add $14.00 to prices shown. Not furnished for 3-phase current. When ordering specify voltage and current required.

### Equipment for Grinder

Prices include 1/4 H.P. motor, V-belt, belt guard, one Alundum grinding wheel (Grain 1946, Grade K), extension cord, switch, and clamp for mounting to compound rest.

**Net Factory Prices of No. 14 Electric Grinder**

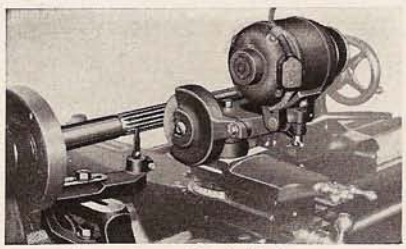
| Size of Lathe | Cat. No. | Size Grind. Wheel | Diam. Will Grind | Motor Speed R.P.M. | Spindle Speed R.P.M. | Code Word | Price, Each |
|---|---|---|---|---|---|---|---|
| Toolmaker | 14-J | 4″x½″ | 4¾ in. | 1725 | 4000 | Rinte | **$50.00** |
| 9 in. | 14-B | 4″x½″ | 5½ in. | 1725 | 4000 | Risco | **50.00** |
| 11 in. | 14-C | 4″x½″ | 7½ in. | 1725 | 4000 | Risez | **55.00** |
| 13 in. | 14-D | 5″x½″ | 9 in. | 1725 | 3200 | Risib | **55.00** |
| 15 in. | 14-F | 5″x½″ | 10½ in. | 1725 | 3200 | Risoc | **55.00** |
| 16 in. | 14-G | 5″x½″ | 11 in. | 1725 | 3200 | Risya | **60.00** |
| 18 in. | 14-H | 5″x½″ | 12½ in. | 1725 | 3200 | Risze | **60.00** |



Sharpening a Valve Seat Reamer

**Sharpening a Valve Seat Reamer**

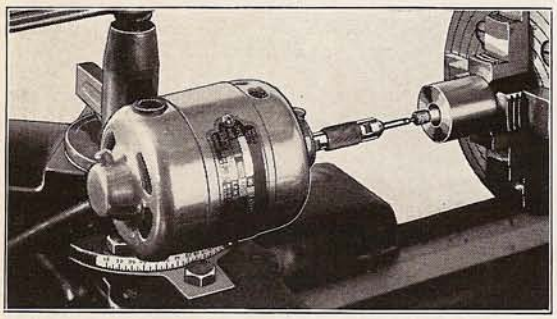
Valve seat reamers of any angle, valve seat counterboring cutters, valve guide reamers, straight and taper reamers and adjustable reamers can be sharpened quickly and accurately in the lathe using the No. 14 Electric Grinder priced above.



Sharpening a Straight Reamer

**Sharpening a Straight Reamer**

The illustration shows lathe and grinder set up for sharpening a straight reamer, using the No. 14 Electric Grinder, adjustable holding fixture, spring cutter stop, and regular grinding wheel. A cup grinding wheel may also be used for this work.



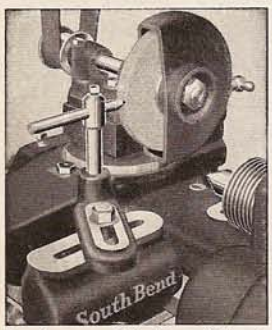
Light Duty Electric Grinder Fitted to Tool Post of Lathe

## Light Duty Electric Grinder

This light weight grinder for the lathe does internal and external grinding to the finest limits. It is attached to tool post of lathe by means of a special shank which is adjustable for different centers. Motor is of the universal type. Maximum speed 20,000 R.P.M. Full load speed 10,000 R.P.M. A specially designed collet chuck attached direct to armature shaft takes round shank $\frac{3}{32}$″ to $\frac{5}{32}$″ in size. Chuck will accommodate drills from No. 42 to No. 22 inclusive. **Equipment:** 6 mounted pencil wheels, for finish work: No. 60 Grit, No. 0 Grade, 1x⅛″; ¾x⅛″; ½x¼″; ¼x¼″; $\frac{3}{16}$x¼″; ⅛x¼″. Shank 1⅞x⅛″ diameter; two wrenches, 8-ft. rubber covered cord, molded rubber plug and switch. Net weight 2 lbs.

**No. 166,** Light Duty Electric Grinder for Toolmaker, 9-inch and 11-inch Lathes. Code word "Obpol." Price.....**$24.00**

## Adjustable Holding Fixture for Diamond Dresser




Truing a Grinding Wheel with a Dresser Mounted in Holding Fixture

The No. 19 Adjustable Holding Fixture, as illustrated at left, will hold the industrial diamond dresser for truing grinding wheels and will also hold the reamer and cutter stop which is supplied with the fixture.

The fixture clamps directly to the bed of the lathe so that the carriage has free movement both when truing grinding wheels and sharpening reamers and cutters.

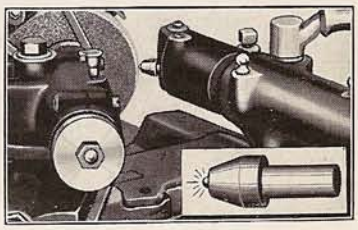
**Net Factory Prices of Adjustable Holding Fixture**

| Size of Lathe. | Toolmaker | 9 in. | 11 in. | 13 in. | 15 in. | 16 in. | 18 in. |
|---|---|---|---|---|---|---|---|
| Catalog No.... | 19-J | 19 | 19-B | 19-C | 19-D | 19-E | 19-F |
| Code Word.... | Queba | Quenc | Quarz | Quest | Quick | Quirt | Quota |
| Price, Each... | $8.00 | $8.00 | $9.00 | $10.00 | $12.00 | $13.00 | $15.00 |

### Industrial Diamond Dresser

Industrial Diamond Dresser

No. 18, Industrial Diamond, special metal mount, ⅓ carat. Code word "Quaft." Price each.....**$5.00**



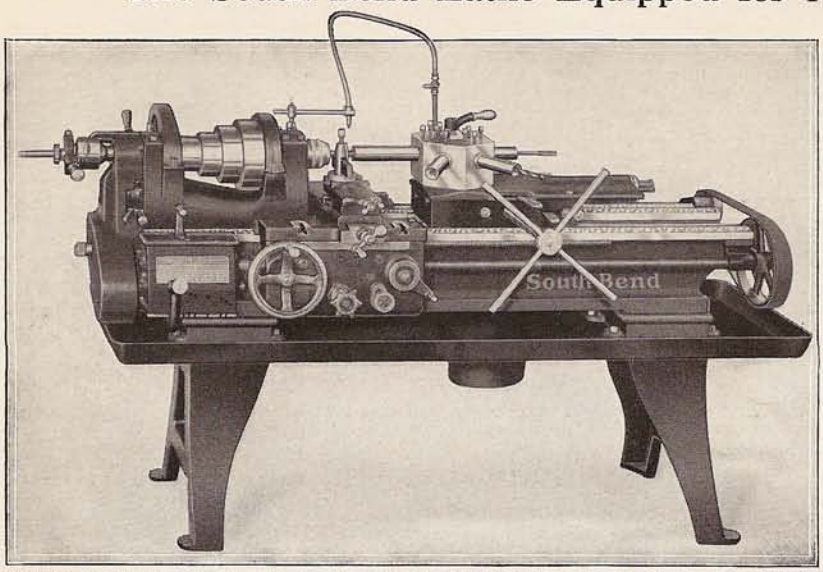
### Diamond Holding Fixture

Clamps to tail-spindle. Holds No. 406 diamond dresser for truing grinders used for valve or general work.

| Size Lathe | Cat. No. | Code Word | Price Each | Size Lathe | Cat. No. | Code Word | Price Each |
|---|---|---|---|---|---|---|---|
| T.L.* | 91-T | Kipas | $2.25 | 13″ | 91-D | Kirav | $2.75 |
| 9″ | 91-B | Kipet | 2.25 | 15″ | 91-E | Kirix | 3.25 |
| 11″ | 91-C | Kipte | 2.25 | 16, 18″ | 91-F | Kiroz | 3.50 |

No. 406, Diamond Dresser, Code "Kirwe".**$4.50**
*9-inch Toolmaker Lathe.

# The South Bend Lathe Equipped for Manufacturing Work




**16-inch South Bend Lathe Equipped with Special Attachments for Production Work**

The South Bend Back-Geared, Screw Cutting Lathe can be fitted with practical attachments and used for manufacturing operations. A lathe thus equipped serves the purpose of a special machine and when the attachments are removed, the lathe can be used for regular work. Many modern industrial plants are using lathes in groups on production work in manufacturing.

The Back-Geared, Screw Cutting Lathe is a universal tool which can be equipped at a small expense with a set of tools for manufacturing operations and machining duplicate parts. Any size South Bend Lathe, from 9-inch to 18-inch swing inclusive, may be equipped with attachments for production work. For prices of attachments see pages 50 to 61.

If you will specify the product you wish to manufacture, our Engineering Department will be glad to assist you in selecting the proper class of attachments for doing the work and give you any other information you may desire. Our twenty-seven years of experience in this work is at your service.

## Oil Pans and Chip Pans for Lathes

Pressed steel oil pans and chip pans are of heavy one-piece construction. Oil pans are used on regular floor leg lathes. See illustration above. Chip pans are used on Underneath Belt Motor Driven Lathes. See page 5. Pans should be fitted to lathe at factory. Prices are for pans and special legs instead of regular legs.

**Prices of Oil Pans for Straight and Gap Bed Floor Leg Lathes**

| Size of Lathe | Cat. No. | LENGTH OF BED | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 3′ | 3½′ | 4′ | 4½′ | 5′ | 5½′ | 6′ | 7′ | 8′ | 10′ |
| 9″T.L.* | 279 | $19 | $20 | $21 | ... | ... | ... | ... | ... | ... | ... |
| 9 in. | 282 | 20 | 21 | 22 | $23 | ... | ... | ... | ... | ... | ... |
| 11 in. | 284 | 25 | 26 | 27 | ... | $29 | $30 | ... | ... | ... | ... |
| 13 in. | 286 | ... | ... | 35 | ... | 38 | ... | $41 | $44 | $47 | ... |
| 15 in. | 288 | ... | ... | ... | ... | 45 | ... | 49 | 53 | 57 | $65 |
| 16 in. | 292 | ... | ... | ... | ... | ... | ... | 50 | 55 | 60 | 70 |
| 18 in. | 294 | ... | ... | ... | ... | ... | ... | 55 | 60 | 65 | 75 |
| Code | | Oasis | Oback | Odium | Often | Ohern | Oekon | Okres | Olean | Omens | Oaleh |

**Prices of Chip Pans for Underneath Belt Motor Driven Lathes**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 in. | 134 | $14 | $15 | $16 | $17 | ... | ... | ... | ... | ... | ... |
| 11 in. | 135 | 17 | 18 | 19 | ... | $21 | $22 | ... | ... | ... | ... |
| 13 in. | 136 | ... | ... | 24 | ... | 27 | ... | $30 | $33 | $36 | ... |
| 15 in. | 137 | ... | ... | ... | ... | 30 | ... | 34 | 38 | 42 | $50 |
| 16 in. | 138 | ... | ... | ... | ... | ... | ... | 35 | 40 | 45 | 55 |
| 18 in. | 139 | ... | ... | ... | ... | ... | ... | 37 | 42 | 47 | 57 |
| Code | | Bonmy | Bonok | Bonul | Bopah | Bonga | Bopik | Boplo | Bopny | Bopol | Bopum |

*9-inch Toolmaker Lathe.

## Oil Pump, Reservoir and Pipe Fittings

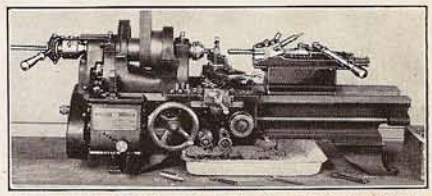
The illustration above shows a lathe equipped with oil pump, reservoir and piping. The nozzle of the flexible steel pipe travels with the lathe tool. The reservoir is cast iron, and bolts on the steel pan. A sieve above the reservoir strains the liquid and prevents chips from entering. A screw plug in the bottom provides drainage. Cannot be supplied for Underneath Belt Motor Driven Lathes.

**Prices—Oil Pump, Reservoir and Fittings Complete**

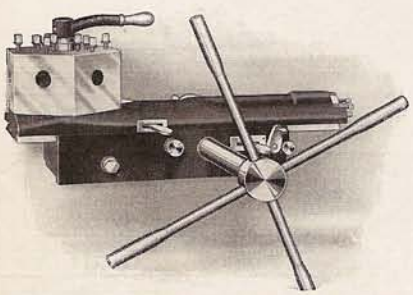
| Size of Lathe... | Toolmaker | 9 in. | 11 in. | 13 in. | 15 in. | 16 in. | 18 in. |
|---|---|---|---|---|---|---|---|
| Catalog No. .... | 1059 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 |
| Code Word .... | Harva | Habit | Hedge | Heron | Hopes | Huber | Hymen |
| Price, Complete. | $35.00 | $35.00 | $35.00 | $40.00 | $40.00 | $45.00 | $45.00 |

## Bench Lathes Equipped for Manufacturing

South Bend Bench Lathes are popular in industrial and manufacturing plants for production work. They may be equipped with the same attachments as the regular floor leg lathes.



**Bench Lathe Fitted with Tools for Production Work**



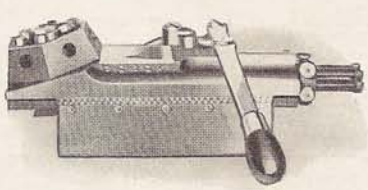
## Semi-Automatic Turnstile Bed Turret

The Turnstile Bed Turret revolves automatically one-sixth of a turn on the return stroke of each hand revolution of the turnstile. Adjustable stops for each of the six faces of the turret regulate the depth of each tool operation. The feed of the turret slide is controlled by turning the turnstile by hand. Power feed is extra. Prices on request.

**Prices of Turnstile Bed Turret (Hand Feed)**

| Size of Lathe | Cat. No. | Hole Size Finished | Hole, Center to Slide Top | Max. Feed | Code Word | Price Not Fitted | Price Fitted* |
|---|---|---|---|---|---|---|---|
| 15 in. | 415 | 1 in. | 2¼ in. | 9 in. | Fight | $250.00 | $275.00 |
| 16 in. | 416 | 1 in. | 2¼ in. | 9 in. | Flown | 250.00 | 275.00 |
| 18 in. | 418 | 1¾ in. | 2¾ in. | 12 in. | Forts | 300.00 | 335.00 |

*Price includes fitting turret to lathe bed only. Finish boring of the six turret holes is $6.00 extra.



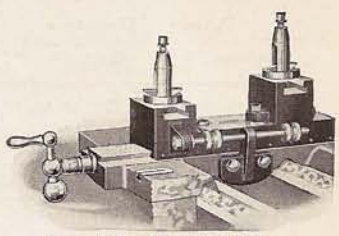
## Hand Lever Bed Turret

The Semi-Automatic Hand Lever Bed Turret automatically indexes one-sixth of a turn by the backward movement of the hand lever. Adjustable stops are provided for each of the six faces of the turret for regulating the depth of each tool. The feed of the turret slide is controlled by the hand lever. Power feed cannot be supplied. Price of turret includes special turret base.

**Prices of Semi-Automatic Bed Turret**

| Size of Lathe | Cat. No. | Std. Turret Hole | Length Turret Base | Max. Turret Feed | Code Word | Price Not Fitted | Price Fitted* |
|---|---|---|---|---|---|---|---|
| Toolmaker | 1507 | ⅝ in. | 9½ in. | 4¼ in. | Japro | $217.50 | $225.00 |
| 9 in. | 1509 | ⅝ in. | 9½ in. | 4¼ in. | Jaber | 217.50 | 225.00 |
| 11 in. | 1511 | ⅝ in. | 9½ in. | 4¼ in. | Jenks | 217.50 | 230.00 |
| 13 in. | 1513 | ⅝ in. | 9½ in. | 4¼ in. | Jilts | 217.50 | 235.00 |

*Price includes fitting turret to lathe bed only. Finish boring of the six turret holes is $6.00 extra. Finish boring turret holes can be done either in our factory or in your own shop.



## Double Tool Slides

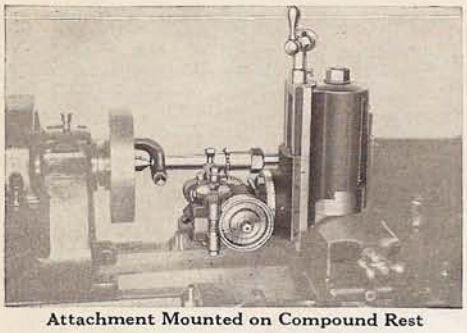
**Screw and Hand Lever Types**

The Screw Type Tool Slide is controlled by the lathe cross feed screw, the Hand Lever Tool Slide by the hand lever. Prices include front and back tool rest, adjustable stop, and one tool post—the other tool post is furnished with lathe.

**Prices of Double Tool Slides**

| Size of Lathe | Screw Feed Type | | | Hand Lever Type | | |
|---|---|---|---|---|---|---|
| | Cat. No. | Code Word | Price | Cat. No. | Code Word | Price |
| Toolmaker | 980 | Dahvg | $35.00 | 743 | Dakgo | $60.00 |
| 9 in. | 981 | Dakin | 35 00 | 744 | Daple | 60.00 |
| 11 in. | 982 | Denis | 40 00 | 745 | Debit | 65.00 |
| 13 in. | 983 | Divot | 45.00 | 746 | Diced | 75.00 |
| 15 in. | 984 | Dobin | 50.00 | 747 | Doles | 80.00 |
| 16 in. | 985 | Drips | 55.00 | 748 | Drain | 85.00 |
| 18 in. | 986 | Ducts | 60.00 | 749 | Dufer | 90.00 |

# Gear Cutting Attachment for South Bend Lathes



Attachment Mounted on Compound Rest

The Garrett Millerette Attachment for the lathe is equipped with a milling machine dividing head which enables it to be used for cutting gears of all kinds—spur, bevel, and angle. It will do graduating and milling, external key seating of all kinds, cutting at angle, splining, slotting and for milling small light work.

Attachment is mounted on cross slide of lathe. Holds work in any position. Work can be spaced by turning it through any desired part of a revolution with the dividing head changeable gears. The index plate shows the proper gears to use for division from 2 to 360 and the number of turns required of the index lever.

**Equipment Includes:** 2 wrenches, 1 cutter arbor, 1 work arbor with draw bolt, 1 straight clamp, 1 concave clamp, 1 dog center, 1 outboard support and 1 set of 24 change gears.

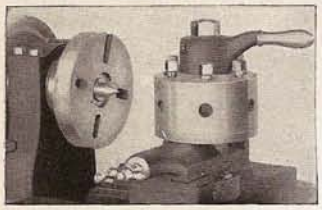
**Net Factory Prices of Gear Cutting Attachment***

| Size of Lathe | Cat. No. | Travel of Down Slide | Shipping Weight | Code Word | Price Complete |
|---|---|---|---|---|---|
| Toolmaker | 259 | 6½ in. | 45 lbs. | Himid | **$160.00** |
| 9 in. | 260 | 6½ in. | 45 lbs. | Hilot | **160.00** |
| 11 in. | 261 | 6½ in. | 45 lbs. | Heles | **160.00** |
| 13 in. | 262 | 6½ in. | 45 lbs. | Hamin | **160.00** |
| 15 in. | 263 | 7½ in. | 60 lbs. | Hajim | **175.00** |
| 16 in. | 264 | 7½ in | 60 lbs. | Helup | **175.00** |
| 18 in. | 265 | 9 in. | 100 lbs. | Hineq | **195.00** |

*A charge of $4.50 is made for fitting attachment to lathe.

## Round Tool Post Turret

This turret, which clamps to the compound rest, has six holes which are swung into position by hand. Turret holes are rough drilled, undersize in diameter.



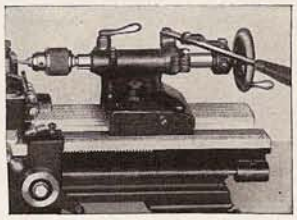
**Prices Round Tool Post Turret†**

| Size of Lathe | Cat. No. | Code Word | Price Each |
|---|---|---|---|
| Toolmaker | 7-E | Zaben | **$65.00** |
| 9 in. | 9-E | Zabet | **65.00** |
| 11 in. | 11-E | Zasto | **65.00** |
| 13 in. | 13-E | Zerve | **80.00** |
| 15 in | 15-E | Ziger | **100.00** |
| 16 in | 16-E | Zilky | **100.00** |
| 18 in. | 18-E | Zorbo | **100.00** |

†Fitting Turret to Compound Rest, $5.00. Finish Boring Holes $6.00.

## Hand Lever Tailstock

This is a practical lathe attachment for quantity centering and drilling operations in manufacturing production work. Either the hand lever or the hand wheel may be used. Prices are for the hand lever tailstock in lieu of the regular tailstock. Attachment must be fitted to lathe at factory.



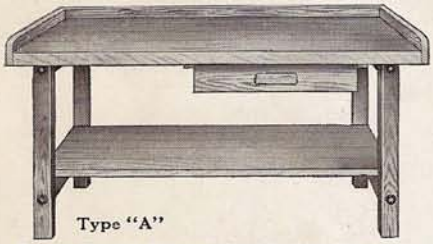
**Prices Hand Lever Tailstock**

| Size Lathe | 9" T.L.* | 9 in. | 11 in. | 13 in. |
|---|---|---|---|---|
| Cat. No..... | 898 | 900 | 901 | 902 |
| Code Word.. | Jidam | Jiden | Jilat | Jebot |
| Price..... | $35.00 | $35.00 | $37.00 | $40.00 |

*9" Toolmaker Lathe.

## Frame Benches—Type "A"

Frame benches are supplied in either fine quality hard maple or hard pine. Benches are of mortise and tenon construction to resist swelling, shrinking and rough handling. Drawers are mortised and grooved. The finished thickness of bench top is 1¾" or more. Benches are shipped knocked down to save freight charges.



Type "A"

**Frame Bench Equipped with One Drawer**
(Center leg is supplied on benches 72" and 96" long)

## Cabinet Benches—Type "B"

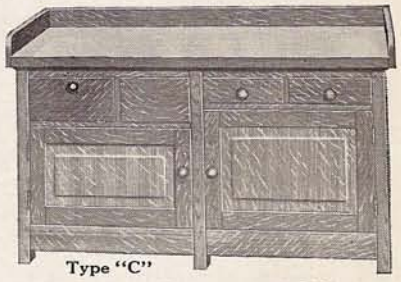
This type of cabinet bench is practical for all types of bench lathes, excepting Underneath Belt Motor Drive. Supplied in either hard maple or hard pine. Mortise and tenon construction is used throughout. Thickness of top is 1¾" or more. Benches are shipped completely assembled.

Type "B"

**Bench with 3 Drawers and 1 Cabinet**

## Cabinet Benches—Type "C"

This type of cabinet bench is recommended for Underneath Belt Motor Driven Bench Lathes as the panels in the left-hand side are arranged for easy access to the drive mechanism. Made in either hard maple or hard pine. Mortise and tenon construction. Benches are shipped assembled.



