SOUTH BEND LATHES

CATALOG
NO. 100-C

CONTENTS

Sizes and Types of Lathes Shown in This Catalog

GUARANTEE. The South Bend Lathe Works warrants South Bend Lathes and equipment to conform to or excel the specifications set forth in the manufacturer's catalogs in use at the time of sale and reserves the right, at its own discretion, without notice and without making similar changes in articles previously manufactured, to make changes in materials, design, finish, or specifications.

The South Bend Lathe Works warrants products of its own factory against defects of material or workmanship for a period of one year from the date of sale. The manufacturer's liability under this warranty shall be limited to replacing, free of charge, f.o.b. South Bend, Indiana, any such parts proving defective within the period of this warranty but the manufacturer will not be responsible for transportation charges or consequential damages.

The South Bend Lathe Works makes no warranty with respect to electrical equipment or Purchased Extras as described in the manufacturer's catalogs.

South Bend Precision Lathes

The South Bend Lathe Works was established in November, 1906, and for 36 years has manufactured South Bend Lathes exclusively.

The Lathes shown in this catalog are designed and built to meet the demands of modern industry. Spindle speeds have been increased for maximum efficiency when using high speed tungsten carbide cutting tools. Smooth vibration-free operation is achieved by using a back-geared headstock with direct belt drive to the spindle for high speeds. Superfinished headstock spindle bearing surfaces and large, diameter bearings assure rigidity and permanent accuracy.

Finish on South Bend Lathes

For the duration South Bend Lathes will be finished in gray enamel applied directly to the casting—no filler will be used. This finish will be as durable but it will not be as smooth as the finish formerly used.

Extras for South Bend Lathes

Extras are attachments and accessories which may be fitted to the lathe for doing many classes of special work. Most of the extras may be ordered either with the lathe or later.

These extras are listed on pages 38 to 48 inclusive in this catalog and each is clearly identified as being either a "Standard Extra" or a "Purchased Extra."

Standard Extras are items manufactured by us for use on South Bend Lathes, and include such items as draw-in collet chuck attachments, taper attachment, thread dial indicator, carriage stop, etc.

Purchased Extras are items which we do not manufacture but which we purchase from other manufacturers. In the case of such *Purchased Extras* we act only as a seller for the convenience of users of South Bend Lathes. Purchased extras include motors and controls, lathe chucks, drill chucks, etc.

Catalog 100-C
(Reprinted, March, 1943)

SOUTH BEND LATHE WORKS
Lathe Builders For 36 Years
SOUTH BEND, INDIANA, U.S.A.

CABLE ADDRESS "TWINS" SOUTH BEND
CODES USED
Western Union Five Letter Edition — Western Union Universal Edition
A. B. C. Fifth Edition Improved — Bentley's Complete Phrase and 2nd Editions
Acme — Lieber's — Standard — Our Own

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Fig. 1. Testing Laboratory and Research Department for Maintaining Uniformly High Standards of Workmanship and Materials for South Bend Lathes

Testing and Research Laboratory

Years of Careful Research have resulted in a continual improvement in South Bend Lathes that has earned them an enviable position of leadership in the machine tool field. Established November 1, 1906, the South Bend Lathe Works has for 36 years been perfecting methods and equipment for manufacturing screw-cutting precision lathes.

In A Well-Equipped Research and Testing Laboratory, new ideas, new materials, and new methods are tested. Here measuring instruments and tools are constantly checked to maintain uniform accuracy in South Bend Lathes. The equipment of this laboratory includes precision gauge blocks accurate to five-millionths of an inch, an optical comparator for testing the form and lead of screw threads, a profilometer for checking the smoothness of surface finishes, hardness testing equipment to make sure that heat-treated steel surfaces have just the right degree of hardness, precision lead screw testing equipment accurate to .00005″ in 30″, a dynamic balancing machine, and many other precision measuring instruments, gauges, and tools.

Fig. 2. Below—Checking a Fixture with Precision Gauge Blocks

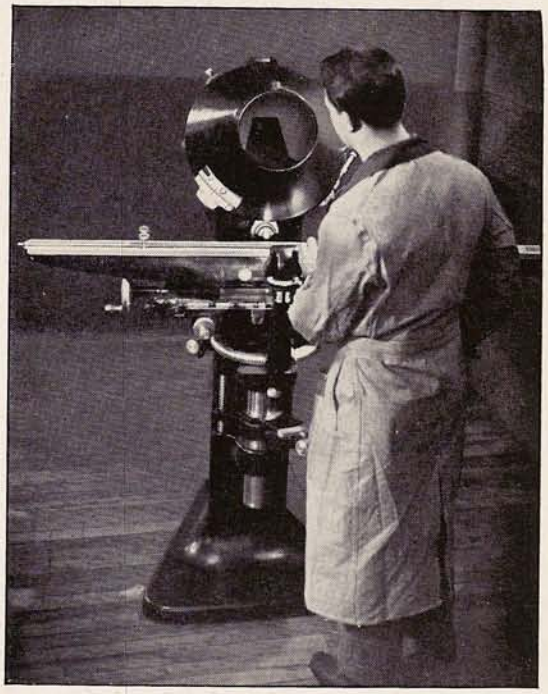


Fig. 3. Inspecting a Screw Thread with an Optical Comparator

Machine Tools of today are vastly superior to those of a quarter-century ago. Research in metallurgy has produced steel and iron having greater strength and durability. Better measuring equipment and methods make possible greater precision in the finishing and fitting of machine parts. The development of the superfinishing process has resulted in more perfect bearing surfaces.

South Bend Lathes have kept pace with the machine tool industry. Perfection of design and construction have increased their efficiency, durability, and ease of operation. Today, South Bend Lathes are better in every way.

South Bend Precision Lathes

The South Bend Lathe is a modern machine tool having many recently developed improvements and refinements. These include a new headstock with improved bearings and superfinished spindle, large diameter easy reading graduated collars, and an improved multiple disc friction feed clutch in the apron which will not stick or slip under heavy cuts.

South Bend Lathes have ample power for the type of work for which they are intended. The back-geared headstock provides the slow spindle speeds and power required for taking heavy cuts and for machining large diameter work. The headstock spindle bearings and the power transmission equipment are highly efficient so that the motor horsepower is effectively transmitted for useful cutting energy.

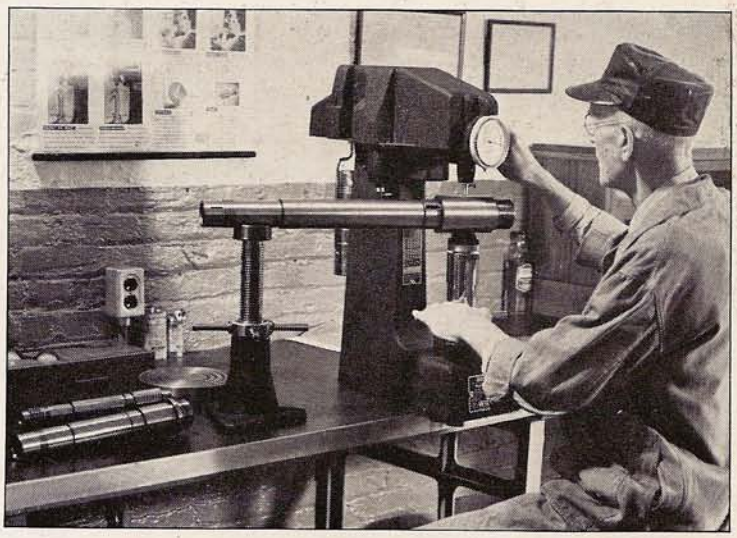


Fig. 4. Above—Testing the Hardness of a Carburized Headstock Spindle Bearing Surface

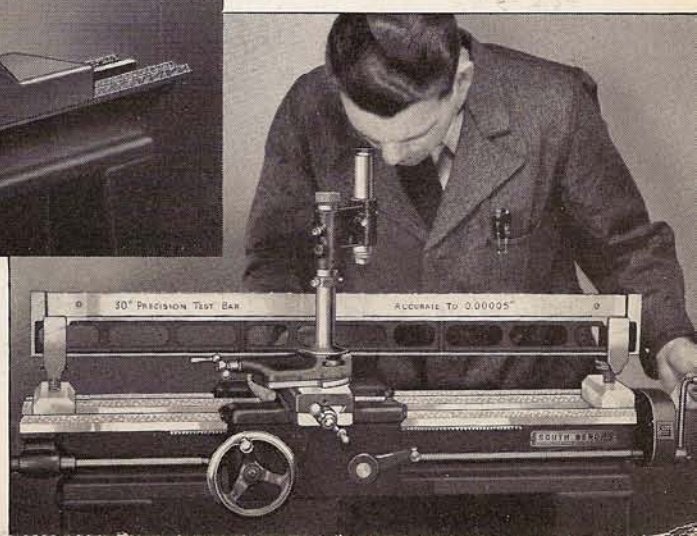
Large Diameter Handwheels, clear-cut easy reading graduations, and a convenient arrangement of controls contribute to the ease of operation of South Bend Lathes. This reduces operator fatigue, increases efficiency, and reduces mistakes, so that maximum production can be maintained on either toolroom or production operations.

Quantity Production of a Standardized Design makes it possible for us to manufacture a lathe of unquestionable quality at a comparatively low cost. Parts for South Bend Lathes are economically produced in our modern factory equipped with efficient production machinery. Hundreds of special machines, jigs, fixtures, and gauges are used to assure perfect interchangeability of parts. This simplifies assembly, lowers the cost of manufacture, and insures accuracy. South Bend Lathes are reasonable in price because the savings effected by quantity production are passed on to the consumer.

Fig. 5. Below—Testing Gears for Accuracy of Tooth Form, Pitch Diameter, and Concentricity

Fig. 6. Above—Testing the Saddle Cross Slide Dovetail for Squareness with V-Ways of the Lathe Bed

Fig. 7. Below—Testing a Lead Screw for Accuracy of Lead with Precision Optical Measuring Equipment



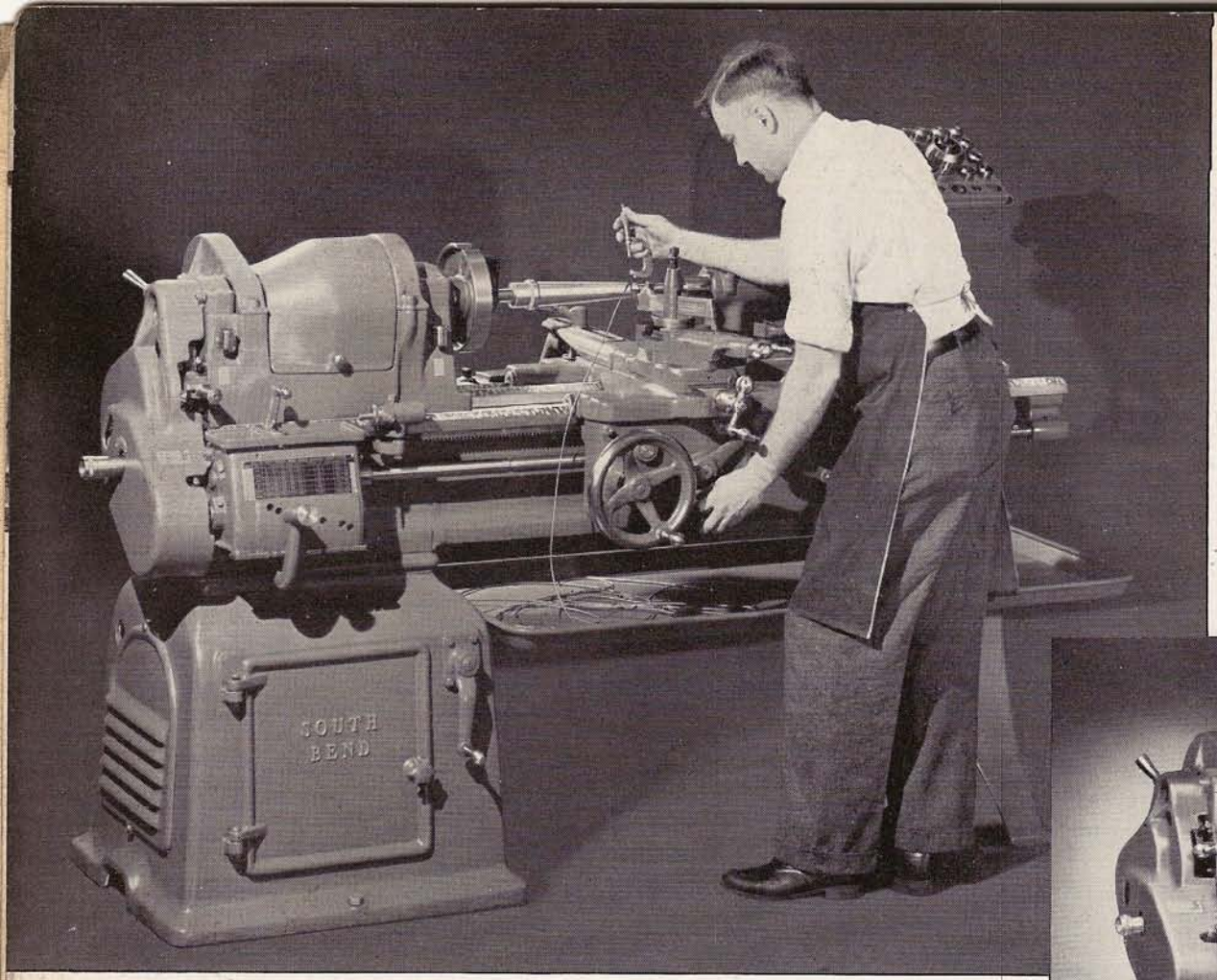


Fig. 8. Underneath Belt Motor Driven Lathe

Underneath Belt Motor Drive

For 10-inch and Larger South Bend Lathes

The South Bend Underneath Belt Motor Drive is an efficient and practical direct drive equipment for a back-geared screw-cutting lathe. This fully enclosed drive is unusually compact, silent in operation, powerful, and economical.

The Belt Drive to the spindle provides a smooth, steady flow of power, free from vibration and chatter. The power is transmitted from the motor to the countershaft by one or more V-belts, and from the countershaft up through the lathe bed to the headstock cone pulley by a flat leather belt. The pull of the belt is downward against the solid portion of the headstock.

Precision Adjustments, "B" and "C", Fig. 9, provide any desired tension for both the cone pulley belt and the motor V-belt. A belt tension release lever, "A", permits releasing the cone pulley belt tension instantly for shifting the belt to change spindle speeds. The cover over the headstock cone pulley is hinged and may be raised for easy access to the cone pulley belt.

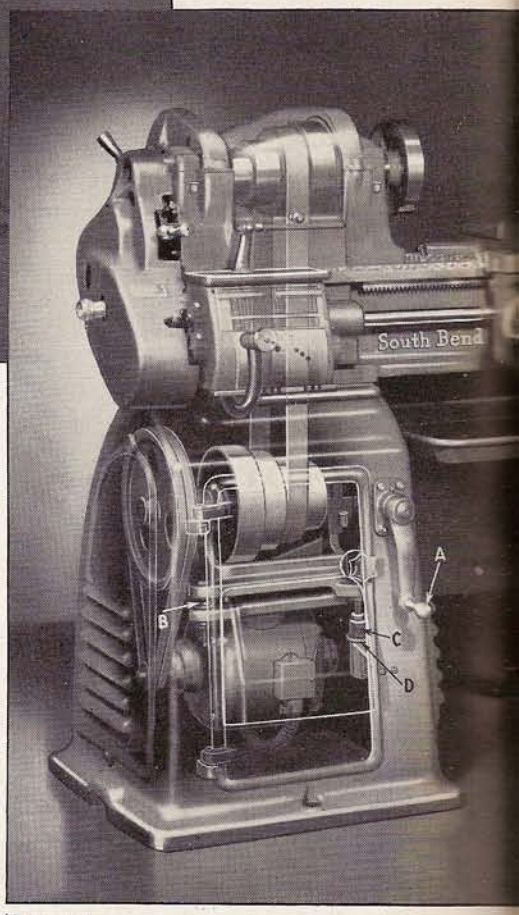


Fig. 9. Phantom View of Underneath Motor Drive for South Bend Lathes

(Patented)

The Drum Type Reversing Switch is operated by a conveniently located control to permit the operator to start, stop, or reverse the rotation of the lathe spindle from an easy working position. Wiring between the motor and the switch is enclosed in a flexible metal conduit. When the motor and control are ordered with the lathe, all connections can be made at the factory so that the lathe will be ready to operate as soon as the lead wires are connected to the electric power line. See page 48 for description of motors and controls.

Quick Change Gear Mechanism

For 10-inch and Larger South Bend Lathes

Full quick change gear mechanism is supplied as standard equipment on all 10-inch and larger South Bend Lathes.* Changes for the various pitches of screw threads and power feeds are made by shifting levers on the gear box and by sliding the primary gears on the end of the lathe. Instant selection of any screw thread, power turning feed, or power cross-feed can be made. No loose change gears or pick-off gears are required.

A direct reading index chart attached to the gear box (Fig. 10) shows the arrangement of the levers for the various threads and feeds. Changes may be made with the lathe in operation, as it is impossible to place the levers in any position which will lock the gears. The primary sliding gear should not be changed while lathe is in operation.

The quick change gear mechanism provides for cutting 48 right-hand and 48 left-hand screw threads, ranging from 4 to 224 threads per inch. The threads per inch are shown in the large figures on the index chart attached to the gear box.

The quick change gear mechanism also provides a series of 48 power turning feeds and 48 power cross-feeds. The power turning feeds are shown in the small figures on the index chart. See page 11 for range of power feeds on various sizes of lathes.

Metric Thread Cutting Equipment

Metric transposing gear equipment can be supplied for cutting a complete range of metric screw threads in addition to the English threads. See page 44.

*9-inch Lathes are supplied in both Quick Change Gear Type and Plain Change Gear Type. See pages 22 to 29.

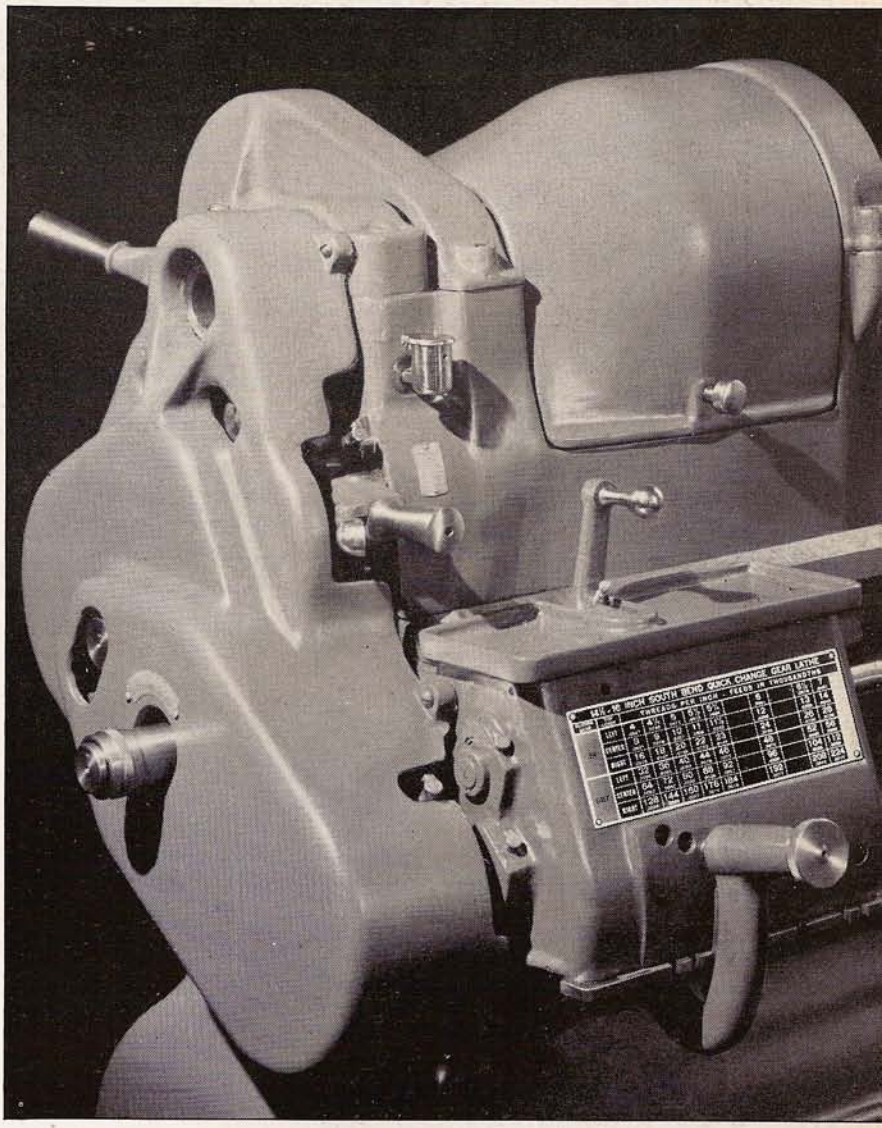


Fig. 10. Quick Change Gear Mechanism for 10-inch and Larger South Bend Lathes

14½ & 16 INCH SOUTH BEND QUICK CHANGE GEAR LATHES

SLIDING GEAR	TOP LEVER	THREADS PER INCH - FEEDS IN THOUSANDTHS									
IN	LEFT	4 .0841	4½ .0748	5 .0673	5½ .0612	5¾ .0585		6 .0561		6½ .0518	7 .0481
	CENTER	8 .0421	9 .0374	10 .0337	11 .0306	11½ .0293		12 .0280		13 .0259	14 .0240
	RIGHT	16 .0210	18 .0187	20 .0168	22 .0153	23 .0146		24 .0140		26 .0129	28 .0120
OUT	LEFT	32 .0105	36 .0093	40 .0084	44 .0076	46 .0073		48 .0070		52 .0065	56 .0060
	CENTER	64 .0053	72 .0047	80 .0042	88 .0038	92 .0037		96 .0035		104 .0032	112 .0030
	RIGHT	128 .0026	144 .0023	160 .0021	176 .0019	184 .0018		192 .0017		208 .0016	224 .0015

AUTOMATIC CROSS FEED EQUALS .375 TIMES LONGITUDINAL FEED

Fig. 11. Index Plate for Quick Change Gear Box Used on 14½-inch and 16-inch South Bend Lathes

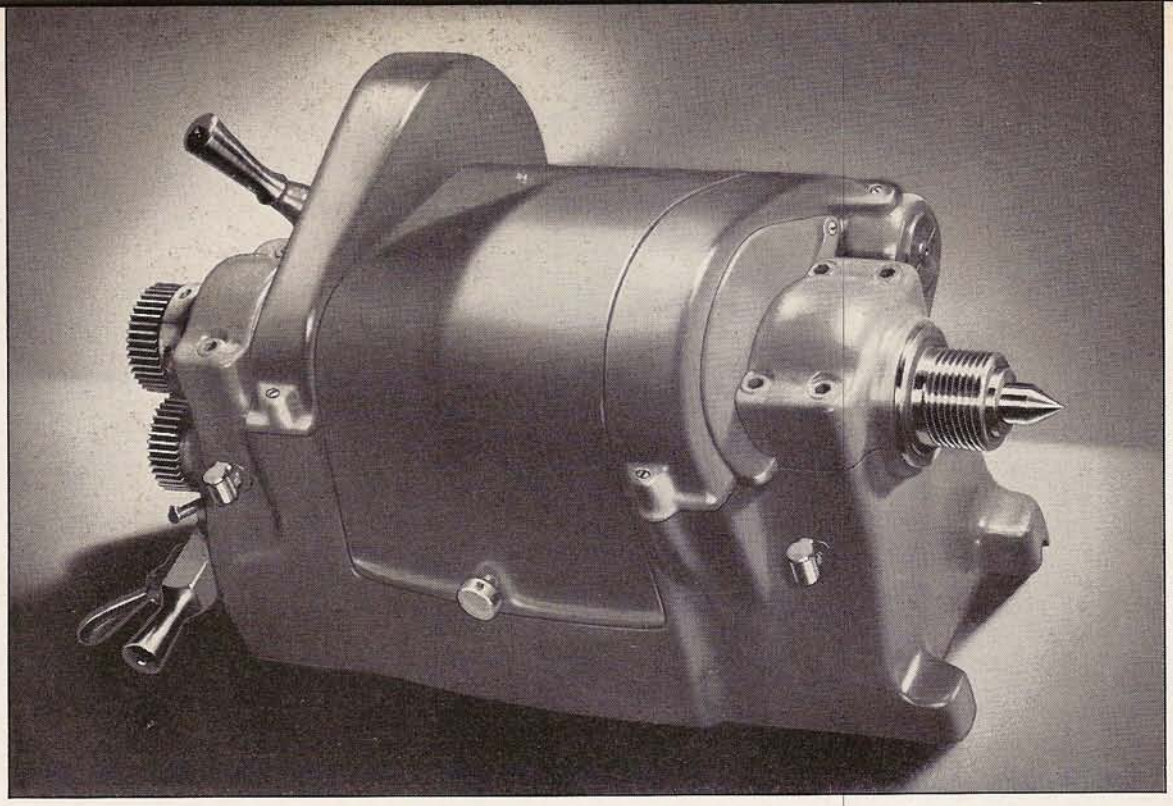


Fig. 12. Headstocks for all South Bend Lathes listed in this catalog have an improved hinged guard over the bull gear lock pin similar to that shown above. This guard can also be supplied for older models of South Bend Lathes. Prices on request.

Headstock With Superfinished Spindle

Headstock spindles for South Bend Precision Lathes are made of alloy spindle steel, with all bearing surfaces carburized, hardened, and ground. The journal bearing surfaces are superfinished to a smoothness of 5 microinches (.000005")*, and have a hardness of 56 to 61 Rockwell C. The extreme smoothness and accuracy of the superfinished spindle bearing surface eliminates wear, reduces friction, permits higher spindle speeds, and assures precision.

Bearings for the headstock spindle are unusually large, and are precision bored. The design permits using a large diameter spindle, providing extreme rigidity and reducing the possibility of chatter.

Large oil reservoirs and an improved capillary oiling system provide a complete film of clean filtered oil which separates the rotating spindle from the bearing. As long as sufficient oil is supplied to maintain an adequate oil film, there can be no metal to metal contact in this bearing, no wear and no friction other than the fluid friction of the lubricant. An efficient oil return system retains the oil so that only an occasional replenishing is required.

*Profilometer reading in microinches *rms*.

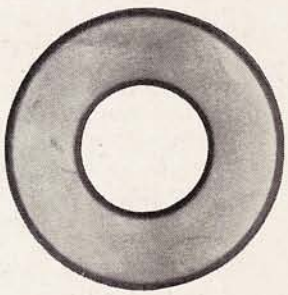


Fig. 13. Cross Section of Headstock Spindle. Bearing Surfaces are Carburized and Hardened to a Depth of 3/64"

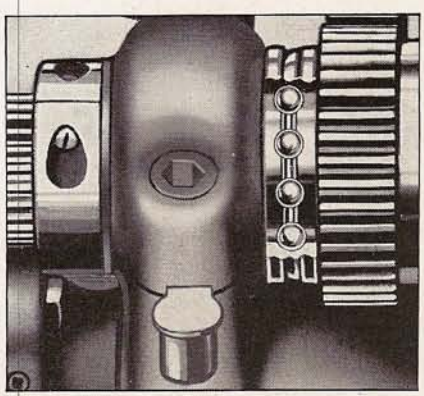


Fig. 14. Ball Thrust Bearing and Take-up Nut, Eliminate Spindle End Play

Fig. 15. Heat-treated Alloy Steel Spindle with Journal Bearing Surfaces Carburized, Hardened, Ground, and Superfinished.

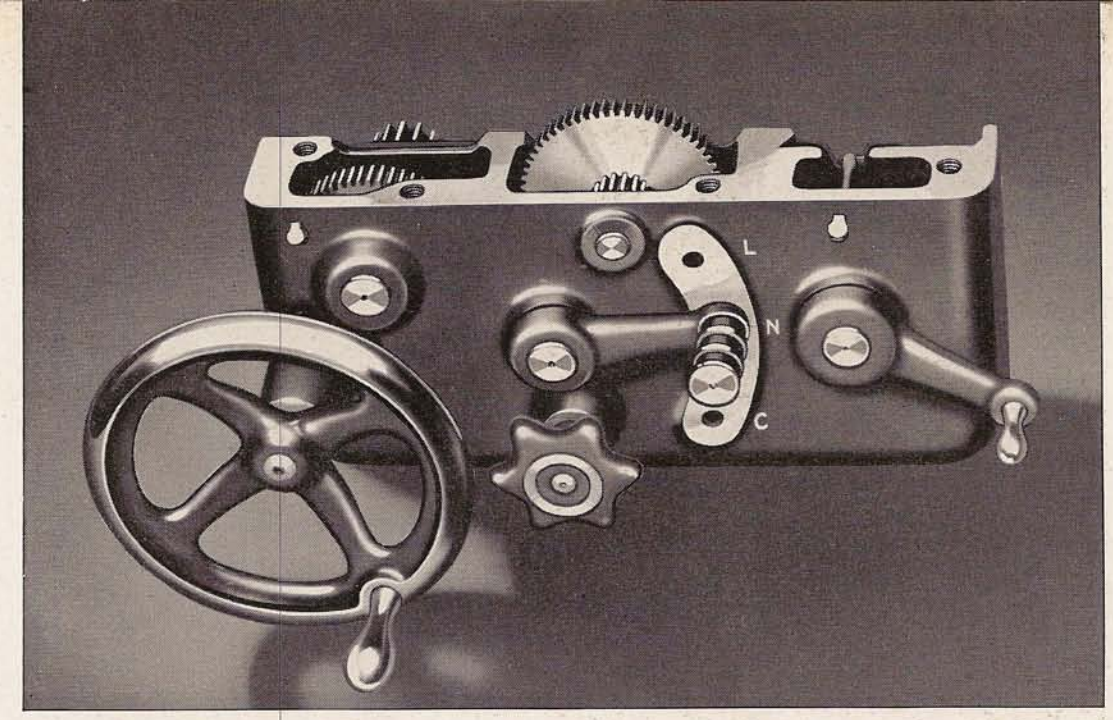


Fig. 16. Front View of Double Wall Apron Showing Rigid Box Type Construction

New Double Wall Apron

For 10-inch and Larger South Bend Lathes

The one-piece double wall apron shown above is rigidly constructed and provides substantial support for both ends of the gear shafts. A tumbler gear shift is used to change from automatic cross-feed to automatic longitudinal feed.

The multiple disc friction clutch used for operating both the automatic cross-feeds and the automatic longitudinal feeds is shown in Fig. 18. Alternate steel discs are keyed to the clutch shaft and worm wheel respectively. A slight turn of the clutch knob will engage or disengage the clutch, placing the automatic feeds in operation. This clutch will engage or release instantly. It is smooth in operation and will not stick or slip under heavy cuts.

The half-nuts for thread cutting are close coupled and are dovetailed into the back wall of the apron, as shown in Fig. 17 below. The half-nuts and threads of the lead screw are used only when cutting screw threads. A spline in the lead screw drives the worm which operates the automatic power carriage feeds.

Automatic Safety in Apron

An automatic built-in safety device makes it impossible to engage the feeds and half-nuts at the same time. When the feed lever is in either position "L" or "C" the half-nuts are locked and cannot be engaged with the lead screw. To engage the half-nuts with the lead screw the feed lever must be in the "N" or neutral position.

Self Oiling Steel Gears in Apron

Gears in the apron are made of steel and have reservoir and felt wick oiling system. The rack pinion, shown at right end of apron (Fig. 17) is rigidly supported by substantial bearings in both the front wall and back wall of the apron.

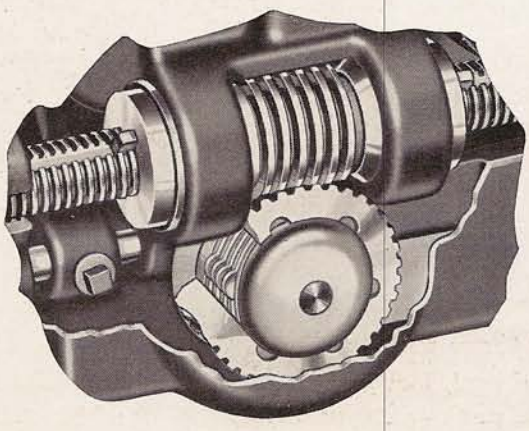
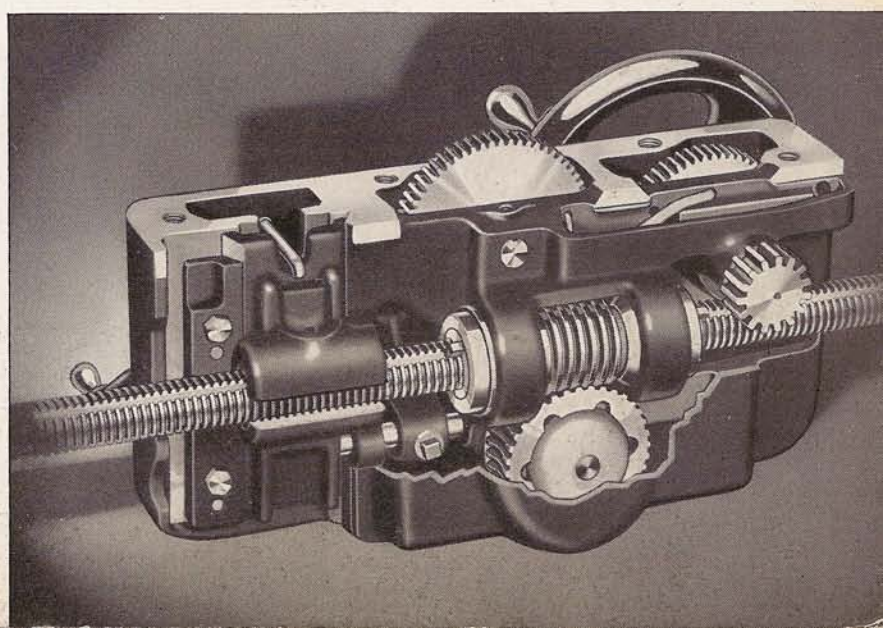


Fig. 18. (Above) Cut-away View Showing the Multiple Disc Friction Feed Clutch

Fig. 17. (Below) Back View of New Double Wall Apron



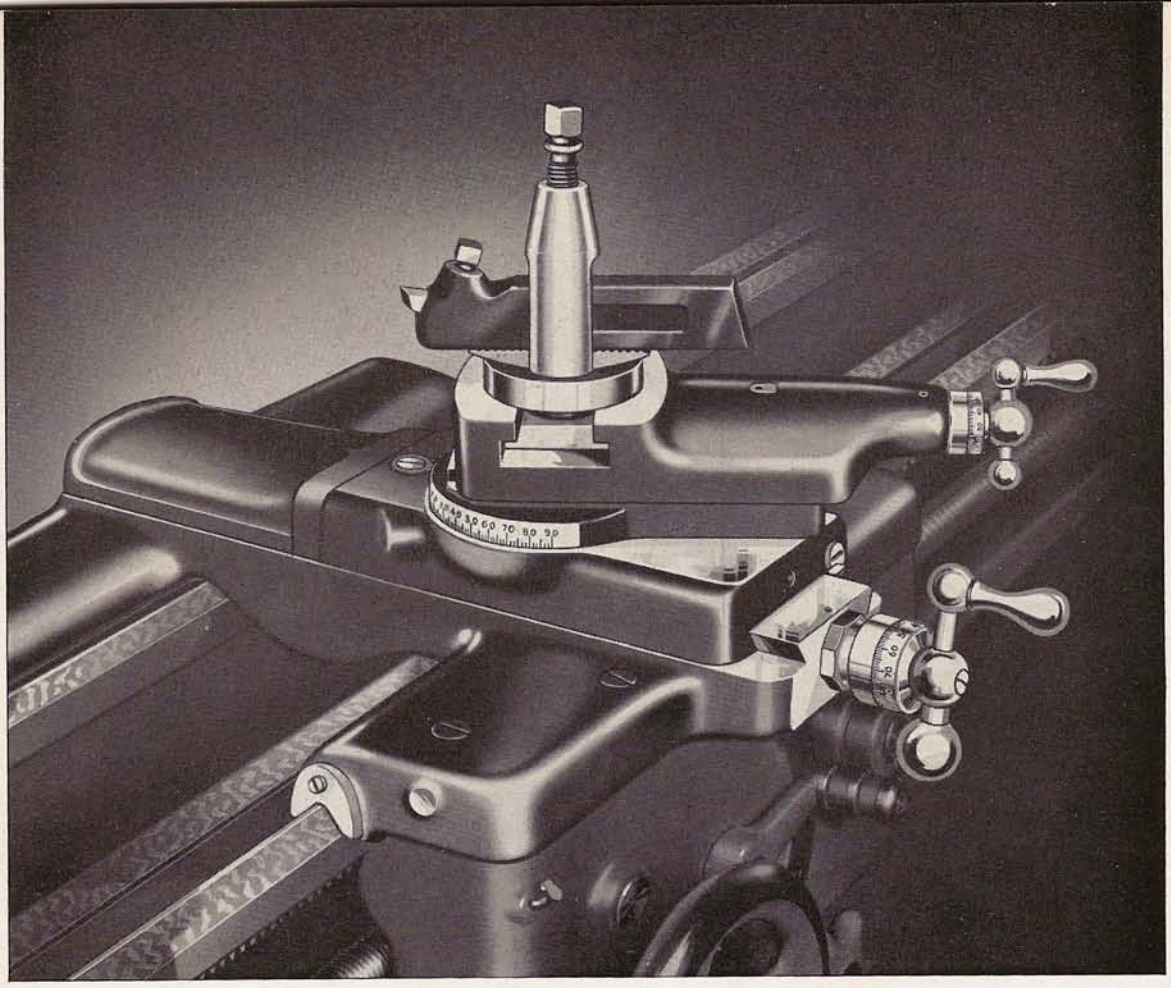


Fig. 19. Improved Saddle and Compound Rest for South Bend Lathes

Improved Saddle and Compound Rest

For 10-inch and Larger South Bend Lathes

The saddle for South Bend Lathes has unusually long bearings carefully hand-scraped to conform with the outer V-ways of the lathe bed. Felt pad wipers are attached to each end of the saddle to clean and oil the V-ways of the bed. The cross slide bridge is wide and deep, providing a rigid support for the tool rest. The dovetail is hand-scraped square with the V-ways of the saddle.

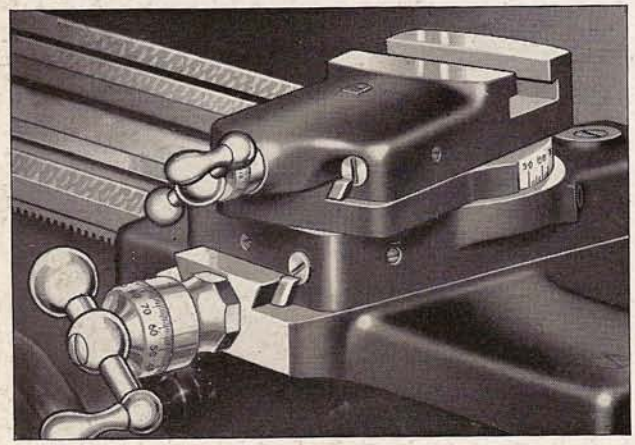


Fig. 20. Close-up Showing Adjustable Tapered Gibs Used on Compound Rest Base and Top Dovetails of 10-inch and Larger South Bend Lathes

Both the compound rest base and the compound rest top dovetails are hand-scraped and lapped and have adjustable tapered gibs. The compound rest base is drilled and tapped for the thread cutting stop screw. The compound rest swivel bearing is accurately ground and fitted. The swivel is graduated 180-degrees and may be set at any angle for turning and boring bevels and tapers.

The cross-feed screw and compound rest screw have accurately graduated collars reading in thousandths of an inch. These collars are adjustable and may be set at zero whenever desired. Crank handles for both compound rest screw and cross-feed screw are of polished steel.

The tool post, tool post ring, and tool post rocker are made of drop forged steel, heat-treated and hardened. Rocker adjustment is provided for adjusting the cutting edge of tool to the desired height.

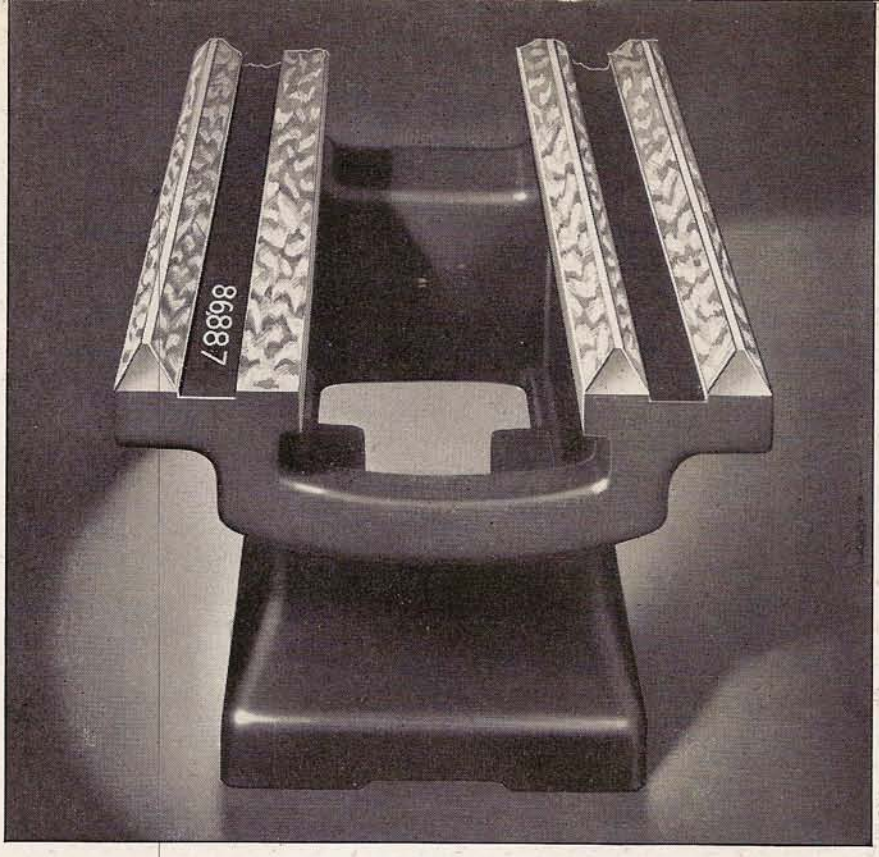


Fig. 21. End View of Lathe Bed

Heavy Semi-Steel Lathe Bed

For All Sizes of South Bend Lathes

Beds for South Bend Lathes are heavily constructed with large box braces cast in at short intervals. The beds are made of a special grade of iron with 50 to 70 per cent steel which makes a hard close-grained casting having unusual strength and long wearing qualities.

Three large V-ways and one flat way align the headstock, carriage, and tailstock on the bed. The carriage slides on the two outside V-ways and the headstock and tailstock are aligned by the inside V-way. The ways are carefully hand-scraped the entire length of the bed.

Careful inspection is made to be sure that a uniform bearing is obtained the full length of the bed and that all ways are straight and parallel. The serial number is stamped on the bed as shown.

Tailstock

with Graduated Spindle

The tailstock for all sizes and types of South Bend Lathes is offset to allow the compound rest to swivel parallel to the bed. A sensitive screw adjustment is provided to set over the tailstock top for taper turning.

The tailstock spindle is graduated in sixteenths of an inch for drilling to accurate depths. An improved double plug binder securely locks the spindle without altering the alignment of the centers.

The tailstock center is made of tool steel hardened and ground all over, and is self-ejecting. An oil quill and oil well are provided for oiling the center.

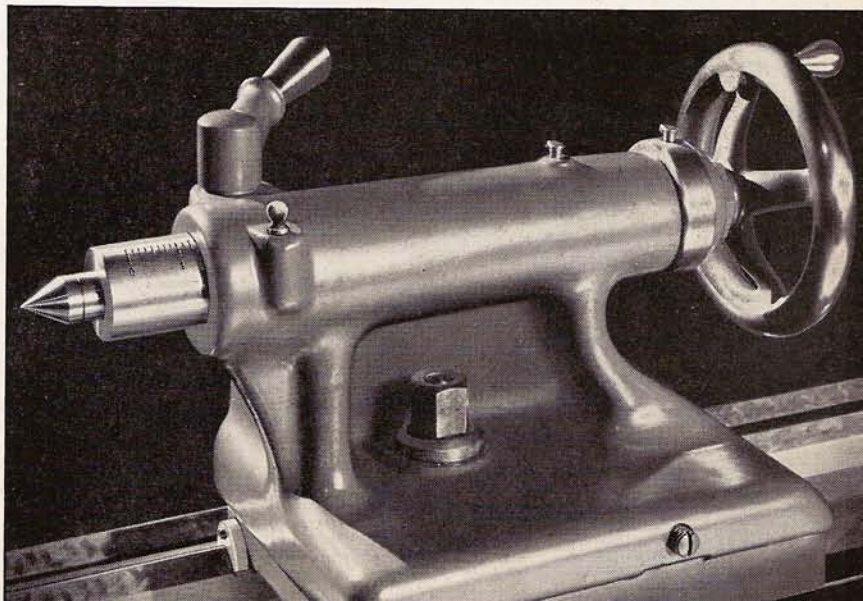
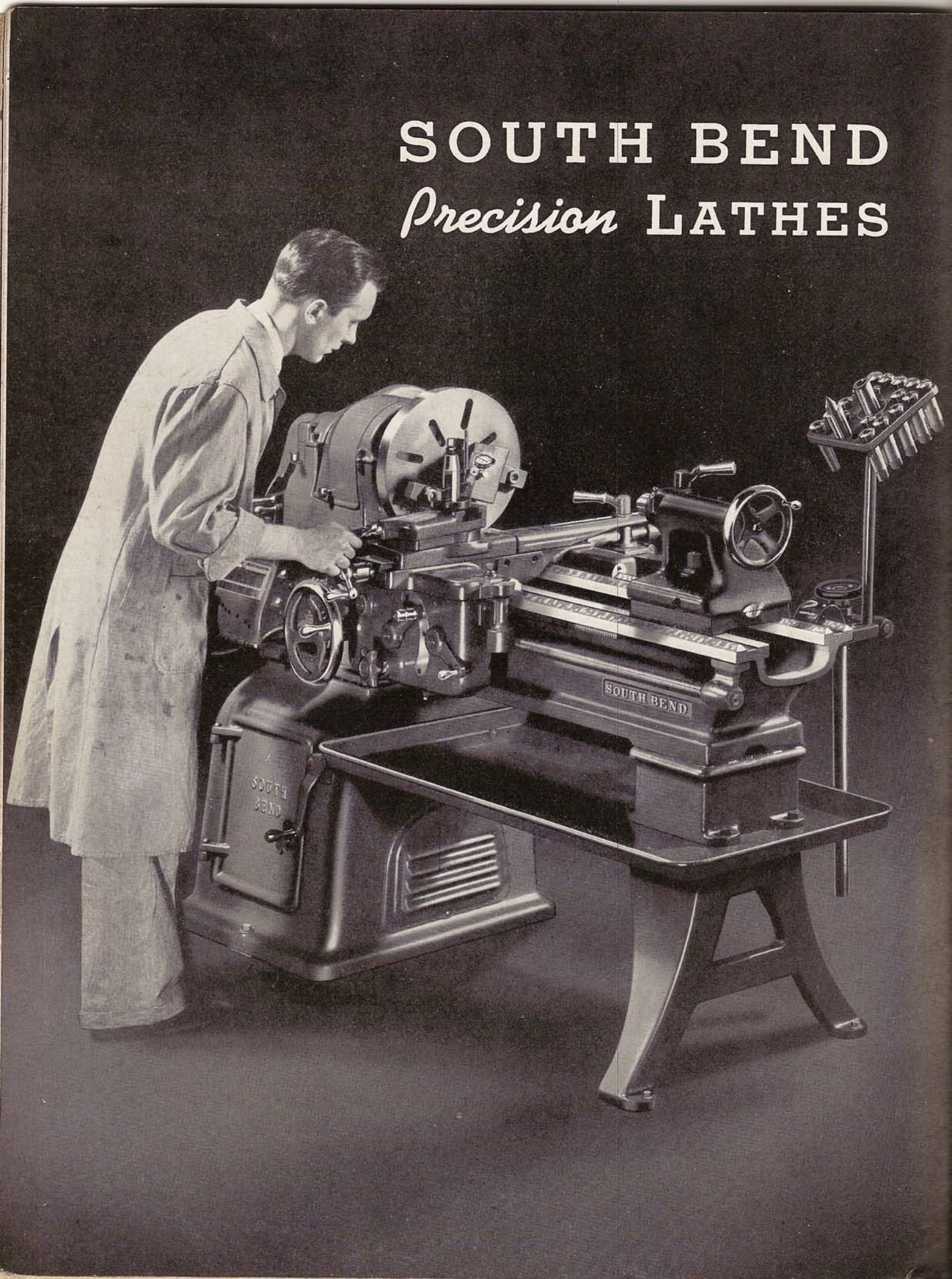