Type "C"

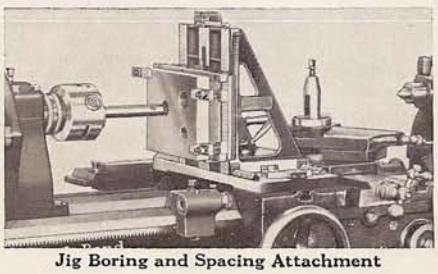
**Bench with 2 Drawers and 2 Cabinets**

**Prices of Frame and Cabinet Benches (Hard Maple and Hard Pine) for 9-inch, 11-inch and 13-inch Lathes**

| Size Bench Top | | 9" Toolmaker Lathes 9" Junior & 9" Regular Lathes | | 11" and 13" Lathes | | Frame Benches Type "A" | | | | Cabinet Benches Type "B" | | | | Cabinet Benches Type "C" | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Hard Maple | | Hard Pine | | Hard Maple | | Hard Pine | | Hard Maple | | Hard Pine | |
| Width Bench Top | Length Bench Top | Countershaft Drive & Silent & Simplex Motor Drive | Horizontal & Underneath Motor Drive | Countershaft Drive & Simplex, Silent & Underneath Motor Drive | Horizontal Motor Drive | Cat. No. | Price | Cat. No. | Price | Cat. No. | Price | Cat. No. | Price | Cat. No. | Price | Cat. No. | Price |
| 32 in. | 54 in. | 2', 2½', 3', 3½' | 2½', 3', 3½' | ..... | ..... | 128-X | $41.00 | 918 | $26.00 | 573-C | $ 79.00 | 737-C | $48.00 | 942-X | $ 84.00 | 704-X | $ 53.00 |
| 32 in. | 60 in. | ..... | ..... | ....3', 3½', 4' | ..... | 128-I | 46.00 | 912 | 28.00 | 573-I | 84.00 | 737-I | 51.00 | 942-I | 89.00 | 704-I | 56.00 |
| 32 in. | 72 in. | ....4', 4½'.. | ....4', 4½'.. | .....5'..... | ..... | *128-A | 50.00 | 919 | 31.00 | 573-D | 89.00 | 737-D | 54.00 | 942-A | 94.00 | 704-A | 59.00 |
| 32 in. | 96 in. | ..... | ..... | .....5½', 6'.... | ..... | *128-V | 63.00 | 914 | 33.00 | 573-V | 104.00 | 737-V | 63.00 | 942-V | 109.00 | 704-V | 68.00 |
| 40 in. | 60 in. | ..... | ..... | ..... | 3', 3½', 4' | 128-H | 56.00 | 921 | 33.00 | 573-E | 92.00 | 737-E | 59.00 | 942-H | 97.00 | 704-H | 64.00 |
| 40 in. | 72 in. | ..... | ..... | ..... | ....5'..... | *128-J | 59.00 | 923 | 36.00 | 573-F | 101.00 | 737-F | 64.00 | 942-J | 105.00 | 704-J | 69.00 |
| 40 in. | 96 in. | ..... | ..... | ..... | .....5½'.... | *128-G | 73.00 | 924 | 36.00 | 573-G | 104.00 | 737-G | 73.00 | 942-G | 109.00 | 704-G | 78.00 |

*Furnished with center leg. NOTE: Mounting Lathe on any of the benches listed above is $5.00 extra. **When Ordering Bench** specify size and type of lathe to be mounted on it.
**Height of Benches** for lathes: 9" Toolmaker, 30½"; 9" Junior and 9" Regular Lathes, 27⅞"; 11" Lathes, 25¼"; 13" Lathes, 23¼".

**Relieving Attachment for Lathes**



**Jig Boring and Spacing Attachment**

**Speed Reducing and Indexing Attachment**

# Automotive Attachments for South Bend Lathes

South Bend Lathes, when fitted with a few attachments, can be used for servicing the following automotive jobs: Flywheels, brake drums, hubs, wheels, differentials, axles, connecting rods, armatures, valves, pistons and bushings. A free service bulletin is available for each of these jobs. See page 70.

A few additional automotive attachments, not listed below, are shown on the following pages of this catalog: **Valve Work**—Valve grinder, diamond dresser, and holding fixture page 54, precision valve chuck on page 59; **Armature Work**—3-jaw drill chuck page 59; **Bushing Work**—See chuck and tool assortment page 59.

## Piston Adapter, Adapter Rings and Skirt Reamer




Cone Ring


Reamer

**The Self-Centering Piston Adapter** is used for mounting pistons in the lathe. The long tapered shank fits the lathe spindle and the short shank receives the adapter rings and skirt reamers. Cone rings are used for pistons with center hole in head. Centering rings, shown at right, are used for pistons without center hole in head.

**Price No. 44 Adapter**

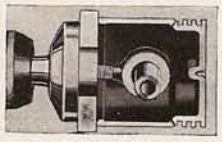
| Size Lathe | Cat. No. | Price Complete* |
|---|---|---|
| Toolmaker | 44-T | $ 9.00 |
| 9″ | 44-A | 9.00 |
| 11″ | 44-B | 9.00 |
| 13″, 15″ | 44-C | 11.00 |
| 16″, 18″ | 44-E | 13.00 |

*Includes shank, Dog A, & No. 1-D Cone Ring.

**Price Extra Cone Rings**

| Cone Rings for Pistons Outside Dia. | Cat. No. | Price Each |
|---|---|---|
| 2½ to 3⅛ in. | 1D | $1.50 |
| 3⅛ to 3¾ in. | 2D | 1.75 |
| 3¾ to 4⅜ in. | 3D | 2.00 |
| 4⅜ to 5 in. | 4D | 2.50 |

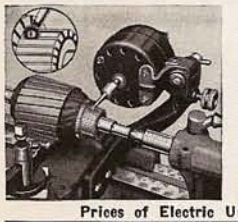
No. 1-Z, Centering Ring and Driver .....$2.50


Centering Ring

**Prices of Piston Skirt Reamers**

| Cat. No. | For Piston Outside Dia. | Price Each |
|---|---|---|
| 1R | 2½ to 3⅛ in | $ 6.00 |
| 2R | 3⅛ to 3¾ in. | 6.50 |
| 3R | 3¾ to 4⅜ in. | 8.00 |
| 4R | 4⅜ to 5 in. | 10.00 |

## Electric Undercutter



Undercuts insulation on armature commutators. Is attached to lathe carriage. Has assortment of cutters for undercutting all sizes and types of commutators. A vertical adjustment controls height of cutter. Feed is by handwheel of lathe carriage.

**Prices of Electric Undercutter**

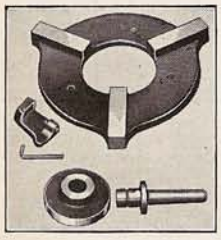
| Size Lathe | No. | Price | Size Lathe | No. | Price |
|---|---|---|---|---|---|
| Toolmaker | 544-H | $27.50 | 15 in. | 544-E | $33.00 |
| 9 in. | 544-B | 27.50 | 16 in. | 544-F | 33.00 |
| 11 in. | 544-C | 30.00 | 18 in. | 544-G | 35.00 |
| 13 in. | 544-D | 30.00 | | | |

## Armature Support Bushing

For mounting centerless armatures in the lathe. Has brass jaws. Takes shafts ⅜-in. to ¾-in. diameter. Is used in tailstock spindle. Price of solid arbor for fitting to tailstock is extra, see page 59.

No. 361-A, Armature Support Bushing .....$7.50

## Flywheel Servicing Equipment



Handles flywheels of all popular cars including Chevrolet, Pontiac, Plymouth, Studebaker Dictator, Studebaker Std. 6, Chrysler 58, and others for turning off worn gear teeth for new steel ring gear. Equipment automatically centers the flywheel so that it will be machined perfectly concentric.

**Prices of Flywheel Servicing Equipment**

| Size of Lathe | 16″and18″Lathes No. | Price |
|---|---|---|
| 1 Flywheel Adapter Plate and Driving Dog | 1237 | $12.00 |
| 4 Flywheel Centering Flanges | 945 | 12.00 |
| 1 Flywheel Centering Shank | 637-E | 5.00 |

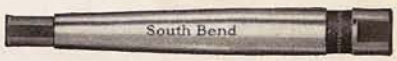
## Self-Centering Straight Mandrels


Used with the universal bearing adapters shown below to mount all front wheels and many rear wheels, single and dual, for testing the wheels and for truing brake drums of all types and makes of automobiles, buses and trucks. The mandrel serves as a temporary axle for the wheel while it is being machined in the lathe.

**Specifications and Prices of Self-Centering Straight Mandrels**

| Catalog No. | Diam. of Mandrel | Length of Mandrel | Fits Adapters with | Used for | Price Each |
|---|---|---|---|---|---|
| 1800 | 1¼ | 12″ | 1¼″ hole | Automobiles Chiefly | $11.00 |
| 1810 | 1¾ | 18″ | 1¾″ hole | Trucks Chiefly | 18.00 |
| 1840 | 2½ | 26″ | 2½″ hole | Heavy Trucks | 30.00 |

## Self-Centering Taper Mandrels

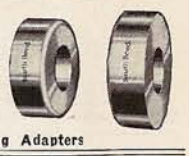



For mounting rear wheels (semi-floating type) of automobiles, buses, and trucks between centers in the lathe for testing, truing and machining brake drums and wheels. The mandrel is ground to the same taper as used on the car, bus or truck axle, and centers the wheels perfectly.

**Specifications and Prices of Self-Centering Taper Mandrels**

| Cat. No. | Diam. of Mandrel | Length of Mandrel | Taper per Foot | Used for | Price Each |
|---|---|---|---|---|---|
| 1820 | 1 ″ to 1⅜″ | 13¼″ | ¾″ | Autos and Trucks | $4.50 |
| 1820-B | 1⅜″ to 1¾″ | 15¼″ | ¾″ | Autos and Trucks | 5.00 |
| 1821 | ¾″ to 1¼″ | 11⅞″ | 1 ″ | Autos and Trucks | 4.50 |
| 1822 | 1 ″ to 1½″ | 13¼″ | 1 ″ | Autos and Trucks | 4.50 |
| 1823 | 1¼″ to 1¾″ | 15 ″ | 1 ″ | Autos and Trucks | 5.00 |
| 1824 | ¾″ to 1⅛″ | 11⅞″ | 1½″ | Autos and Trucks | 4.50 |
| 1825 | 1⅛″ to 2 ″ | 15¾″ | 1½″ | Trucks Mostly | 7.50 |

## Universal Bearing Adapters

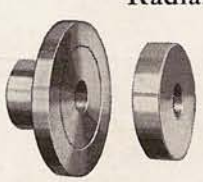


Used on the Self-Centering Straight Mandrel above for mounting all types and makes of front wheels, and for rear wheels with three-quarter or full floating axles. The rounded portion of the adapter conforms to ball bearing cups and to tapered roller (Timken) bearing cups.

**Specifications and Prices of Universal Bearing Adapters**

| Cat. No. | To Fit Mandrel | Diameters Furnished | Diam. of Adapter Hole | Used for | Price Each |
|---|---|---|---|---|---|
| 1801 | No. 1800 | 1⅝″ to 3⅜″ in 8ths | 1¼″ | Autos Chiefly | $1.50 |
| 1811 | No. 1810 | 2½″ to 4¾″ in 4ths | 1¾″ | Trucks Chiefly | 2.00 |
| 1841 | No. 1840 | 3½″ to 7″ in 4ths | 2½″ | Heavy Trucks | 3.00 |

## Radial Ball Bearing Adapters



Buick, Chandler, Marmon, LaSalle, Willys-Knight and any other car having rear wheels fitted with radial or annular ball bearings are mounted on the No. 1800 Straight Mandrel fitted with face plate and radial bearing adapter, as illustrated at the left.

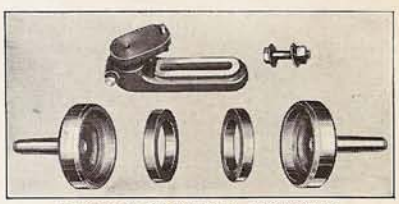
| | | Price |
|---|---|---|
| No. 1807. | Face Plate, 6″ outside diameter..... | $3.50 |
| No. 310. | Radial Adapter, 4.3297″ outside dia.. | 2.00 |
| No. 311. | Radial Adapter, 4.7234″ outside dia.. | 2.00 |
| No. 4101. | Radial Adapter, 4.4365″ outside dia.. | 2.00 |
| No. 1807-A. | Set of clamps and extension nuts for clamping wheel to face plate..... | 2.00 |

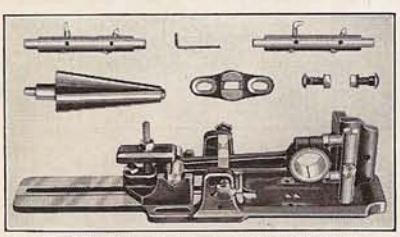
## Differential Servicing Equipment

For mounting and centering differentials in the lathe for machining the flange, pilot, etc. Handles differentials of most models of twenty-five makes of automobiles and light trucks, including: Chevrolet, Essex, Pontiac, Chrysler, Dodge, Buick, Studebaker, Oldsmobile, Oakland, Hudson, Whippet, Willys, Willys-Overland, Auburn, Hupmobile, Reckne, Reo, Durant, Graham-Paige, Jordan, Marmon, Continental, Cadillac, LaSalle.

**Prices of Differential Servicing Equipment for South Bend Lathes**

| Size of Lathe | 9-inch | | 11-inch | | 13-inch | | 15-inch | | 16-inch | | 18-inch | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Price | No. | Price | No. | Price | No. | Price | No. | Price | No. | Price |
| 2 Centering Supports with shanks. | 540-B | $10.00 | 540-C | $10.00 | 540-D | $11.00 | 540-E | $11.00 | 540-F | $11.00 | 540-G | $11.00 |
| 2 Centering Adapters | 283-A | 3.00 | 283-A | 3.00 | 283-A | 3.00 | 283-A | 3.00 | 283-A | 3.00 | 283-A | 3.00 |
| 1 Universal Driver | 267 | 2.00 | 267 | 2.00 | 267 | 2.00 | 267 | 2.00 | 267 | 2.00 | 267 | 2.00 |


Equipment for Servicing Differentials.


Equipment for Servicing Connecting Rods

Ground Cutter Bits for Connecting Rod Work

## Connecting Rod Servicing Equipment

The equipment for 9-in. and 11-in. Lathes handles connecting rods of all passenger cars and some buses, while the equipment for 13-in. to 18-in. Lathes handles all sizes of connecting rods including those of large tractors, trucks, buses and passenger cars.

The equipment includes a connecting rod boring attachment (with holding jig, V-block, extension nuts for bearing caps and adjustable clamping device), two boring bars (one for roughing, the other for finishing), cutters, etc., for boring, facing, rounding and trimming connecting rod bearings.

**Prices of Connecting Rod Servicing Equipment for South Bend Lathes**

| Size of Lathe | 9-inch | | 11-inch | | 13-inch | | 15-inch | | 16-inch | | 18-inch | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Price | No. | Price | No. | Price | No. | Price | No. | Price | No. | Price |
| Attachment for rods 13″ between bearings and 5″ across lugs.... | 1229 | $45.00 | 1230 | $50.00 | * | * | * | * | * | * | * | * |
| Attachment for rods 22″ between bearings and 6¼″ across lugs.. | * | * | * | * | 1231 | $65.00 | 1232 | $70.00 | 1233 | $75.00 | 1234 | $80.00 |
| 2 Boring Bars for 1¼″ to 2½″ bearings ..... | 461-B | 17.00 | 461-B | 17.00 | 461-B | 17.00 | 461-B | 17.00 | 461-B | 17.00 | 461-B | 17.00 |
| 2 Boring Bars for 2½″ to 4″ bearings ..... | * | * | * | * | 517 | 22.00 | 517 | 22.00 | 517 | 22.00 | 517 | 22.00 |
| Centering Cone for 1¼″ to 2½″ bearings ..... | 581 | 2.50 | 581 | 2.50 | 581 | 2.50 | 581 | 2.50 | 581 | 2.50 | 581 | 2.50 |
| Centering Cone for 2½″ to 4″ bearings ..... | * | * | * | * | 927 | 3.00 | 927 | 3.00 | 927 | 3.00 | 927 | 3.00 |
| Driver for Boring Bars..... | 228 | 1.00 | 228 | 1.00 | 229 | 1.25 | 229 | 1.25 | 229 | 1.25 | 229 | 1.25 |

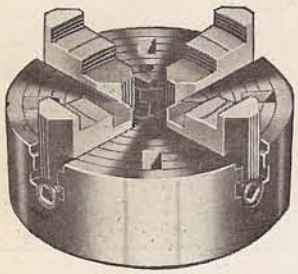
*Not made for this size lathe.

# Standard Weight Lathe Chucks for South Bend Lathes

## Practical for Manufacturing and General Machine Work

### Four-Jaw Independent Lathe Chucks

**With Four Reversible Jaws (Iron Body)**



This chuck has four reversible independent solid jaws with individual screw adjustment for chucking round or irregular work, either in a concentric or in an eccentric position. The face of Chuck is ground true to a straight edge and is accurately graduated in inches. The jaws may be reversed by running out and turning end for end. T-slots are furnished on chucks 12-inches up.

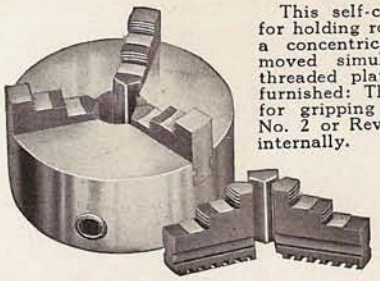
Prices include wrench and cap screws for fastening chuck back to chuck. Prices do not include chuck-back or fitting chuck to lathe. For these charges see prices in table below.

**Four-Jaw Independent Lathe Chuck (Standard Weight)**

| Cat. No. | Rated Size of Chuck | Will Hold About | Shipping Weight | Code Word | Price Chuck |
|---|---|---|---|---|---|
| 4404 | 4½ in. | 6 in. | 11 lbs. | Bawle | $23.00 |
| 4406 | 6 in. | 7½ in. | 21 lbs. | Beach | 28.00 |
| 4408 | 8 in. | 9½ in. | 35 lbs. | Buzir | 32.00 |
| 4409 | 9 in. | 11½ in. | 42 lbs. | Baito | 35.00 |
| 4410 | 10 in. | 12½ in. | 51 lbs. | Balda | 40.00 |
| 4412 | 12 in. | 14½ in. | 90 lbs. | Baled | 48.00 |
| 4414 | 14 in. | 16½ in. | 117 lbs. | Balks | 52.00 |
| 4415 | 15 in. | 18 in. | 139 lbs. | Balmy | 57.00 |
| 4416 | 16 in. | 19 in. | 147 lbs. | Bandu | 62.00 |

### Three-Jaw Universal Geared Scroll Chucks

**With Two Sets of Jaws (Iron Body)**



This self-centering chuck is intended for holding round and hexagonal work in a concentric position. The jaws are moved simultaneously by the scroll threaded plate. Two sets of jaws are furnished: The No. 1 or Common Jaws for gripping work on the outside—the No. 2 or Reverse Jaws for holding work internally.

Prices include wrench, two sets of jaws and cap screws for fastening chuck-back to chuck. Prices do not include chuck-back or fitting of chuck to lathe. For these charges see prices in table below.

**Three-Jaw Universal Lathe Chuck (Standard Weight)**

| Cat. No. | Rated Size of Chuck | Will Hold About | Shipping Weight | Code Word | Price Chuck |
|---|---|---|---|---|---|
| 3403 | 3 in. | 3⅛ in. | 3½ lbs. | Panel | $ 25.00 |
| 3404 | 4 in. | 4¼ in. | 7½ lbs. | Paras | 29.00 |
| 3405 | 5 in. | 5 in. | 11 lbs. | Parot | 31.00 |
| 3406 | 6 in. | 6⅛ in. | 20 lbs. | Pasto | 35.00 |
| 3407 | 7½ in. | 7½ in. | 32 lbs. | Patri | 41.00 |
| 3409 | 9 in. | 9 in. | 45 lbs. | Pedal | 49.00 |
| 3410 | 10½ in. | 10¾ in. | 64 lbs. | Perag | 55.00 |
| 3412 | 12 in. | 12 in. | 80 lbs. | Pensi | 64.00 |
| 3415 | 15 in. | 15 in. | 143 lbs. | Perse | 91.00 |

# Light Weight Lathe Chucks for South Bend Lathes

## For Light Work in the Machine Shop and Laboratory

### Four-Jaw Independent Lathe Chucks

**With Four Reversible Jaws (Iron Body)**

The light weight chucks priced below are similar to the standard weight chucks described above, but are lighter in design. We recommend them for use in machining light work. The light weight chuck is a precision chuck, which is not to be classed with the cheap, extremely light chucks that are being offered today.

**Four-Jaw Independent Lathe Chuck (Light Weight)**

| Cat. No. | Rated Size of Chuck | Will Hold About | Shipping Weight | Code Word | Price Chuck |
|---|---|---|---|---|---|
| 4603 | 3 in. | 3¾ in. | 2¾ lbs. | Sebwe | $17.00 |
| 4604 | 4 in. | 5 in. | 5 lbs. | Sebzo | 19.55 |
| 4605 | 5 in. | 6 in. | 9¼ lbs. | Secob | 21.25 |
| 4606 | 6 in. | 7¼ in. | 12¾ lbs. | Seday | 23.80 |
| 4607 | 7½ in. | 8¾ in. | 13¾ lbs. | Sedez | 28.05 |

### Three-Jaw Universal Geared Scroll Chucks

**With Two Sets of Jaws (Iron Body)**

The light weight chucks priced below are similar to the standard weight chucks described above, but are lighter in design. We recommend them for use in machining light work. The light weight chuck is a precision chuck, which is not to be classed with the cheap, extremely light chucks that are being offered today.

**Three-Jaw Universal Lathe Chuck (Light Weight)**

| Cat. No. | Rated Size of Chuck | Will Hold About | Shipping Weight | Code Word | Price Chuck |
|---|---|---|---|---|---|
| 3603 | 3 in. | 3¼ in. | 3⅛ lbs. | Sebub | $20.40 |
| 3604 | 4 in. | 4¼ in. | 5¼ lbs. | Sedib | 23.80 |
| 3605 | 5 in. | 5 in. | 6⅜ lbs. | Sedoc | 26.35 |
| 3606 | 6 in. | 6¼ in. | 12 lbs. | Sedud | 29.75 |

## Prices for Fitting Chucks to Lathes

**Applying to Standard Weight and Light Weight Chucks**

In order to mount a chuck on the lathe, the chuck must be fitted with a chuck-back. Figures A, B and C at the right show three steps in fitting a chuck to the lathe. The chuck-back must fit the spindle nose accurately in order to have the chuck run true when fitted to the lathe. This is a difficult job for the average mechanic because special tool equipment is required for doing the work. If you purchase a lathe and include the Lathe Chuck with the order, we recommend that the chuck be fitted to the lathe in our factory.

When ordering a chuck-back without chuck specify serial number of lathe, also give diameter of recess in back of your chuck so we can supply a chuck-back of correct diameter for machining to fit recess in back of chuck.

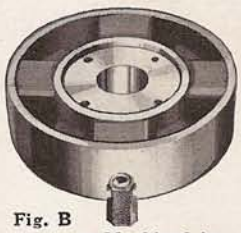


**Fig. B**
**Recess Machined in Chuck for chuck-back**

**Fig. A**
**Semi-Machined Chuck-Back Threaded to Spindle**

**Fig. C**
**Chuck with chuck-back attached, ready for use**

**Prices of Semi-Machined Chuck-Backs—Also Fitting Chuck-Back to Chuck and Lathe**

| Sizes of South Bend Lathes | 9 in. Toolmaker | 9 in. | 11 in. | 13 in. | 15 in. | 16 in. | 18 in. | 16-24 in. | 36 in. |
|---|---|---|---|---|---|---|---|---|---|
| Prices of Semi-machined Chuck-Back | $4.00 | $4.00 | $4.25 | $4.50 | $4.75 | $5.00 | $5.50 | $5.00 | $5.00 |
| Code Word for Semi-machined Chuck-Back | Codwy | Conat | Cavor | Cekam | Cimer | Clame | Cuban | Clame | Clame |
| Fitting Chuck-Back to Chuck and to Lathe | $2.50 | $2.50 | $3.00 | $3.50 | $3.75 | $4.00 | $4.50 | $4.00 | $4.00 |
| Total for Chuck-Back fitted to Chuck and to Lathe | $6.50 | $6.50 | $7.25 | $8.00 | $8.50 | $9.00 | $10.00 | $9.00 | $9.00 |
| Code Word for Chuck-Back fitted to Chuck and to Lathe | Eflad | Efago | Eodar | Ender | Eldon | Eliza | Elsie | Eliza | Eliza |

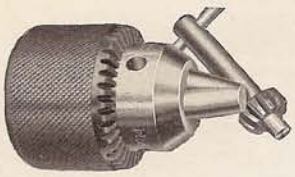
## The Practical Sizes of Chucks for All Sizes and Types of South Bend Lathes

To assist those who wish to select the correct sizes of chucks for South Bend Lathes we list in the table at the right the sizes of chucks most practical for general work with each size lathe. We also show the maximum sizes which are the largest possible to use on each lathe.

| Size of Lathe | 4-Jaw Independent Chuck | | 3-Jaw Universal Chuck | | 3-Jaw Drill Chuck | | 2-Jaw Drill Chuck | |
|---|---|---|---|---|---|---|---|---|
| | Recommended | Maximum | Recommended | Maximum | Recommended | Maximum | Recommended | Maximum |
| Toolmaker... | 6 in. | 6 in. | 4 in. | 6 in. | ½ in. | ⅝ in. | ½ in. | ½ in. |
| 9-in. lathe.. | 6 in. | 6 in. | 4 in. | 6 in. | ½ in. | ⅝ in. | ½ in. | ½ in. |
| 11-in. lathe.. | 6 in. | 8 in. | 5 in. | 7½ in. | ½ in. | ⅝ in. | ½ in. | ½ in. |
| 13-in. lathe.. | 8 in. | 10 in. | 6 in. | 9 in. | ¾ in. | ¾ in. | ¾ in. | ¾ in. |
| 15-in. lathe.. | 9 in. | 12 in. | 7½ in. | 10½ in. | ¾ in. | ¾ in. | 1 in. | 1 in. |
| 16, 16-24, 36" | 10 in. | 12 in. | 9 in. | 10½ in. | 1 in. | 1 in. | 1 in. | 1 in. |
| 18-in. lathe.. | 12 in. | 14 in. | 10½ in. | 12 in. | 1 in. | 1 in. | 1 in. | 1 in. |

# Drill Chucks for Manufacturing and General Machine Work

## For All Sizes and Types of South Bend Lathes

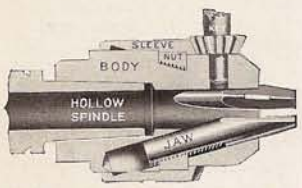


### Three-Jaw Drill Chuck
**(Standard Weight)**

This Chuck is practical for general drilling work in the lathe. The jaws are of tempered steel and are operated by a heavy screw. The geared sleeve and key assure a powerful grip. Price includes pinion key, but not arbors, which are listed below.

**Prices of Three-Jaw Drill Chuck (Standard Weight)**

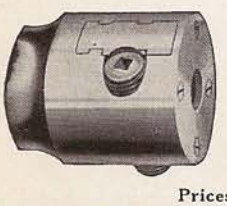
| Cat. No. | Capacity | Diameter | Length | Weight | Code Word | Price |
|---|---|---|---|---|---|---|
| 1200 | 0 to 3/8 in. | 1 3/4 in. | 2 1/4 in. | 1 lb. | Cleve | $ 4.25 |
| 1201 | 0 to 1/2 in. | 2 1/16 in. | 2 1/8 in. | 1 3/4 lbs. | Wauko | 6.75 |
| 1202 | 3/16 to 3/4 in. | 2 9/16 in. | 3 3/32 in. | 2 3/4 lbs. | Faloa | 9.00 |
| 1203 | 3/8 to 1 in. | 3 1/16 in. | 5 3/8 in. | 6 3/4 lbs. | Frank | 15.00 |




### Hollow Spindle Chuck

This is an ideal chuck for holding small rods and bar work for machining in the lathe. It is also practical for holding all kinds of engine valves, centered and centerless, for refacing in the lathe. Price includes pinion key and hollow steel arbor.

**No. 354-A,** Hollow Spindle Drill Chuck, 5/8" capacity, with hollow arbor for 13", 15", 16" and 18" lathes. Code word "Tavif"..**$10.50**
**No. 354-B,** Hollow Spindle Drill Chuck, 3/4" capacity, with hollow arbor for 13", 15", 16" and 18" Lathes. Code word "Taved"..**$14.25**

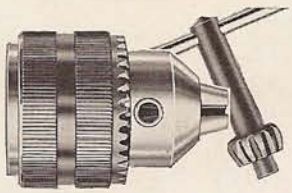


### Two-Jaw Drill Chuck

A strong, simple chuck for round, straight shank drills, taps, reamers, etc. Chuck is made of high-grade material and is accurately machined and finished. The jaws are tempered steel and are operated by heavy screw. Price includes wrench but not chuck arbors, which are illustrated and priced below.

**Prices of Two-Jaw Drill Chuck**

| Cat. No. | Diameter | Length | Capacity | Weight | Code Word | Price |
|---|---|---|---|---|---|---|
| 1300 | 1 5/8 in. | 2 1/2 in. | 3/8 in. | 1 3/4 lbs. | Oblig | $7.50 |
| 1301 | 2 1/8 in. | 2 7/8 in. | 1/2 in. | 2 1/2 lbs. | Objec | 9.00 |
| 1302 | 2 7/8 in. | 3 3/8 in. | 3/4 in. | 5 1/4 lbs. | Octav | 10.00 |
| 1303 | 3 5/8 in. | 4 3/8 in. | 1 in. | 10 lbs. | Optio | 12.00 |

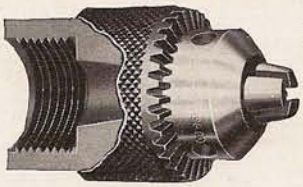


### Three-Jaw Drill Chuck
**(Light Weight)**

This chuck is practical, powerful, well-balanced and accurate for all drilling work in the lathe. It is not as heavy in design as the standard weight type described at left. The jaws are of tempered steel. Price includes pinion key, but not arbors which are listed below.

**Prices of Three-Jaw Drill Chuck (Light Weight)**

| Cat. No. | Capacity | Diameter | Length | Weight | Code Word | Price |
|---|---|---|---|---|---|---|
| 325 | 0 to 3/8 in. | 1 7/8 in. | 2 1/4 in. | 7/8 lb. | Rulab | $ 3.50 |
| 326 | 0 to 1/2 in. | 2 1/8 in. | 2 5/8 in. | 1 1/2 lbs. | Rulec | 5.25 |
| 327 | 1/16 to 3/4 in. | 2 1/2 in. | 3 3/8 in. | 2 3/4 lbs. | Rulid | 6.75 |
| 328 | 3/8 to 1 in. | 3 in. | 4 3/4 in. | 5 1/4 lbs. | Rulof | 10.00 |



### Headstock Spindle Chuck

Chuck screws on spindle nose of lathe. Has hollow spindle for holding small rods, bars and automobile engine valves for refacing. Chuck is supplied in two sizes (5/8 and 3/4" capacity), as listed in the tabulation below.

**Prices of Headstock Spindle Chuck**

| Size Lathe | Capacity | Cat. No. | Code Word | Price | Size Lathe | Capacity | Cat. No. | Code Word | Price |
|---|---|---|---|---|---|---|---|---|---|
| Toolmaker | 5/8 in. | 907-T | Robla | $ 9.00 | 9 in. | 3/4 in. | 925-A | Rodna | $11.25 |
| 9 in. Reg. | 5/8 in. | 907-A | Robop | 9.00 | 11 in. | 3/4 in. | 925-B | Rodpe | 11.25 |
| Toolmaker | 3/4 in. | 925-T | Rocsy | 11.25 | 13 in. | 3/4 in. | 925-C | Rodro | 11.25 |

### Arbors for Drill Chucks

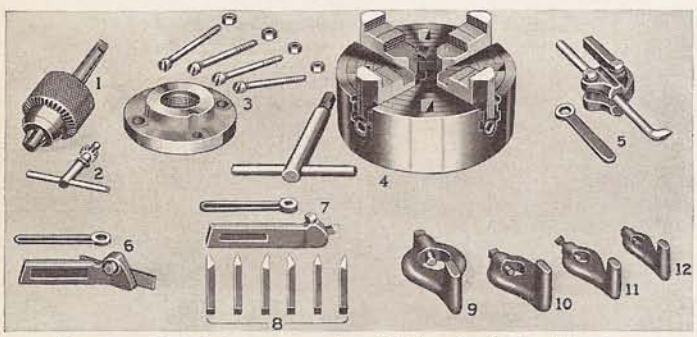
Solid arbors are used for fitting drill chucks to lathe. When ordering arbor only, state size and make of drill chuck, diameter and depth of arbor socket and size of lathe on which the chuck is to be used, so that we can supply the correct size arbor.

**Prices of Finished Solid Arbors for Drill Chucks**

| Size Lathe | Morse Taper | Cat. No. | Code Word | Price Arbor | Size Lathe | Morse Taper | Cat. No. | Code Word | Price Arbor |
|---|---|---|---|---|---|---|---|---|---|
| Toolmaker | 2 | 709 | Abeps | $0.60 | 13-15 in. | 3 | 713 | Adams | $1.00 |
| 9 in. | 2 | 709 | Abner | .60 | 16-18 in. | 3 | 716 | Agate | 1.00 |
| 11 in. | 2 | 709 | Abner | .60 | | | | | |

# Practical Chuck and Tool Assortments for General Machine Work

## For Use on All Sizes and Types of South Bend Lathes




**Chuck and Tool Assortment for All Size South Bend Lathes**

The assortments listed herewith include chucks and tools most practical for use on each size and type of South Bend Lathe for general machine work. These assortments meet the demands of the repair shop for economy and general utility. They are the result of our 28 years' experience in equipping shops of various kinds. See illustration at left.

Each size lathe requires a different Chuck and Tool Assortment as listed below. If you desire additional chucks and tools they may be added to the cost of the assortment or any tool not wanted may be omitted. A complete list of chucks and tools is illustrated, described and priced on pages 50 to 61 inclusive.

The 4-jaw Independent lathe chuck is listed in each assortment because this chuck will handle round, square and irregular shaped work. However if a 3-jaw Universal chuck is wanted instead it can be furnished at additional cost.

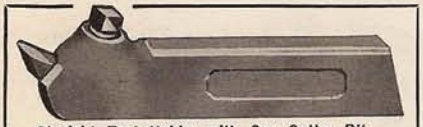
The Chuck and Tool Assortment is the basic equipment for general machine work and is not to be confused with the attachments and tools, shown in this catalog, which equip the lathe for production work and special machine work.

**Prices of Chuck and Tool Assortments for General Machine Work**

| Assortment for Each Size Lathe. | Toolmaker | 9-inch | 11-inch | 13-inch | 15-inch | 16-inch | 18-inch | 16–24-inch | 36-inch |
|---|---|---|---|---|---|---|---|---|---|
| 4-Jaw Independent Lathe Chuck.... | $23.80* | $23.80* | $23.80* | $32.00 | $35.00 | $40.00 | $48.00 | $40.00 | $40.00 |
| Size of above Lathe Chuck..... | 6 in. | 6 in. | 6 in. | 8 in. | 9 in. | 10 in. | 12 in. | 10 in. | 10 in. |
| Fitting Chuck to Lathe including semi-machined chuck back..... | 6.50 | 6.50 | 7.25 | 8.00 | 8.50 | 9.00 | 10.00 | 9.00 | 9.00 |
| 3-Jaw Drill Chuck..... | 5.25* | 5.25* | 5.25* | 6.75* | 9.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Capacity of Drill Chuck..... | 1/2 in. | 1/2 in. | 1/2 in. | 3/4 in. | 3/4 in. | 1 in. | 1 in. | 1 in. | 1 in. |
| Arbor Fitted to Drill Chuck..... | .60 | .60 | .60 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Straight Shank Tool Holder..... | 2.20 | 2.20 | 2.35 | 2.65 | 2.65 | 3.25 | 3.25 | 3.25 | 3.25 |
| Six Ground Cutters, for Tool Holders | 1.30 | 1.30 | 1.45 | 2.00 | 2.00 | 2.90 | 2.90 | 2.90 | 2.90 |
| Boring Tool Holder, Style D..... | 2.50 | 2.50 | 2.75 | .... | .... | .... | .... | .... | .... |
| Boring Tool Holder, Style B..... | .... | .... | .... | 4.75 | 4.75 | 6.25 | 6.25 | 6.25 | 6.25 |
| Cutting-Off Tool, right hand..... | 2.35 | 2.35 | 2.50 | 2.95 | 2.95 | 3.70 | 3.70 | 3.70 | 3.70 |
| Four Malleable Lathe Dogs..... | 2.60 | 2.60 | 2.60 | 3.15 | 3.15 | 3.15 | 4.70 | 3.15 | 3.15 |
| Size of Lathe Dogs..... | 1/2, 3/4, 1, 1 1/4" | 1/2, 3/4, 1, 1 1/4" | 1/2, 3/4, 1, 1 1/4" | 1/2, 3/4, 1, 1 1/2" | 1/2, 3/4, 1, 1 1/2" | 1/2, 3/4, 1, 1 1/2" | 3/4, 1 1/2, 2, 2 1/2" | 1/2, 3/4, 1, 1 1/2" | 1/2, 3/4, 1, 1 1/2" |
| **Assortments, Complete.....** | $47.10 | $47.10 | $48.55 | $63.25 | $69.00 | $84.25 | $94.80 | $84.25 | $84.25 |

*Light Weight Chucks are listed above for 9" and 11" Lathes. Standard Weight Chucks are listed for 13" and larger size lathes.

# Tool Holders and Boring Tools for South Bend Lathes



Straight Tool Holder with One Cutter Bit

Cutter Bits Ground to Form

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| L. H. Turning | Round Nose | R. H. Turning | L. H. Side | Threading | R. H. Side |

## Tool Holder and Cutter Bit Set

Set consists of tool holder (choice of straight, right-hand or left-hand) with one unground cutter bit and a set of six high speed steel cutter bits ground to forms A, B, C, D, E, F.

**Prices of Tool Holder and Cutter Bit Set**

| Size Lathe | Toolmaker | 9" | 11" | 13" 15" | 16" 18" |
|---|---|---|---|---|---|
| Cat. No... | 603-B | 603-B | 603-C | 603-D | 603-E |
| Price .... | $3.50 | $3.50 | $3.80 | $4.65 | $6.15 |

## High Speed Steel Cutter Bits

High Speed Steel Cutter Bits hardened and ground to form ready for use are illustrated in the Tool Holder and Cutter Bit Set at top of page and are priced below. When ordering state whether form A, B, C, D, E, or F is wanted.

High speed steel cutter bit not ground to form.

**Prices of High Speed Steel Cutter Bits**

| Cat. No. | Size, Square Inches | Length Cutter, Inches | Ground Price, Each | Ground Price of Set | Unground Cat. No. | Unground Price, Each |
|---|---|---|---|---|---|---|
| 1304 | ¼ | 2 | $0.23 | $1.30 | 1419 | $0.13 |
| 1311 | ¼ | 2¼ | .25 | 1.45 | 1421 | .15 |
| 1313 | ⅜ | 2½ | .35 | 2.00 | 1422 | .25 |
| 1316 | ⅜ | 3 | .50 | 2 90 | 1423 | .40 |
| 1321 | 7/16 | 3½ | .75 | 4.40 | 1424 | .65 |

## Turning Tool Holders

Straight

Right-Hand

Left-Hand

Tool Holders are drop-forged steel, heat treated and hardened. Set screws are made of fine grade alloy steel with hardened point. Prices below include one tool holder and wrench and one high speed steel cutter, bit unground.

**Prices of Tool Holders**

| Size of Lathe, Inches | Size of Shank, Inches | Size of Cutter, Inches | Catalog Numbers Straight | Right Hand | Left Hand | Price Tool Complete |
|---|---|---|---|---|---|---|
| 9" T.L.* | 3/8 x 3/8 | ¼ x ¼ | 849-S | 849-R | 849-L | $2.20 |
| 9 | 3/8 x 3/8 | ¼ x ¼ | 849-S | 849-R | 849-L | 2.20 |
| 11 | 3/8 x 7/8 | ¼ x ¼ | 851-S | 851-R | 851-L | 2.35 |
| 13, 15 | ½ x 1⅛ | ⅜ x ⅜ | 852-S | 852-R | 852-L | 2.65 |
| 16, 18 | ⅝ x 1⅜ | ⅜ x ⅜ | 853-S | 853-R | 853-L | 3.25 |

## Brake Drum—Long Shank Tool Holders

| | | | | | |
|---|---|---|---|---|---|
| 36" | ⅝" x 1⅜" | 3/16" x 3/16" | ..... | 855-R | 855-L | $5.50 |
| 42" | ¾" x 1⅝" | 1/16" x 1/16" | ..... | 856-R | 856-L | 7.00 |

1 2 3 4 5 6 7 8 9 10 11 12

## Carboloy and Widia Tipped Tool Bits

(Tungsten-Carbide)

Supplied ground ready for use. Can be used in straight, right or left-hand tool holders. Practical for cutting hard metals, fibres, rubber, etc.

**Prices of Carboloy and Widia Tipped Tool Bits**

| Size Square | Length Cutter | Straight No. | Straight Price | Right No. | Right Price | Left No. | Left Price |
|---|---|---|---|---|---|---|---|
| ¼" | 2⅛" | 2051-S | $6.60 | 2051-R | $6.00 | 2051-L | $6.00 |
| ⅜" | 2¼" | 2052-S | 7.25 | 2052-R | 7.25 | 2052-L | 7.25 |
| ⅞" | 2½" | 2053-S | 9.00 | 2053-R | 7.60 | 2053-L | 7.60 |
| 1" | 3" | 2054-S | 11.00 | 2054-R | 10.00 | 2054-L | 10.00 |

## Threading Tool Holder

Drop Forged Steel

Cutter requires grinding on top edge only to sharpen. Prices below include threading tool, wrench and a high speed steel single point cutter (choice of V, U.S.S., or Whitworth Standard). Sharp V Cutter is furnished unless otherwise ordered. If U.S.S. or Whitworth Cutter is ordered specify pitch or number of threads per inch required.

**Prices of Threading Tool**

| Size of Lathe, Inches | Tool Complete Cat. No. | Size of Shank, Inches | Price, Each | Extra Cutters (H. S. Steel) Cat. No. | Price, Each |
|---|---|---|---|---|---|
| 9" T.L.* | 865 | ⅝ x ¾ | $3.35 | 860 | $2.10 |
| 9 | 865 | ⅝ x ¾ | 3.35 | 860 | 2.10 |
| 11 | 866 | ⅝ x ⅞ | 3.35 | 861 | 2.10 |
| 13, 15 | 867 | ½ x 1⅛ | 4.00 | 862 | 2.50 |
| 16, 18 | 868 | ⅝ x 1⅜ | 5.10 | 863 | 3.30 |

## Knurling Tool Holder

Drop Forged Steel

Prices include knurling tool holder and one set of medium knurls made of tool steel, tempered.

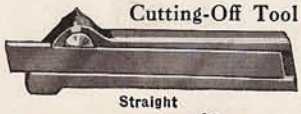
**Prices of Knurling Tool**

| Size of Lathe, Inches | Tool Complete Cat. No. | Size of Shank, Inches | Price, Each |
|---|---|---|---|
| 9" T.L.* | 891 | ⅝ x ¾ | $4.50 |
| 9 | 891 | ⅝ x ¾ | 4.50 |
| 11 | 892 | ⅝ x ⅞ | 4.80 |
| 13, 15 | 893 | ½ x 1⅛ | 5.40 |
| 16, 18 | 894 | ⅝ x 1⅜ | 6.40 |

**Prices of Extra Knurls**

| Coarse, Medium or Fine Straight or Diamond Shape Cat. No. | Dimensions, In. Dia. | Face | Hole | Price, Each |
|---|---|---|---|---|
| 886 | ⅝ | 3/16 | 3/32 | $0.80 |
| 886 | ⅝ | 3/16 | 3/32 | .80 |
| 887 | ⅝ | 3/16 | 3/32 | .80 |
| 888 | ¾ | ¼ | ¼ | .90 |
| 889 | ¾ | ¼ | ¼ | .90 |

## Cutting-Off Tool Holders



Straight

Left-Hand

Right-Hand

Made of drop forged steel. The cutter is adjustable to any desired clearance. Cutters are beveled on both sides and are held at an angle giving the side clearance and top rake required. Prices below include cutting-off tool, wrench and one high speed cutter, ground.

**Prices of Cutting-Off Tools**

| Size of Lathe, Inches | Size Shank, Inches | Size Cutter, Inches | Catalog Numbers Straight | Right | Left | Price Complete | Extra Cutter |
|---|---|---|---|---|---|---|---|
| 9" T.L.* | ⅝ x ¾ | ⅛ x ½ | 881-S | 881-R | 881-L | $2.35 | $0.50 |
| 9 | ⅝ x ¾ | ⅛ x ½ | 881-S | 881-R | 881-L | 2.35 | .50 |
| 11 | ⅝ x ⅞ | ⅛ x ⅝ | 882-S | 882-R | 882-L | 2.50 | .55 |
| 13, 15 | ½ x 1⅛ | ⅛ x ¾ | 883-S | 883-R | 883-L | 2.95 | .75 |
| 16, 18 | ⅝ x 1⅜ | ⅛ x ⅞ | 884-S | 884-R | 884-L | 3.70 | 1.10 |

## Hand Forged Lathe Tools

1. L. H. Side Tool
2. R. H. Side Tool
3. R. H. Bent Tool
4. R. H. Diamond Point
5. L. H. Diamond Point
6. Round Nose Tool
7. Cutting-Off Tool
8. Threading Tool
9. Bent Threading Tool
10. Roughing Tool
11. Boring Tool
12. Inside Threading Tool

Properly forged to shape, tempered and ground. Ready for use. If ordering less than one complete set, be sure to state both Shape No. and Catalog No.

| Size of Lathe, Inches | Size of Shank, Inches | Carbon Steel Single Tool Cat. No. | Carbon Steel Single Tool Price | Carbon Steel Set of 12 Cat. No. | Carbon Steel Set of 12 Price | High Speed Steel Single Tool Cat. No. | High Speed Steel Single Tool Price | High Speed Steel Set of 12 Cat. No. | High Speed Steel Set of 12 Price |
|---|---|---|---|---|---|---|---|---|---|
| 9" T.L.* | ⅝ x ⅝ | 437-C | $0.50 | 269-C | $ 5.50 | 437-HS | $2.00 | 269-HS | $22.00 |
| 9 | ⅝ x ⅝ | 438-C | .50 | 270-C | 5.50 | 438-HS | 2.00 | 270-HS | 22.00 |
| 11 | ⅞ x ¾ | 439-C | .60 | 271-C | 6.60 | 439-HS | 2.80 | 271-HS | 31.00 |
| 13 | 1 x 1 | 440-C | 1.00 | 272-C | 11.00 | 440-HS | 4.20 | 272-HS | 47.00 |
| 15 | 1 x 1 | 443-C | 1.30 | 273-C | 14.30 | 443-HS | 5.85 | 273-HS | 65.00 |
| 16, 18 | 1 x 1⅛ | 441-C | 1.50 | 274-C | 16.50 | 441-HS | 7.20 | 274-HS | 80.00 |

*NOTE: "9" T.L." listed in the tabulations above is an abbreviation for the name 9-inch Toolmaker.