Fig. 22. Tailstock Used on South Bend Lathes

SOUTH BEND
Precision LATHES



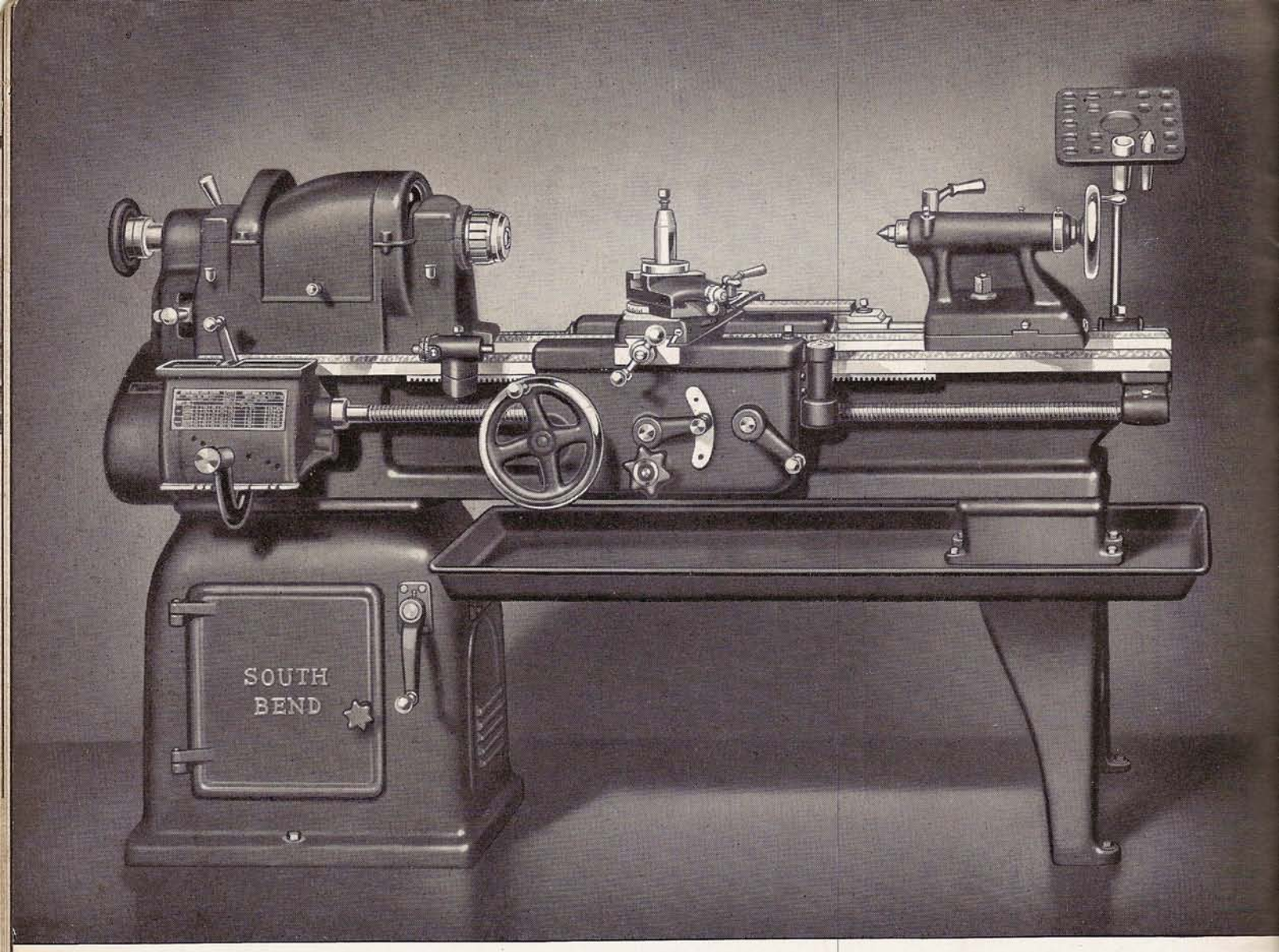
Specifications of South Bend Precision Lathes

Back-Geared Screw-Cutting Type

Specifications Below Apply to All Sizes and Types of South Bend Back-Geared Screw Cutting Lathes
See Page 34 for Specifications of South Bend Turret Lathes

Size of Lathe	16-inch	14½-inch	13-inch	10-inch Regular	10-inch 1″ Collet	9-inch
Capacity of Lathe						
Swing over bed and saddle wings	16¼″	14⅝″	13⅛″	10⅛″	10⅛″	9¼″
Swing over saddle with chip guard	9⅝″	8¾″	7¾″	5⅞″	5⅞″	5½″
Swing over saddle with chip guard removed	11⅛″	10¼″	8¾″	6¾″	6¾″	.....
Spindle Speeds (subject to 5% variation)						
Standard spindle speeds r.p.m. of spindle, direct belt drive	725-438-277-171	800-482-300-181	875-567-373-239	700-434-277	700-434-277	658-370-212
r.p.m. of spindle, back gears engaged	91-55-35-21	121-72-45-27	128-81-54-34	129-79-50	129-79-50	127-72-41
High spindle speeds Regular equipment on all 10″—1″ Collet Lathes, 9″ Twelve-Speed Lathes, and 9″ Underneath Motor Driven Lathes. Supplied at extra cost on other 9″ and 10″ lathes.						
r.p.m. of spindle, direct belt drive	.....	.....	.....	1357-837-535	1357-837-535	1270-716-408
r.p.m. of spindle, back gears engaged	.....	.....	.....	248-153-97	248-153-97	246-138-79
Threads and Feeds						
Thread cutting range, Quick Change Gear Lathes	4-224 per in.	4-224 per in.	4-224 per in.	4-224 per in.	4-224 per in.	4-224 per in.
Thread cutting range, Model B and Model C 9″ Lathes	.....	.....	.....	.....	.....	4-160 per in.
Longitudinal feeds through friction clutch, Quick Change Gear Lathes	.0015″ to .0841″	.0015″ to .0841″	.0015″ to .0841″	.0015″ to .0836″	.0015″ to .0836″	.0015″ to .0853″
Longitudinal feeds, 9″ Model B and Model C Lathes	.....	.....	.....	.....	.....	.0021″ to .0155″
Power cross-feeds, Quick Change Gear Lathes	.0006″ to .0312″	.0006″ to .0312″	.0006″ to .0312″	.0006″ to .0309″	.0006″ to .0309″	.0004″ to .0252″
Power cross-feeds, 9″ Model B Lathes	.....	.....	.....	.....	.....	.001″ to .0046″
Lead Screw diameter	1⅛″	1⅛″	1″	¾″	¾″	¾″
Lead Screw threads per inch (29° Acme)	6	6	6	8	8	8
Headstock						
Hole through headstock spindle	1⅜″	1⅛″	1″	1″	1⅜″	¾″
Large spindle bearing, diameter	2⅞″	2⅝″	2¼″	2¼″	2¼″	1 13/16″
Maximum collet capacity. (See foot-notes)	1″	¾″	11/16″	11/16″	1″	½″
Spindle nose diameter and threads per inch	2⅜″—6	2¼″—6	1⅞″—8	1⅞″—8	2¼″—8	1½″—8
Size of center, Morse taper	No. 3	No. 3	No. 3	No. 2	No. 2	No. 2
Width of cone pulley step for belt	2¼″	2 1/16″	1¾″	1 5/16″	1 5/16″	1″
Small face plate diameter	8 1/16″	7⅜″	6⅝″	5⅝″	5⅝″	5⅛″
Large face plate diameter	13¼″	12″	10¾″	8⅜″	8⅜″	.....
Compound Rest						
Cross slide will travel	10½″	10″	8⅛″	5⅞″	5⅞″	5⅞″
Angular hand feed of compound rest top slide	3¾″	3⅛″	3⅛″	2″	2″	2¼″
Tool post opening for tool holder shank	⅝″ x 1⅜″	⅝″ x 1⅜″	½″ x 1⅛″	⅜″ x 13/16″	⅜″ x 13/16″	⅜″ x 13/16″
Size of cutter bits tool holder takes	⅜″ sq.	⅜″ sq.	5/16″ sq.	¼″ sq.	¼″ sq.	¼″ sq.
Tailstock						
Size of center, Morse Taper	No. 3	No. 3	No. 3	No. 2	No. 2	No. 2
Tailstock spindle travel	5¾″	5¼″	4¼″	2⅛″	2⅛″	2⅛″
Each graduation on tailstock spindle advances spindle	1/16″	1/16″	1/16″	1/16″	1/16″	1/16″
Tailstock will set over for taper turning	1″	15/16″	15/16″	11/16″	11/16″	⅝″
Motors						
Size motor recommended for lathe	1½ h.p.	1½ h.p.	1 h.p.	½ h.p.	¾ h.p.	¼ h.p.
Motor recommended for 9″ Twelve-Speed and 9″ Underneath Motor Driven Lathes	.....	.....	.....	.....	.....	½ h.p.

NOTE:—Collets for 16-inch Lathes are interchangeable with collets for 10-inch 1″ Collet Capacity Lathes.
Collets for 13-inch Lathes are interchangeable with collets for 10-inch Regular Lathes.
Draw-in collet chuck attachments are not interchangeable.



16-inch Toolroom Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 16-inch Toolroom Lathe with full quick change gear equipment, as illustrated above, is the result of thirty-six years of experience in building fine lathes. The workmanship and materials are the best that can be obtained, and the highest standards of accuracy are maintained throughout its manufacture. See page 11 for specifications.

The Underneath Motor Drive is especially desirable for Toolroom Lathes. This fully enclosed drive provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops smooth power, free from gear vibration.

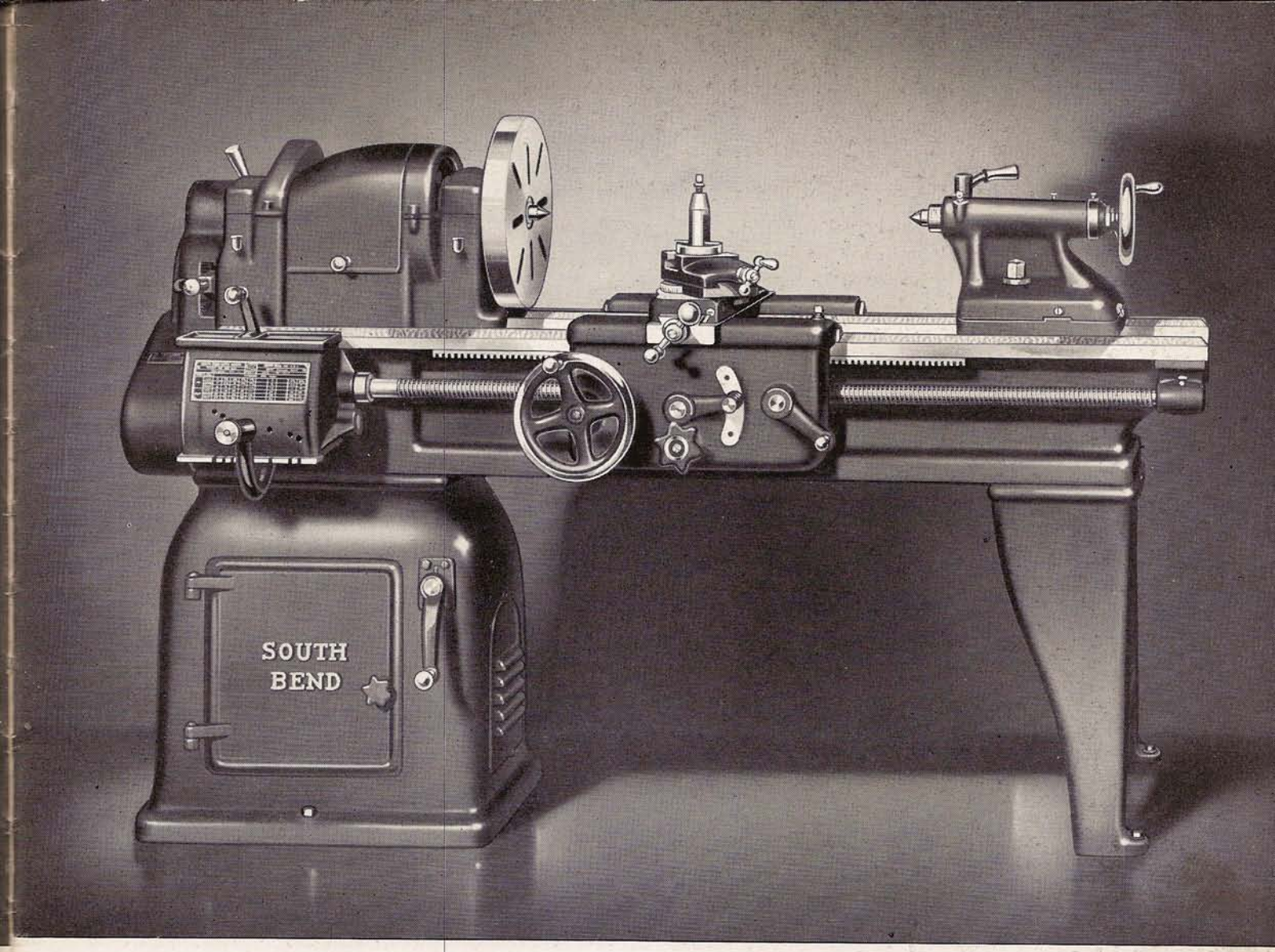
Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened, ground, and superfinished; improved headstock bearings; double wall apron with steel gears and multiple disc friction clutch for operating automatic cross-feeds and automatic longitudinal feeds; easy reading micrometer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

Toolroom Attachments included in price of this lathe consist of: handwheel type draw-in collet attachment (without collets); collet rack; telescopic taper attachment; thread dial indicator; chip pan; and micrometer carriage stop.

Regular Equipment included in price of lathe consists of: 4 V-belts; flat leather belt; large and small face plates; forged steel heat-treated tool post; adjustable thread cutting stop; tool steel centers for headstock and tailstock spindles; headstock spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Motor and control are not included in the price of the lathe. See page 48.

16-inch Underneath Motor Driven Toolroom Lathes

Bed Length	6-ft.	7-ft.	8-ft.
Catalog Number	8117-C	8117-D	8117-E
Distance Between Centers	33½-in.	45½-in.	57½-in
Size Motor Required (See Page 48)	1½ h.p.	1½ h.p.	1½ h.p.
Shipping Weight, Crated	2525 lbs.	2605 lbs.	2685 lbs.
Code Word	Bzwit	Bzwom	Bzwuh



16-inch Quick Change Gear Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 16-inch Quick Change Gear Lathe is popular for both production operations and toolroom work. The full quick change gear box provides an unusually wide range of screw threads and power feeds.

The Underneath Motor Drive is entirely self-contained and fully enclosed. It provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops smooth, steady power, entirely free from gear vibration.

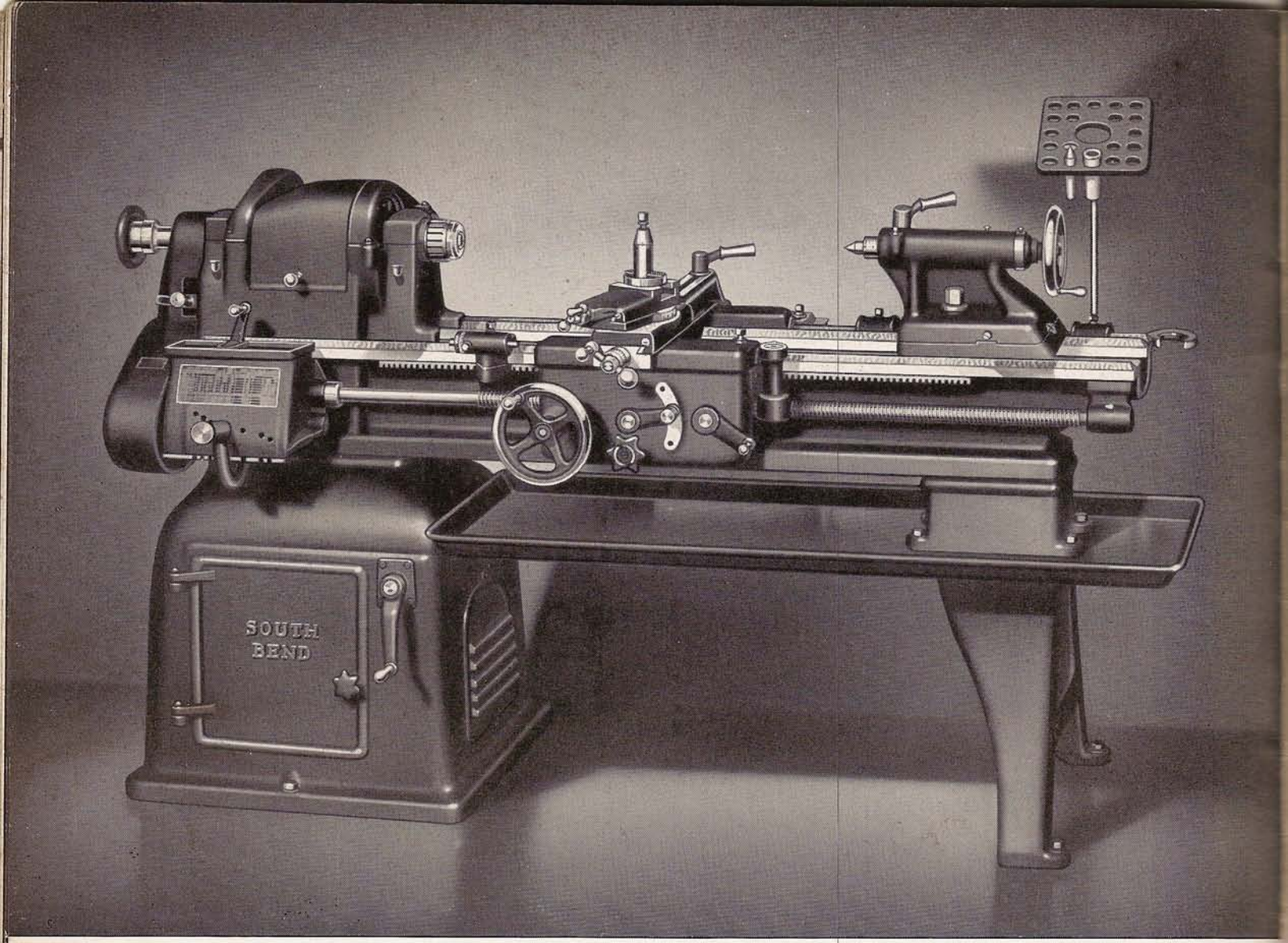
Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened, ground, and superfinished; improved headstock bearings; double wall apron with steel gears and multiple disc friction clutch for operating automatic cross-feeds and automatic longitudinal feeds; easy reading micrometer graduated collars; and semi-steel lathe bed. See page 11 for complete specifications.

Standard Extras and Purchased Extras for this lathe are shown in the back of catalog. These attachments and accessories greatly increase the usefulness of the lathe. Most of the attachments may be purchased either with the lathe or later.

Regular Equipment included in price of lathe consists of: 4 V-belts; flat leather belt; large and small face plates; forged steel heat-treated tool post; adjustable thread cutting stop; No. 3 Morse taper tool steel centers for headstock and tailstock spindles; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Motor and control are not included in price of lathe. See page 48.

16-inch Quick Change Gear Underneath Motor Driven Lathes

Bed Length	6-ft.	7-ft.	8-ft.	10-ft.	12-ft.
Catalog Number	117-C	117-D	117-E	117-G	117-H
Distance Between Centers	33½-in.	45½-in.	57½-in.	81½-in.	105½-in.
Size Motor Required (See Page 48)	1½ h.p.	1½ h.p.	1½ h.p.	1½ h.p.	1½ h.p.
Shipping Weight, Crated	2300 lbs.	2380 lbs.	2460 lbs.	2620 lbs.	2850 lbs.
Code Word	Bzwac	Bzwek	Bzwin	Bzwor	Bzwus



14½-inch Toolroom Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 14½-inch Toolroom Lathe with full quick change gear equipment, as illustrated above, is the result of thirty-six years of experience in building fine lathes. The workmanship and materials are the best that can be obtained, and the highest standards of accuracy are maintained throughout its manufacture. See page 11 for specifications.

The Underneath Motor Drive is especially desirable for Toolroom Lathes. This fully enclosed drive provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops smooth power, free from gear vibration.

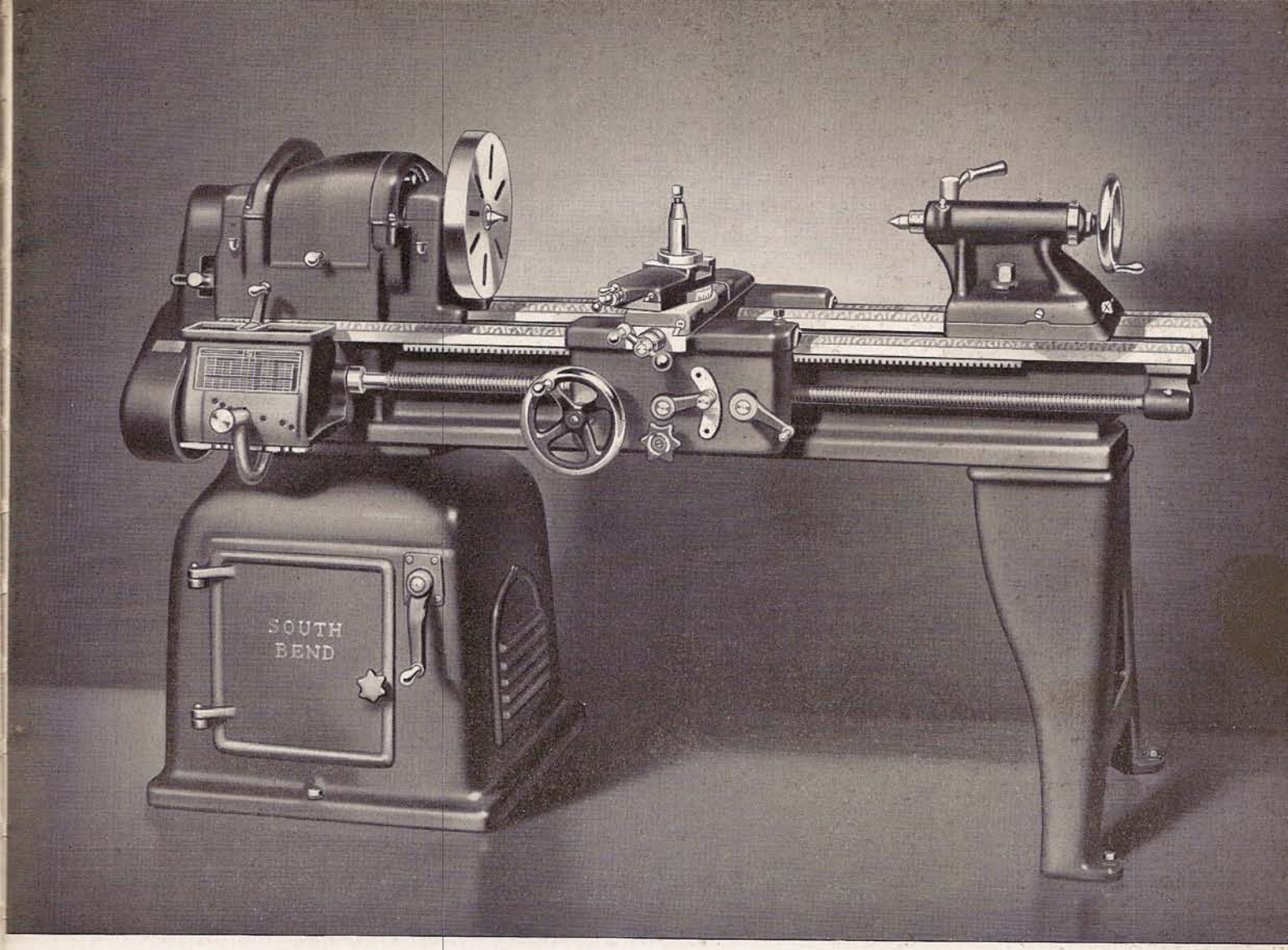
Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened, ground, and superfinished; improved headstock bearings; double wall apron with steel gears and multiple disc friction clutch for operating automatic cross-feeds and automatic longitudinal feeds; easy reading micrometer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

Toolroom Attachments included in price of this lathe consist of: handwheel type draw-in collet attachment (without collets); collet rack; telescopic taper attachment; thread dial indicator; chip pan; and micrometer carriage stop.

Regular Equipment included in price of lathe consists of: 3 V-belts; flat leather belt; large and small face plates; forged steel heat-treated tool post; adjustable thread cutting stop; tool steel centers for headstock and tailstock spindles; headstock spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Motor and control are not included in the price of the lathe. See page 48.

14½-inch Underneath Motor Driven Toolroom Lathes

Bed Length	6-ft.	7-ft.	8-ft.
Catalog Number	8183-C	8183-D	8183-E
Distance Between Centers	36½-in.	48½-in.	60½-in.
Size Motor Required (See Page 48)	1½ h.p.	1½ h.p.	1½ h.p.
Shipping Weight, Crated	2255 lbs.	2330 lbs.	2405 lbs.
Code Word	Cwcak	Cwcen	Cwcis



14½-inch Quick Change Gear Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 14½-inch Quick Change Gear Lathe is popular for both production operations and toolroom work. The full quick change gear box provides an unusually wide range of screw threads and power feeds.

The Underneath Motor Drive is entirely self-contained and fully enclosed. It provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops smooth, steady power, entirely free from gear vibration.