## Stellite Cutter Bits

**Stellite Cutter Bit, ground ready to use**

Stellite cutter bits can be supplied either ground or unground. If cutter bit is desired ground to form, state whether form A, B, C, D, E, or F is wanted, as illustrated under the Tool Holder and Cutter Bit Set at extreme left of page. These cutter bits permit much higher cutting speeds than the regular high speed steel cutter bits. They are recommended for use in cutting hard castings, hard metals, valves, etc.

**Prices of Stellite Cutter Bits**

| Cat. No. | Size, Square Inches | Length Cutter Inches | Ground Price Each | Ground Price of Set | Unground Cat. No. | Unground Price Each |
|---|---|---|---|---|---|---|
| 1476 | ¼ | 2⅛ | $0.85 | $5 10 | 1920 | $0.60 |
| 1477 | ⅜ | 2½ | 1.20 | 7.20 | 1921 | .95 |
| 1478 | ⅞ | 3 | 1.65 | 9.90 | 1922 | 1.40 |

## Style "B" Boring Tool Holder

For Medium Work

Made of Drop Forged Steel. Cutter can be set either straight or at a 45-degree angle. Prices include holder, sleeve bar, end cap, two wrenches and two unground cutter bits.

**Prices of Style "B" Boring Tool Holder**

| Size of Lathe, Inches | Tool Complete Cat. No. | Size of Shank, Inches | Size of Bar, Inches | Price, Each | Extra Cutter Bits Cat. No. | Size of Cutter, Inches | Price, Each |
|---|---|---|---|---|---|---|---|
| 9" T.L.* | 429 | ⅝ x ¾ | ½ x 8 | $4.00 | 454 | 3/16 | $0.10 |
| 9 | 429 | ⅝ x ¾ | ½ x 8 | 4.00 | 454 | 3/16 | .10 |
| 11 | 430 | ⅝ x ⅞ | ⅝ x 10¼ | 4.00 | 455 | 3/16 | .10 |
| 13, 15 | 431 | ½ x 1⅛ | ¾ x 12⅛ | 4.75 | 456 | ¼ | .15 |
| 16, 18 | 432 | ⅝ x 1⅜ | ⅞ x 14⅛ | 6.25 | 457 | 3/16 | .25 |

## Style "D" Boring Tool Holder

For Small Work

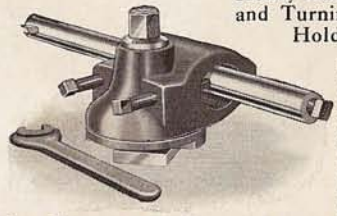
A handy tool for boring work of small internal diameter, and for threading, turning, etc. Holder is made of drop forged steel. Boring bar is made of tool steel, hardened, tempered and ground ready for use. Prices include boring tool holder, one boring bar and wrench.

Style "D" Boring Tool Holders for 9" to 18" Lathes will take the following sizes of boring bars: 9" Toolmaker and 9" Lathes take boring bars ⅛" to ½"; 11" Lathes take boring bars ¼" to ⅝"; 13" and 15" Lathes take boring bars ¼" to ¾"; 16" and 18" Lathes take boring bars ⅜" to 1".

**Prices of Style "D" Boring Tool Holder**

| Size of Lathe, Inches | Tool Complete Cat. No. | Size of Shank, Inches | Size of Bar Inches | Price Each | Extra Boring Bars Cat. No. | Size of Bar Inches | Price Each |
|---|---|---|---|---|---|---|---|
| 9" T.L.* | 505-A | ⅝ x ¾ | ¼ x 5 | $2.50 | 498-A | ¼ x 5 | $0.35 |
| 9 | 505-A | ⅝ x ¾ | ¼ x 5 | 2.50 | 498-A | ¼ x 5 | .35 |
| 11 | 505-B | ⅝ x ⅞ | ⅜ x 6 | 2.75 | 498-B | ⅜ x 6 | .45 |
| 13, 15 | 505-C | ½ x 1⅛ | ⅜ x 7 | 3.00 | 498-C | ⅜ x 7 | .60 |
| 16, 18 | 505-D | ⅝ x 1⅜ | 7/16 x 8 | 3.30 | 498-D | 7/16 x 8 | .85 |

## Heavy Duty Boring and Turning Tool Holder



This tool is recommended for truing the brake drums of automobiles, buses and trucks. Also practical for turning large diameters and for heavy duty boring. Prices include tool holder boring bar, wrench and one high speed cutter bit, not ground.

**Prices of Boring and Turning Tool Holder**

| Size of Lathe, Inches | Tool Complete Cat. No. | Size of Bar, Inches | Price, Each | Extra Cutter Bits Cat. No. | Size of Cutter, Inches | Price, Each |
|---|---|---|---|---|---|---|
| 9" T.L.* | 469 | ¾ x 14 | $12.00 | 474 | 3/16 | $0.10 |
| 9 | 469 | ¾ x 14 | 12.00 | 474 | 3/16 | .10 |
| 11 | 470 | 1 x 15 | 14.00 | 475 | ⅜ | .40 |
| 13 | 471 | 1¼ x 18 | 18.00 | 476 | 7/16 | .65 |
| 15 | 472 | 1½ x 20 | 22.00 | 477 | ½ | 1.00 |
| 16, 18 | 473 | 1½ x 20 | 23.00 | 478 | ½ | 1.00 |
| 36 | 464-A | 1½ x 20 | 23.00 | 479 | ½ | 1.00 |

# Lathe Dogs, Centers and Accessories for South Bend Lathes

## Standard Lathe Dogs  Safety Lathe Dogs

Made of heavy malleable iron and are properly designed for strength and service. The Standard Dog has square head alloy steel set screw. The Safety Dog has a headless alloy steel set screw and wrench.

### Prices of Heavy Type Lathe Dogs
For 11-inch to 36-inch Swing Lathes

| Capacity of Lathe Dog | Standard Lathe Dogs | | Safety Lathe Dogs | |
|---|---|---|---|---|
| | Cat. No. | Price, Each | Cat. No. | Price, Each |
| ⅜ in. | 1-M | $0.50 | 1-MH | $0.60 |
| ½ in. | 2-M | .60 | 2-MH | .70 |
| ¾ in. | 4-M | .70 | 4-MH | .80 |
| 1 in. | 6-M | .80 | 6-MH | .90 |
| 1¼ in. | 8-M | .90 | 8-MH | 1.00 |
| 1½ in. | 10-M | 1.05 | 10-MH | 1.15 |
| 1¾ in. | 11-M | 1.20 | 11-MH | 1.30 |
| 2 in. | 12-M | 1.35 | 12-MH | 1.45 |
| 2½ in. | 14-M | 1.60 | 14-MH | 1.70 |
| 3 in. | 15-M | 1.75 | 15-MH | 1.90 |
| 3½ in. | 16-M | 1.95 | 16-MH | 2.10 |
| 4 in. | 17-M | 2.25 | 17-MH | 2.40 |

### Light Pattern Lathe Dogs
For 9-inch and 11-inch Swing Lathes Only

| | | | | |
|---|---|---|---|---|
| ⅜ in. | 1-MJ | $0.40 | 1-JH | $0.50 |
| ½ in. | 2-MJ | .50 | 2-JH | .60 |
| ¾ in. | 4-MJ | .60 | 4-JH | .70 |
| 1 in. | 6-MJ | .70 | 6-JH | .80 |
| 1¼ in. | 8-MJ | .80 | 8-JH | .90 |
| 1½ in. | 10-MJ | .95 | 10-JH | 1.05 |

### Clamp Lathe Dogs
Drop Forged Steel

| Capacity | Cat. No. | Price, Each |
|---|---|---|
| 1¾ in. | 160 | $1.80 |
| 2¼ in. | 161 | 2.40 |
| 2¾ in. | 162 | 3.00 |
| 3½ in. | 163 | 4.25 |

## 60° Head Spindle Lathe Center

### Prices of Head Spindle Lathe Center

| Size Lathe. | 9" T.L. | 9 in. | 11 in. | 13 in. | 15 in. | 16 in. | 18 in. |
|---|---|---|---|---|---|---|---|
| Cat. No.... | 725-T | 725-A | 725-B | 725-C | 725-D | 725-E | 725-F |
| Price, each. | $2.00 | $2.00 | $2.00 | $2.75 | $2.75 | $2.75 | $2.75 |

## 60° Tail Spindle Lathe Center

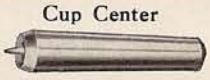
### Prices of Tail Spindle Lathe Center

| Size Lathe. | 9" T.L. | 9 in. | 11 in. | 13 in. | 15 in. | 16 in. | 18 in. |
|---|---|---|---|---|---|---|---|
| Cat. No.... | 726-T | 726-A | 726-B | 726-C | 726-D | 726-E | 726-F |
| Price, each. | $2.25 | $2.25 | $2.25 | $3.00 | $3.00 | $3.00 | $3.00 |

## Spur Center

| Size of Lathe | Cat. No. | Net Price |
|---|---|---|
| 9" T.L.* | 732-T | $3.00 |
| 9 in. | 732-A | 3.00 |
| 11 in. | 732-B | 3.00 |
| 13 in. | 732-C | 4.00 |
| 15 in. | 732-D | 4.00 |
| 16 in. | 732-E | 4.00 |
| 18 in. | 732-F | 4.00 |

## Cup Center

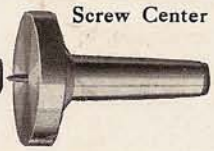


| Size of Lathe | Cat. No. | Net Price |
|---|---|---|
| 9" T.L.* | 733-T | $3.00 |
| 9 in. | 733-A | 3.00 |
| 11 in. | 733-B | 3.00 |
| 13 in. | 733-C | 4.00 |
| 15 in. | 733-D | 4.00 |
| 16 in. | 733-E | 4.00 |
| 18 in. | 733-F | 4.00 |

## Drill Pad

| Size of Lathe | Cat. No. | Net Price |
|---|---|---|
| 9" T.L.* | 727-T | $3.00 |
| 9 in. | 727-A | 3.00 |
| 11 in. | 727-B | 3.00 |
| 13 in. | 727-C | 4.00 |
| 15 in. | 727-D | 4.00 |
| 16 in. | 727-E | 4.00 |
| 18 in. | 727-F | 4.00 |

## Screw Center



| Size of Lathe | Cat. No. | Net Price |
|---|---|---|
| 9" T.L.* | 731-T | $3.00 |
| 9 in. | 731-A | 3.00 |
| 11 in. | 731-B | 3.00 |
| 13 in. | 731-C | 4.00 |
| 15 in. | 731-D | 4.00 |
| 16 in. | 731-E | 4.00 |
| 18 in. | 731-F | 4.00 |

## Crotch Center

| Size of Lathe | Cat. No. | Net Price |
|---|---|---|
| 9" T.L.* | 728-T | $3.00 |
| 9 in. | 728-A | 3.00 |
| 11 in. | 728-B | 3.00 |
| 13 in. | 728-C | 4.00 |
| 15 in. | 728-D | 4.00 |
| 16 in. | 728-E | 4.00 |
| 18 in. | 728-F | 4.00 |

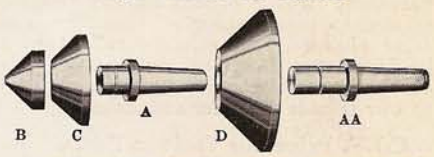
## Morse Taper Sleeve

Made of steel and machined to Morse Standard Taper Gauges. Used in fitting small tapers to large sockets.

### Prices of Morse Taper Sleeve

| Cat. No. | Size Morse Taper | Taper of Bore | Outside Taper | Price, Each |
|---|---|---|---|---|
| 118-A | No. 1 to 2 | No. 1 Morse | No. 2 Morse | $0.60 |
| 118-B | No. 1 to 3 | No. 1 Morse | No. 3 Morse | .75 |
| 118-C | No. 1 to 4 | No. 1 Morse | No. 4 Morse | .95 |
| 118-D | No. 2 to 3 | No. 2 Morse | No. 3 Morse | .75 |
| 118-E | No. 2 to 4 | No. 2 Morse | No. 4 Morse | .95 |
| 118-F | No. 3 to 4 | No. 3 Morse | No. 4 Morse | .95 |

## Pipe Centers for Lathes




For machining pipes in the lathe. Centers B, C, and D revolve on the short end of taper shanks A and AA, which fit within the head and tail spindle of the lathe. Shank A is used with Centers B and C; Shank AA with Center D. Prices of centers larger than those listed will be furnished on request.

### Prices of Taper Shanks and Pipe Centers

| Size of Lathe | Taper Shank A and Center B† for Pipe ½" to 3" | | Taper Shank AA and Center D for Pipe 5" to 8" | |
|---|---|---|---|---|
| | Cat. No. | Price | Cat. No. | Price |
| 9" T.L.* | 663-T | $7.00 | Not Made | Not Made |
| 9", 11" | 663-A | 7.00 | Not Made | Not Made |
| 13", 15" | 663-B | 8.00 | 929-A | $16.50 |
| 16", 18" | 663-C | 8.50 | 929-B | 17.00 |

†Extra for No. 912-C Center C, for pipe 3" to 5", $6.00.

## Combination Center Drill & Countersink

For drilling center hole and countersinking 60° angle for lathe center. Made of carbon tool steel, hardened and ground. Table shows the correct size center drill for various sizes of work.

### Prices of Center Drill and Countersink

| Diam. of Work | Diam. of Drill | Diam. of Body | Single Drill | |
|---|---|---|---|---|
| | | | Cat. No. | Price |
| 3/32" to 5/32" | 1/8 in. | 3/32" | 898-A | $0.25 |
| 3/8" to 1" | 5/32 in. | .302" | 898-B | .30 |
| 1¼" to 2" | 1/8 in. | .302" | 898-C | .35 |
| 2¼" to 4" | 5/32 in. | 7/16" | 898-D | .40 |

## Extra Equipment for 9" Jr. & 9" Toolmaker Lathes

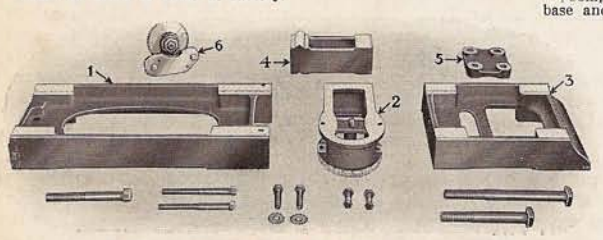

| Description | 9" Junior Lathe | | 9" Toolmaker Lathe | |
|---|---|---|---|---|
| | Cat. No. | Price | Cat. No. | Price |
| Center Rest | 125 | $8.00 | 125-T | $8.00 |
| Follower Rest | 130 | 4.00 | 34-T | 4.00* |
| Thread Cutting Stop | 67 | 2.00 | 67-T | 2.00 |
| Large Diam. Face Plate | 40 | 6.00 | 40-T | 6.00 |

*Must be fitted to lathe at factory.

## Hand Rest for Wood Turning
(With 2 "T" Rests and Clamp)

| Size Lathe | Cat. No. | Price | Size Lathe | Cat. No. | Price |
|---|---|---|---|---|---|
| 9" T.L.* | 896-T | $5.00† | 15 in. | 1074 | $11.00 |
| 9 in. | 1071 | 8.00 | 16 in. | 1075 | 11.00 |
| 11 in. | 1072 | 8.00 | 18 in. | 1076 | 11.00 |
| 13 in. | 1073 | 9.00 | | | |

†Compound Rest Type, complete with base and three "T" Rests.




## Special Change Gear Equipment
For Cutting Standard Screw Threads 4 to 80 per inch, right or left, also 11½ pipe thread. Can be supplied in lieu of gear equipment regularly supplied, when ordered with lathe at prices listed below; or can be purchased extra.

| Size of Lathe | Price When Ordered with Lathe | | Price When Ordered Extra | |
|---|---|---|---|---|
| | Cat. No. | Price | Cat. No. | Price |
| 9" T.L.* | 307 | $ 5.00 | 1049 | $15.00 |
| 9 in. | 309 | 5.00 | 1050 | 15.00 |
| 11 in. | 313 | 6.00 | 1090 | 18.00 |
| 13 in. | 314 | 7.00 | 1091 | 20.00 |
| 15 in. | 315 | 9.00 | 1092 | 25.00 |
| 16 in. | 317 | 9.00 | 1093 | 25.00 |
| 18 in. | 319 | 12.00 | 1094 | 30.00 |

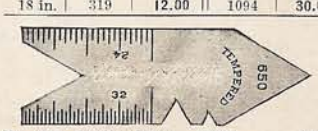
## Raising Blocks for South Bend Lathes

Raising Blocks can be supplied for straight bed and gap bed lathes in Quick Change, Standard Change Gear and Junior types to increase the swing the entire distance between centers, and permit the lathe to be used for light machining on work of large diameter.

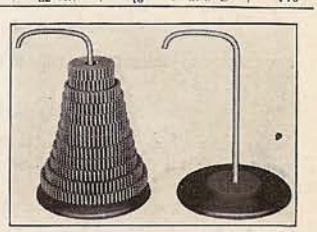
### Prices of Raising Blocks for Straight and Gap Bed Lathes*

| Increase in Swing Over Bed | | | | Raising Blocks for Quick Change Gear Lathes | | Raising Blocks for Standard Change and Junior Lathes | |
|---|---|---|---|---|---|---|---|
| Straight Bed Lathes | | Gap Bed Lathes | | | | | |
| Swing Over Bed | Swing Over Bed with Raising Blocks | Swing Over Gap | Swing Over Gap with Raising Blocks | Cat. No. | Price | Cat. No. | Price |
| 9¼ in. | 12 in. | ..... | ..... | 1121 | $40.00 | 1001 | $35.00 |
| 11¼ in. | 14 in. | ..... | ..... | 1122 | 46.00 | 1002 | 40.00 |
| 13¼ in. | 18 in. | 19 in. | 24 in. | 1123 | 65.00 | 1003 | 55.00 |
| 15¼ in. | 20 in. | 22 in. | 27 in. | 1124 | 77.00 | 1004 | 65.00 |
| 16¼ in. | 22 in. | 24 in. | 30 in. | 1125 | 89.00 | 1005 | 75.00 |
| 18¼ in. | 24 in. | 26 in. | 32 in. | 1126 | 101.00 | 1006 | 85.00 |

*Cannot be supplied for Silent or Underneath Belt Motor Driven Lathes.




No. 650, Center Gauge. Price.....$0.50



## Gear Holding Bracket

Holds a complete set of change gears for any size South Bend Lathe.

No. 191, Gear Holding Bracket.....$1.25

## Precision Level for Lathes

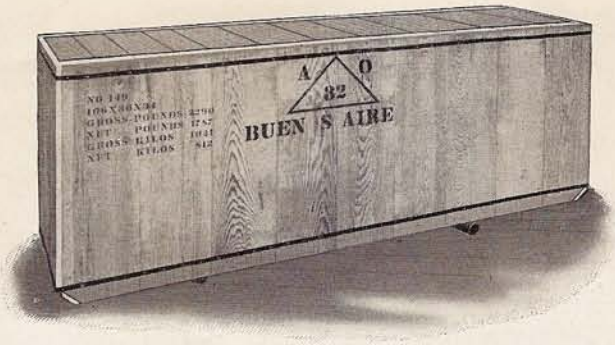
A sensitive level 12 inches long with accurately ground and graduated vial, should be used for levelling South Bend Lathes. An ordinary carpenter's level or combination square level does not have sufficient accuracy.

No. 977, 12-Inch Bench Level with ground and graduated vial. Price.....$6.50

*NOTE: "9" T.L." listed in the tabulations above is an abbreviation for the name 9-inch Toolmaker.

# Export Information on South Bend Lathes

**Informes con Respecto a la Exportación de Tornos South Bend**




**South Bend Lathes Have Been Exported** to all parts of the world for more than twenty-four years. In that time shipments have been made to 96 different countries or colonies which are shown on the page opposite. The reputation of South Bend Lathes is, therefore, world-wide and users everywhere can testify to their high quality.

**Export Prices F.O.B. South Bend.** All prices quoted in this catalog are the latest net prices f.o.b. our factory and include proper packing and boxing for ocean shipment where necessary.

**The Latest Export Information** is available to our friends overseas at all times. We maintain a special department in our offices having the latest information on steamship rates, shipping data, insurance premiums, consular charges, and other details that our customers may be interested in when purchasing a lathe. The services of this department are extended free of cost or obligation to our friends in other countries.

**C.I.F. Prices to Various Ports.** Write to us specifying the size and type of lathe in which you are interested and we will send you a detailed itemized C.I.F. quotation to your nearest port. Or you may determine approximate C.I.F. price of any lathe in this catalog by consulting the table of approximate rates given on page 63.

**Correspondence in Any Language.** You may write us in any language you wish and we will respond in your own language, the English language, or in any other you specify. We have competent translators in our Export Department for correspondence in various languages.

**Boxing for Export Shipment.** When boxing South Bend Lathes for export shipment, the lathe is dismantled and all parts removed are oiled, greased, wrapped and packed in one strong case as illustrated above. All parts are blocked and fastened solidly inside the case to prevent moving while in transit. The box is lined inside with waterproof paper, and bound with steel tape outside.

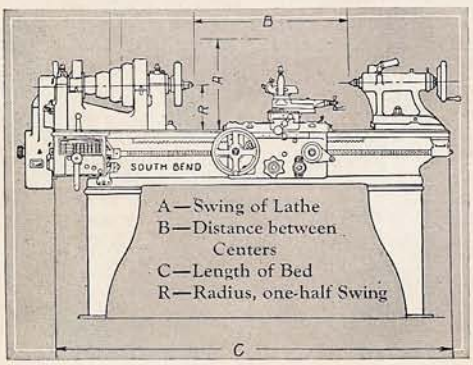
**Mule Back Packing.** When desired, we can pack South Bend Lathes for shipment in small boxes or cases suitable for mule back transportation. An additional charge of 5% is made for this special packing. For example, a charge of $25.00 additional would be made on a lathe costing $500.00. The lathe beds must be packed in one case, as they are cast in one piece.

**Sizes of Packing Cases.** The approximate dimensions and weights of cases in which South Bend Lathes are packed for ocean shipment are shown on page 63.

## The Size of a Lathe

The size of a Screw Cutting Lathe is determined by the Swing over the Bed and Length of the bed as indicated by the illustration below.

European tool manufacturers determine the size of a lathe by its radius or center distance: for example, an 8″ center lathe is a lathe having a radius of 8 inches. What the European terms an 8″ center Lathe, United States manufacturers term a 16-inch swing lathe.




**Los Tornos South Bend** han sido exportados a todos los rincones del mundo durante los últimos veinte y cuatro años. Durante este tiempo, se han hecho despachos a noventa y seis países los cuales aparecen en la página opuesta. La reputación de los Tornos South Bend es, por lo tanto, mundial, y todos los que usan nuestros tornos pueden testificar su alta calidad y su adaptabilidad a todo trabajo fino y de gran exactitud.