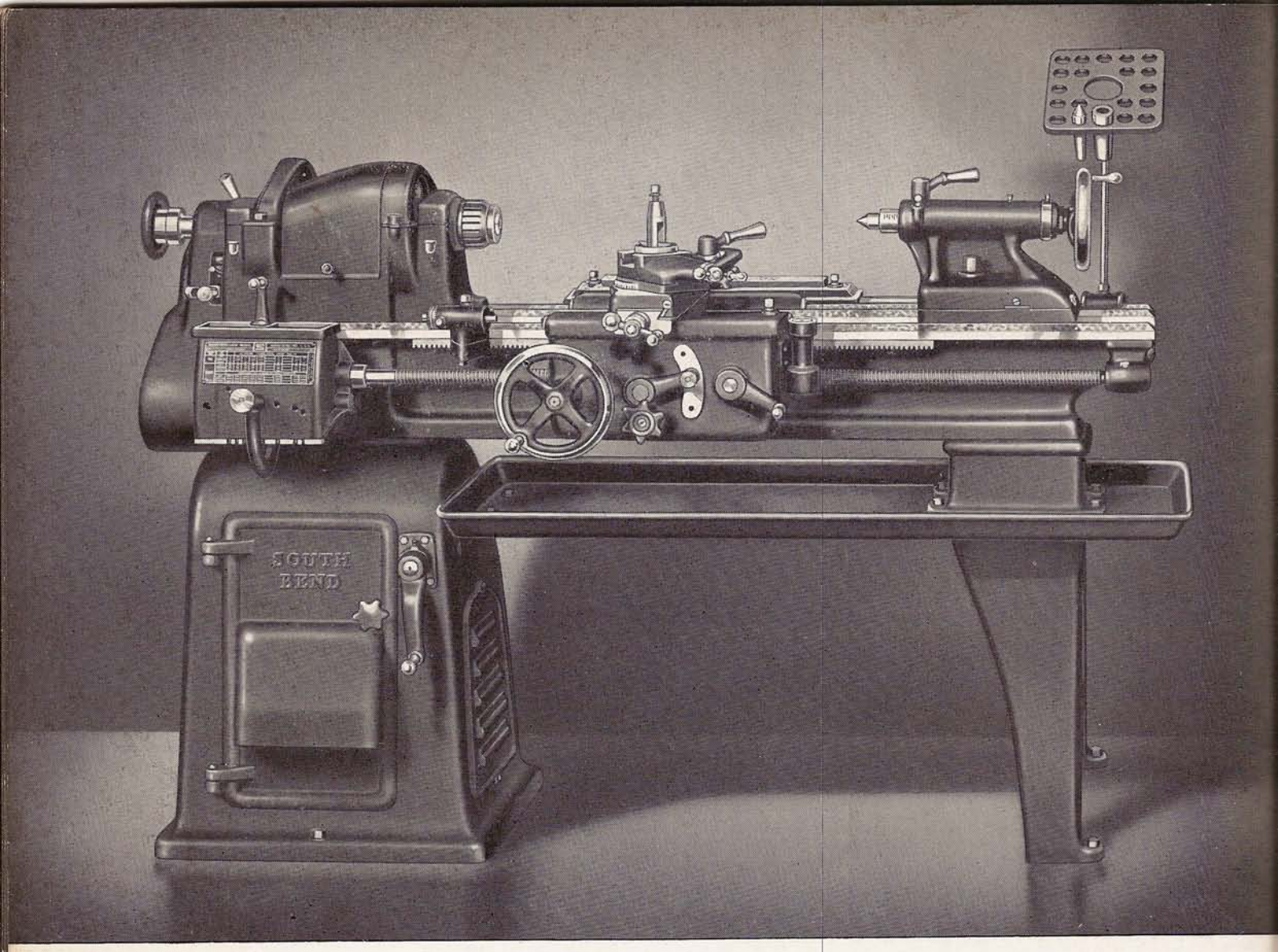
Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened, ground, and superfinished; improved headstock bearings; double wall apron with steel gears and multiple disc friction clutch for operating automatic cross-feeds and automatic longitudinal feeds; easy reading micrometer graduated collars; and semi-steel lathe bed. See page 11 for complete specifications.

Standard Extras and Purchased Extras for this lathe are shown in the back of catalog. These attachments and accessories greatly increase the usefulness of the lathe. Most of the attachments may be purchased either with the lathe or later.

Regular Equipment included in price of lathe consists of: 3 V-belts; flat leather belt; large and small face plates; forged steel heat-treated tool post; adjustable thread cutting stop; No. 3 Morse taper tool steel centers for headstock and tailstock spindles; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Motor and control are not included in price of lathe. See page 48.

14½-inch Quick Change Gear Underneath Motor Driven Lathes

Bed Length	5-ft.	6-ft.	7-ft.	8-ft.	10-ft.
Catalog Number	183-B	183-C	183-D	183-E	183-G
Distance Between Centers	24½-in.	36½-in.	48½-in.	60½-in.	84½-in.
Size Motor Required (See Page 48)	1½ h.p.	1½ h.p.	1½ h.p.	1½ h.p.	1½ h.p.
Shipping Weight, Crated	1995 lbs.	2070 lbs.	2145 lbs.	2225 lbs.	2390 lbs.
Code Word	Cwbas	Cwbek	Cwbim	Cwbox	Cwbug



13-inch Toolroom Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 13-inch Toolroom Lathe with full quick change gear equipment, as illustrated above, is the result of thirty-six years of experience in building fine lathes. The workmanship and materials are the best that can be obtained, and the highest standards of accuracy are maintained throughout its manufacture. See page 11 for specifications.

The Underneath Motor Drive is especially desirable for Toolroom Lathes. This fully enclosed drive provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops smooth power, free from gear vibration.

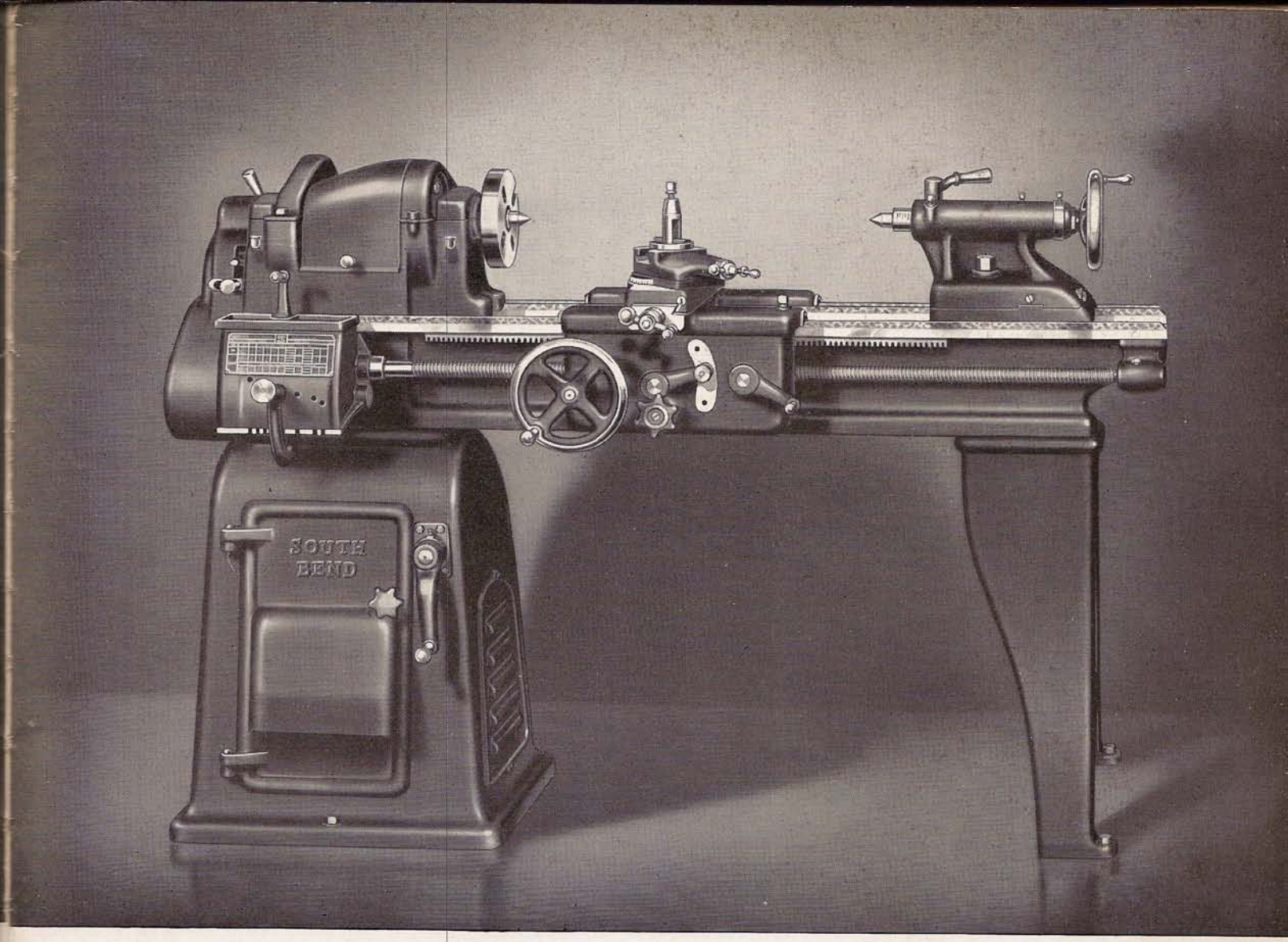
Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened, ground, and superfinished; improved headstock bearings; double wall apron with steel gears and multiple disc friction clutch for operating automatic cross-feeds and automatic longitudinal feeds; easy reading micrometer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

Toolroom Attachments included in price of this lathe consist of: handwheel type draw-in collet attachment (without collets); collet rack; telescopic taper attachment; thread dial indicator; chip pan; and micrometer carriage stop.

Regular Equipment included in price of lathe consists of: 2 V-belts; flat leather belt; large and small face plates; forged steel heat-treated tool post; adjustable thread cutting stop; tool steel centers for headstock and tailstock spindles; headstock spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Motor and control are not included in the price of the lathe. See page 48.

13-inch Underneath Motor Driven Toolroom Lathes

Bed Length	5-ft.	6-ft.	7-ft.
Catalog Number	8113-B	8113-C	8113-D
Distance Between Centers	28-in.	40-in.	52-in.
Size Motor Required (See Page 48)	1 h.p.	1 h.p.	1 h.p.
Shipping Weight, Crated	1665 lbs.	1715 lbs.	1770 lbs.
Code Word	Gykab	Gyken	Gykic



13-inch Quick Change Gear Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 13-inch Quick Change Gear Lathe is popular for both production operations and toolroom work. The full quick change gear box provides an unusually wide range of screw threads and power feeds.

The Underneath Motor Drive is entirely self-contained and fully enclosed. It provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops smooth, steady power, entirely free from gear vibration.

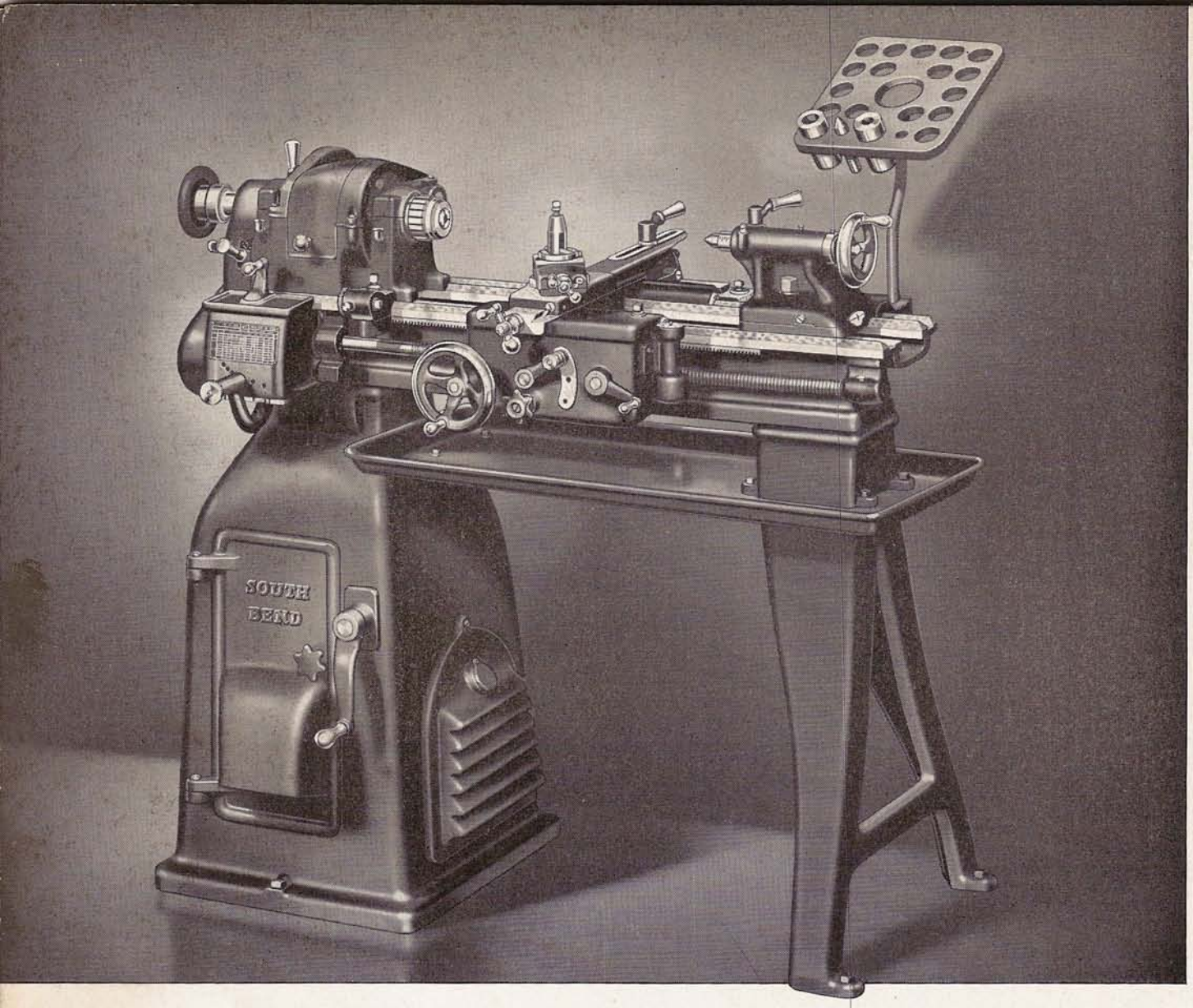
Improved Features of lathe include: alloy steel headstock spindle, carburized, hardened, ground, and superfinished; improved headstock bearings; double wall apron with steel gears and multiple disc friction clutch for operating automatic cross-feeds and automatic longitudinal feeds; easy reading micrometer graduated collars; and semi-steel lathe bed. See page 11 for complete specifications.

Standard Extras and Purchased Extras for this lathe are shown in the back of catalog. These attachments and accessories greatly increase the usefulness of the lathe. Most of the attachments may be purchased either with the lathe or later.

Regular Equipment included in price of lathe consists of: 2 V-belts; flat leather belt; large and small face plates; forged steel heat-treated tool post; adjustable thread cutting stop; No. 3 Morse taper tool steel centers for headstock and tailstock spindles; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Motor and control are not included in price of lathe. See page 48.

13-inch Quick Change Gear Underneath Motor Driven Lathes

Bed Length	4-ft.	5-ft.	6-ft.	7-ft.
Catalog Number	113-A	113-B	113-C	113-D
Distance Between Centers	16-in.	28-in.	40-in.	52-in.
Size Motor Required (See Page 48)	1 h.p.	1 h.p.	1 h.p.	1 h.p.
Shipping Weight, Crated	1460 lbs.	1510 lbs.	1560 lbs.	1615 lbs.
Code Word	Gygac	Gygem	Gygis	Gygot



10-inch Toolroom Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 10-inch Toolroom Lathe is made in two types: "1" Collet" and "Regular". The 10-inch 1" **Collet** Toolroom Lathe has twelve spindle speeds and is equipped with a special headstock having 1 3/8" spindle hole which provides 1" maximum collet capacity. The 10-inch **Regular** Toolroom Lathe has six spindle speeds and is equipped with a headstock having 1" spindle hole which provides 11/16" maximum collet capacity. See page 11 for specifications.

Toolroom Attachments included in price of lathe consist of: handwheel type draw-in collet chuck attachment (without collets); collet rack; telescopic taper attachment; thread dial indicator; chip pan; and micrometer carriage stop.

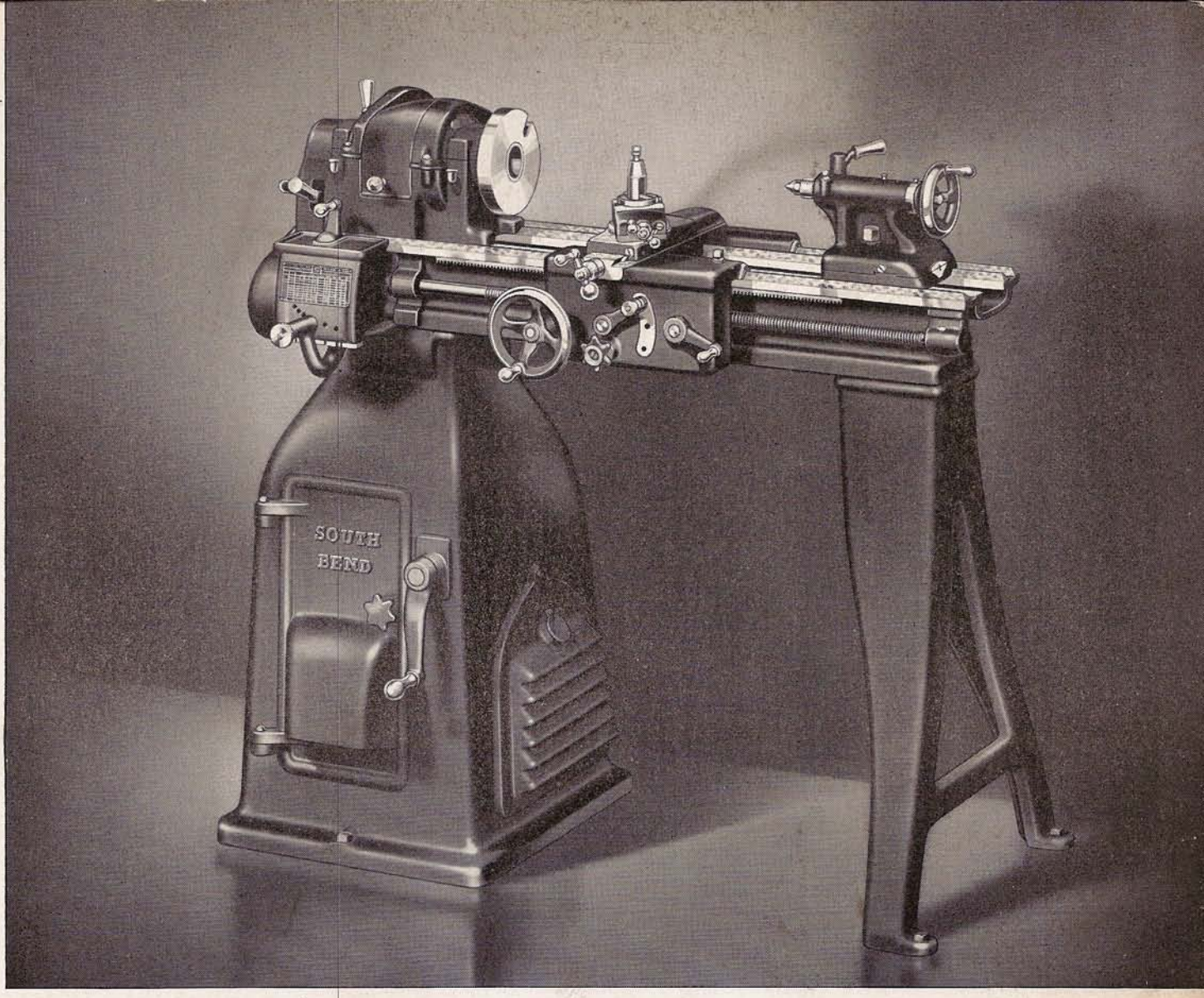
Regular Equipment included in price of lathe consists of: V-belt; flat leather belt; large and small face plates; forged steel tool post; adjustable thread cutting stop; tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe". Motor and control are not included in price of lathe. See page 48.

10-inch 1" Collet Toolroom Lathes
With Underneath Motor Drive and Floor Legs

Bed Lengths	3-ft.	3½-ft.	4-ft.
Catalog Number	8187-Y	8187-Z	8187-A
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.
Size Motor Required (See Page 48)	¾ h.p.	¾ h.p.	¾ h.p.
Shipping Weight, Crated	935 lbs.	960 lbs.	985 lbs.
Code Word	Jyrab	Jyrek	Jyric

10-inch Regular Toolroom Lathes—11/16" Collet Capacity
With Underneath Motor Drive and Floor Legs

Bed Lengths	3-ft.	3½ ft.	4 ft.
Catalog Number	8199-Y	8199-Z	8199-A
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	915 lbs.	940 lbs.	965 lbs.
Code Word	Kwcak	Kwces	Kwcix



10-inch Quick Change Gear Precision Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 10-inch Quick Change Gear Lathe is made in two types: "1" Collet" and "Regular". The 10-inch 1" **Collet** Lathe has twelve spindle speeds and is equipped with a special headstock having $1\frac{3}{8}$" spindle hole which provides 1" maximum collet capacity. The 10-inch **Regular** Lathe has six spindle speeds and is equipped with a headstock having 1" spindle hole which provides $\frac{11}{16}$" maximum collet capacity. See page 11 for specifications.

Standard Extras and Purchased Extras for these lathes are shown in the back of this catalog. These attachments and accessories greatly increase the usefulness of the lathes. Most attachments may be purchased either with the lathe or later.

Regular Equipment included in price of lathe consists of: V-belt; flat leather belt; large and small face plates; forged steel tool post; adjustable thread cutting stop; tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe". Motor and control are not included in price of lathe. See page 48.

10-inch 1" Collet Quick Change Gear Lathes With Underneath Motor Drive and Floor Legs

Bed Lengths	3-ft.	3½-ft.	4-ft.	4½-ft.
Catalog Number	187-Y	187-Z	187-A	187-R
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.	33¾-in.
Size Motor Required (See Page 48)	¾ h.p.	¾ h.p.	¾ h.p.	¾ h.p.
Shipping Weight, Crated	810 lbs.	835 lbs.	860 lbs.	885 lbs.
Code Word	Jysac	Jyseh	Jysim	Jysor

10" Regular Quick Change Gear Lathes—$\frac{11}{16}$" Collet Capacity With Underneath Motor Drive and Floor Legs

Bed Lengths	3-ft.	3½-ft.	4-ft.	4½-ft.
Catalog Number	199-Y	199-Z	199-A	199-R
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.	33¾-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	790 lbs.	815 lbs.	840 lbs.	865 lbs.
Code Word	Kwbex	Kwbic	Kwbon	Kwbur

10-inch Toolroom Precision Bench Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 10-inch Toolroom Bench Lathe is made in two types: "1" Collet" and "Regular". The 10-inch 1" **Collet** Toolroom Lathe has twelve spindle speeds and is equipped with a special headstock having $1\frac{3}{8}$" spindle hole which provides 1" maximum collet capacity. The 10-inch **Regular** Toolroom Lathe has six spindle speeds and is equipped with a headstock having 1" spindle hole which provides $\frac{11}{16}$" maximum collet capacity. See page 11 for specifications.

Toolroom Attachments included in the price of lathe consist of: handwheel type draw-in collet chuck attachment (without collets); collet rack; telescopic taper attachment; thread dial indicator and micrometer carriage stop.

Regular Equipment included in price of lathe consists of: V-belt; flat leather belt; large and small face plates; forged steel tool post; adjustable thread cutting stop; tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe". Steel bench, motor, and control are not included in price. See page 48.

10-inch 1" Collet Toolroom Bench Lathes With Underneath Motor Drive and Bench Legs

Bed Lengths	3-ft.	3½-ft.	4-ft.
Catalog Number	8187-YN	8187-ZN	8187-AN
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.
Size Motor Required (See Page 48)	¾ h.p.	¾ h.p.	¾ h.p.
Shipping Weight, (Crated with Bench)	960 lbs.	990 lbs.	1060 lbs.
Code Word	Jywak	Jywec	Jywin

10-inch Regular Toolroom Bench Lathes—$\frac{11}{16}$" Collet Capacity With Underneath Motor Drive and Bench Legs

Bed Lengths	3-ft.	3½-ft.	4-ft.
Catalog Number	8199-YN	8199-ZN	8199-AN
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, (Crated with Bench)	940 lbs.	970 lbs.	1040 lbs.
Code Word	Kwgac	Kwgek	Kwgin

Steel Bench for Above Lathes

Bed Lengths	3-ft.	3½-ft.	4-ft.
Catalog Number	1795	1795	1796
Code Word	Pavom	Pavom	Paveq

10-inch Quick Change Gear Precision Bench Lathe

Underneath Motor Drive—Back-Geared—Belt Drive to Spindle

The 10-inch Quick Change Gear Bench Lathe is made in two types: "1" Collet" and "Regular". The 10-inch 1" **Collet** Lathe has twelve spindle speeds and is equipped with a special headstock having $1\frac{3}{8}$" spindle hole which provides 1" maximum collet capacity. The 10-inch **Regular** Lathe has six spindle speeds and is equipped with a headstock having 1" spindle hole which provides $\frac{11}{16}$" maximum collet capacity. See page 11 for specifications.

Standard Extras and Purchased Extras for these lathes are shown in the back of this catalog. These attachments and accessories greatly increase the usefulness of the lathes. Most attachments may be purchased either with the lathe or later.

Regular Equipment included in price of lathe consists of: V-belt; flat leather belt; large and small face plates; forged steel tool post; adjustable thread cutting stop; tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe". Steel bench, motor, and control are not included in the price. See page 48.

10-inch 1" Collet Quick Change Gear Bench Lathes
With Underneath Motor Drive and Bench Legs

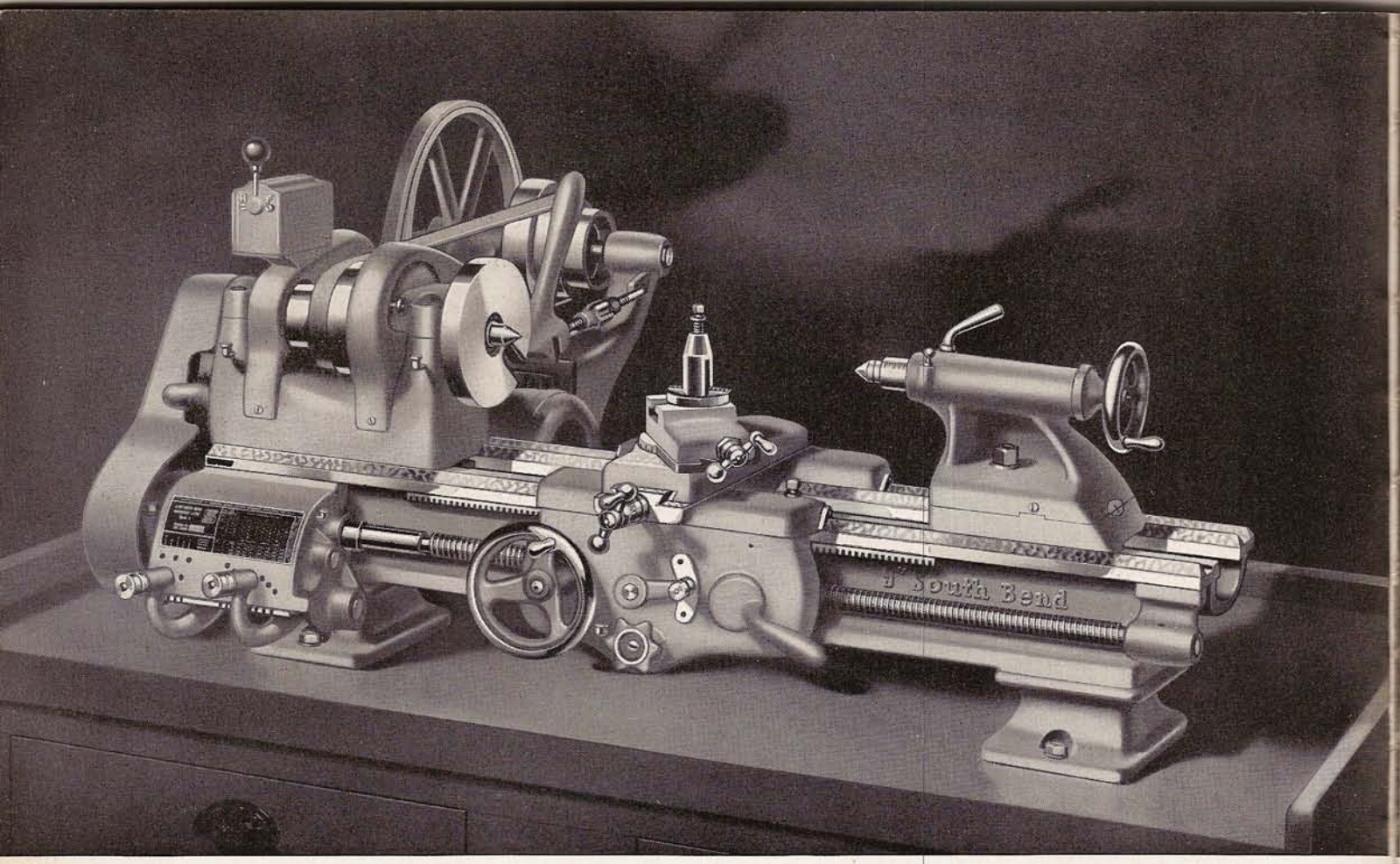
Bed Lengths	3-ft.	3½-ft.	4-ft.	4½-ft.
Catalog Number	187-YN	187-ZN	187-AN	187-RN
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.	33¾-in.
Size Motor Required (See Page 48)	¾ h.p.	¾ h.p.	¾ h.p.	¾ h.p.
Shipping Weight, (Crated with Bench)	850 lbs.	880 lbs.	950 lbs.	980 lbs.
Code Word	Jytah	Jyten	Jytis	Jytob

10-inch Regular Quick Change Gear Bench Lathes
$\frac{11}{16}$" Collet Capacity
With Underneath Motor Drive and Bench Legs

Bed Lengths	3-ft.	3½-ft.	4-ft.	4½-ft.
Catalog Number	199-YN	199-ZN	199-AN	199-RN
Distance Between Centers	15¾-in.	20¾-in.	26¾-in.	33¾-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, (Crated with Bench)	830 lbs.	860 lbs.	930 lbs.	960 lbs.
Code Word	Kwdam	Kwdec	Kwdir	Kwdox

Steel Bench for Above Lathes

Bed Lengths	3-ft.	3½-ft.	4-ft.	4½-ft.
Catalog Number	1795	1795	1796	1796
Code Word	Pavom	Pavom	Paveq	Paveq



9-inch Model A South Bend Precision Bench Lathe

Horizontal Motor Drive—Quick Change Gear—Belt Drive to Spindle Power Longitudinal Feeds and Power Cross-Feeds

The 9-inch Model A South Bend Lathes are precision tools, capable of machining work to the exacting tolerances demanded in modern industry. They are recommended for the production of small accurate parts in the manufacturing plant, for precision work in the toolroom, for general use in the machine shop, laboratory, and shops of all kinds engaged in the machining of steel, cast iron, bronze, tool steel, fibre, plastics, and similar materials. See page 11 for complete specifications.

Convenience and Ease of Operation are assured by the simple, practical design of these lathes. Well placed controls, large easy reading micrometer dials, lever reverse for threads and feeds, graduated compound rest, wrenchless bull gear lock, large handwheels, and other features save time and effort.

The Quick Change Gear Box provides for cutting right and left-hand screw threads from 4 to 224 per inch. Power longitudinal feeds .0015″ to .0853″ and power cross-feeds .0004″ to .0252″ are also obtained through the gear box. See page 23.

The Automatic Apron has a smooth operating worm drive and friction clutch which permits engaging or disengaging the power cross-feed or the power longitudinal feed instantly. See page 25.

Drive Equipment consists of: horizontal motor drive unit; motor pulley with ½″ hole; V-belt; flat leather belt and lacing. Motor and control are extra, see page 48. This lathe is also made with Twelve-Speed Drive and Underneath Motor Drive as shown on pages 28 and 29.

Regular Equipment included in price consists of: full automatic apron; quick change gear box; graduated compound rest; face plate, tool post; two 60-degree centers; spindle sleeve; wrenches; installation plan, and book "How to Run a Lathe". Bench is not included in price of lathe.

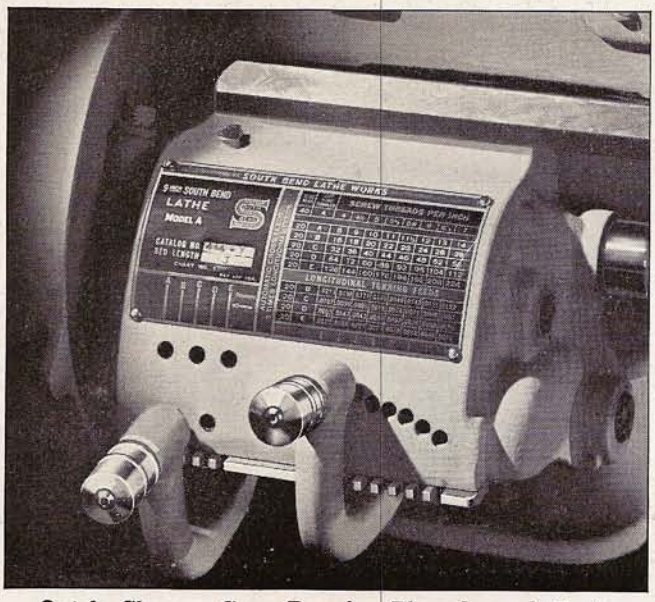
9-inch Model A
Horizontal Motor Driven Bench Lathes—less Bench

Bed Lengths	3-ft.	3½-ft.*	4-ft.*	4½-ft.
Catalog Number	444-Y	444-Z	444-A	444-R
Distance Between Centers	16-in.	22-in.	28-in.	34-in.
Size Motor Required (See P. 48)	¼ h.p.	¼ h.p.	¼ h.p.	¼ h.p.
Shipping Weight, Crated	340 lbs.	365 lbs.	390 lbs.	415 lbs.
Code Word	Vuwab	Vuweh	Vuwim	Vuwos

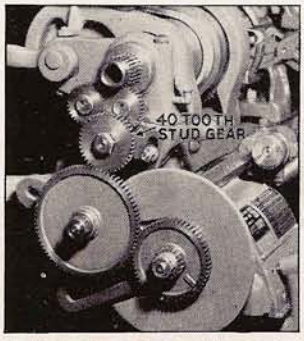
*NOTE—The 3½′ and 4′ bed lengths, because of the greater distance between centers, are recommended for general machine work.

Special Features of Model A 9-inch Lathes

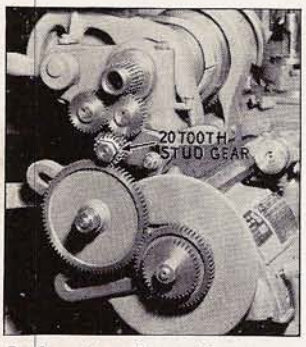
The Model A 9-inch South Bend Precision Lathe is equipped with the quick change gear box described below, also the automatic apron which is illustrated and described on page 25. Except for these special features, the Model A Lathes are similar to the Model B and Model C Lathes, shown on pages 24 and 26.



Quick Change Gear Box for Threads and Feeds Supplied as Standard Equipment on All Model A 9-inch Lathes



Lathe set up for cutting screw threads 4 to 7 per inch using 40-tooth stud gear



Lathe set up for cutting screw threads 8 to 224 per inch using 20-tooth stud gear

Threads and Feeds Instantly Available Through Gear Box

The quick change gear box supplied on Model A 9-inch Lathes is illustrated at the left. Changes for the various screw threads and power feeds are made by shifting the two levers on the front of the gear box. All gears in this gear box are made of steel and are precision cut and tested for accuracy.

Screw threads which may be cut range from 4 to 224 per inch right or left-hand, as listed on the index chart. Screw threads from 8 to 224 per inch are instantly available by shifting the levers on the gear box. Coarse pitch screw threads ranging from 4 to 7 per inch are obtained by replacing the 20-tooth stud gear with a 40-tooth stud gear. Both the 20-tooth and the 40-tooth stud gears are supplied with the gear box as regular equipment.

Power longitudinal feeds obtained through the gear box range from .0015″ to .0853″ per revolution of the spindle and are also listed on the index chart. The power cross-feeds are .3 times the longitudinal feeds, or .0004″ to .0252″ per revolution of the spindle.

A direct reading index chart attached to the gear box shows the arrangement of the levers for the various threads and feeds. Changes may be made with the lathe in operation, as it is impossible to place the levers in any position which will lock the gears.

Below—Direct Reading Index Chart for Quick Change Gear Box Shows Screw Threads and Power Longitudinal Turning Feeds Available on Model A 9-inch Lathes

MANUFACTURED BY **SOUTH BEND LATHE WORKS** SOUTH BEND, IND., U.S.A.

9-INCH SOUTH BEND LATHE
Model A

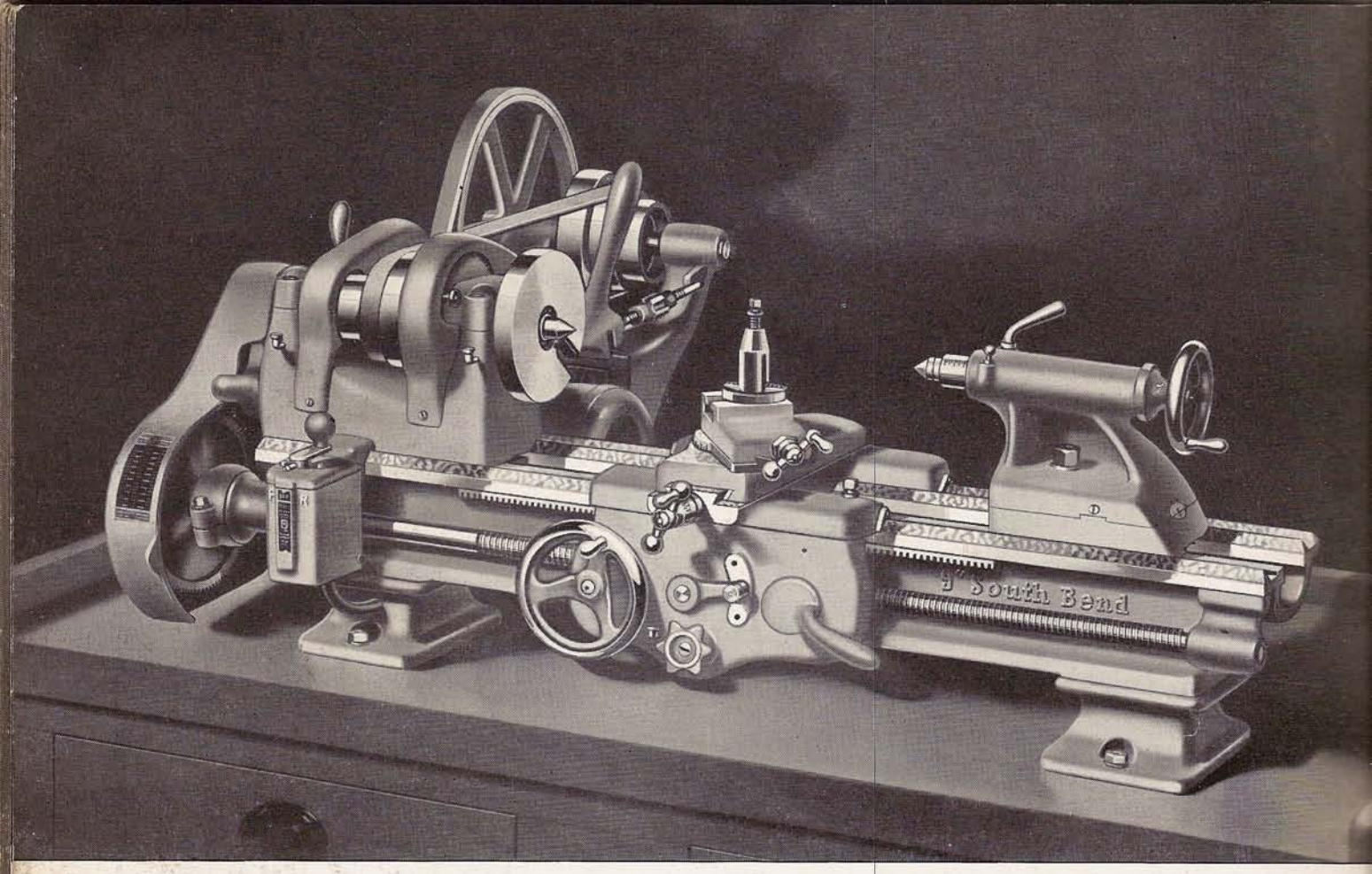
TRADE MARK — SOUTH BEND TWINS — ENGINE LATHES

CATALOG NO. _____
BED LENGTH _____
PAT. APP. FOR

A B C D E — Left Hand Tumbler Positions

STUD GEAR	LEFT HAND TUMBLER	THREADS PER INCH / FEEDS IN THOUSANDTHS							
40	A	4 .0853	4½ .0758	5 .0683	5½ .0621	5¾ .0594	6 .0569	6½ .0525	7 .0488
20	A	8 .0427	9 .0379	10 .0341	11 .0310	11½ .0297	12 .0284	13 .0263	14 .0244
20	B	16 .0213	18 .0190	20 .0171	22 .0155	23 .0148	24 .0142	26 .0131	28 .0122
20	C	32 .0107	36 .0095	40 .0085	44 .0078	46 .0074	48 .0071	52 .0066	56 .0061
20	D	64 .0053	72 .0047	80 .0043	88 .0039	92 .0037	96 .0036	104 .0033	112 .0030
20	E	128 .0027	144 .0024	160 .0021	176 .0019	184 .0019	192 .0018	208 .0016	224 .0015

AUTOMATIC CROSS FEEDS .3 TIMES LONGITUDINAL FEEDS



9-inch Model B South Bend Precision Bench Lathe

Horizontal Motor Drive—Plain Change Gear—Belt Drive to Spindle Power Longitudinal Feeds and Power Cross-Feeds

The 9-inch Model B South Bend Lathes are precision tools, capable of machining work to the exacting tolerances demanded in modern industry. They are recommended for the production of small accurate parts in the manufacturing plant, for precision work in the toolroom, for general use in the machine shop, laboratory, and shops of all kinds engaged in the machining of steel, cast iron, bronze, tool steel, fibre, plastics, and similar materials. See page 11 for complete specifications.

Convenience and Ease of Operation are assured by the simple, practical design of these lathes. Well placed controls, large easy reading micrometer dials, lever reverse for threads and feeds, graduated compound rest, wrenchless bull gear lock, large handwheels, and other features save time and effort.

Change Gears provide for cutting right and left-hand screw threads from 4 to 160 per inch. Power longitudinal feeds .0021″ to .0155″ and power cross-feeds .001″ to .0046″ are also obtained through the change gears. See page 25.

The Automatic Apron has a smooth operating worm drive and friction clutch which permits engaging or disengaging the power cross-feed or the power longitudinal feed instantly. See page 25.

Drive Equipment consists of: horizontal motor drive unit; motor pulley with ½″ hole; V-belt; flat leather belt and lacing. Motor and control are extra, see page 48. This lathe is also made with Twelve-Speed Drive and Underneath Motor Drive, as shown on pages 28 and 29.

Regular Equipment included in price consists of: full automatic apron; set of change gears; graduated compound rest; face plate; tool post; two 60-degree centers; spindle sleeve; wrenches; installation plan; and book "How to Run a Lathe". Bench is not included in price of lathe.

9-inch Model B
Horizontal Motor Driven Bench Lathes—less Bench

Bed Lengths	3-ft.	3½-ft.*	4-ft.*	4½-ft.
Catalog Number	477-Y	477-Z	477-A	477-R
Distance Between Centers	16-in.	22-in.	28-in.	34-in.
Size Motor Required (See P. 48)	¼ h.p.	¼ h.p.	¼ h.p.	¼ h.p.
Shipping Weight, Crated	330 lbs.	355 lbs.	380 lbs.	405 lbs.
Code Word	Rzmab	Rzmeh	Rzmis	Rzmox

*NOTE—The 3½′ and 4′ bed lengths, because of the greater distance between centers, are recommended for general machine work.

Special Features of Model B 9-inch Lathes

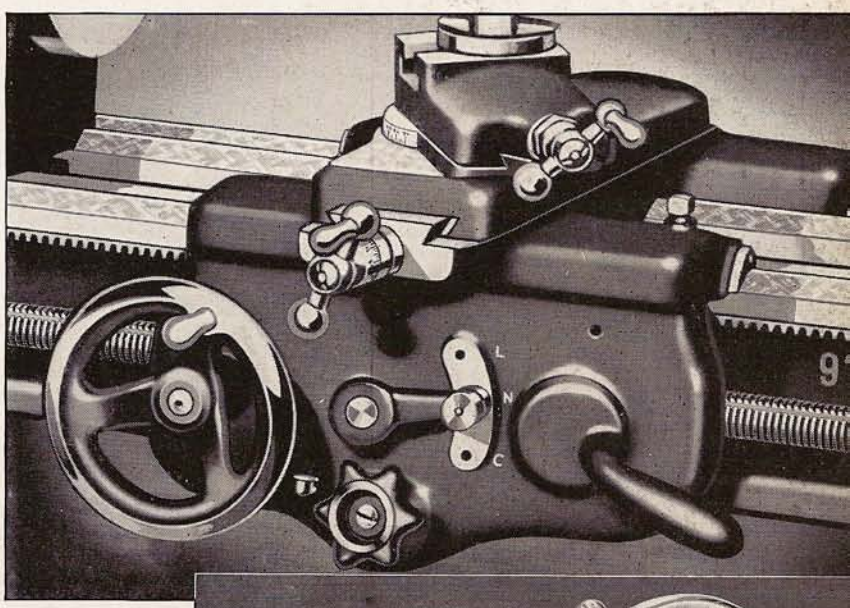
The Model B 9-inch South Bend Precision Lathe is equipped with an automatic apron having worm drive and friction clutch for operating the automatic power cross-feeds and longitudinal feeds, as described below. This apron is also used on all Model A Lathes. The Model B Lathes are the same as the Model A Lathes, except that they have plain change gear equipment instead of the quick change gear box.

Friction Clutch Drive for Power Cross-Feed and Power Longitudinal Feed

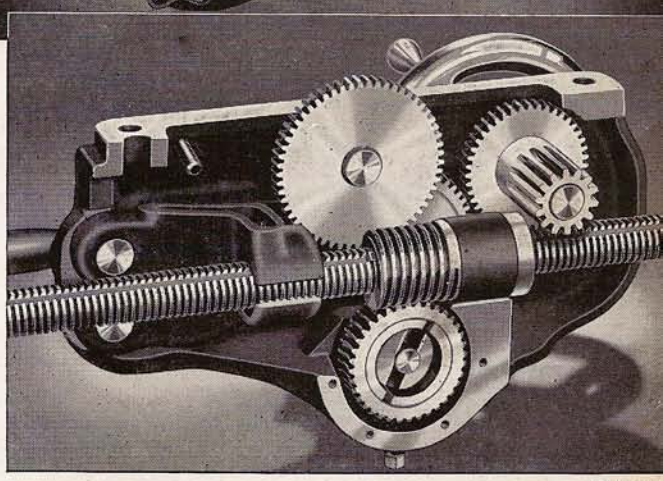
The full automatic apron shown at the right is supplied with all Model B Plain Change Gear Type South Bend 9-inch Lathes, also all Model A Lathes.

This apron is equipped with a powerful worm drive and friction clutch for operating both the automatic power cross-feeds and the automatic power longitudinal feeds. The friction clutch drive permits engaging or disengaging instantly either the power cross-feed or power longitudinal feed.

Plain change gear equipment is supplied for changing threads and feeds on Model B Lathes. The power cross-feeds range from .001″ to .0046″, and the power longitudinal feeds range from .0021″ to .0155″, as listed on the Index Chart below. Screw threads ranging from 4 to 160 per inch are also shown on this chart. See page 27 for description of plain change gear equipment.