**Tenemos a su disposición los informes** mas recientes sobre la exportación de nuestros productos a cualquier país. Tenemos un departamento dedicado a obtener los ultimos informes sobre las tarifas de las compañias de vapores, los derechos consulares, las primas de seguro y otros detalles en los cuales nuestros clientes están interesados al comprar tornos. Los servicios de este departamento son enteramente gratis y Ud. puede usarlos sin obligación de ninguna especie.

**Los Precios son Franco a Bordo.** Todos los precios indicados en este catálogo son los precios más recientes, franco a bordo, nuestra fábrica en South Bend e incluyen el empaque y el encajonamiento para transporte marítimo. No concedemos ningun descuento sobre estos precios. La maquinaria destinada a la Republica Mejicana se empaca del mismo modo que si fuera enviada dentro del país, o sea, en cajas hechas de tablillas de madera. Vease página 67. Los envíos a Mejico se hacen por Ferrocarril.

**Cotizaciones con Precios Costo, Seguro y flete** hasta cualquier puerto serán suministradas a solicitud. Sírvase escribirnos indicando el tamaño y tipo de torno en el cual Ud. está interesado que nosotros le enviaremos una cotización, costo seguro y flete hasta su puerto más cercano. Ud. puede determinar el precio costo, seguro y flete de cualquier torno consultando la tabla de gastos aproximados en la página 63.

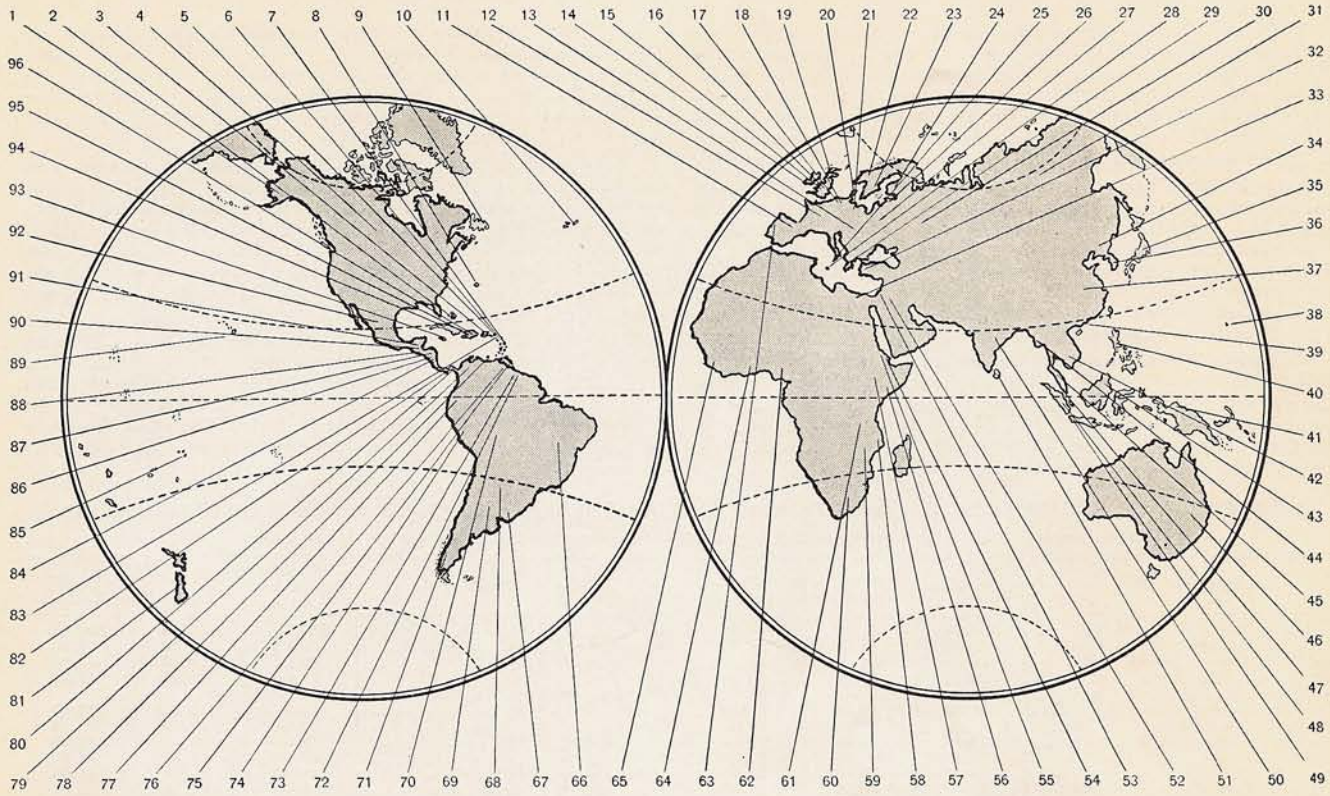
**Correspondemos en cualquier idioma.** Puede. Ud. escribirnos en cualquier idioma que nosotros le contestaremos en su lengua propia, en inglés, o en cualquier otro idioma que Ud. nos indique. Tenemos traductores de español, francés, y portugués en nuestro departamento de exportación. Podemos corresponder en los otros idiomas pues tenemos relaciones con traductores adiestrados.

**El Empaque para Transporte Marítimo.** Al encajonar los Tornos South Bend para transporte marítimo, se desarman y todas sus partes, se aceitan, engrasan, envuelven y empacan en una caja fuerte como se puede ver en la ilustración de arriba. Todas las partes se fijan sólidamente en la caja para evitar su movimiento durante el tiempo que las maquinas estan en camino. Las cajas tienen forros de papel impermeable, y están reforzadas por cintas de acero. Las cajas están marcadas de acuerdo con las indicaciones de nuestros clientes sin costo adicional de su parte.

**Encajonamiento para transporte a lomo de mula.** A solicitud, podemos empacar Tornos South Bend en cajas pequeñas para permitir su transporte a lomo de mula. Se exige un pago adicional de 5% por dicho empaque. Por ejemplo, se cobrarían $25.00 por un torno de $500.00. La bancada del torno debe ser empacada en una sola caja pues está fundida en una sola pieza.

**Tamaños de las Cajas.** Las dimensiones y pesos aproximados de las cajas en las cuales los Tornos South Bend están empacados para transporte marítimo están indicados en la página 63. Para cada uno de los tamaños de los Tornos South Bend, de transmisión por contraeje o a motor provistos de patas largas o de tipo para banco, las dimensiones están indicadas en milímetros y pulgadas; y los pesos en kilogramos y libras. Estas dimensiones y pesos aproximados pueden ser usados para determinar los gastos del transporte y despacho. Al calcular el flete marítimo es mejor usar la tarifa por pie cúbico pues las compañias de vapores reservan la opción de calcular por peso o por medida, cualquiera produzca la mayor entrada.

# South Bend Lathes are Used in 96 Countries




The map above shows the 96 different countries, colonies and territories where South Bend Lathes are in use. To find the name of any country in the map above, follow the reference lines from the country to the numbers on the margin. The name of the country can then be found opposite that number in the table below.

1. Territory of Alaska
2. Bahama Islands
3. Puerto Rico
4. Dominion of Canada
5. Virgin Islands
6. Island of Guadeloupe
7. Island of Barbados
8. Bermuda Islands
9. Newfoundland
10. Azores Islands
11. Republic of Spain
12. Republic of France
13. Republic of Austria
14. Irish Free State
15. Wales
16. England
17. The Netherlands
18. Kingdom of Belgium
19. Scotland
20. Kingdom of Denmark
21. Republic of Germany
22. Kingdom of Norway
23. Kingdom of Sweden
24. Republic of Finland
25. Kingdom of Italy
26. Republic of Esthonia
27. Republic of Poland
28. Island of Malta
29. Republic of Greece
30. U.S.S.R. (Russia)
31. Siberia
32. Republic of Turkey
33. Kingdom of Egypt
34. Manchukuo
35. Japanese Empire
36. Korea
37. Republic of China
38. Island of Guam
39. Territory of Hong Kong
40. Philippine Islands
41. Island of New Guiana
42. French Indo China
43. Island of Borneo
44. Burma
45. Federated Malay States
46. Commonwealth of Australia
47. Straits Settlements
48. Island of Sumatra
49. Island of Java
50. India
51. Ceylon
52. Syria
53. Palestine
54. French Somaliland
55. Kingdom of Abyssinia
56. Kenya Colony
57. Uganda
58. Portuguese East Africa
59. South Rhodesia
60. Union of South Africa
61. North Rhodesia
62. Nigeria
63. Republic of Portugal
64. Gold Coast Colony
65. Republic of Liberia
66. Republic of Brazil
67. Republic of Uruguay
68. Republic of Paraguay
69. Argentine Republic
70. Republic of Bolivia
71. Republic of Chile
72. Dutch Guiana
73. British Guiana
74. Republic of Peru
75. Island of Trinidad
76. Republic of Venezuela
77. Republic of Ecuador
78. Island of Curacao
79. Republic of Colombia
80. Canal Zone
81. New Zealand
82. Republic of Panama
83. Island of Martinique
84. Republic of Costa Rica
85. Samoan Islands
86. Republic of Nicaragua
87. Republic of Honduras
88. Republic of Salvador
89. Territory of Hawaii
90. Republic of Guatemala
91. British Honduras
92. Republic of Mexico
93. Island of Jamaica
94. Republic of Cuba
95. Republic of Haiti
96. Dominican Republic


Manual del Tornero
Escrito en Español.

## "Manual del Tornero"—Edición No. 28

**Manera de Instalar, Cuidar y Manejar un Torno para Cortar Tornillos**

El libro "El Manual del Tornero," es sumamente autoritativo y describe los principios fundamentales sobre el manejo del torno con engranajes de dobles velocidades para cortar tornillos. Este libro tiene ilustraciones de 200 métodos de utilizar el torno en la práctica. Es un libro de referencias de gran valor, pues es la mayor autoridad en torneria de metales y se están usando más de un millión doscientos cincuenta mil ejemplares por todo el mundo.

Este libro contiene instrucciones completas sobre el montaje y la operación del torno y describe detalladamente las maneras de centrar y amolar herramientas, cortar metales de distintas clases, cortar tornillos de todos estilos, y otras operaciones de mayor importancia.

Se ha preparado éste libro para el uso de los aprendices en los talleres de mecánica. Es uno de los libros más completos en tornería de metales que se puede conseguír. Representa la experiencia de sus autores quienes trabajaron por más de 30 años como ingenieros y mecánicos expertos en varias industrias de labrar metales.

# Approximate Cost of Shipping South Bend Lathes to Various Countries

**Los Gastos Aproximados de Despachar Tornos South Bend a Algunos Paises**

The table below shows approximate transportation, insurance and forwarding expenses from our factory in South Bend, Indiana, to some of the important ports and trade centers throughout the world. These estimates are given on three of the representative size South Bend Lathes. From these amounts you can readily determine the approximate shipping expenses on any other lathe shown in this catalog.

**Freight and Transportation.** All export shipments are made from our factory at South Bend, Indiana, which is seven hundred fifty miles West of the port of New York City. The estimates below, therefore, include railroad freight to New York, cartage from railroad terminal to steamship pier and ocean freight from New York except where other ports are indicated. All shipments are insured under the conventional "all risk" insurance policy.

**Consular Fees** are sometimes levied by various countries in addition to or in place of customs duties. The consular duties are not included in the following estimates. For information write to us for C.I.F. quotations and we will itemize the consular fees, if any, according to the latest rulings of the country in which you are located.

La tabla siguiente contiene los gastos aproximados de transporte seguro y despacho, desde South Bend hasta algunos puertos principales del mundo, de tres tamaños de Tornos South Bend. De estos cálculos puede Ud determinar facílmente los gastos de transporte aproximados de cualquier otro torno ilustrado en éste catálogo.

**Flete y transporte.** Todos los despachos al exterior son efectuados de nuestra fábrica en South Bend, Indiana, la cual está a más de setecientas cincuenta millas al oeste del Puerto de Nueva York. Las tarifas a continuación incluyen el flete terrestre hasta Nueva York, el acarreo desde la estación terminal del ferrocarril al lado del vapor, el flete marítimo desde Nueva York hasta los puertos indicados y el seguro contra todo riesgo.

**Derechos consulares** son exijidos por algunos países en vez de o además de derechos de aduana. Estos derechos no están incluidos en los cálculos siguientes. Sírvase escribirnos solicitando una cotización costo, seguro y flete hasta su puerto más cercano, y con gusto le especificaremos estos derechos de acuerdo con los reglamentos más recientes del gobierno de ese país.

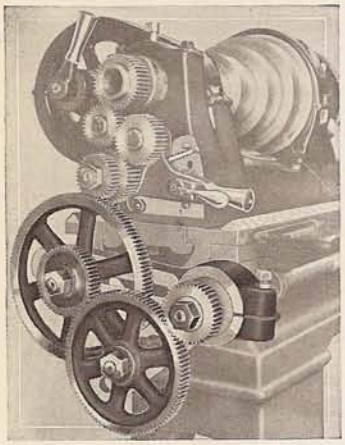
## Approximate Transportation, Insurance and Forwarding Charges to World's Leading Ports

**Gastos aproximados de transportación y Seguro a los puertos principales del mundo**

| NAME OF PORT | 9″x3′ Toolmaker Lathe | 13″x6′ Lathe | 16″x8′ Lathe |
|---|---|---|---|
| Acajutla, Salvador, via N. Y. | $30.00 | $65.00 | $91.00 |
| Alexandria, Egypt, via N. Y. | 22.00 | 48.00 | 69.00 |
| Amapala, Honduras, via N. Y. | 25.00 | 50.00 | 71.00 |
| Antofagasta, Chile, via N. Y. | 34.00 | 67.00 | 98.00 |
| Auckland, New Zealand, via N. Y. | 25.00 | 58.00 | 89.00 |
| Barcelona, Spain, via N. Y. | 22.00 | 45.00 | 65.00 |
| Belize, Br. Honduras, via N. Y. | 23.00 | 49.00 | 70.00 |
| Bluefields, Nicaragua, via N. Y. | 22.00 | 45.00 | 65.00 |
| Bombay, India, via N. Y. | 21.00 | 44.00 | 65.00 |
| Bridgetown, Barbados, via N. Y. | 23.00 | 48.00 | 70.00 |
| Buenaventura, Colombia, via N. Y. | 32.00 | 67.00 | 93.00 |
| Buenos Aires, Argentina, via N. Y. | 24.00 | 48.00 | 69.00 |
| Calcutta, India, via N. Y. | 20.00 | 44.00 | 65.00 |
| Callao, Peru, via N. Y. | 28.00 | 59.00 | 83.00 |
| Capetown, S. Africa, via N. Y. | 21.00 | 45.00 | 66.00 |
| Corinto, Nicaragua, via N. Y. | 26.00 | 53.00 | 76.00 |
| El Paso, Texas (crated and shipped via rail) | 8.00 | 35.00 | 61.00 |
| Guayaquil, Ecuador, via N. Y. | 31.00 | 66.00 | 92.00 |
| Havana, Cuba, via Key West | 23.00 | 43.00 | 68.00 |
| Hong Kong, China, via San Francisco | 22.00 | 52.00 | 81.00 |
| Honolulu, Hawaii, via S. F. | 22.00 | 48.00 | 75.00 |
| Ketchikan, Alaska, via S. F. | 16.00 | 35.00 | 52.00 |
| Kingston, Jamaica, via N. Y. | 19.00 | 38.00 | 56.00 |
| Laredo, Texas (crated and shipped via rail) | 8.00 | 35.00 | 61.00 |
| Lisbon, Portugal, via N. Y. | 24.00 | 49.00 | 69.00 |
| Liverpool, England, via N. Y. | 23.00 | 48.00 | 70.00 |
| Lourenco Marques, P. E. Africa, via N. Y. | 25.00 | 52.00 | 75.00 |
| Maracaibo, Venezuela, via N. Y. | 25.00 | 49.00 | 70.00 |
| Manzanillo, Mexico | $23.00 | $48.00 | $69.00 |
| Melbourne, Australia, via N. Y. | 25.00 | 45.00 | 78.00 |
| Mollendo, Peru, via N. Y. | 28.00 | 59.00 | 83.00 |
| Montevideo, Uruguay, via N. Y. | 23.00 | 48.00 | 69.00 |
| Nogales, Arizona (crated and shipped via rail) | 13.00 | 47.00 | 81.00 |
| Panama City, Panama, via N. Y. | 20.00 | 40.00 | 59.00 |
| Pernambuco, Brazil, via N. Y. | 22.00 | 43.00 | 63.00 |
| Port-au-Prince, Haiti, via N. Y. | 20.00 | 42.00 | 61.00 |
| Port Limon, Costa Rica, via N. Y. | 24.00 | 48.00 | 68.00 |
| Port of Spain, Trinidad, via N. Y. | 21.00 | 45.00 | 65.00 |
| Progreso, Mexico, via New Orleans | 18.00 | 39.00 | 63.00 |
| Puerto Barrios, Guatemala, via N. Y. | 25.00 | 50.00 | 71.00 |
| Puerto Cabello, Venezuela, via N. Y. | 25.00 | 49.00 | 70.00 |
| Puerto Colombia, Colombia, via N. Y. | 25.00 | 40.00 | 71.00 |
| Puntarenas, Costa Rica, via N. Y. | 26.00 | 54.00 | 76.00 |
| Rio de Janeiro, Brazil, via N. Y. | 22.00 | 42.00 | 61.00 |
| San Jose, Guatemala, via N. Y. | 30.00 | 65.00 | 90.00 |
| San Juan, Puerto Rico, via N. Y. | 18.00 | 36.00 | 55.00 |
| Santiago de Cuba, Cuba, via N. Y. | 20.00 | 38.00 | 62.00 |
| Santo Domingo, Dominican Republic, via N. Y. | 21.00 | 44.00 | 64.00 |
| Santos, Brazil, via N. Y. | 23.00 | 41.00 | 58.00 |
| Seward, Alaska, via Seattle | 25.00 | 61.00 | 92.00 |
| Shanghai, China, via S. F. | 24.00 | 54.00 | 84.00 |
| Singapore, Straits Settlements, via N. Y. | 22.00 | 46.00 | 68.00 |
| Valparaiso, Chile, via N. Y. | 29.00 | 60.00 | 84.00 |
| Veracruz, Mexico, via N. Y. | 25.00 | 52.00 | 87.00 |
| Wellington, New Zealand, via N. Y. | 25.00 | 58.00 | 89.00 |

# Transposing Gear Attachment for Cutting Metric Screw Threads

## For South Bend Lathes with English Pitch Lead Screws



Transposing Gears for South Bend Standard Change Gear, Junior and Toolmaker Lathes

The Transposing Gear Attachment is used on the lathe for cutting screw threads in millimeter pitch. May be fitted to Quick Change Gear Lathe, Standard Change Gear Lathe, Junior and Toolmaker Lathes.

The index plate at the right shows range of threads and feeds obtainable on the Quick Change Gear Lathes. Charts for Standard Change Gear and Junior and Toolmaker Lathes are similar and provide for similar screw threads and automatic feeds.

Price includes all equipment necessary for the threads and feeds as indicated on the index charts.

**Net Factory Prices Metric Transposing Gear Attachment**

| Size Lathe | Quick Change Gear Lathe | | | Standard Change Gear, Junior and Toolmaker Lathes | | |
|---|---|---|---|---|---|---|
| | Cat. No. | Code Word | Price | Cat. No. | Code Word | Price |
| Toolmaker | ..... | ..... | ..... | 1449 | Tibit | $25.00 |
| 9 in. | 1435 | Tanom | $30.00 | 1442 | Tibol | 25.00 |
| 11 in. | 1436 | Tasid | 35.00 | 1443 | Tigem | 30.00 |
| 13 in. | 1437 | Tadus | 40.00 | 1444 | Tohis | 35.00 |
| 15 in. | 1438 | Tesol | 45.00 | 1445 | Tojar | 40.00 |
| 16 in. | 1439 | Texis | 50.00 | 1446 | Tokas | 45.00 |
| 18 in. | 1440 | Tegam | 55.00 | 1447 | Tolim | 50.00 |

**METRIC TRANSPOSING CHART**
—FOR—
**QUICK CHANGE GEAR LATHE**
13″–15″–16″

| PITCH IN M M | STUD GEAR | GEAR BOX GEAR | PLUNGER HOLE | TOP LEVER POSITION | AUTOMATIC FEEDS IN M M | |
|---|---|---|---|---|---|---|
| | | | | | AUTOMATIC LONGITUDINAL FEED IN M/M PER SPINDLE REVOLUTION | AUTOMATIC CROSS FEED IN M/M PER SPINDLE REVOLUTION |
| 8 | 96 | 40 | 1 | L | | |
| 7.5 | 90 | 40 | 1 | L | | |
| 7. | 84 | 40 | 1 | L | | |
| 6.5 | 78 | 40 | 1 | L | | |
| 6. | 72 | 40 | 1 | L | | |
| 5.5 | 66 | 40 | 1 | L | | |
| 5. | 60 | 40 | 1 | L | | |
| 4.5 | 81 | 40 | 6 | L | | |
| 4. | 60 | 40 | 3 | L | | |
| 3.5 | 84 | 40 | 1 | C | | |
| 3 | 36 | 40 | 1 | L | | |
| 2.5 | 60 | 40 | 1 | C | | |
| 2. | 60 | 40 | 3 | C | | |
| 1.75 | 84 | 40 | 1 | R | .5833 | .2187 |
| 1.5 | 36 | 40 | 1 | C | .5000 | .1875 |
| 1.25 | 60 | 40 | 1 | R | .4166 | .1562 |
| 1. | 60 | 40 | 3 | R | .3333 | .1250 |
| .8 | 36 | 50 | 6 | C | .2666 | .1000 |
| .75 | 36 | 40 | 1 | R | .2500 | .0937 |
| .7 | 21 | 50 | 1 | C | .2333 | .0875 |
| .6 | 36 | 50 | 1 | R | .2000 | .0750 |
| .55 | 33 | 50 | 1 | R | .1833 | .0687 |
| .5 | 36 | 40 | 6 | R | .1666 | .0625 |
| .4 | 36 | 50 | 6 | R | .1333 | .0500 |
| .3 | 27 | 50 | 6 | R | .1000 | .0375 |
| .25 | 21 | 40 | 8 | R | .0833 | .0312 |
| .2 | 21 | 50 | 8 | R | .0666 | .0250 |

TOP LEVER POSITIONS ARE INDICATED AS FOLLOWS. L—LEFT, C—CENTER, AND R—RIGHT

Metric Chart for 13″, 15″, 16″, 18″, 24″ and 36″ Lathes

# Dimensions and Weights of South Bend Lathes Boxed for Export

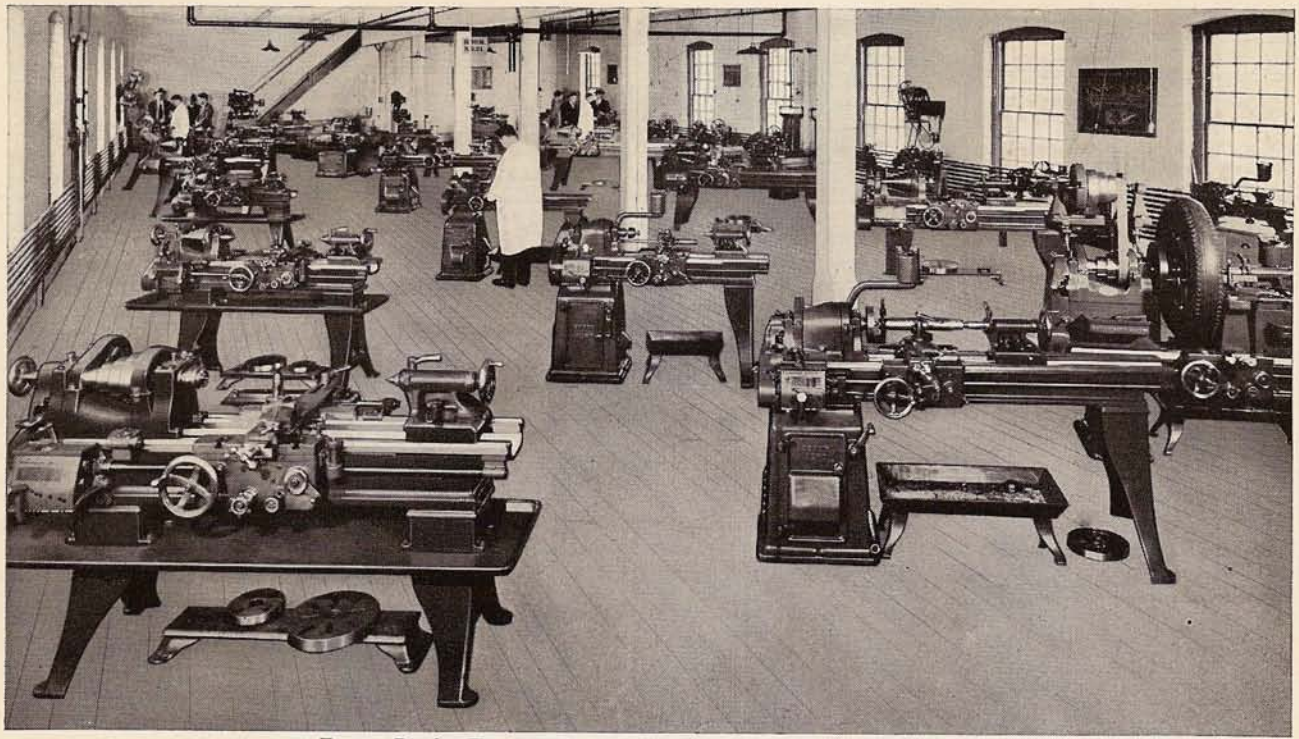
**Dimensiones y Pesos (Aproximados) de los Tornos South Bend Encajonados para Transporte Marítimo**

| Swing Over Bed / Volteo sobre la Bancada | | Length of Bed / Largo de la Bancada | | Countershaft Driven Floor Leg Lathes — Tornos de transmisión por contraeje provistos de patas largas | | | | Motor Driven Floor Leg Lathes — Tornos de transmisión a motor provistos de patas largas | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dimensions of Case — Dimensiones de la Caja | | Weight of Case — Peso de la Caja | | Dimensions of Case — Dimensiones de la Caja | | Weight of Case — Peso de la Caja | |
| Inches | mm. | Feet | mm. | Inches | mm. | Lbs. | Kilos | Inches | mm. | Lbs. | Kilos |
| **9-Inch Toolmaker Lathes with Floor Legs** | | | | | | | | | | | |
| 9¼ | 235 | 2 | 610 | 54x22x21 | 137x56x53 | 500 | 227 | 66x23x21 | 168x58x53 | 750 | 340 |
| 9¼ | 235 | 2½ | 762 | 60x22x21 | 152x56x53 | 525 | 238 | 72x23x21 | 183x58x53 | 775 | 352 |
| 9¼ | 235 | 3 | 914 | 66x22x21 | 168x56x53 | 550 | 249 | 78x23x21 | 198x58x53 | 800 | 363 |
| 9¼ | 235 | 3½ | 1067 | 72x22x21 | 183x56x53 | 575 | 261 | 84x23x21 | 213x58x53 | 825 | 374 |
| 9¼ | 235 | 4 | 1219 | 78x22x21 | 198x56x53 | 600 | 272 | 90x23x21 | 229x58x53 | 850 | 386 |
| **9-Inch Junior, Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 9¼ | 235 | 2½ | 762 | 60x23x24 | 152x58x61 | 600 | 272 | 72x24x24 | 183x61x61 | 880 | 399 |
| 9¼ | 235 | 3 | 914 | 66x23x24 | 168x58x61 | 630 | 286 | 78x24x24 | 198x61x61 | 910 | 413 |
| 9¼ | 235 | 3½ | 1067 | 72x23x24 | 183x58x61 | 660 | 299 | 84x24x24 | 213x61x61 | 940 | 426 |
| 9¼ | 235 | 4 | 1219 | 78x23x24 | 198x58x61 | 690 | 313 | 90x24x24 | 229x61x61 | 970 | 440 |
| 9¼ | 235 | 4½ | 1372 | 84x23x24 | 213x58x61 | 720 | 327 | 96x24x24 | 244x61x61 | 1000 | 454 |
| **11-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 11¼ | 286 | 3 | 914 | 66x25x26 | 168x64x66 | 810 | 368 | 78x25x26 | 198x64x66 | 1145 | 519 |
| 11¼ | 286 | 3½ | 1067 | 72x25x26 | 183x64x66 | 850 | 386 | 84x25x26 | 213x64x66 | 1185 | 538 |
| 11¼ | 286 | 4 | 1219 | 78x25x26 | 198x64x66 | 890 | 403 | 90x25x26 | 229x64x66 | 1225 | 556 |
| 11¼ | 286 | 5 | 1524 | 90x25x26 | 229x64x66 | 970 | 440 | 102x25x26 | 259x64x66 | 1305 | 592 |
| 11¼ | 286 | 5½ | 1676 | 96x25x26 | 244x64x66 | 1010 | 458 | 108x25x26 | 274x64x66 | 1345 | 610 |
| **13-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 13¼ | 336 | 4 | 1219 | 76x26x28 | 193x66x71 | 1290 | 586 | 92x28x30 | 234x71x76 | 1860 | 844 |
| 13¼ | 336 | 5 | 1524 | 88x26x28 | 224x66x71 | 1380 | 627 | 104x28x30 | 264x71x76 | 1950 | 885 |
| 13¼ | 336 | 6 | 1829 | 100x26x28 | 254x66x71 | 1470 | 667 | 116x28x30 | 295x71x76 | 2040 | 925 |
| 13¼ | 336 | 7 | 2134 | 112x26x28 | 284x66x71 | 1560 | 708 | 128x28x30 | 325x71x76 | 2130 | 966 |
| 13¼ | 336 | 8 | 2438 | 124x26x28 | 315x66x71 | 1650 | 749 | 140x28x30 | 355x71x76 | 2220 | 1007 |
| **15-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 15¼ | 387 | 5 | 1524 | 88x30x30 | 224x76x76 | 1800 | 817 | 106x33x33 | 269x84x84 | 2475 | 1123 |
| 15¼ | 387 | 6 | 1829 | 100x30x30 | 254x76x76 | 1925 | 873 | 118x33x33 | 300x84x84 | 2600 | 1179 |
| 15¼ | 387 | 7 | 2134 | 112x30x30 | 284x76x76 | 2050 | 930 | 130x33x33 | 330x84x84 | 2725 | 1236 |
| 15¼ | 387 | 8 | 2438 | 124x30x30 | 315x76x76 | 2175 | 987 | 142x33x33 | 361x84x84 | 2850 | 1284 |
| 15¼ | 387 | 10 | 3048 | 148x30x30 | 376x76x76 | 2425 | 1100 | 166x33x33 | 421x84x84 | 3100 | 1406 |
| **16-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 16¼ | 413 | 6 | 1829 | 100x31x32 | 254x79x81 | 2140 | 971 | 118x33x35 | 300x84x89 | 3000 | 1361 |
| 16¼ | 413 | 7 | 2134 | 112x31x32 | 284x79x81 | 2340 | 1061 | 130x33x35 | 330x84x89 | 3200 | 1451 |
| 16¼ | 413 | 8 | 2438 | 124x31x32 | 315x79x81 | 2540 | 1152 | 142x33x35 | 361x84x89 | 3400 | 1542 |
| 16¼ | 413 | 10 | 3048 | 148x31x32 | 376x79x81 | 2940 | 1334 | 166x33x35 | 421x84x89 | 3800 | 1724 |
| 16¼ | 413 | 12 | 3658 | 172x31x32 | 437x79x81 | 3340 | 1515 | 190x33x35 | 483x84x89 | 4200 | 1905 |
| **18-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 18¼ | 463 | 6 | 1829 | 100x33x36 | 254x84x91 | 3100 | 1406 | 118x35x40 | 300x89x102 | 4140 | 1878 |
| 18¼ | 463 | 7 | 2134 | 112x33x36 | 284x84x91 | 3350 | 1520 | 130x35x40 | 330x89x102 | 4390 | 1991 |
| 18¼ | 463 | 8 | 2438 | 124x33x36 | 315x84x91 | 3600 | 1633 | 142x35x40 | 361x89x102 | 4640 | 2105 |
| 18¼ | 463 | 10 | 3048 | 148x33x36 | 376x84x91 | 4100 | 1860 | 166x35x40 | 421x89x102 | 5140 | 2331 |
| 18¼ | 463 | 12 | 3658 | 172x33x36 | 437x84x91 | 4600 | 2087 | 190x35x40 | 483x89x102 | 5640 | 2258 |
| 18¼ | 463 | 14 | 4267 | 196x33x36 | 497x84x91 | 5100 | 2313 | 214x35x40 | 543x89x102 | 6140 | 2785 |
| **24-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 24¼ | 616 | 6 | 1829 | 100x35x32 | 254x89x81 | 2260 | 1025 | 118x33x40 | 300x84x102 | 3200 | 1451 |
| 24¼ | 616 | 7 | 2134 | 112x35x32 | 284x89x81 | 2460 | 1116 | 130x33x40 | 330x84x102 | 3400 | 1542 |
| 24¼ | 616 | 8 | 2438 | 124x35x32 | 315x89x81 | 2660 | 1207 | 142x33x40 | 361x84x102 | 3600 | 1633 |
| 24¼ | 616 | 10 | 3048 | 148x35x32 | 376x89x81 | 3060 | 1388 | 166x33x40 | 421x84x102 | 4000 | 1814 |
| 24¼ | 616 | 12 | 3658 | 172x35x32 | 437x89x81 | 3460 | 1569 | 190x33x40 | 483x84x102 | 4400 | 1996 |
| **36-Inch Quick Change Gear and Standard Change Gear Lathes with Floor Legs** | | | | | | | | | | | |
| 36¼ | 920 | 6 | 1829 | 100x40x31 | 254x102x79 | 2480 | 1125 | 118x35x45 | 300x89x114 | 3350 | 1520 |
| 36¼ | 920 | 7 | 2134 | 112x40x31 | 284x102x79 | 2680 | 1216 | 130x35x45 | 330x89x114 | 3550 | 1610 |
| 36¼ | 920 | 8 | 2438 | 124x40x31 | 315x102x79 | 2880 | 1306 | 142x35x45 | 361x89x114 | 3750 | 1701 |
| 36¼ | 920 | 10 | 3048 | 148x40x31 | 376x102x79 | 3280 | 1488 | 166x35x45 | 421x89x114 | 4150 | 1882 |
| 36¼ | 920 | 12 | 3658 | 172x40x31 | 437x102x79 | 3680 | 1669 | 190x35x45 | 483x89x114 | 4550 | 2064 |

## Dimensions and Weights of South Bend Bench Lathes Boxed and Packed for Ocean Shipment

**Dimensiones y Pesos (Aproximados) de los Tornos South Bend Encajonados para Transporte Marítimo**

| Swing Over Bed / Volteo sobre la Bancada | | Length of Bed / Largo de la Bancada | | Countershaft Driven Bench Lathes — Tornos del tipo para banco de transmisión por contraeje | | | | Motor Driven Bench Lathes — Tornos del tipo para banco de transmisión a motor | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dimensions of Case — Dimensiones de la Caja | | Weight of Case — Peso de la Caja | | Dimensions of Case — Dimensiones de la Caja | | Weight of Case — Peso de la Caja | |
| Inches | mm. | Feet | mm. | Inches | mm. | Lbs. | Kilos | Inches | mm. | Lbs. | Kilos |
| **9-Inch Toolmaker Lathes with Bench Legs** | | | | | | | | | | | |
| 9¼ | 235 | 2 | 610 | 44x21x21 | 112x53x53 | 450 | 204 | 56x22x21 | 142x56x53 | 625 | 283 |
| 9¼ | 235 | 2½ | 762 | 50x21x21 | 127x53x53 | 475 | 215 | 62x22x21 | 158x56x53 | 650 | 295 |
| 9¼ | 235 | 3 | 914 | 56x21x21 | 142x53x53 | 500 | 227 | 68x22x21 | 173x56x53 | 675 | 306 |
| 9¼ | 235 | 3½ | 1067 | 62x21x21 | 158x53x53 | 525 | 238 | 74x22x21 | 188x56x53 | 700 | 318 |
| 9¼ | 235 | 4 | 1219 | 68x21x21 | 173x53x53 | 550 | 249 | 80x22x21 | 203x56x53 | 725 | 329 |
| **9-Inch Junior, Quick Change Gear and Standard Change Gear Lathes with Bench Legs** | | | | | | | | | | | |
| 9¼ | 235 | 2½ | 762 | 54x23x24 | 137x58x61 | 550 | 249 | 66x24x24 | 168x61x61 | 700 | 318 |
| 9¼ | 235 | 3 | 914 | 60x23x24 | 152x58x61 | 580 | 263 | 72x24x24 | 183x61x61 | 730 | 331 |
| 9¼ | 235 | 3½ | 1067 | 66x23x24 | 168x58x61 | 610 | 277 | 78x24x24 | 198x61x61 | 760 | 345 |
| 9¼ | 235 | 4 | 1219 | 72x23x24 | 183x58x61 | 640 | 290 | 84x24x24 | 213x61x61 | 790 | 358 |
| 9¼ | 235 | 4½ | 1372 | 78x23x24 | 198x58x61 | 670 | 304 | 90x24x24 | 229x61x61 | 820 | 372 |
| **11-Inch Quick Change Gear and Standard Change Gear Lathes with Bench Legs** | | | | | | | | | | | |
| 11¼ | 286 | 3 | 914 | 62x24x25 | 158x61x64 | 735 | 333 | 74x25x25 | 188x64x64 | 935 | 424 |
| 11¼ | 286 | 3½ | 1067 | 68x24x25 | 173x61x64 | 775 | 352 | 80x25x25 | 203x64x64 | 975 | 442 |
| 11¼ | 286 | 4 | 1219 | 74x24x25 | 188x61x64 | 815 | 370 | 86x25x25 | 218x64x64 | 1015 | 460 |
| 11¼ | 286 | 5 | 1524 | 86x24x25 | 218x61x64 | 895 | 406 | 98x25x25 | 249x64x64 | 1095 | 497 |
| 11¼ | 286 | 5½ | 1676 | 92x24x25 | 234x61x64 | 935 | 424 | 104x25x25 | 264x64x64 | 1135 | 515 |



Factory Display Floor and Demonstration Room of South Bend Lathes.

# Factory Display Room of 1934 Model South Bend Lathes

## An Interesting and Instructive Display of Screw Cutting Lathes

**The Illustration Above** is from a photograph of the Display and Demonstration Room of the South Bend Lathe Works. This display room is open every week day.

**Most of These Lathes are Equipped** with motors and can be seen in operation on different classes of work. There are expert demonstrators in attendance ready to operate any lathe on practically any class of metal work.

**Attachments and Tools** for handling a very wide variety of work can be fitted to these demonstration lathes. In the group there will be found lathes equipped for production manufacturing, tool room work, etc.

**Special Attachments in Operation** on these lathes include the draw-in collet chuck, the taper attachment, the milling attachment, grinding attachments, cam turning attachment, and chucks and tools of all kinds.

**Many Prospective Users** of South Bend Lathes, living within reasonable driving distance, have driven to South Bend to see the lathes in operation before buying. You also may do this and are invited to bring your machine work problem with you, if you have one, and South Bend demonstrators will machine the work in the size lathe which interests you. Many main trunk highways pass through South Bend from all directions.

### Types of Lathes on Display

| | |
|---|---|
| Quick Change Gear | Manufacturing |
| Standard Change Gear | Newspaper Roller Grinding |
| Junior | Brake Drum Truing |
| Toolmaker | Valve Grinding |
| Countershaft Drive | Armature Servicing |
| Underneath Motor Drive | Cam Piston Finishing |
| Silent Motor Drive | Bushing Servicing |
| Simplex Motor Drive | Flywheel Servicing |
| Horizontal Motor Drive | Connecting Rod Boring |
| Bench Lathes | Differential Servicing |
| Tool Room Lathes | Crankshaft Servicing |

## Engineering Department

At the right is shown the Engineering Department where the South Bend Lathe has been developed during the past twenty-seven years. All new features and improvements are worked out and tested thoroughly under actual working conditions before they are adopted as standard equipment on the New Model South Bend Lathe.

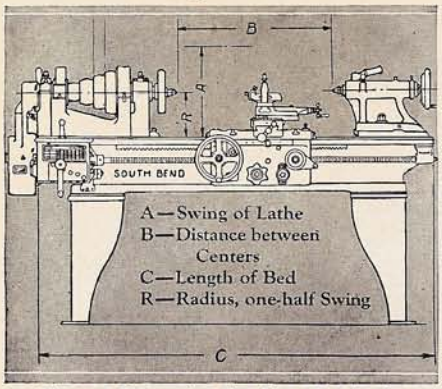
The engineering growth of the South Bend Lathe has been remarkable since its original development in 1906. The New Model has an enviable position in the fine lathe field, its reputation is world-wide and it is known as the most popular lathe in the United States.

Should you wish the services of this engineering department in planning or extending your own shop, they are available, on request, without obligation.

Engineering Department Where the 1934 Model South Bend Back-Geared, Screw Cutting Lathe Was Developed.

# Selecting the Lathe—Erection Plans—Shipping Information

## Selecting the Correct Size of Lathe

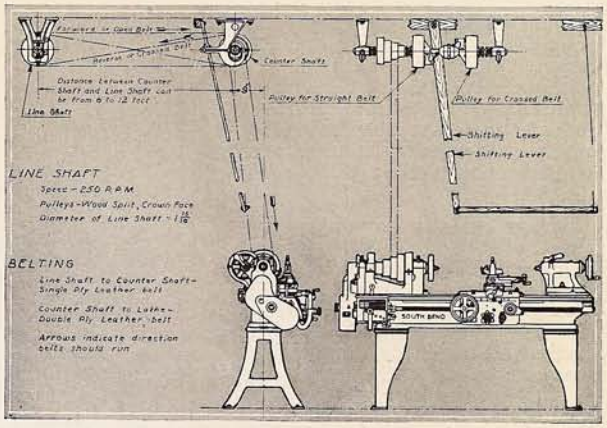



How to Determine the Size of a Lathe

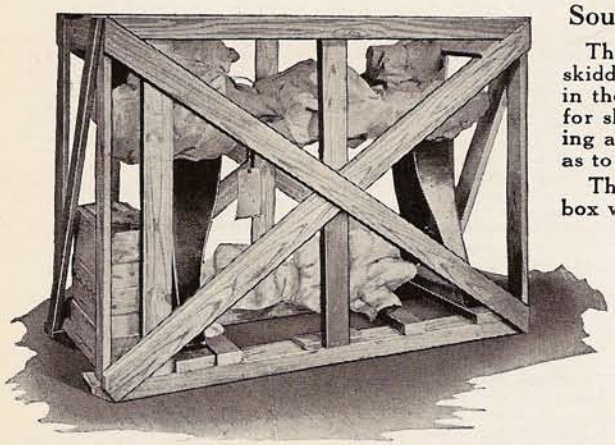
When selecting the size of lathe for your work, take into consideration the largest diameter and the greatest length of the work to be handled as at "A" and "B" in the illustration at left. Then select the lathe that has a swing over bed and distance between centers at least 10% greater than the dimensions of the largest work to be handled.

The size of a Screw Cutting Lathe is determined by the swing over bed "A", and the length of bed "C". European tool manufacturers determine the size of a lathe by its radius or center distance "R". What the European terms an 8-inch center lathe, United States manufacturers term a 16-inch swing lathe.

## Installation Plan Blue Prints




The Installation Plan Blue Print gives the principal dimensions of the lathe, location of bolt holes, information on the erection and installation of the lathe, proper speed and size of pulleys, line shaft speed and location of hangers is also given. An installation plan blue print is included with each size and type South Bend Lathe.



Lathe Crated for Domestic Shipment

## South Bend Lathes Are Packed Carefully for Shipment

The illustration at left shows a 1934 Model South Bend 16-inch Lathe skidded and crated for domestic shipment, that is, by rail to any point in the United States, Canada or Northern Mexico. In preparing lathes for shipment all finished or polished parts are greased to prevent rusting and each unit is wrapped securely with heavy waterproof paper so as to prevent dust or dirt accumulating in the mechanism.

The lathe is skidded and crated and the small parts are packed in a box which is nailed to the skids.

Lathes for domestic shipment are not knocked down but are crated and shipped completely assembled. All that is necessary on arrival is to remove the crating and wrapping and install the lathe in it proper place.

### We Guarantee Safe Delivery in U. S. A.

We guarantee safe delivery of your South Bend Lathe to the freight depot in your city and protect you against any loss or damage while in transit. In case of accident or theft while in transit on the railroads we will duplicate the shipment as the railroads are responsible for all damages and thefts on their lines.

## Lowest Freight Rates Are Figured

Freight charges on the lathe you select can be closely estimated by using the freight rate from South Bend to the city nearest your shipping point (see list below). The weight of the lathe crated is shown in each lathe price tabulation throughout this catalog.

All shipments are made over the most direct and least expensive route. In long distance shipping to certain sections of the United States our Traffic Department often secures lower freight rates for our customers by the use of consolidated or package car.

## How to Figure Freight Charges

Use the freight rate applying to the city nearest your shipping point—see list of cities below. Multiply the total weight of your order by the rate given per hundred pounds and the result will be the approximate freight charges on your order.

Example—To find freight charges to Omaha, Neb., on the 9" x 3' Junior Bench Lathe shown on page 26.

Freight rate to Omaha, $1.48 per 100 lbs.

Weight of lathe, 375 lbs.

Approximate freight charges: 375 lbs. x $1.48 = $5.55.