Above—
Automatic Apron for Model B, and Model A 9″ Lathes



Right—
Interior View of Apron for Model B, and Model A 9″ Lathes

(Patented)

CHART FOR THREADS AND FEEDS
9-INCH MODEL B LATHE

THREADS PER INCH	STUD GEAR	IDLER GEARS	SCREW GEAR	CROSS FEEDS	LONG. FEEDS
4	24	FIG. 1	48		
4½	24	FIG. 1	54		
5	16	FIG. 1	40		
5½	16	FIG. 1	44		
6	16	FIG. 1	48		
6½	16	FIG. 1	52		
7	16	FIG. 1	56		
7½	16	FIG. 1	60		
8	32	FIG. 2	32		
9	32	FIG. 2	36		
10	32	FIG. 2	40		
11	32	FIG. 2	44		
11½	32	FIG. 2	46		
12	32	FIG. 2	48		
13	32	FIG. 2	52		
14	32	FIG. 2	56		
16	24	FIG. 2	48		
18	24	FIG. 2	54		
20	16	FIG. 2	40		
22	16	FIG. 2	44	.0046	.0155
24	16	FIG. 2	48	.0042	.0142
26	16	FIG. 2	52	.0039	.0131
27	16	FIG. 2	54	.0037	.0126
28	16	FIG. 2	56	.0036	.0122
30	16	FIG. 2	60	.0034	.0114
32	32	FIG. 3	32	.0031	.0107
36	32	FIG. 3	36	.0028	.0095
40	32	FIG. 3	40	.0025	.0085
44	32	FIG. 3	44	.0023	.0078
46	32	FIG. 3	45	.0022	.0074
48	32	FIG. 3	48	.0021	.0071
52	32	FIG. 3	52	.0019	.0066
54	32	FIG. 3	54	.0019	.0063
56	32	FIG. 3	56	.0018	.0061
60	32	FIG. 3	60	.0017	.0057
64	16	FIG. 3	32	.0016	.0053
72	16	FIG. 3	36	.0014	.0047
80	16	FIG. 3	40	.0013	.0043
88	16	FIG. 3	44	.0011	.0039
92	16	FIG. 3	46	.0011	.0037
96	16	FIG. 3	48	.0010	.0036
104	16	FIG. 3	52	.0010	.0033
112	16	FIG. 3	56		.0030
120	16	FIG. 3	60		.0028
160	16	FIG. 4	80		.0021

AUTOMATIC POWER FEEDS THROUGH FRICTION CLUTCH IN INCHES PER REVOLUTION OF HEADSTOCK SPINDLE

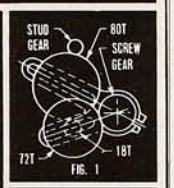


FIG. 1

FIG. 2

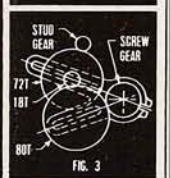


FIG. 3

FIG. 4

Index Chart Showing Threads and Feeds on Model B 9-inch Lathe

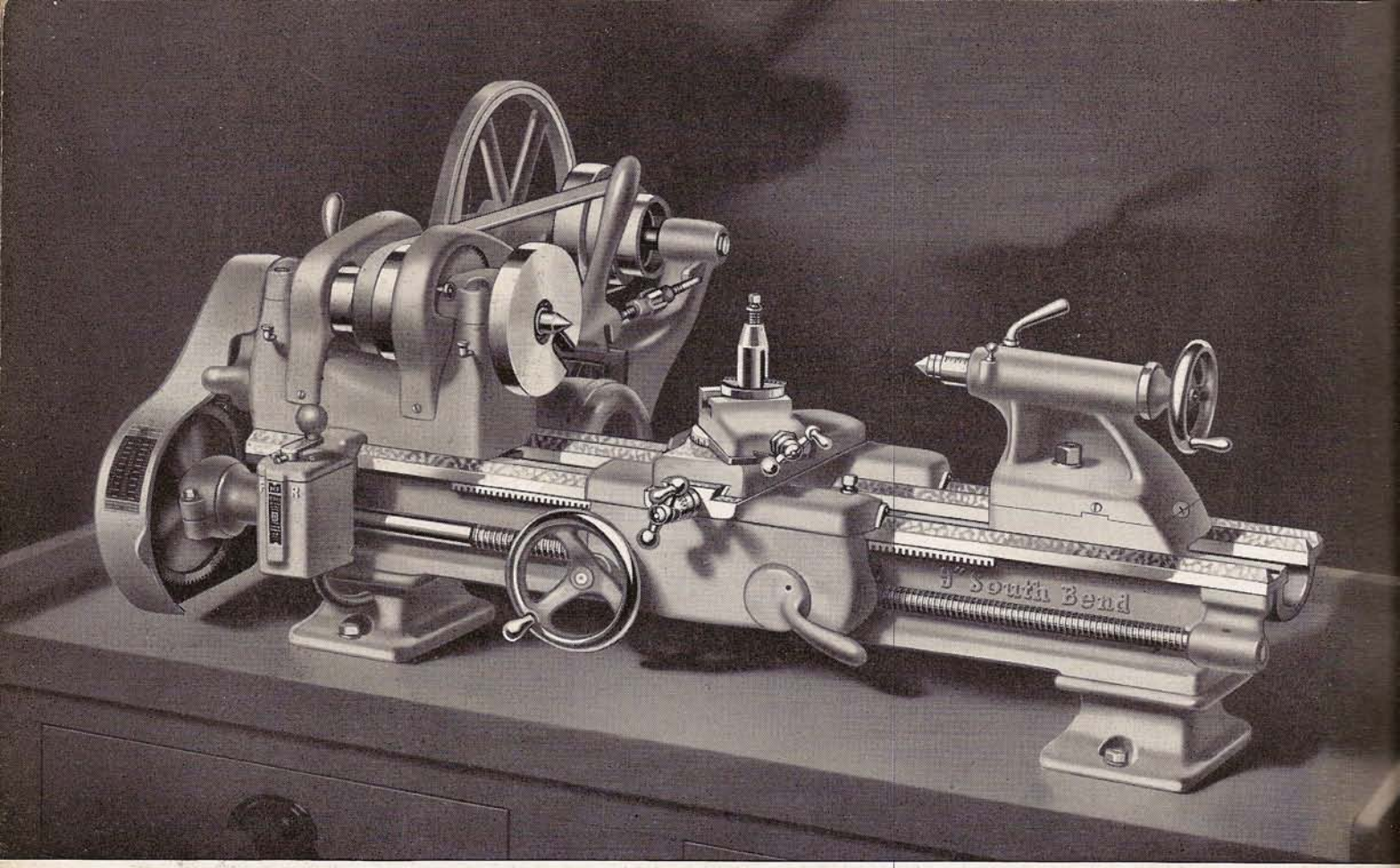
Worm Drive Operates Power Feeds

The power cross-feeds and power longitudinal feeds are both operated by a worm which is driven by a spline in the lead screw. The threads of the lead screw and the half-nuts are used only when cutting screw threads and not for automatic turning feeds.

The feed change knob on the front of the apron has three positions: top for the automatic power longitudinal feeds; center for a neutral position; and bottom for the automatic power cross-feeds. It is impossible to engage both feeds at the same time.

All gears in the apron are made of steel and the gear teeth are cut from the solid on precision gear hobbing machines. The worm wheel and clutch for driving the power feeds operate in a bath of oil. See illustration above.

An automatic safety interlock prevents engaging half-nuts when the automatic friction clutch feeds are in operation. The half-nuts are used only for thread cutting and are operated by the lever located on the right side of the apron.



9-inch Model C South Bend Precision Bench Lathe

Horizontal Motor Drive—Plain Change Gear—Belt Drive to Spindle Power Longitudinal Feeds and Hand Cross-Feed

The 9-inch Model C South Bend Lathes are precision tools, capable of machining work to the exacting tolerances demanded in modern industry. They are recommended for the production of small, accurate parts in the manufacturing plant, for precision work in the toolroom, for general use in the machine shop, laboratory, and shops of all kinds engaged in the machining of steel, cast iron, bronze, tool steel, fibre, plastics, and similar materials. See page 11 for complete specifications.

Convenience and Ease of Operation are assured by the simple, practical design of these lathes. Well placed controls, large easy reading micrometer dials, lever reverse for threads and feeds, graduated compound rest, wrenchless bull gear lock, large handwheels, and other features save time and effort.

Change Gears provide for cutting right and left-hand screw threads from 4 to 160 per inch. Power longitudinal feeds are obtained by engaging the half-nuts with the lead screw. The feeds range from .0021″ to .0156″ depending on the arrangement of the change gears. The cross-feed is operated by hand. See page 27.

Drive Equipment consists of: horizontal motor drive unit; motor pulley with ½″ hole; V-belt; flat leather belt and lacing. Motor and control are extra, see page 48. This lathe is also made with Twelve-Speed Drive and Underneath Motor Drive, as shown on pages 28 and 29.

Regular Equipment included in price consists of: plain apron; set of change gears; graduated compound rest; face plate; tool post, two 60-degree centers; spindle sleeve; wrenches; installation plan; and book "How to Run a Lathe". Bench is not included in price of lathe.

9-inch Model C

Horizontal Motor Driven Bench Lathes—less Bench

Bed Lengths	3-ft.	3½-ft.*	4-ft.*	4½-ft.
Catalog Number	415-YC	415-ZC	415-AC	415-RC
Distance Between Centers	16-in.	22-in.	28-in.	34-in.
Size Motor Required (See P. 48)	¼ h.p.	¼ h.p.	¼ h.p.	¼ h.p.
Shipping Weight, Crated	320 lbs.	345 lbs.	370 lbs.	395 lbs.
Code Word	Lywas	Lywec	Lywih	Lywon

*NOTE—The 3½′ and 4′ bed lengths, because of the greater distance between centers, are recommended for general machine work.

Special Features of Model C 9-inch Lathes

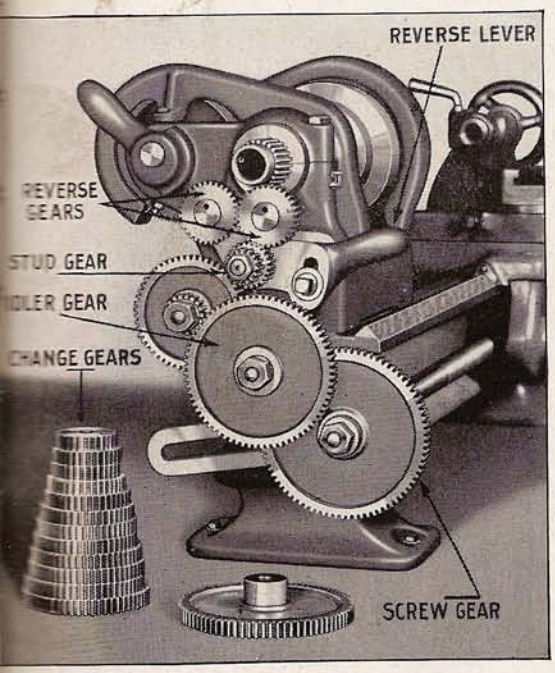
The Model C 9-inch Lathes are similar to Model A and Model B Lathes, except for the change gear equipment and the apron, which are described below.

Thread Cutting Range 4 to 160 Per Inch

All standard screw threads right or left-hand from 4 to 160 per inch, as listed on the Index Chart at right, can be cut on Model C 9-inch Lathes. In addition, standard pipe threads, including 11½ and 27 per inch, can be cut.

Complete change gear equipment, as shown, is supplied as regular equipment with each lathe for cutting various screw threads and also for a wide range of power longitudinal turning feeds. All change gears are made of steel or semi-steel and are accurately cut from the solid on automatic gear hobbing machines. This assures precision accuracy and smooth operation.

Change gear equipment for the Model B 9-inch Lathe is similar to the change gear equipment for the Model C Lathe.



End View of Model C Lathe Showing Change Gear Equipment for Threads and Feeds

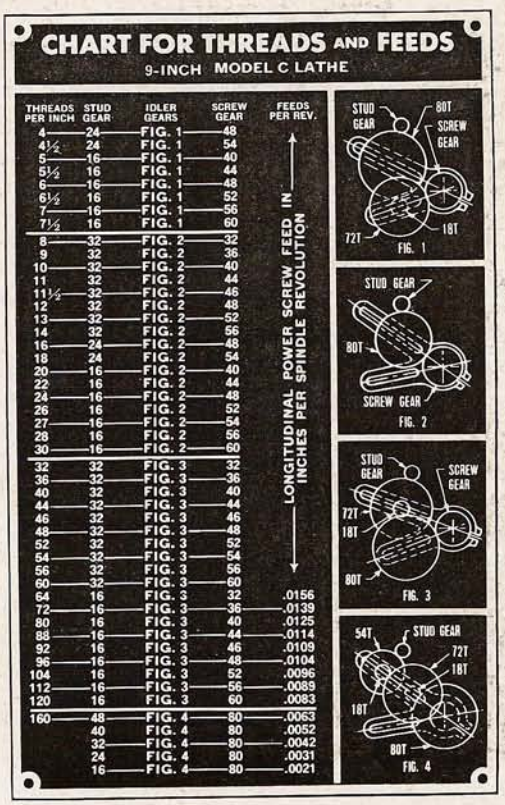


CHART FOR THREADS AND FEEDS
9-INCH MODEL C LATHE

THREADS PER INCH	STUD GEAR	IDLER GEARS	SCREW GEAR	FEEDS PER REV.
4	24	FIG. 1	48	
4½	24	FIG. 1	54	
5	16	FIG. 1	40	
5½	16	FIG. 1	44	
6	16	FIG. 1	48	
6½	16	FIG. 1	52	
7	16	FIG. 1	56	
7½	16	FIG. 1	60	
8	32	FIG. 2	32	
9	32	FIG. 2	36	
10	32	FIG. 2	40	
11	32	FIG. 2	44	
11½	32	FIG. 2	46	
12	32	FIG. 2	48	
13	32	FIG. 2	52	
14	32	FIG. 2	56	
16	24	FIG. 2	48	
18	24	FIG. 2	54	
20	16	FIG. 2	40	
22	16	FIG. 2	44	
24	16	FIG. 2	48	
26	16	FIG. 2	52	
27	16	FIG. 2	54	
28	16	FIG. 2	56	
30	16	FIG. 2	60	
32	32	FIG. 3	32	
36	32	FIG. 3	36	
40	32	FIG. 3	40	
44	32	FIG. 3	44	
46	32	FIG. 3	46	
48	32	FIG. 3	48	
52	32	FIG. 3	52	
54	32	FIG. 3	54	
56	32	FIG. 3	56	
60	32	FIG. 3	60	
64	16	FIG. 3	32	.0156
72	16	FIG. 3	36	.0139
80	16	FIG. 3	40	.0125
88	16	FIG. 3	44	.0114
92	16	FIG. 3	46	.0109
96	16	FIG. 3	48	.0104
104	16	FIG. 3	52	.0096
112	16	FIG. 3	56	.0089
120	16	FIG. 3	60	.0083
160	48	FIG. 4	80	.0063
	40	FIG. 4	80	.0052
	32	FIG. 4	80	.0042
	24	FIG. 4	80	.0031
	16	FIG. 4	80	.0021

LONGITUDINAL POWER SCREW FEED IN INCHES PER SPINDLE REVOLUTION

Index Chart Showing Threads and Feeds on Model C 9-inch Lathe

Power Turning Feeds .0021″ to .0156″

Power longitudinal turning feeds from .0021″ to .0156″ per revolution of the spindle are available, as listed on the Index Chart. The power feeds may be operated either from left to right or from right to left.

The Index Chart clearly shows the arrangement of the change gears for the various screw threads and power turning feeds.

Reverse for Left-Hand Threads and Feeds

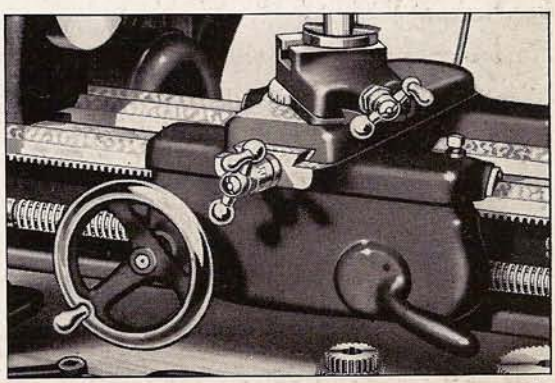
The reverse lever on the end of the headstock shown at left, permits gearing the lathe for left-hand threads and feeds as easily as for right-hand. To change from right-hand to left-hand threads or feeds it is only necessary to change the position of the reverse lever.

Plain Apron Used on Model C 9-inch Lathes

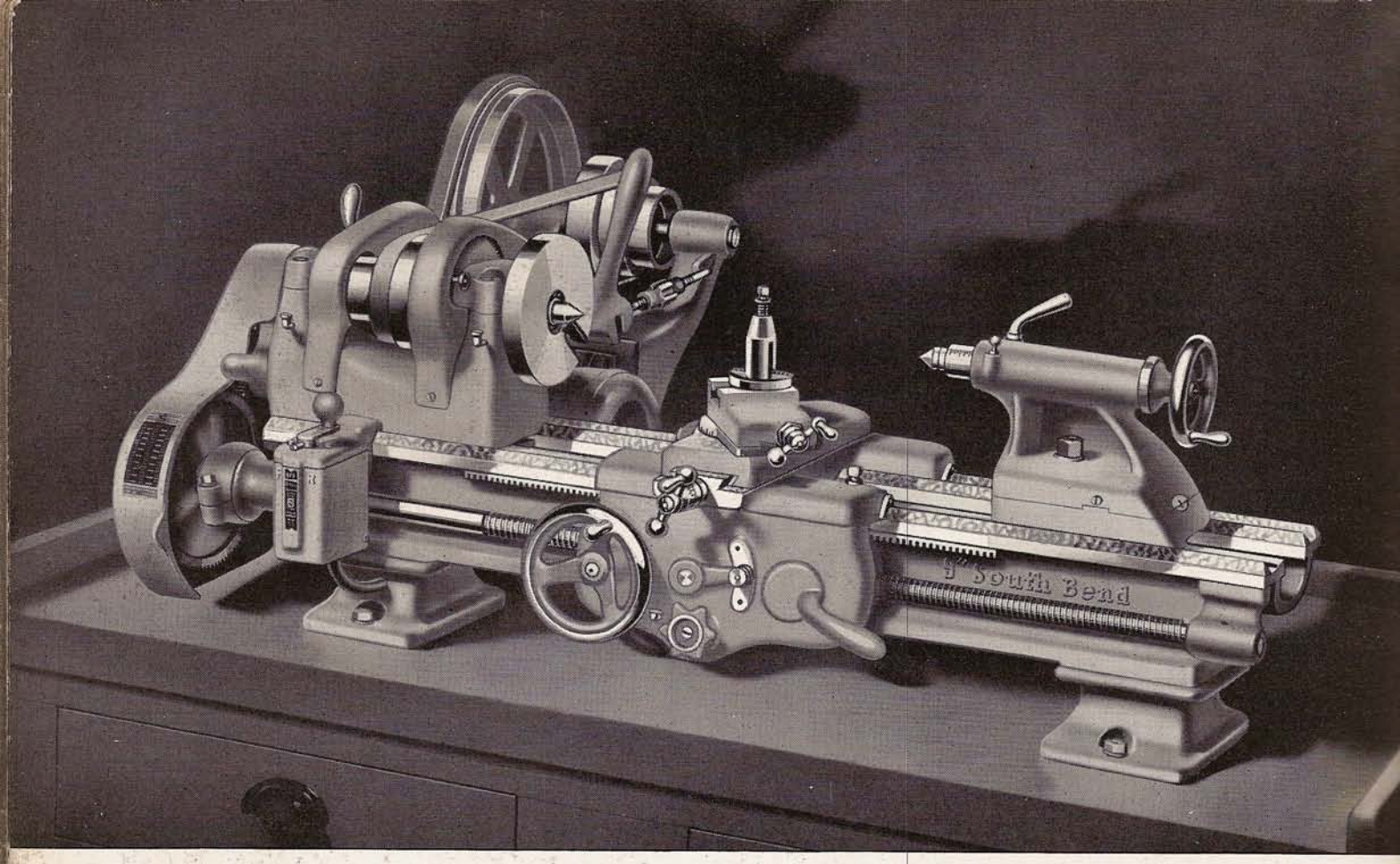
Power Longitudinal Feeds Through Half-Nuts

All Model C 9-inch Lathes are equipped with a plain geared screw feed apron, as illustrated at the right. Power longitudinal turning feeds either right-hand or left-hand are obtained by engaging the half-nuts on the right side of the apron with the lead screw. The large handwheel on the left side of the apron may be used for hand turning feeds and for moving the carriage along the lathe bed. Carriage lock is provided to lock carriage for facing or cutting-off.

Cross feeds on the Model C 9-inch Lathes are hand operated. A large steel ball crank makes it easy for the operator to turn the cross-feed screw with a uniform motion so that smooth facing cuts are obtained.



Plain Geared Screw Feed Apron Supplied on All Model C 9-inch Lathes



9-inch *Twelve-Speed* Horizontal Motor Driven Precision Bench Lathe

Back-Geared—Belt Drive to Spindle
Made in Model A, Model B, and Model C

The 9-inch Model B *Twelve-Speed* Horizontal Motor Driven Bench Lathe is illustrated above. The Model A and Model C Lathes are also made with this drive. Except for the drive equipment, these lathes are the same as those shown on pages 22, 24, and 26 respectively. For specifications see page 11.

The *Twelve-Speed* **Drive** provides a series of twelve spindle speeds ranging from 41 to 1270 r.p.m. This drive is recommended when high spindle speeds are required for machining small diameter parts of steel, cast iron, brass, and aluminum, also for turning plastics, wood, etc.

Drive Equipment included in the price of the lathe consists of: horizontal motor drive unit; motor pulley with ¾" hole; V-belt; flat leather belt and lacing. Motor and control are not included in price of lathe. See page 48.

Regular Equipment is the same as for corresponding models listed on pages 22, 24, and 26. Bench is not included in price of lathe.

Model A 9-inch
***Twelve-Speed* Horizontal Motor Driven Lathes—less Bench**

Bed Lengths	3-ft.	3½-ft.*	4-ft.*	4½-ft.
Catalog Number	644-Y	644-Z	644-A	644-R
Distance Between Centers	16-in.	22-in.	28-in.	34-in.
Size Motor Required (See P. 48)	⅓ h.p.	⅓ h.p.	⅓ h.p.	⅓ h.p.
Shipping Weight, Crated	355 lbs.	380 lbs.	405 lbs.	430 lbs.
Code Word	Vuxak	Vuxes	Vuxit	Vuxow

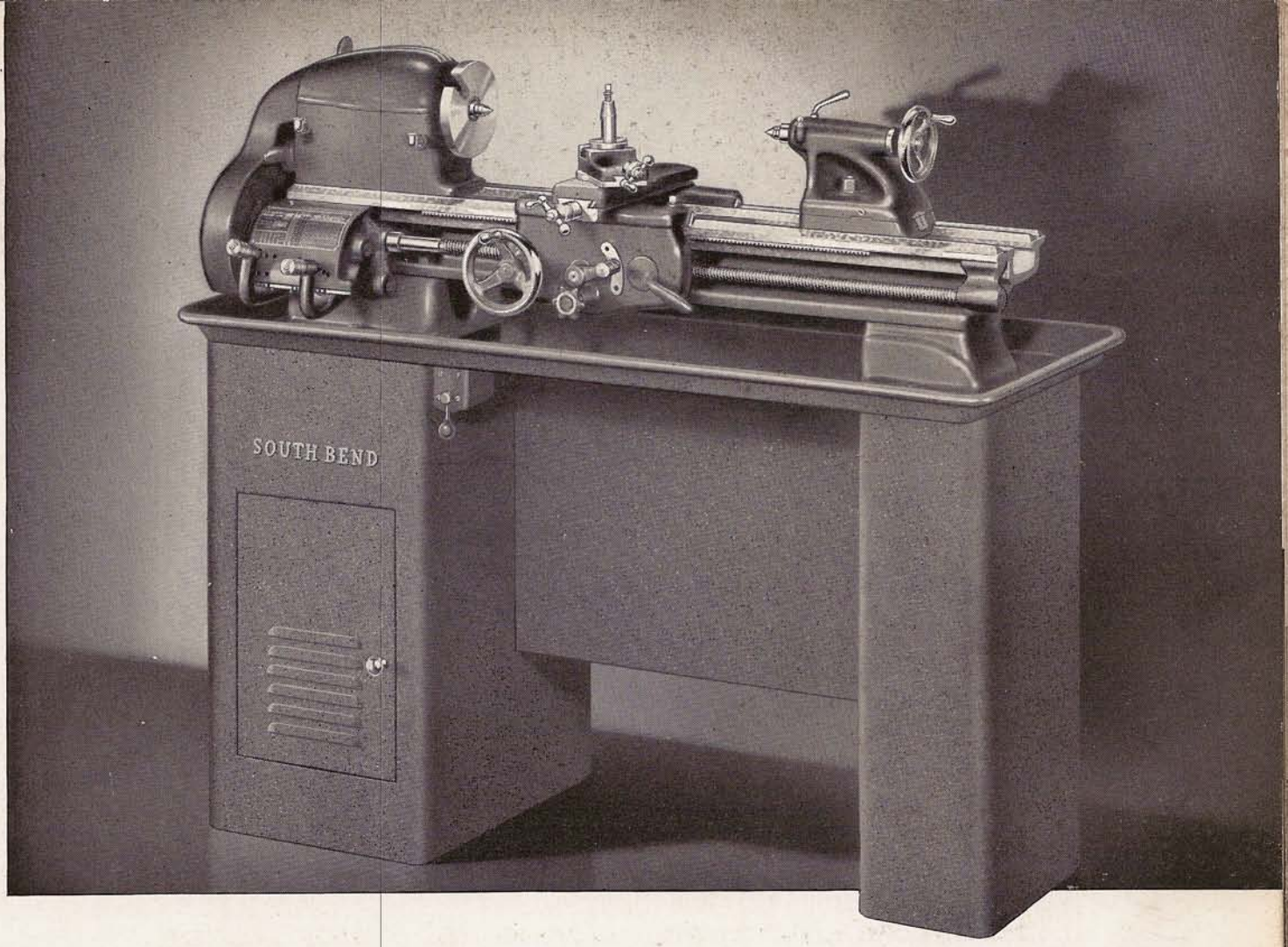
Model B 9-inch
***Twelve-Speed* Horizontal Motor Driven Lathes—less Bench**

Bed Lengths	3-ft.	3½-ft.*	4-ft.*	4½-ft.
Catalog Number	677-Y	677-Z	677-A	677-R
Distance Between Centers	16-in.	22-in.	28-in.	34-in.
Size Motor Required (See P. 48)	½ h.p.	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	345 lbs.	370 lbs.	395 lbs.	420 lbs.
Code Word	Rznak	Rznes	Rzniw	Rznoc

Model C 9-inch
***Twelve-Speed* Horizontal Motor Driven Lathes—less Bench**

Bed Lengths	3-ft.	3½-ft.*	4-ft.*	4½-ft.
Catalog Number	615-YC	615-ZC	615-AC	615-RC
Distance Between Centers	16-in.	22-in.	28-in.	34-in.
Size Motor Required (See P. 48)	½ h.p.	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	335 lbs.	360 lbs.	385 lbs.	410 lbs.
Code Word	Lyxam	Lyxeb	Lyxit	Lyxog

*NOTE—The 3½' and 4' bed lengths, because of the greater distance between centers, are recommended for general machine work.