## Approximate Freight Rates From South Bend to Principal Cities

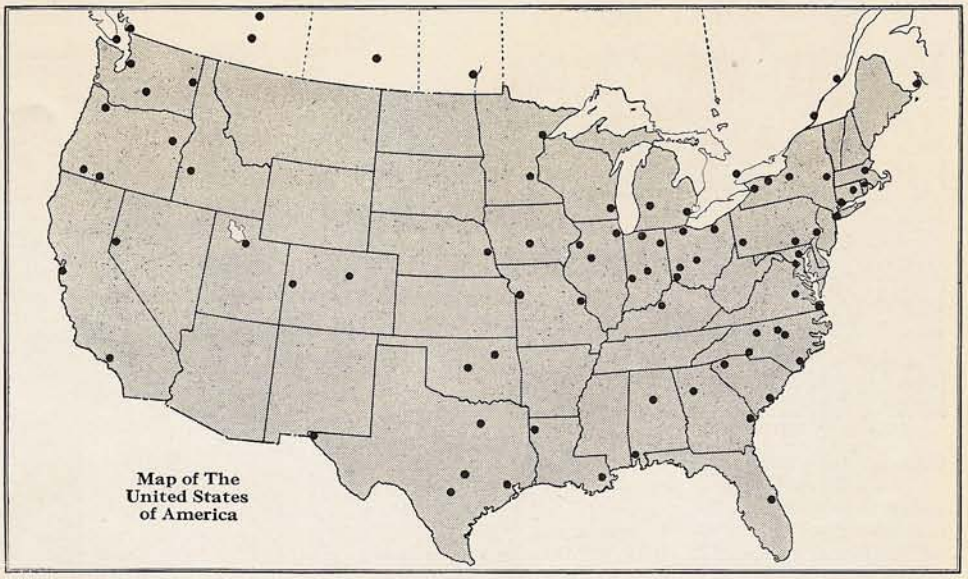
| City | State | Rate per 100 lbs. |
|---|---|---|
| Albuquerque | New Mexico | $3.55 |
| Atlanta | Georgia | 1.60 |
| Baltimore | Maryland | 1.12 |
| Boise | Idaho | 4.60 |
| Boston | Massachusetts | 1.27 |
| Cedar Rapids | Iowa | 1.03 |
| Charleston | South Carolina | 1.89 |
| Charlotte | North Carolina | 1.70 |
| Cheyenne | Wyoming | 2.44 |
| Chicago | Illinois | .48 |
| Cincinnati | Ohio | .68 |
| Cleveland | Ohio | .72 |
| Decatur | Illinois | .66 |
| Denver | Colorado | 2.49 |
| Detroit | Michigan | .63 |
| Fargo | North Dakota | $1.85 |
| Hartford | Connecticut | 1.23 |
| Helena | Montana | 4.46 |
| Los Angeles | California | 5.27 |
| Louisville | Kentucky | .72 |
| Memphis | Tennessee | 1.34 |
| Miami | Florida | 2.58 |
| Milwaukee | Wisconsin | .62 |
| Minneapolis | Minnesota | 1.39 |
| Montgomery | Alabama | 1.64 |
| Natchez | Mississippi | 1.80 |
| New York | New York | 1.23 |
| New Orleans | Louisiana | 1.90 |
| Oklahoma City | Oklahoma | 2.36 |
| Omaha | Nebraska | 1.48 |
| Philadelphia | Pennsylvania | $1.17 |
| Phoenix | Arizona | 4.60 |
| Pittsburgh | Pennsylvania | .84 |
| Portland | Oregon | 5.27 |
| Portland | Maine | 1.31 |
| Reno | Nevada | 4.58 |
| Richmond | Virginia | 1.20 |
| St. Louis | Missouri | .80 |
| Salt Lake City | Utah | 4.46 |
| San Antonio | Texas | 2.91 |
| San Francisco | California | 5.27 |
| Seattle | Washington | 5.27 |
| Sioux Falls | South Dakota | 1.66 |
| Tampa | Florida | 2.32 |
| Wichita | Kansas | 1.88 |

# Cities Where Agents Display South Bend Lathes

New Model South Bend Lathes may be seen and examined in our agents' display rooms in more than 72 cities throughout the United States. and in several cities in Canada. The dots on the map at right indicate the cities in which our agents are located. The names and addresses of the agents are listed below.

If you live near any of these cities, visit the nearest agent's display room and examine the New Model South Bend Lathe. Complete information on any size and type of South Bend Lathe will be gladly furnished by our agents.

If there is no agent near you, write us and we will send you complete information on South Bend Lathes, also the names and addresses of users whose lathes you can inspect.



Map of The United States of America

**ALABAMA, Birmingham**
Young & Vann Supply Co.
1725-1731 First Avenue

**Mobile, Ala.**
Turner Supply Company
N. W. Cor. St. Louis and Commerce Streets

**CALIFORNIA, Los Angeles**
Eccles & Davies Mach. Co.
316-322 S. San Pedro St.
Phone: Tucker 3076

**San Francisco, Cal.**
Herberts-Moore Machinery Co.
550 Fifth Street
Phone: Kearney 4131

**COLORADO, Denver**
M. L. Foss, Incorporated
1901 Arapahoe Street

**Grand Junction, Colo.**
Salt Lake Hardware Company

**CONNECTICUT, Bridgeport**
A. C. Bisgood
17-21 Union Square

**Plainville, Conn.**
Ideal Machinery Company
109 E. Main Street

**DIST. COLUMBIA, Washington**
Standard Supply Company
1800 14th St., N.W.
Phone: North 0115

**FLORIDA, Melbourne**
William Rath
Kissimmee Highway
P. O. Box 565

**GEORGIA, Atlanta**
Fulton Supply Company
342 Nelson St., S.W.

**Savannah, Ga.**
John D. Robinson Company
11 West Bay Street

**IDAHO, Boise**
Salt Lake Hardware Co.

**ILLINOIS, Chicago**
C. B. Burns Machinery Co.
28 N. Clinton Street
Phone: State 3093

**Moline, Ill.**
John J. Normoyle Company
607 Third Avenue

**Peoria, Ill.**
Couch & Heyle, Inc.,
529 S. Adams Street

**INDIANA, Fort Wayne**
G. D. Troup
130 E. Columbia Street

**Indianapolis, Ind.**
State Machinery Company
210 S. Pennsylvania St.

**Terre Haute, Ind.**
Hardware Supply Co., Inc.
930-940 Chestnut Street

**IOWA, Des Moines**
Iowa Machinery & Supply Co.
315-317 Court Ave., W.

**KENTUCKY, Louisville**
Neill-LaVielle Supply Co.
505 W. Main St.

**LOUISIANA, New Orleans**
Oliver H. Van Horn Company
524 Camp Street

**Shreveport, La.**
Oliver H. Van Horn Company
311 Market Street

**MARYLAND, Baltimore**
L. A. Benson Co., Inc.
6-8 E. Lombard St.

**MASSACHUSETTS, Boston**
Lynd-Farquhar Company
330 Congress St.

**MICHIGAN, Detroit**
Lee Machinery Company
6318 E. Jefferson Ave.

**MINNESOTA, Duluth**
W. P. & R. S. Mars Company
404 W. First Street

**Minneapolis, Minn.**
National Mach. & Supply Co.
13 N. First Street

**MISSOURI, Kansas City**
H. J. Brunner Hardware Co.
1512 Grand Avenue

**St. Louis, Mo.**
Colcord-Wright Machinery Co.
1223-1229 N. Broadway

**NEBRASKA, Omaha**
Interstate Mach. & Supply Co.
1006-10 Douglas Street

**NEVADA, Reno**
Nevada Auto Supply Company
112 Second Street, E.

**NEW YORK, Albany**
Sager-Spuck Supply Co., Inc.
364-366 Broadway

**Buffalo, N. Y.**
J. L. Osgood Mach. & Tool Co.
43-45 Pearl Street

**New York City, N. Y.**
A. C. Colby Machinery Co.
183 Centre Street
Phone: Canal 6-4140

**Rochester, N. Y.**
Ogden R. Adams
266 State St.

**Syracuse, N. Y.**
H. A. Smith Machinery Co.
501 E. Water Street

**NORTH CAROLINA, Charlotte**
Charlotte Supply Co.
500 S. Mint Street

**Durham, N. C.**
Dillon Supply Company
Church Street

**Raleigh, N. C.**
Dillon Supply Company
S. West Street

**Wilmington, N. C.**
Hyman Supply Company
215 N. Front Street

**Winston-Salem, N. C.**
Kester Machinery Company
430 N. Main Street

**OHIO, Cleveland**
Hess-Schenck Company
3951 St. Clair Ave.

**Cincinnati, O.**
Brokaw Machinery Company
329 West Fourth Street

**Columbus, O.**
Osborne & Sexton Mach'y. Co.
4th and Russell Streets

**Dayton, O.**
C. H. Gosiger Machinery Co.
S. E. Cor. Bacon and McDonough Streets

**Toledo, O.**
Kirkby Machinery & Supply
20-22 No. St. Clair St.

**OKLAHOMA, Oklahoma City**
Mideke Supply Company
100 E. Main Street

**Tulsa, Okla.**
Machine Tool & Supply Co.
215-217 E. Second Street

**OREGON, Baker**
Basche-Sage Hardware Company
Main & Broadway

**Klamath Falls, Ore.**
Lorenz Company
1335 S. 6th St.

**Medford, Ore.**
Littrell Parts Company
317 E. Main Street

**Portland, Ore.**
Portland Machinery Company
208-16 So. West First Ave.

**PENNSYLVANIA, Philadelphia**
W. B. Rapp—Machinery
132 N. Third Street
Phone: Market 4345

**Pittsburgh, Pa.**
Standard-Machinists Supply
129 McKean St., S. S.

**York, Pa.**
York Machinery & Supply Co.
361 W. Market Street

**RHODE ISLAND, Providence**
Brownell Machinery Company
150 Pine Street

**SOUTH CAROLINA, Charleston**
Cameron & Barkley Company
160 Meeting Street

**Greenville, S. C.**
Carolina Supply Company
Court & Laurens Street

**TEXAS, Austin**
Walter Tips Company
2nd & Colorado Sts.

**Dallas, Tex.**
Briggs-Weaver Machinery Co.
309-315 N. Market Street

**El Paso, Tex.**
Mine & Smelter Supply Company
410-414 San Francisco Street

**Houston, Tex.**
Wessendorff, Nelms & Co.
317 Preston Avenue

**San Antonio, Tex.**
San Antonio Mach. & Sup. Co.
325-327 No. Centre Street

**UTAH, Salt Lake City**
Salt Lake Hardware Co.
105 N. Third St., West

**VIRGINIA, Norfolk**
Taylor-Parker Co., Inc.
47 Commercial Place

**Richmond, Va.**
Smith-Courtney Company
7th & Bainbridge Sts.

**WASHINGTON, Seattle**
West Coast Machinery Co.
1006 First Ave., South
Phone: Elliott 5001

**Spokane, Wash.**
Washington Mach. & Supply Co.
Cataldo & Division Streets

**Yakima, Wash.**
Yakima Hardware Company
224-226 S. First Street

**WISCONSIN, Milwaukee**
W. A. Voell Machinery Co.
1305 N. 4th Street

**CANADA**

**Calgary, Alta.**
Can. Fairbanks-Morse Co., Ltd.
603 8th Avenue, West

**Edmonton, Alta.**
Can. Fairbanks-Morse Co., Ltd.
10169 99th Street

**Vancouver, B. C.**
Can. Fairbanks-Morse Co., Ltd.
798 Beatty Street

**Victoria, B. C.**
Can. Fairbanks-Morse Co., Ltd.
1400 Broad St., P. O. Box 249

**Winnipeg, Man.**
Can. Fairbanks-Morse Co., Ltd.
300-310 Princess Street

**St. John, N. B.**
Can. Fairbanks-Morse Co., Ltd.
75 Prince William Street

**Toronto, Ont.**
A. R. Williams Mach. Co., Ltd.
66 Front Street, West

**Montreal, Que.**
Can. Fairbanks-Morse Co., Ltd.
980 St. Antoine Street

**Quebec, Que.**
Can. Fairbanks-Morse Co., Ltd.
243 Auger Blvd.

**Regina, Sask.**
Can. Fairbanks-Morse Co., Ltd.
1214 Osler Street

# List of Users of South Bend Lathes

## A List for Your Own State

A booklet listing the users of South Bend Lathes in your state is now available. If you are interested in a lathe and would like to see one before purchasing, this list will enable you to locate a South Bend Lathe owner in your own community, whose lathe you may see and examine and from whom you can obtain an actual user's opinion of the lathe. A copy of this booklet will be mailed on request, free, postpaid.

# "What South Bend Users Say"

## An Interesting Booklet of Testimonials

We have received a large number of letters from users of South Bend Lathes in all parts of the country. These owners enthusiastically tell us how pleased they are with the high value, quality and precision of their lathes. We have received so many of these unsolicited letters that we have printed a booklet in which a number of them have been reproduced. If interested we will send you, upon request, a copy free, postpaid.

# More Than 56,000 South Bend Lathes Now in Use

There are more than 56,000 South Bend Lathes now in use in the United States and in 96 other countries and colonies. (See page 63 for other countries.) The list below shows the approximate number of South Bend Lathes in use in each state of the U. S. A., but does not include many lathes sold by domestic and export dealers not reporting destination.

| | No. | | No. | | No. | | No. |
|---|---|---|---|---|---|---|---|
| Alabama | 245 | Iowa | 920 | Nebraska | 492 | Rhode Island | 154 |
| Arizona | 209 | Kansas | 844 | Nevada | 62 | South Carolina | 195 |
| Arkansas | 239 | Kentucky | 359 | New Hampshire | 123 | South Dakota | 298 |
| California | 2204 | Louisiana | 210 | New Jersey | 1281 | Tennessee | 356 |
| Colorado | 369 | Maine | 213 | New Mexico | 124 | Texas | 1477 |
| Connecticut | 647 | Maryland and Dis't of Col. | 665 | New York | 3651 | Utah | 110 |
| Delaware | 82 | Massachusetts | 1043 | North Carolina | 581 | Vermont | 91 |
| Florida | 594 | Michigan | 2139 | North Dakota | 271 | Virginia | 503 |
| Georgia | 294 | Minnesota | 827 | Ohio | 2118 | Washington | 567 |
| Idaho | 213 | Mississippi | 137 | Oklahoma | 795 | West Virginia | 433 |
| Illinois | 3033 | Missouri | 940 | Oregon | 360 | Wisconsin | 976 |
| Indiana | 1684 | Montana | 288 | Pennsylvania | 3087 | Wyoming | 80 |

# A Partial List of Government Shops Using South Bend Lathes

## More than 400 South Bend Lathes Are Used by U. S. Government Departments

For many years South Bend Lathes have been purchased and used by the various departments of the United States government, a partial list of which is shown below. Some of the departments use one lathe while others are using a number of South Bend Lathes.

Various departments of 37 foreign governments are also using South Bend Lathes, but space does not permit their being listed. Any overseas organization interested in purchasing a South Bend Lathe is invited to write for a list of South Bend Lathe users in their country.

### ALABAMA
Anniston, Camp Quartermaster.
Florence, Engineers' Office.

### ARIZONA
Olberg, Indian Irrigation Service.
Tucson, Veterans Hospital.

### ARKANSAS
Hot Springs, Army and Navy Hospital.
Hot Springs, Hot Springs National Pk.

### CALIFORNIA
Los Angeles, U. S. Forest Service.
Mare Island, U. S. S. Langley.
Mare Island, Navy Yard Supply Office.
Oakland, Bureau of Aeronautics.
San Francisco, Coast Guard.
San Francisco, U. S. Lighthouse Serv.
San Francisco, Marine Corps.
San Francisco, Naval Radio Station.

### COLORADO
Denver, Gov't Reclamation Service.
Ft. Collins, Irrigation Experiment Sta.
Palisades, Orchard Mesa Irrigation Dist.

### CONNECTICUT
S. Norwalk, U. S. Dept. of Agriculture.

### DISTRICT OF COLUMBIA
Anacostia, U. S. Naval Air Station.
Washington, Army Medical Museum.
Washington, Bureau of Standards.
Washington, Coast & Geodetic Survey.
Washington, Dept. of Agriculture.
Washington, Dept. of Commerce.
Washington, Dept. of Interior.
Washington, Dept. of State, Typewriter Shop.
Washington, Dept. of Terrestrial Magnetism.
Washington, District Artillery Eng.
Washington, Engineer Wharf, Dist. Eng.
Washington, Geological Survey.
Washington, Gov. Hospital for the Insane.
Washington, Marine Barracks.
Washington, Marine Corps, Quartermaster.
Washington, National Museum.
Washington, Naval Observatory.
Washington, Naval Radio Station.
Washington, Radio Shop, Marine Corps.
Washington, Signal Corps.
Washington, Smithsonian Institution.
Washington, Soldiers' Home.
Washington, Treasury Department.
Washington, U. S. Capitol.
Washington, U. S. Navy Yard.

### FLORIDA
Miami, U. S. Coast Guard, Air Station.
Orlando, Department of Agriculture.
Orlando, Plant Quarantine.
Pensacola, Naval Air Station.
Tampa, Treasury Department.

### GEORGIA
Brunswick, Maritime Corp.
Columbus, Engineers' Office.

### IDAHO
Rupert, Bureau of Reclamation.

### ILLINOIS
Chicago, Marine Hospital.
Danville, National Home for Disabled Soldiers.
Great Lakes, Gt. Lakes Naval Hospital.
Great Lakes, Naval Training Station.
Great Lakes, Naval Res. Aviation Base.
Peoria, Engineers' Office.

### INDIANA
Indianapolis, Signal Corps.
Jeffersonville, Quartermaster Depot.
Knightstown, Ind. Soldiers & Sailors Orphans Home.

### IOWA
Dubuque, Inland Waterways Corp.

### KANSAS
Leavenworth, U. S. Penitentiary.

### LOUISIANA
New Orleans, District Engineer.

### MAINE
Augusta, Maine National Guard.

### MARYLAND
Annapolis, Academy Experiment Sta.
Annapolis, U. S. S. Annapolis, Student Ship.
Baltimore, Federal Reserve Bank.
Baltimore, U. S. C. G., Gresham.
Gambrills, Nav. Academy Dairy Farm.
Perry Point, Public Health Service.

### MASSACHUSETTS
Boston, Bureau of Navigation.
Boston, Federal Reserve Bank.
Boston, Navy Yard.
Boston, Supply Officer.
Boston, U. S. Coast & Geodetic Survey.
Bumkin Isle, Naval Training Camp.
Buzzards Bay, U. S. Supt., Cape Cod Canal.
Gloucester, Coast Guard Air Station.
Gloucester, U. S. Fisheries, Technological Lab.
Stoneham, Department of Agriculture.
West Roxbury, Public Health Service.

### MICHIGAN
Detroit, Naval Reserve Aviation Base.
Detroit, Marine Hospital.
Grosse Ile, Naval Reserve.
St. Johns, Mich. Nat. Guard, 119 F. A.

### MINNESOTA
Warroad, Engineers' Office.
Redby, Red Lake Indian Agency.

### MISSISSIPPI
Pascagoula, Engineers, U. S. Reservation.

### MISSOURI
New Madrid, Engineers' Office.
St. Louis, Federal Reserve Bank.
St. Louis, U. S. Army, Motion Picture Dept.

### MONTANA
Harlem, Fort Belknap Indian Agency.

### NEBRASKA
Omaha, Dept. Interior, Reclamation Service.

### NEVADA
Hawthorne, Naval Ammunition Depot.
Stewart, Carson Indian School.

### NEW HAMPSHIRE
Concord, Adjutant Gen. Office.
East Jaffrey, Marine Corps.

### NEW JERSEY
Cape May, Coast Guard Air Station.
Ft. Monmouth, War Dept.
Ft. Monmouth, Post Signal Supply.
Lakehurst, Naval Air Station.
Lakewood, Gen. Hospital No. 9.
Mt. Arlington, Experimental Station.
New Brunswick, Bureau of Mines.
Oceanport, Post Signal Supply Officer.

### NEW MEXICO
Columbus, Base Quartermaster.
Ft. Stanton, Public Health Service.

### NEW YORK
Brooklyn, Sand and Pearl Station.
Brooklyn, U. S. S. President Arthur.
Brooklyn, Navy Yard.
Brooklyn, Army Supply Base.
Brooklyn, N. Y. General Depot.
Buffalo, Engineers' Office, War Dept.
Fort Slocum, Quartermaster Corps.
Governors Island, Post Quartermaster.
Kingspark, Veterans' Bureau.
Long Island City, Army Supply Base.
New York, Bureau of Insular Affairs.
New York, Federal Reserve Bank.
New York, Port of N. Y. Authority.
New York, U. S. Coast Guard.
Northport, L. I., Veterans' Hospital.
Stapleton, S. I., Marine Hospital.
West Point, U. S. Military Academy.

### NORTH CAROLINA
Azalea, Veterans' Hospital.
Wilmington, Coast Guard Service.

### NORTH DAKOTA
Turtle Mt., Indian Agency.

### OHIO
Cleveland, Marine Hospital.
Dayton, National Military Home.
Elyria, Dept. of Agriculture.
Port Dock, Coast and Geodetic Survey.
Toledo, Bureau of Entomology.
Xenia, Ohio Soldiers' and Sailors' Orphans Home.

### OKLAHOMA
Ft. Sill, Field Artillery School.
Tulsa, Sequoyah Training School.

### OREGON
Astoria, Coast and Geodetic Survey.
Clackamas, Depot Quartermaster.
Portland, U. S. Forest Service.

### PENNSYLVANIA
Coraopolis, U. S. Eng., Lock No. 2.
Philadelphia, Coast Guard Radio Supply Base.
Philadelphia, Marine Corps.
Philadelphia, U. S. Mint.
Philadelphia, Navy Yard.
Pittsburgh, Bureau of Mines.

### RHODE ISLAND
Newport, Naval Torpedo Station.

### SOUTH CAROLINA
Charleston, Lighthouse Dept.

### SOUTH DAKOTA
Flandreau, U. S. Indian School.

### TEXAS
Brownsville, Government Depot.
Duncan Field, Government Air Depot.
Fort Worth, Dept. of Commerce, Airways Division.
Fort Sam Houston, War Department.
Galveston, Marine Hospital.

### VIRGINIA
Camp Lee, Federal Road Camp.
Hampton Roads, Naval Supply Depot.
Hampton Roads, U. S. S. Hydrographer.
Norfolk, Navy Yard.
Norfolk, Naval Air Station.
Norfolk, U. S. C. & G. S. "Oceanographer."
Petersburg, Federal Road Camp, Camp Lee.
Quantico, Marine Corps.
Sewall's Point, Naval Supply Depot.

### WASHINGTON
Bremerton, U. S. S. Eagle, No. 38.
Omak, U. S. Reclamation Service.
Seattle, U. S. Customs Service.
Seattle, U. S. S. Natoma.
Walla Walla, Veterans' Hospital.
Wapato, Indian Irrigation Service.

### WISCONSIN
Milwaukee, Lighthouse Department.

### WYOMING
Moose, Grand Teton National Park.

# South Bend Easy Payment Terms

## For the Purchase of South Bend Lathes, Attachments and Tools—12 to 19 Months to Pay

For the convenience of our customers in U. S. A. we have an easy payment plan that can be used when buying any size South Bend Lathe, with attachments, etc.

### You Deal Direct with Factory

All Easy Payment accounts are carried in our own office and we have no connections with finance corporations. You merely mail your order, with check for down payment, and when received, the lathe will be shipped immediately.

At right is a schedule of Easy Payment Terms by which you can easily and quickly determine the down payment on your lathe order, and the amount of monthly payments.

### How to Use the Schedule

After arriving at the total amount of your order, locate its place on the schedule in column (1). Following across the schedule, you will find the amount to add for financing in column (2), which gives you the total amount you pay. Column (3) gives you the amount of down payment and column (4) the amount of monthly payments.

### Easy Payment Plan Example

Here is an example of using the Easy Payment Plan Schedule in buying a No. 92-E, 16″ x 8′ New South Bend Quick Change Gear Lathe with chucks and tools:

### Example Order

| | |
|---|---|
| 1 No. 92-E, 16″ x 8′ 1934 Model South Bend Quick Change Gear Lathe, Countershaft Drive (complete with countershaft and regular lathe equipment) as listed on page 6. Price f.o.b. cars South Bend, Indiana | $580.00 |
| 1 No. 4410, 10″ 4-Jaw Independent Lathe Chuck with four reversible jaws | 40.00 |
| Fitting chuck to lathe including chuck back | 9.00 |
| 1 No. 328, 1″ 3-Jaw Drill Chuck | 10.00 |
| 1 No. 716, Drill Chuck Arbor | 1.00 |
| 1 No. 853-S Turning Tool, straight shank | 3.25 |
| 1 set (4) Malleable Lathe Dogs, ½″, ¾″, 1″, 1½″ | 3.15 |
| TOTAL f.o.b. cars South Bend, Indiana | $646.40 |

### Explanation of Above Order

| | |
|---|---|
| Total Amount of Order (see column 1 of Schedule) | $646.40 |
| Financing Charge (see column 2 of Schedule) | 47.00 |
| Total | $693.40 |
| Cash Down Payment (see column 3 of Schedule) | 125.00 |
| Balance to be paid monthly ($693.40 less $125.00) | $568.40 |
| Monthly Payments Each (see column 4 of Schedule) | $ 34.00 |

### Schedule of Easy Payment Terms

| If Total Price of Your Order Amounts to (1) | | Amount to Add for Financing (2) | Amount of Down Payment (3) | Payment Each Month (4) | No. of Payments* (5) |
|---|---|---|---|---|---|
| $ 100.00 to | $ 110.00 | $ 7.50 | $ 28.00 | $ 7.00 | 12 |
| 110.01 to | 120.00 | 7.50 | 29.00 | 8.00 | 12 |
| 120.01 to | 130.00 | 8.00 | 30.00 | 8.50 | 12 |
| 130.01 to | 140.00 | 8.50 | 31.00 | 9.00 | 12 |
| 140.01 to | 150.00 | 9.00 | 32.00 | 10.00 | 12 |
| 150.01 to | 175.00 | 10.00 | 35.00 | 11.50 | 12 |
| 175.01 to | 200.00 | 11.50 | 40.00 | 13.00 | 12 |
| 200.01 to | 225.00 | 13.00 | 45.00 | 15.50 | 12 |
| 225.01 to | 250.00 | 14.50 | 50.00 | 17.00 | 12 |
| 250.01 to | 275.00 | 16.00 | 55.00 | 18.50 | 12 |
| 275.01 to | 300.00 | 17.50 | 60.00 | 19.50 | 12 |
| 300.01 to | 325.00 | 19.00 | 65.00 | 22.00 | 12 |
| 325.01 to | 350.00 | 20.50 | 70.00 | 24.00 | 12 |
| 350.01 to | 375.00 | 23.50 | 75.00 | 25.00 | 13 |
| 375.01 to | 400.00 | 25.00 | 80.00 | 26.00 | 13 |
| 400.01 to | 450.00 | 29.00 | 90.00 | 26.00 | 14 |
| 450.01 to | 500.00 | 32.50 | 100.00 | 29.00 | 14 |
| 500.01 to | 550.00 | 38.00 | 107.50 | 30.50 | 15 |
| 550.01 to | 600.00 | 41.00 | 115.00 | 33.50 | 15 |
| 600.01 to | 650.00 | 47.00 | 125.00 | 34.00 | 16 |
| 650.01 to | 700.00 | 50.00 | 135.00 | 37.00 | 16 |
| 700.01 to | 750.00 | 54.00 | 145.00 | 40.00 | 16 |
| 750.01 to | 800.00 | 61.00 | 155.00 | 40.00 | 17 |
| 800.01 to | 850.00 | 65.00 | 165.00 | 42 50 | 17 |
| 850.01 to | 900.00 | 69.00 | 175.00 | 45.00 | 17 |
| 900.01 to | 950.00 | 77.00 | 185.00 | 45.00 | 18 |
| 950.01 to | 1000.00 | 81.00 | 195.00 | 48.00 | 18 |
| 1000.01 to | 1100.00 | 87.50 | 210.00 | 52.00 | 18 |
| 1100.01 to | 1200.00 | 100.00 | 230.00 | 54.00 | 19 |
| 1200.01 to | 1300.00 | 110.00 | 250.00 | 58.50 | 19 |
| 1300.01 to | 1400.00 | 120.00 | 270.00 | 63.00 | 19 |

*The approximate number of payments is given. In some cases it will be one more or less than the number listed because of the difference in the total order.

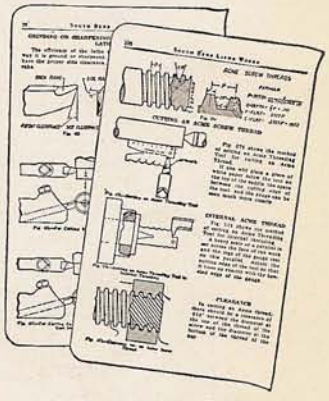
# "How to Run a Lathe"—A Valuable Reference Book

## Authoritative Handbook for the Mechanic on the Operation of the Lathe


"How to Run a Lathe" is a 160-page manual of pocket size, 5¼x8-inch, and has a flexible cover. This pocket manual thoroughly covers the fundamental operations of the modern screw cutting lathe and contains more than 300 illustrations, all devoted to the erection, installation and operation of the lathe. Correct and modern methods for handling over 400 machine operations on the lathe are fully described, illustrated and indexed.

More than a million and a half copies of "How to Run a Lathe" are in use throughout the world, printed in English, Spanish, Portuguese and Chinese. The book is used as a textbook in trade and industrial schools, also by apprentices in the machine shops of large industrial plants. A copy is included with each lathe.

**Mailed Anywhere in the World, Postpaid, 25 Cents.**
**Coin or stamps of any country accepted.**



Two Sample Pages

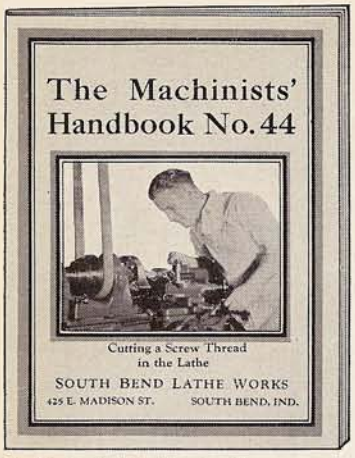
**PARTIAL LIST OF CONTENTS**

How to Set Up the Lathe
Care of the Lathe
How to Lay Out a Shop
How to Level a Lathe
How to Hang a Countershaft
Calculating Size and Speed of Pulleys
How to Lace a Belt
Grinding and Setting Lathe Tools
Cutting Screw Threads
Turning and Boring Tapers
Grinding and Milling Work
Chucks and Face Plates
Cutting Speeds of Metals
Cutting Feeds for Metals
Operating Automatic Feeds
Reading Micrometer Calipers
Using Outside and Inside Calipers
Locating Center Holes
Aligning Lathe Centers
Drilling, Boring, Reaming, Tapping
Use of Compound Rest
Table of Decimal Equivalents
Table of Metric Measures
300 Other Shop Kinks

# Booklets and Bulletins for the Shop Mechanic

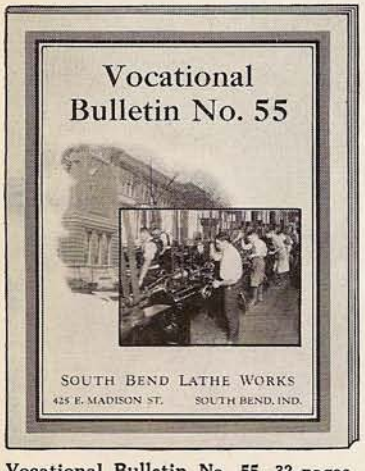
After more than twenty-seven years of practical engineering experience gained in building the line of South Bend Lathes, we have developed a number of booklets and bulletins covering the various classes of work showing the application of the lathe in the latest shop practice in metal working shops.

These booklets and bulletins are of great value to the experienced machinist, the mechanic, the apprentice, and to anyone interested in the fundamentals of shop work. The list below gives a brief summary of the contents of each booklet and bulletin. Copies are mailed postpaid, on request.




**Machinists' Handbook No. 44, 32-pages, size 5½" x 8½", mailed free, postpaid, on request.**


**Motor Mechanics' Handbook No. 33, 32-pages, size 5½" x 8½", mailed free, postpaid, on request.**




**Vocational Bulletin No. 55, 32-pages, size 5½" x 8½", mailed free, postpaid, on request.**

## Bulletins for the Industrial Shop Mechanic

### Showing Latest Shop Practice in Industry

**Handbook No. 44 as Illustrated** shows South Bend Lathes in the manufacturing plant, tool room, industrial laboratory and maintenance shop. Also contains several pages of valuable rules, formulas, etc., used in the modern industrial plant. Contains 32-pages, 5½" x 8½". A book every industrial mechanic should have. Sent free, postpaid.

**Draw-In Collet Chuck Bulletin No. 11.** 8 pages, 8½" x 11", illustrating and describing the draw-in collet or split chuck which is used for fine accurate precision work, more especially in connection with the Tool Room Lathe. Sent free, postpaid.

**Screw Thread Bulletin No. 12.** An 8 page, 8½" x 11", bulletin showing how to gear the lathe for the various pitches of standard and special screw threads. Contains tables showing latest standard screw threads selected by the Bureau of Standards, A.S.M.E. and S.A.E. Sent free, postpaid.

**Highway Shop Bulletin No. 202** contains 12-pages, 8½" x 11", containing practical information for the highway shop mechanic. Shows methods being followed in highway shops, in maintenance and repair of road machinery and construction equipment. Sent free, postpaid, to any highway shop mechanic or supervisor.

**What Users Say About South Bend Lathes—No. 4-A.** A small handy booklet that gives the comments of over three hundred users of South Bend Lathes, giving their experiences with South Bend Lathes in operation in industrial, tool room, laboratory, experimental, repairing and all classes of lathe work. Anyone interested in the lathe should read this interesting booklet. Sent free on request.

**How to Run a Lathe No. 30.** A valuable reference containing a wealth of information on shop kinks, modern shop practice and over three hundred illustrations of practical jobs. Illustrated and fully described on page 70 of this catalog. Sent for 25c per copy, postpaid.

## Bulletins for the Automotive Mechanic

### Showing Authoritative Methods of Automotive Servicing

**Handbook No. 33 as Illustrated** contains 32 pages, 5½" x 8½". Shows latest approved methods of servicing the mechanical units of the motor car, bus and truck such as valves, armatures, connecting rods, pistons, flywheels, differential gear cases, brake drums, wheels, etc. Mailed free, postpaid.

**Valve Bulletin No. 1** shows the practical and modern way of refacing automobile, truck and tractor valves, sharpening reamers, straightening valve stems, etc. 12-pages, 8½" x 11", fully illustrated. Sent free, postpaid.

**Armature Bulletin No. 2** shows complete servicing of armatures, including commutator truing, mica undercutting, mounting centerless armatures, etc. 8-pages, 8½" x 11", over 25 large illustrations. Sent free postpaid.

**Flywheel Bulletin No. 3.** A valuable bulletin on complete flywheel servicing, shows how to fit new starter gears, true the flywheel clutch face, how to mount flywheel, etc. 8-pages, 8½" x 11", with more than twenty-five illustrations. Mailed free, postpaid.

**Brake Drum Bulletin No. 4.** A 12-page, 8½" x 11", illustrated bulletin showing latest and most accurate brake drum service methods. Also shows how to service hubs, balance wheel assemblies and how to handle general wheel service jobs. Every shop doing or planning to do brake work should have a copy. Sent free, postpaid.

**Differential Bulletin No. 5** shows how to true differential flanges for fitting new ring gears. Contains over twenty-five illustrations of this and other jobs. 8-pages, 8½" x 11". Sent free, postpaid.

**Connecting Rod Bulletin No. 6.** 12-pages, 8½" x 11", fully illustrated, showing modern economical way of boring rebabbitted connecting rods. Shows new lathe attachment which will bore complete set of six rods in thirty minutes. Sent free, postpaid.

**Bushing Bulletin No. 7.** 8-pages, 8½" x 11", showing how to make bushings of brass, bronze, steel, fibre, etc. This bulletin is of especial value to the electrical shop and general motor service machine shop. Sent free postpaid.

**Piston Bulletin No. 9** shows how to finish round pistons and cam shaped pistons, cast iron, aluminum alloy, all shapes, types and sizes. Contains 8-pages, 8½" x 11", showing latest shop practice. Free, postpaid.

## Bulletins for the Instructor in Vocational Shops

### Showing Modern Industrial Training of Students and Apprentices

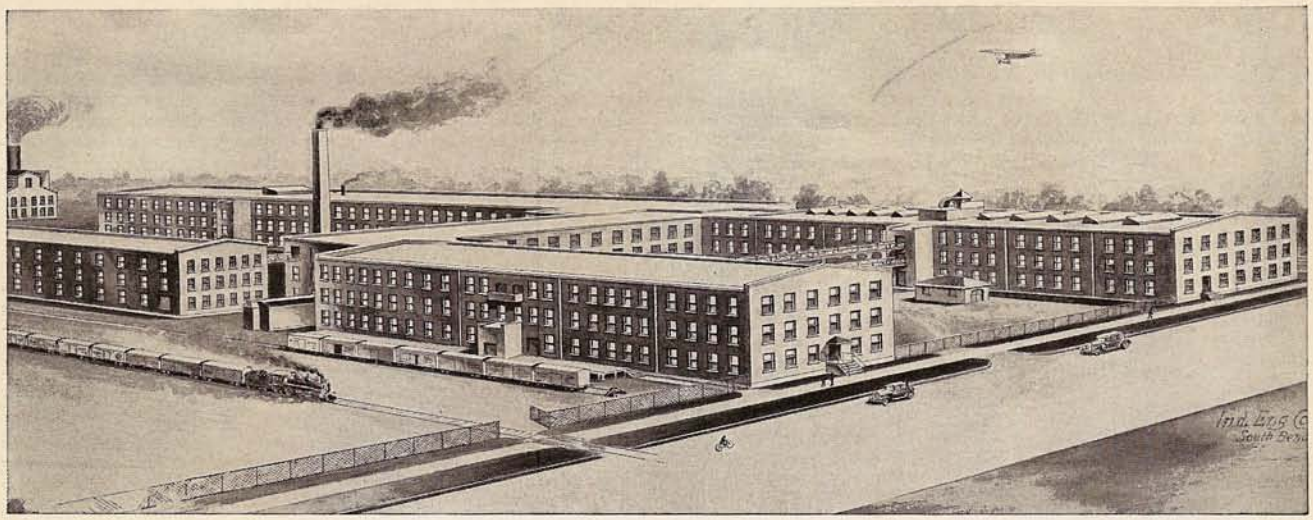
**Vocational Bulletin No. 55 as Illustrated** at left should be in the hands of every apprentice, instructor, supervisor and engineer who is interested in the training of students and apprentices. Book is 5½" x 8½", 32-pages, and contains many helpful rules, tables, layouts and illustrations of practical shops all over the United States. Sent free, on request, postpaid.

**Small General Shop Bulletin No. 50.** This book contains information of value to the school officials in small communities desiring to give a fundamental training in several shop activities. Outlines courses of study, shows layouts and itemizes complete equipment. Sent free, postpaid.

**Farm Mechanics Bulletin No. 31.** This book is of especial interest in the farming communities where fundamentals of several shop activities are covered as farm mechanics. Shows list of equipment, practical shop methods, illustrates successful shops, gives layouts, etc. Sent free, postpaid.

**Machine Shop Course Bulletin No. 55-A,** illustrates and describes fifty-two practical machine shop projects ranging from a simple nail set to a complex gasoline engine. Used by the engineering and vocational school for teaching fundamentals of machine shop practice. Blue prints and job sheets explain how to do the work step by step as it would be done by modern industrial methods. Free on request.

**Automotive Service Instruction Manuals** showing how to do all the automotive service jobs listed above can be furnished. Manuals contain blue prints showing job set-ups. Illustration sheets explain step by step how each operation is performed. A valuable aid to the practical mechanic and the student. Write for price list of manuals, Circular No. 56. Sent free, postpaid.



# Factory Where South Bend Lathes Are Built

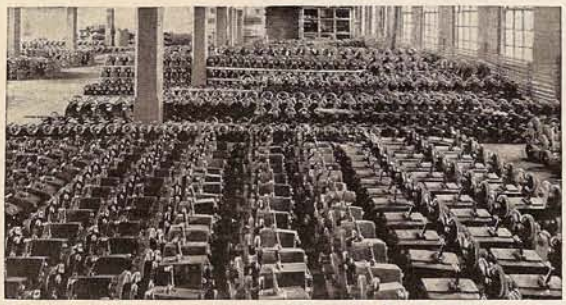
The South Bend Lathe Works, an illustration of which is shown above, was established in South Bend, Indiana, November 1st, 1906, and has operated continuously for twenty-seven years under the same management. The ground area is slightly more than four (4) acres and the floor space of the buildings is about 180,000 square feet.

**Visit Our Factory When in South Bend**

South Bend is located in northern Indiana, eighty-six (86) miles east of Chicago on several railroads and national highways. We have an excellent exhibit room in our factory where all types of South Bend Lathes are demonstrated. Visitors are always welcome.

A view of the assembling line. Twenty-five lathes of one size are assembled at one time

A group of South Bend Lathes in our plant on production work



Headstocks, tailstocks, carriages, gear boxes, etc., carried in stock ready for assembly on the lathe

Group of Gear Cutting Machines used for Cutting Gears for South Bend Lathes


Employees and Office Force of the South Bend Lathe Works



Printed in U. S. A.
LRXM—2-10, '34

# INDEX

## 1934 Model South Bend Precision Lathes

### Countershaft and Motor Drive Types

### Quick Change Gear and Standard Change Gear Lathes



### Junior and Toolmaker Lathes



### Special Lathes and General Service Lathes



### Attachments for South Bend Lathes



### Chucks, Tools and Accessories for South Bend Lathes



### General Information

# A Partial List of Industries Using South Bend Lathes

Names taken from a list of more than 56,000 users

### Aircraft Industry
Pan-American Airways
Universal Aviation Corp.
Fokker Aircraft Corp. of Amer.
Goodyear Zeppelin Corp.
Pratt & Whitney Aircraft Co.

### Machinery Industry
Champion Shoe Machinery Co.
Simplicity Manufacturing Co.
Edlund Machinery Co., Inc.
Singer Mfg. Co., Inc.
American Laundry Machinery Co.
The Lester & Walsey Co., Inc.
Burroughs Adding Machine Co.

### Automobile Manufacturers
Auburn Automobile Co.
Buick Motor Co.
Cadillac Motor Car Co.
Chevrolet Motor Co.
Chrysler Corp.
Ford Motor Co.
Hudson Motor Co.
Lincoln Motor Car Co.
Nash Motors Co.
Olds Motor Works
Packard Motor Car Co.
Pierce-Arrow Motor Car Co.
Reo Motor Car Co.
Studebaker Corp. of America
White Motor Company

### Accessory Manufacturers
A. C. Spark Plug Co.
Arrow Head Steel Products Co.
Bendix Aviation Corp.
Budd Wheel Co.
Firestone Tire & Rubber Co.
Fisher Body Corp.
Goodyear Tire & Rubber Co.
Trico Products Corp.

### Electric Motor Manufacturers
General Electric Co.
Emerson Electric Mfg. Co.
Wagner Electric Corp.
Allis-Chalmers Mfg. Co.
Westinghouse Elec. & Mfg. Co.

### Steel Industry
Bethlehem Steel Co.
Cambria Steel Co.
Carnegie Steel Co.
Inland Steel Co.
Steel & Tube Co. of America
U. S. Steel Corp.
Crucible Steel Co.
Youngstown Sheet & Tube Co.

### Tool and Die Shops
Ajax Tool & Die Co.
Arrow Tool & Reamer Co.
Buhr Machine Tool Co.
Doehler Die Casting Co.
Elco Tool & Screw Corp.
Eureka Tool & Die Co.

### Radio Manufacturers
Atwater Kent Mfg. Co.
Crosley Radio Corp.
Majestic Radio Co.
Philco Radio & Television Corp.
Radio-Victor Corp.
Sparks-Withington Co.
Radio Corp. of America

### Broadcasting Stations
WEAF—New York City
KOA—Denver, Colorado
WHK—Cleveland, Ohio
WBBM—Chicago, Illinois
WMAQ—Chicago, Illinois

### Mining Industry
Anaconda Copper Mining Co.
Alaska Juneau Gold Mining Co.
Crescent Mining Co.
Morris Run Coal Mining Co.

### Paper Industry
American Stationery Co.
Heco Envelope Co.
International Paper Co.
Kalamazoo Vegetable Parchment Co.
Keystone Paper Products, Inc.

### Motion Picture Industry
Agfa-Ansco Corp.
DuPont VitaColor Corp.
Warner Bros. Pictures, Inc.


### Oil Industry
Atlantic Refining Co.
Ethyl Gasoline Corp.
Gulf Refining Co.
Phillips Petroleum Co.
Shell Oil Co.
Sinclair Refining Co.
Standard Oil Co.
Sun Oil Co.

### Scientific Instrument Manufacturers
Acme International X-Ray Co.
Aurora X-Ray Corp.
Eastman Kodak Co.
General Electric X-Ray Corp.
Leeds & Northrup Co.
Eugene Dietzgen Co.

### U. S. Government
U. S. Bureau of Standards
U. S. Coast and Geodetic Survey
U. S. Geological Survey
U. S. Army
U. S. Signal Corps
U. S. Navy Yards and Vessels
U. S. Post Office
U. S. Capitol (Building)
U. S. Marine Corps
U. S. Naval Observatory
U. S. Veterans Bureau
U. S. Coast Guard
Smithsonian Institution
West Point Military Academy

### Textile Industry
Amoskeag Mfg. Co.
Chenango Textile Corp.
Patchogue—Plymouth Mills Corp.
Southern Worsted Corp.
Clinton Cotton Mills
Atlantic Mills
American Enka Corp.

### Shipbuilders
American Shipbuilding Co.
Union Shipbuilding Co.
Bethlehem Shipbuilding Corp., Ltd.
Federal Shipbuilding & Dry Dock Co.
Newport News Shipbuilding & Dry Dock Co.
Pusey & Jones Corp.
Sun Shipbuilding & Drydock Co.

### Steamship Companies
American Hawaiian S. S. Co.
Dollar Steamship Lines
Munson Steamship Lines
Panama Mail Steamship Co.
Peninsular & Occidental S. S. Co.
Pittsburgh Steamship Co.
Wilson Transit Co.

### Chemical Industry
American Cyanamid Co.
Climalene Co.
Davis, H. B., Co.
Dow Chemical Co.
E. I. duPont deNemours & Co., Inc.
Lambert Pharmacal Co.
Squibbs & Sons, Inc., E. R.
Victor Chemical Works, Inc.

### Printing Industry
Chicago Tribune
New York Times
Philadelphia Inquirer
Popular Mechanics Magazine
Miami Herald
Florida Times Union
Buffalo Courier Express
Cleveland Plain Dealer

### Office Equipment Mfrs.
Parker Pen Co.
Ditto, Inc.
L. C. Smith & Corona Typewriter, Inc.

### Railroads
New York Central R. R.
A. T. & S. F. R. R.
Michigan Central R. R.
Pennsylvania R. R.
Union Pacific R. R.
Northern Pacific R. R.
Southern Pacific R. R.
Great Northern Railway Co.
Baltimore & Ohio R. R.

### Appliance Manufacturers
Frigidaire Corp.
The Hoover Co.
Kelvinator Corp.
Servel, Inc.
Gibson Refrigerator Co.

### Power Companies
Brooklyn Edison Co., Inc.
Commonwealth-Edison Co.
Detroit Edison Co.
Minnesota Power & Light Co.
Georgia Power Company