9-inch Underneath Motor Driven Precision Lathe

Twelve Speeds—Back-Geared—Belt Drive to Spindle
Made in Model A, Model B, and Model C

The 9-inch Model A Lathe with underneath motor drive is illustrated above. The 9-inch Model B and Model C Lathes are also made with this drive. These lathes are the same as those shown on pages 22, 24, and 26 respectively, except for the underneath motor drive and the necessary alterations in the headstock. A built-in chip pan forms the top of the welded steel column base on which the lathe is mounted. See page 11 for specifications of lathes.

The Motor Drive Unit enclosed in the cabinet underneath the lathe headstock provides a wide range of twelve spindle speeds. The cone pulley belt tension may be released and the hinged cone pulley cover on the headstock may be raised for shifting the cone pulley belt. Any desired belt tension can be obtained by adjusting a turnbuckle located inside the cabinet.

Regular Equipment and drive equipment included in price of lathe consists of: metal column base with chip pan; underneath belt motor drive unit; motor pulley with ¾" hole; V-belt; flat leather belt and lacing; automatic apron (on Model A and Model B); graduated compound rest; face plate; tool post; two 60-degree centers; spindle sleeve; wrenches; quick change gear box or set of change gears; installation plan, and book "How to Run a Lathe". Motor and control are extra, see page 48.

9-inch South Bend Model A
Underneath Motor Driven Lathes—with Metal Column Base

Bed Lengths	3-ft.	3½-ft.*	4-ft.*
Catalog Number	344-YN	344-ZN	344-AN
Distance Between Centers	16-in.	22-in.	28-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	545 lbs.	570 lbs.	595 lbs.
Code Word	Tyzan	Tyzer	Tyzih

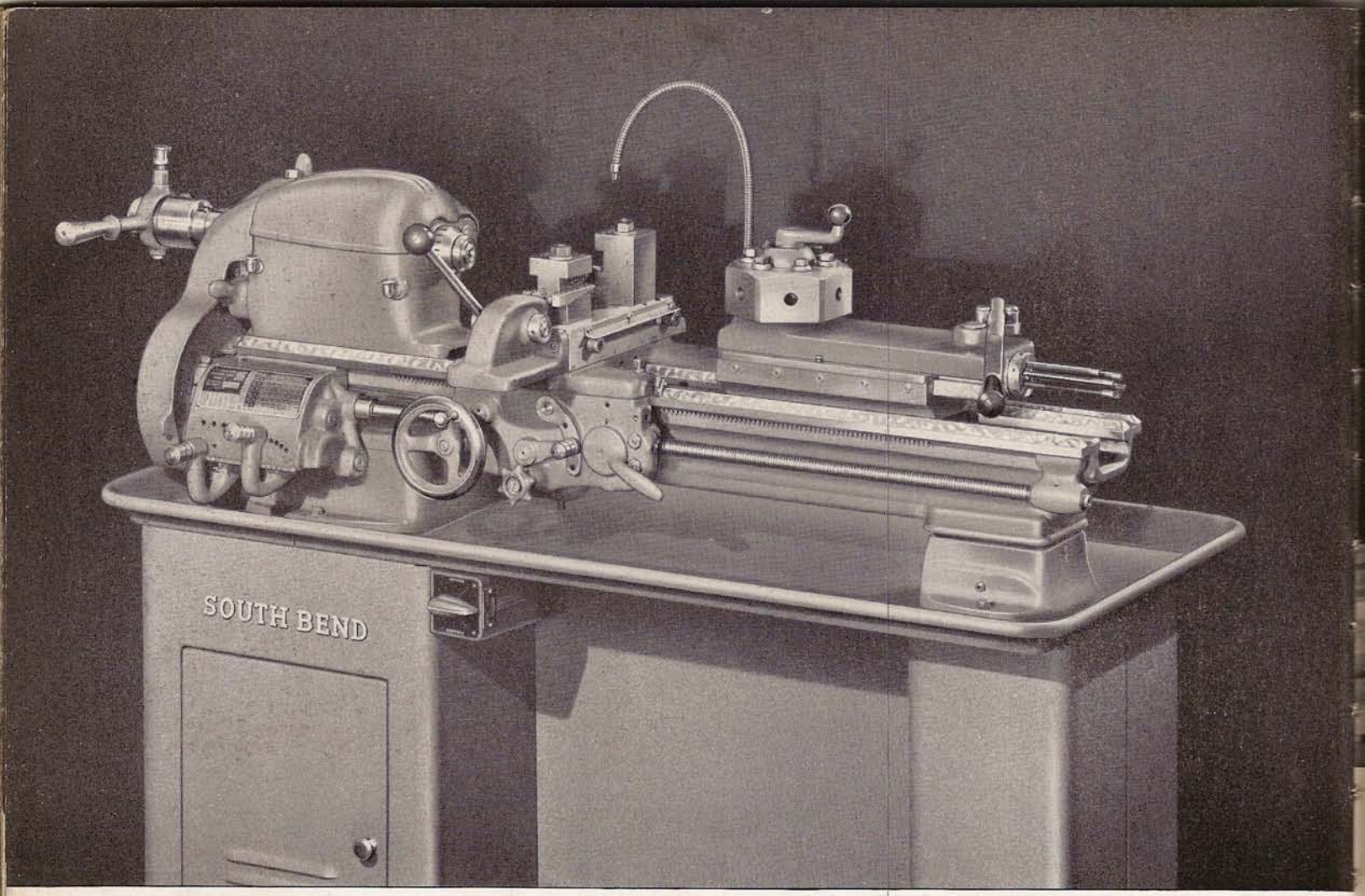
9-inch South Bend Model B
Underneath Motor Driven Lathes—with Metal Column Base

Bed Lengths	3-ft.	3½-ft.*	4-ft.*
Catalog Number	377-YN	377-ZN	377-AN
Distance Between Centers	16-in.	22-in.	28-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	535 lbs.	560 lbs.	585 lbs.
Code Word	Tyxak	Tyxen	Tyxis

9-inch South Bend Model C
Underneath Motor Driven Lathes—with Metal Column Base

Bed Lengths	3-ft.	3½-ft.*	4-ft.*
Catalog Number	315-YN	315-ZN	315-AN
Distance Between Centers	16-in.	22-in.	28-in.
Size Motor Required (See Page 48)	½ h.p.	½ h.p.	½ h.p.
Shipping Weight, Crated	525 lbs.	550 lbs.	575 lbs.
Code Word	Tywac	Tyweg	Tywin

*NOTE—Because of greater distances between centers, the 3½' and 4' bed lengths are recommended for general machine work.



South Bend Series 900 Turret Lathe

Series 900 and Series 1000

SOUTH BEND *Precision* TURRET LATHES

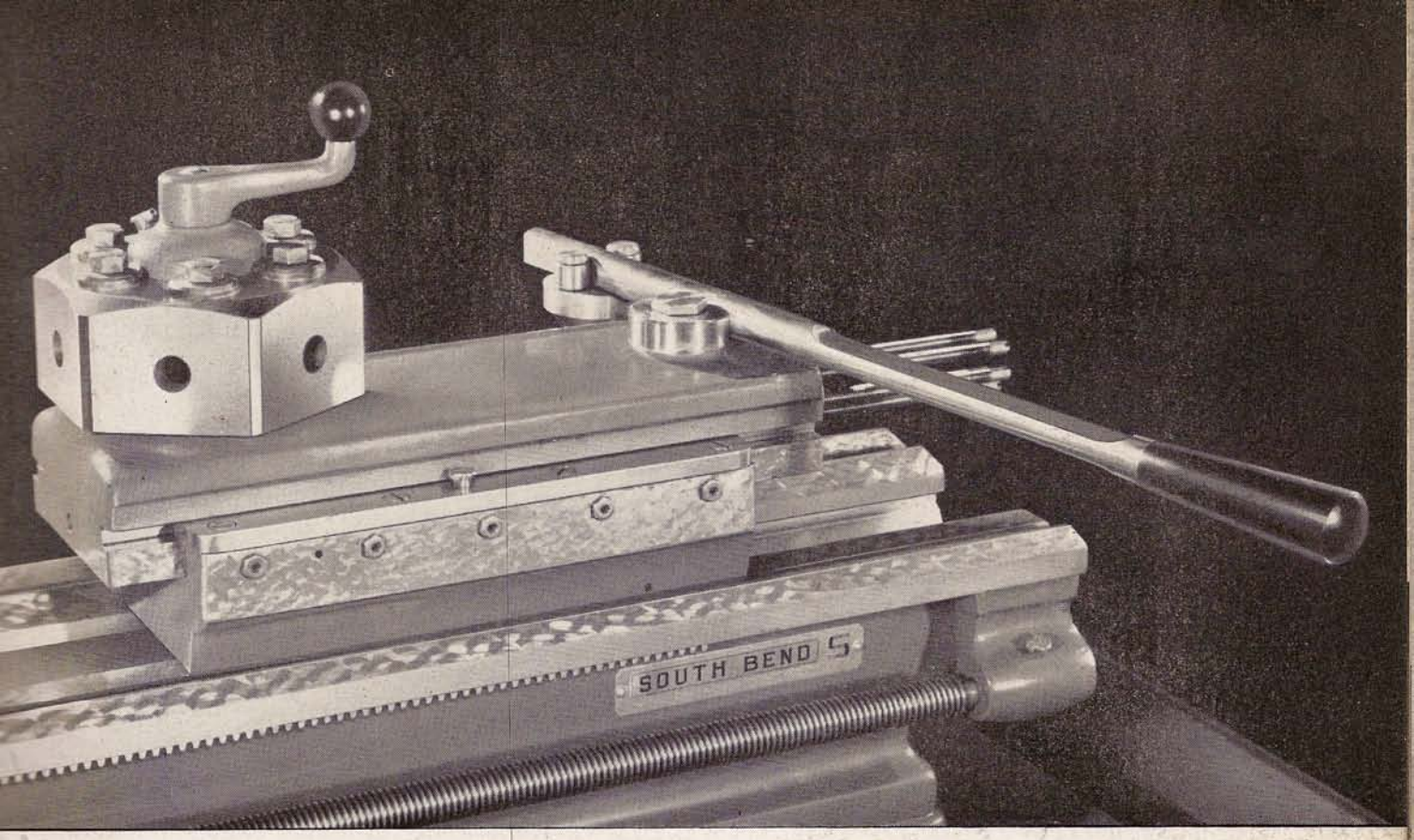
The South Bend Turret Lathes described in this catalog are made in two sizes: the Series 1000 shown on pages 35 and 36, and the Series 900 shown above and on page 37. Designed for the efficient production of duplicate parts, they are especially suitable for second operation work.

These lathes are practical for manufacturing small precision parts. They meet the demand for fast, efficient, wartime production, yet they are easily adaptable to other work when peace comes. They have the stamina for exacting, close-tolerance operations, ample power for smooth, trouble-free performance, and the rigidity for producing a fine finish.

The Series 1000 Turret Lathes have 10⅛″ swing over the bed, 1⅜″ spindle hole, and 1″ maximum collet capacity. They are equipped with a handlever operated automatic indexing turret, a universal carriage with compound cross slide having a wide range of power longitudinal feeds and power cross-feeds, and a handlever operated cross slide with front and rear square tool blocks.

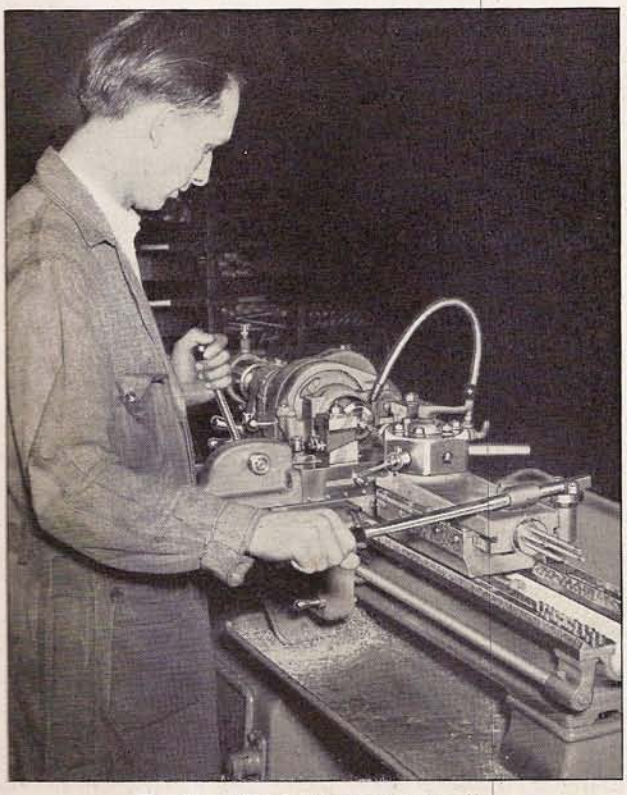
The Series 900 Turret Lathes have 9¼″ swing over the bed, ¾″ spindle hole, and ½″ maximum collet capacity. They are equipped with a handlever operated turret, a universal carriage with the compound cross slide having a wide range of power longitudinal feeds and power cross-feeds, and a handlever operated cross slide with front and rear square tool blocks.

South Bend Turret Lathes can be fitted with a number of standard extras that simplify tooling them for many kinds of jobs. Most of these attachments and accessories are listed on pages 38 to 48.



Handlever Bed Turret Used on Series 900 and Series 1000 Turret Lathes

The Handlever Bed Turret

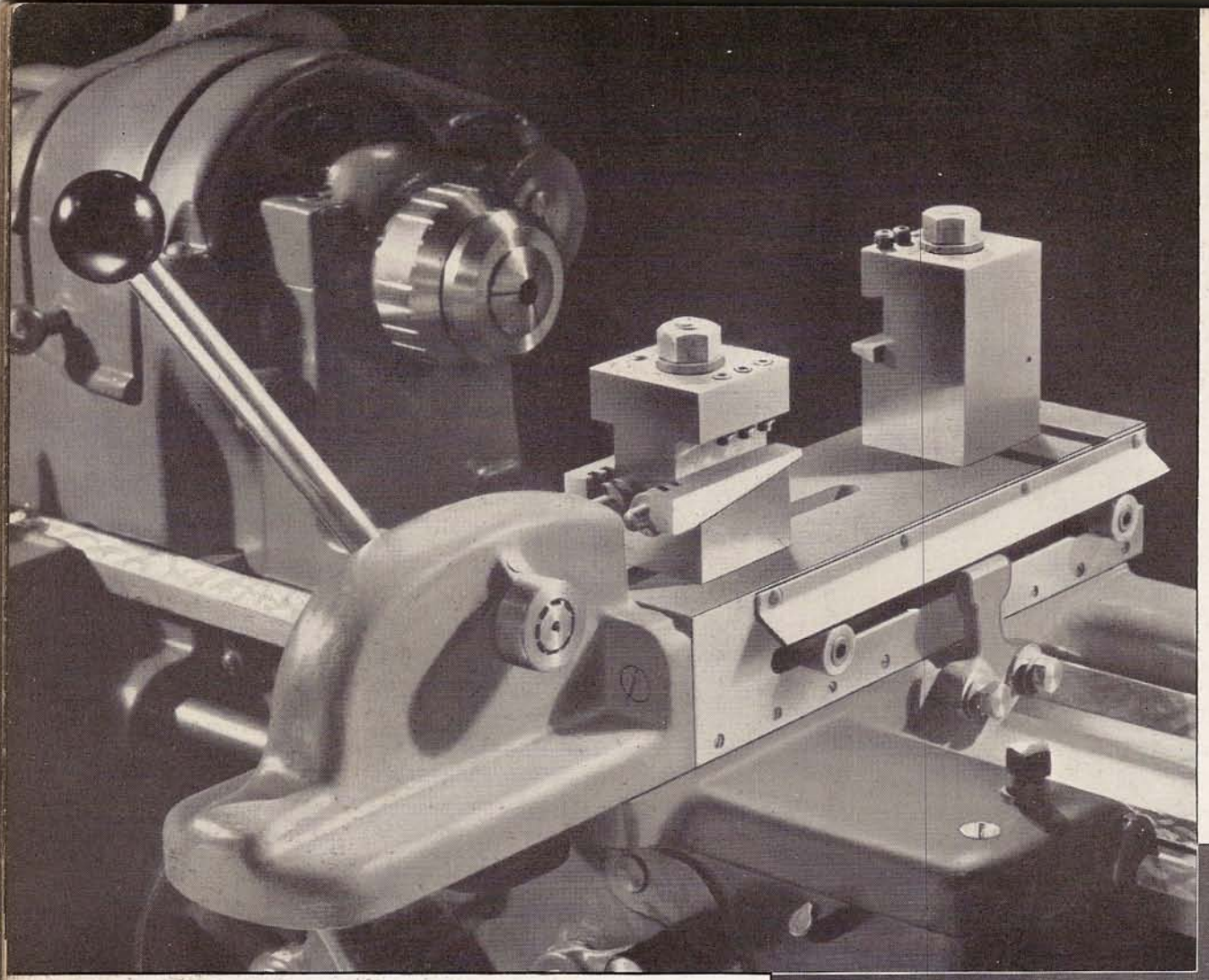


The Turret Head indexes automatically on the return stroke of the handlever

The Handlever Bed Turret, used on Series 900 and Series 1000 Turret Lathes, mounts on the inside bed ways and can be locked in position at any point along the length of the bed. The turret base clears the saddle wings of the universal carriage, which slides on the outer bed ways. This construction permits the turret to be placed close to the headstock and eliminates excessive overhang of the work or the turret tools.

The Turret Slide has gibs on both sides which provide adjustment for wear. Each face of the turret has an independently adjustable feed stop screw which accurately regulates the length of the cut. The stop screw roll rotates automatically so that each screw is brought in line with the stop as the corresponding face of the turret head is revolved to the working position.

Accurate Indexing of the turret head is assured by the use of hardened, ground, and superfinished index bushings, which are replaceable. The turret head may be back-indexed or spun when it is desired to skip tool positions. A substantial binder permits locking the turret head securely for taking heavy cuts.



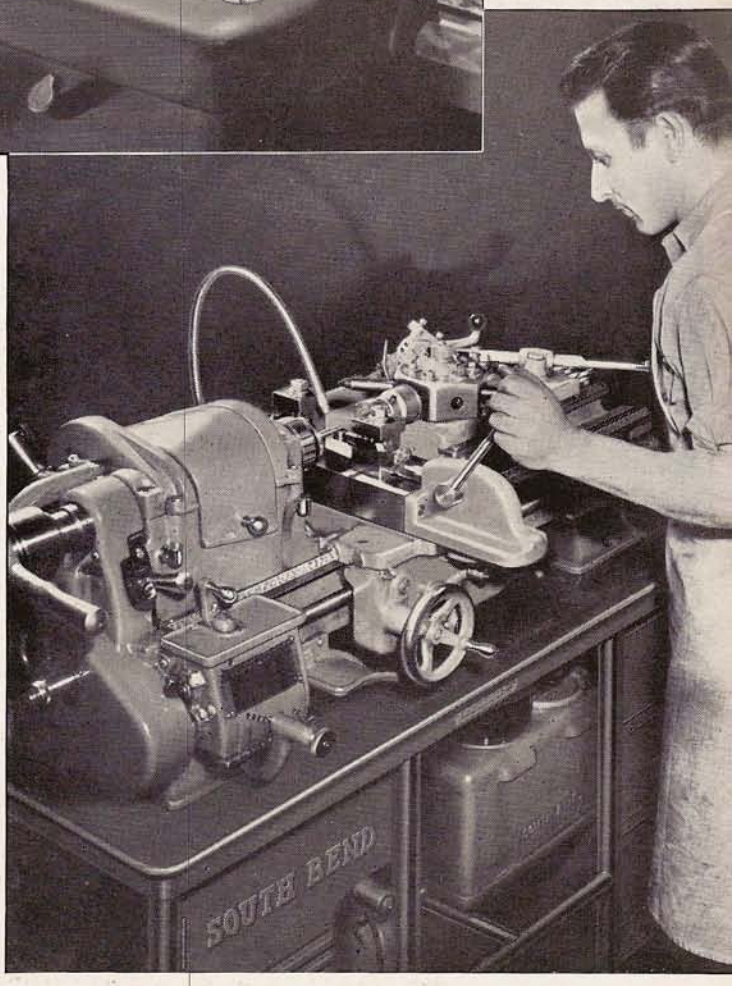
Handlever Double Tool Cross Slide Used on Series 900 and Series 1000 Turret Lathes

The Handlever Cross Slide

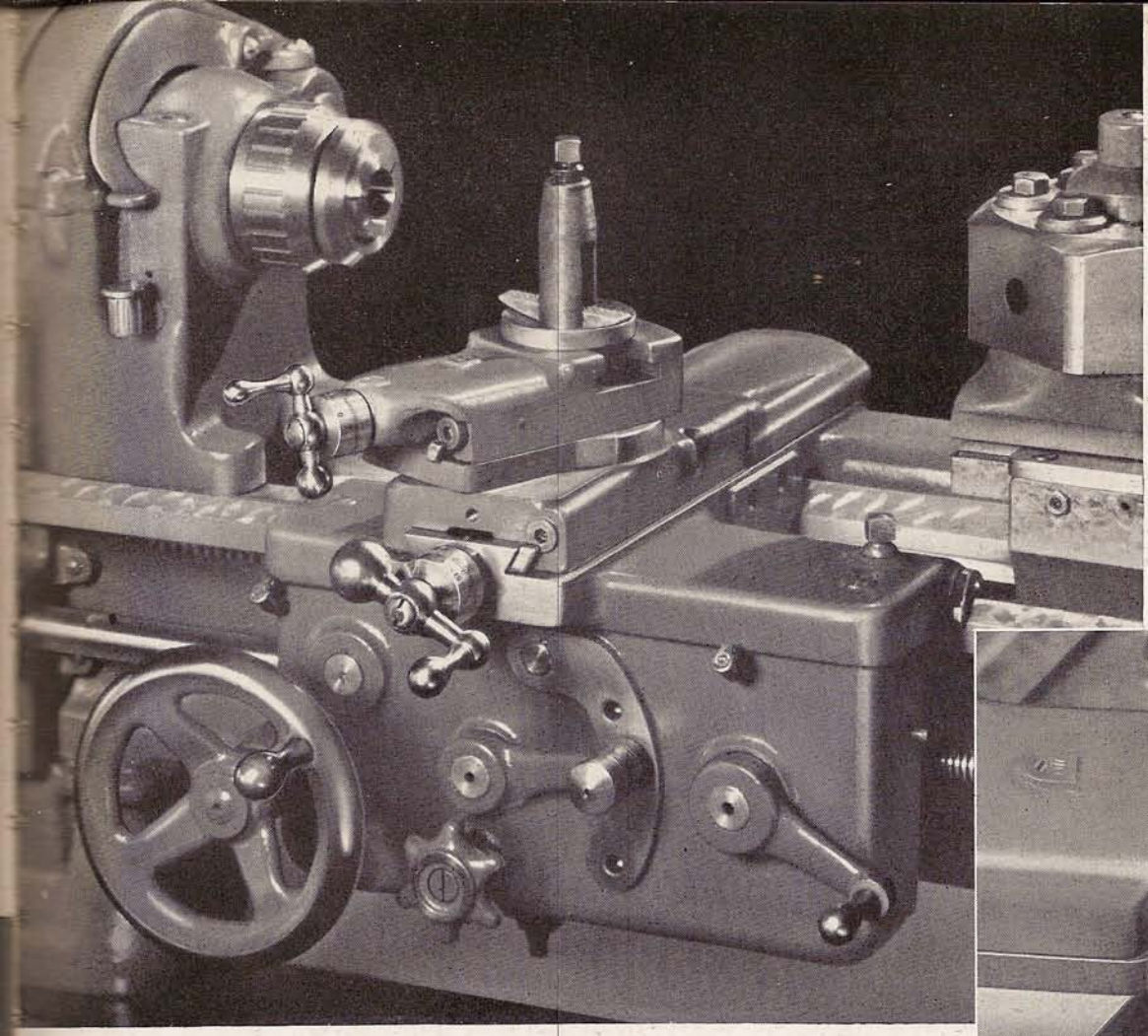
The Handlever Double Tool Cross Slide illustrated above is supplied as regular equipment, in addition to the Compound Cross Slide shown on the opposite page. The slide has a handlever operated cross-feed. The lever can be mounted on either the right or left side of the slide. Adjustable stops limit the movement of the cross-feed in either direction, in or out.

This Cross Slide has front and back square tool blocks in which 7/16" square cutter bits can be mounted for turning, facing, forming, and cutting-off operations. The front tool block takes two cutter bits, and the back tool block takes one cutter bit. Tapered wedges and thumb screws provide precision adjustment for the height of the cutter bits. T-slots in the cross slide provide adjustment of both the front and back tool blocks.

The Universal Carriage on which the cross slide is mounted may be moved longitudinally along the lathe bed by turning the apron handwheel. Provision is made for locking the carriage securely after the cross slide has been positioned. Power longitudinal feeds are also available. See page 33.



The Handlever Cross Slide has front and back square tool blocks which provide rigid support for the cutting tools.



Universal Carriage with Compound Cross Slide used on Series 1000 Turret Lathes

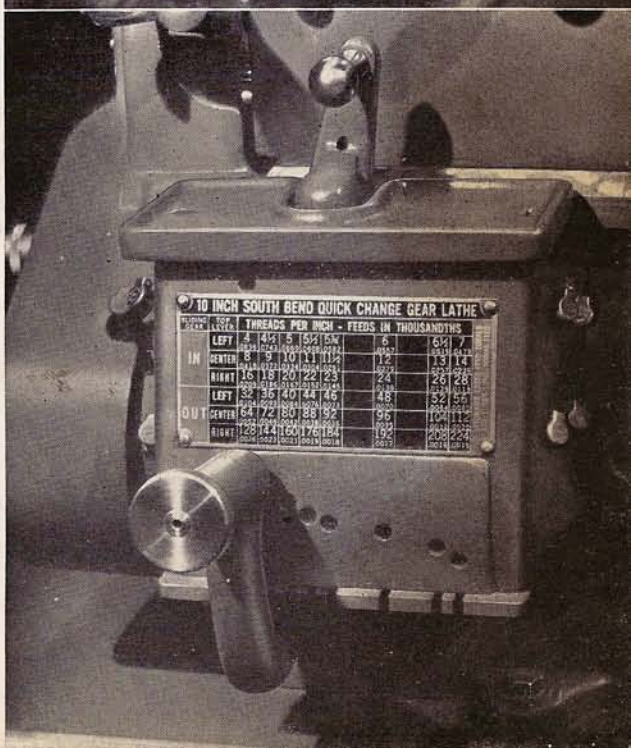
Below: Close-up of Micrometer Graduated Collars on Compound Rest Screw and Cross-Feed Screw

Universal Carriage and Compound Cross Slide

The illustrations on this page show the universal carriage and compound cross slide used on Series 1000 Turret Lathes. The carriage and compound cross slide used on the Series 900 Turret Lathes are similar in design.

The Compound Cross Slide is supplied as regular equipment in addition to the Handlever Cross Slide. The compound rest swivel is graduated 180 degrees and may be set at any angle for machining bevels and short tapers.

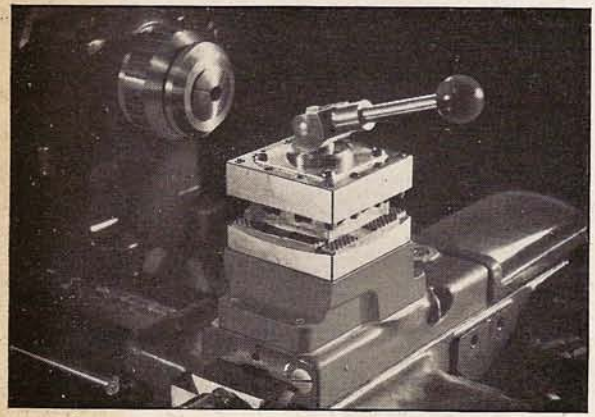
The Universal Carriage has friction clutch drive in the apron for power longitudinal feeds and power cross-feeds, also lead screw and split nut for chasing accurate screw threads. The Quick Change Gear Box at the left end of the lathe provides 48 changes for the power feeds, and for cutting 48 pitches of screw threads ranging from 4 to 224 per inch.



Right: Quick Change Gear Box used on Series 1000 Turret Lathes

Specifications of Series 900 and Series 1000 Turret Lathes

Specifications		900 Series	1000 Series
Capacity and General Specifications			
Length of bed		3½′	3½′
Hole through spindle		¾″	1⅜″
Swing over bed and saddle wings		9¼″	10⅛″
Width of lathe bed		5 15/16″	7 1/16″
Spindle nose diameter		1½″	2¼″
Maximum collet capacity through handlever collet chuck	Round	½″	1″
	Square	11/32″	23/32″
	Hexagon	7/16″	⅞″
Maximum capacity through spindle nose collet chuck or universal lathe chuck	Round	¾″	1⅜″
	Square	17/32″	31/32″
	Hexagon	41/64″	1 3/16″
Spindle Speeds			
Lathes have two-step motor pulley providing manual change from high speed range to low speed range. All speeds subject to 5% variation			
Low speed range	Back-Geared Speeds	41-72-127	50-79-129
	Direct Belt Drive Speeds	212-370-658	277-434-700
High speed range	Back-Geared Speeds	79-138-246	97-153-248
	Direct Belt Drive Speeds	408-716-1270	535-837-1357
Turret			
Diameter of holes in turret face		5/8″	5/8″
Center of turret hole to top of turret slide		1½″	1½″
Effective feed of turret slide		4″	4″
Distance between opposite flats		4⅞″	4⅞″
Maximum distance between spindle nose and turret face at beginning of indexing movement		20⅝″	19⅜″
Universal Carriage			
Thread cutting range			4-224 per in.
Power longitudinal feeds		Same as for 9″ Lathes. See pages 23, 25, and 27.	.0015″ to .0836″
Maximum longitudinal travel of universal carriage, hand or power feed		18″	16″
Handlever Cross Slide			
Swing over handlever cross slide		3 9/16″	3 9/16″
Cross travel of cross slide		3⅝″	3⅝″
Maximum size cutter bit tool block opening will take		7/16″ x 7/16″	7/16″ x 7/16″
Compound Cross Slide			
Swing over compound cross slide		5½″	5⅞″
Cross slide will travel		5⅞″	8⅛″
Angular hand feed of top slide		2¼″	2″
Size of tool holder shank for tool post		3/8″ x 13/16″	3/8″ x 13/16″
Size cutter bits tool holder takes		¼″ x ¼″	¼″ x ¼″
Motor			
Size of motor required		½ h.p.	¾ h.p.
Floor Space		60″ x 36¼″	63¼″ x 40½″
Export Information			
Weight boxed for export		1325 lbs.	1240 lbs.
Cubic contents of export case		52½″ cu. ft.	53.4 cu. ft.



4-Way Turret Tool Block on Cross Slide of Series 1000 Turret Lathe

4-Way Turret Tool Block

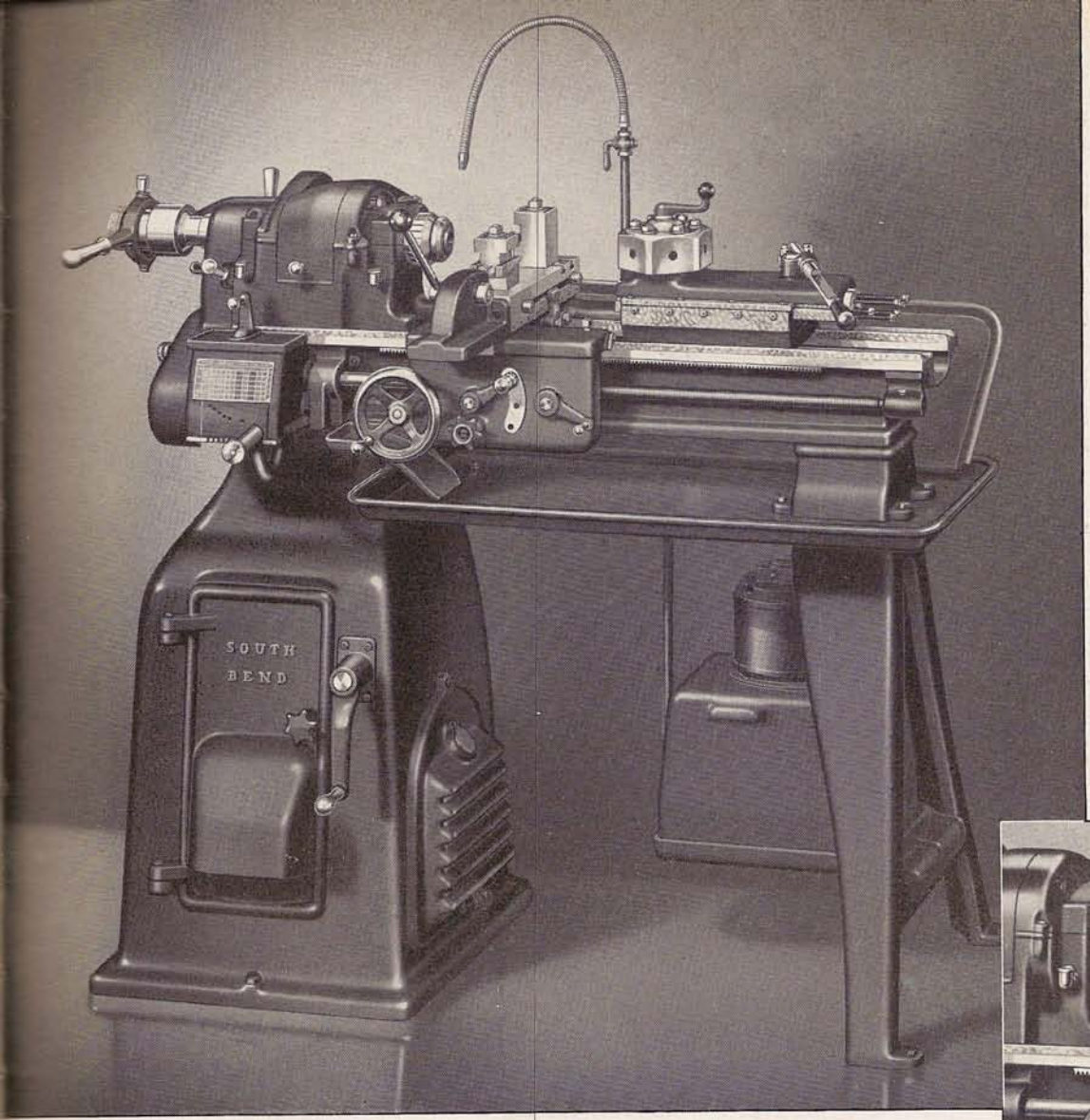
For Series 900 and 1000 Turret Lathes

The 4-way turret tool block is rigidly constructed to provide a substantial support for the cutting tools. It indexes accurately to four positions and is locked in place by a quick acting cam operated binder. Rocker adjustment is provided for adjusting the height of the tools. Takes four cutter bits, maximum size ⅜″ square. May be ordered for either the handlever cross slide or the compound cross slide—not interchangeable. See page 41 for further details.

No. 1001-Z TURRET LATHE

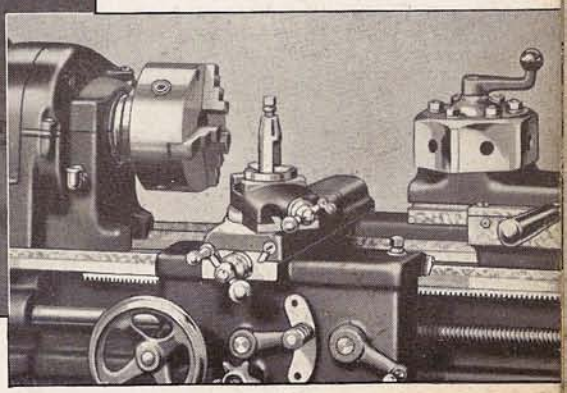
With Coolant Equipment

For Specifications See Page 34



No. 1001-Z South Bend Turret Lathe with Handlever Turret, Handlever Double Tool Cross Slide, and Coolant Equipment. The Handlever Draw-in Collet Chuck, and Splash Pan, shown in above illustration, are not included in price of lathe.

Compound Cross Slide, shown below, is supplied as regular equipment with each No. 1001-Z Turret Lathe and is interchangeable with the Handlever Cross Slide.



The No. 1001-Z South Bend Turret Lathe has handlever operated turret with automatic indexing and individual stops for each of the six turret faces. The turret head may be back-indexed or spun to skip tool positions.

The Handlever Cross Slide has front and rear tool blocks for turning, forming, facing, and cutting-off operations. The cross-feed is operated by a handlever, and the longitudinal feed by either the carriage handwheel or the power carriage feed.

The Compound Cross Slide, supplied in addition to the Handlever Cross Slide, has power cross-feed and power longitudinal feed. The compound rest swivel is graduated 180° and may be set at any angle for machining bevels and short tapers.

The Quick Change Gear Box provides 48 changes for power carriage feeds and for cutting 48 different pitches of screw threads, 4 to 224 per inch.

The Underneath Motor Drive and the back-geared headstock provide a wide range of spindle speeds. Direct belt drive to the spindle for high speeds assures smooth operation on small diameter work. Slow speeds for heavy cuts on large diameter work are driven through the back gears.

Catalog Number 1001-Z Underneath Motor Driven Quick Change Gear Floor Leg Turret Lathe with 3½ ft. bed, power feed universal carriage, handlever bed turret, handlever cross slide, compound cross slide, oil pan, motor driven coolant pump with motor and switch, coolant reservoir, piping and coolant return assembly. Approximate shipping weight crated, 960 lbs. Code word..... "Lytek".

NOTE: Splash pan on back of lathe, tailstock, centers, spindle sleeve, face plates, draw-in collet chuck, thread cutting stop, and electrical equipment are not included with the lathe but can be supplied at extra cost.

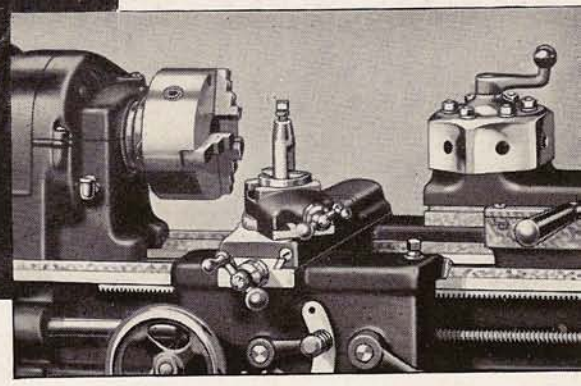
No. 1003-Z TURRET LATHE

With Coolant Equipment

For Specifications

See Page 34

Compound Cross Slide, shown below, is supplied as regular equipment with each No. 1003-Z Turret Lathe and is interchangeable with the Handlever Cross Slide.



No. 1003-Z South Bend Turret Lathe with Handlever Turret, Handlever Double Tool Cross Slide, and Coolant Equipment. Bench and Handlever Draw-in Collet Chuck shown in above illustration are not included in price of lathe.

The No. 1003-Z South Bend Turret Lathe has handlever operated turret with automatic indexing and individual stops for each of the six turret faces. The turret head may be back-indexed or spun to skip tool positions.

The Handlever Cross Slide has front and rear tool blocks for turning, forming, facing, and cutting-off operations. The cross-feed is operated by a handlever and the longitudinal feed by either the carriage handwheel or the power carriage feed.

The Compound Cross Slide, supplied in addition to the Handlever Cross Slide, has power cross-feed and power longitudinal feed. The compound rest swivel is graduated 180° and may be set at any angle for machining bevels and short tapers.

The Quick Change Gear Box provides 48 changes for power carriage feeds, and for cutting 48 different pitches of screw threads, 4 to 224 per inch.

The Underneath Motor Drive and the back-geared headstock provide a wide range of spindle speeds. Direct belt drive to the spindle for high speeds assures smooth operation on small diameter work. Slow speeds for heavy cuts on large diameter work are driven through the back gears.

Catalog Number 1003-Z Underneath Motor Driven Quick Change Gear Bench Turret Lathe with 3½ ft. bed, power feed universal carriage, handlever bed turret, handlever cross slide, compound cross slide, motor driven coolant pump with motor and switch, coolant reservoir, piping and coolant return assembly. Approximate shipping weight (crated with steel bench) 1000 lbs. Code word . . . . "Jypin".

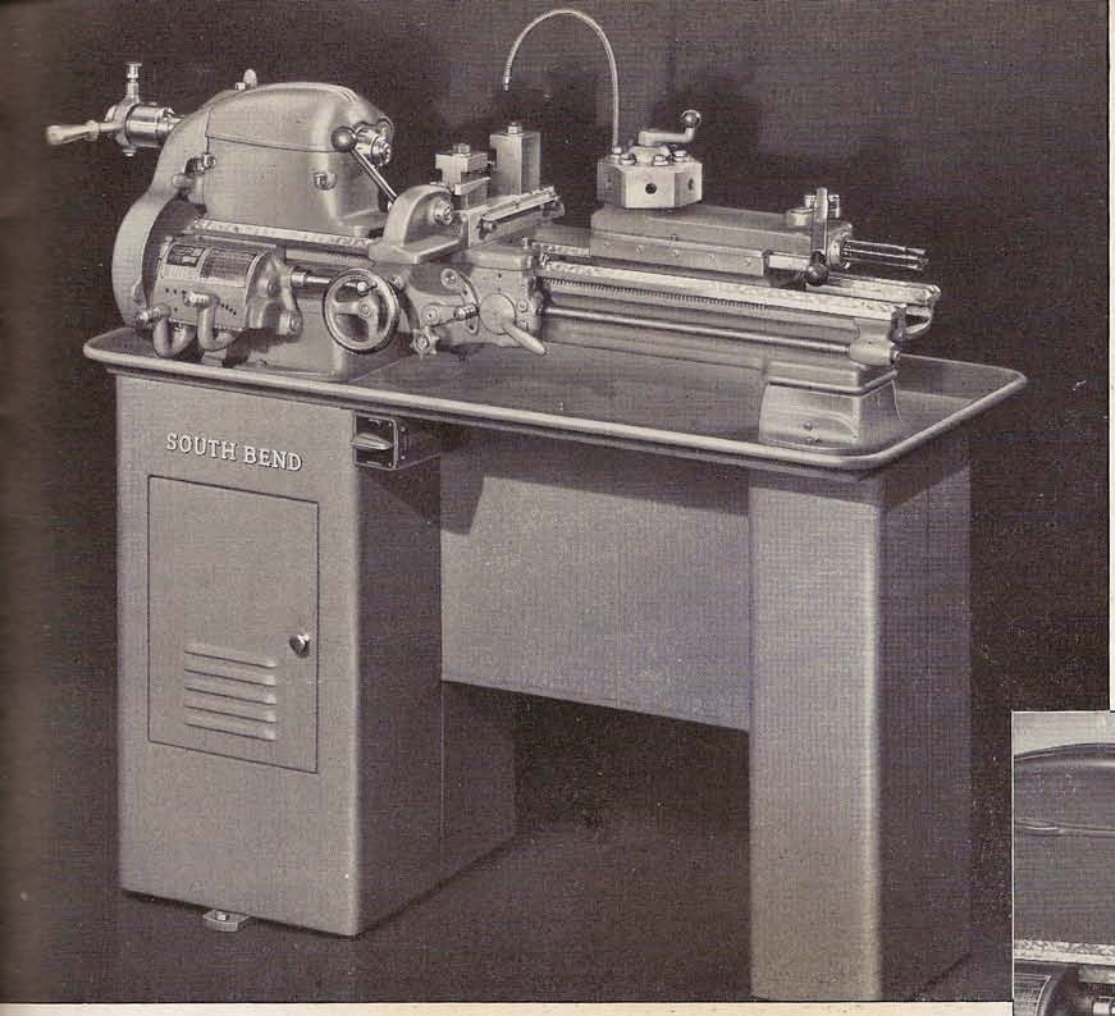
NOTE: Bench, oil pan, tailstock, centers, spindle sleeve, face plates, draw-in collet chuck attachment, thread cutting stop, and electrical equipment are not included in the price of the lathe but can be supplied at extra cost.

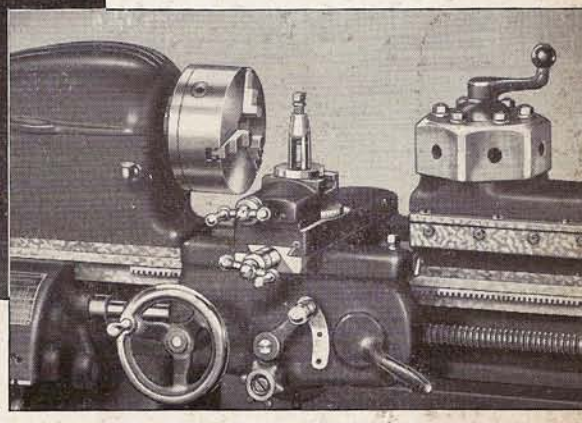
SERIES 900 TURRET LATHES

With Coolant Equipment

For Specifications See Page 34

Compound Cross Slide shown below, is supplied as regular equipment with each No. 920-Z Turret Lathe and is interchangeable with the Handlever Cross Slide.





No. 920-Z South Bend Turret Lathe with Coolant Equipment. For regular equipment included in price of lathe see description below. The Handlever Draw-in Collet Chuck* and Lathe Chuck* shown in these illustrations are not included in price of lathe.

The Series 900 South Bend Turret Lathes are made in three types: Model A, Model B, and Model C. All three models are identical, except for the change gear equipment and the apron which are the same as for the Model A, Model B, and Model C 9-inch Lathes respectively. See pages 23, 25, and 27.

The Model A Turret Lathe has quick change gear box, full automatic apron, handlever bed turret, handlever cross slide, compound cross slide, metal column base with built-in oil pan, coolant pump, reservoir, piping, and coolant return assembly.

The Model B Turret Lathe is identical with the Model A Turret Lathe except that it has independent change gears in place of the quick change gear box.

The Model C Turret Lathe is identical with the Model B Turret Lathe except that it has a plain apron with manual cross-feeds. Longitudinal feeds are obtained through the half-nuts and lead screw.

The Handlever Operated Turret has automatic indexing and individual stops for each of the six turret faces. The turret head may be back-indexed or spun to skip tool positions. See page 31.

The Compound Cross Slide has power cross-feed and power longitudinal feed. The compound rest swivel is graduated 180° and may be set at any angle for machining bevels and short tapers.

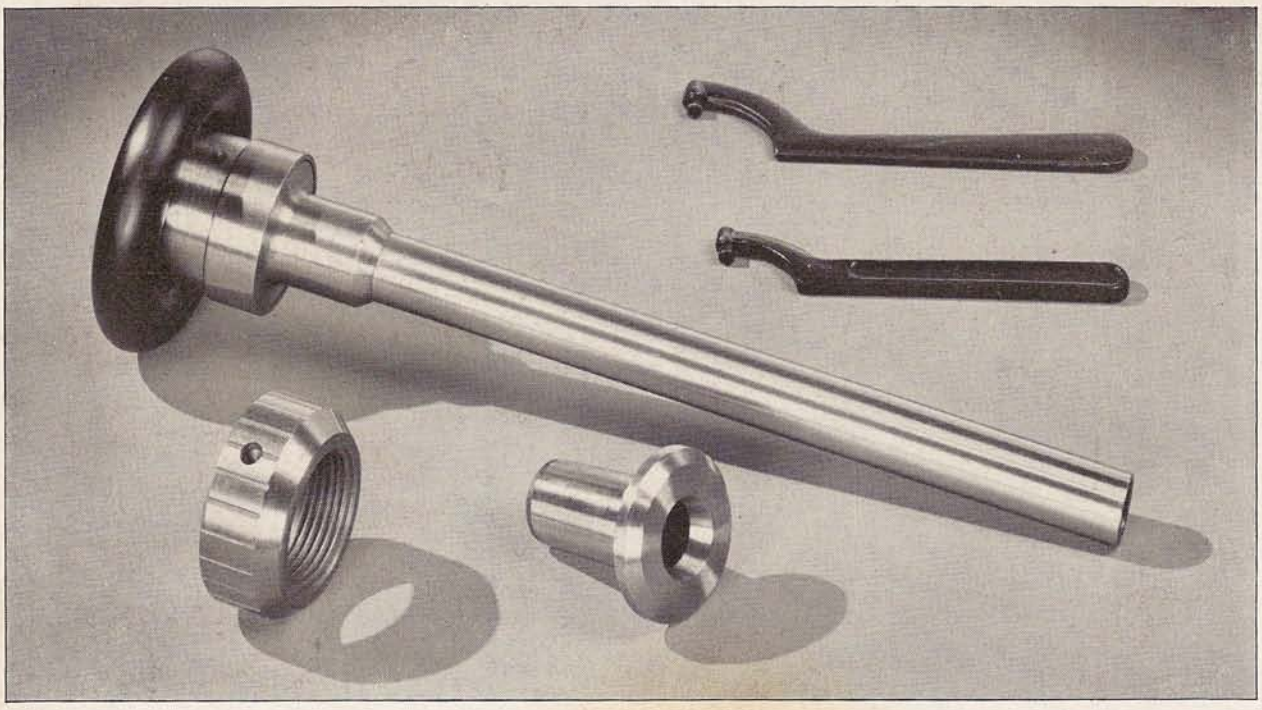
The Handlever Cross Slide, supplied in addition to the compound cross slide, has front and rear tool blocks for turning, forming, facing, and cutting-off operations. The cross-feed is operated by a handlever, and the longitudinal feed by either the carriage handwheel or the power carriage feed. See page 33.

The Underneath Motor Drive and the back-geared headstock provide a wide range of speeds.

Series 900 Turret Lathes—with Coolant Equipment

Catalog Number	Model	Length Bed Feet	Minimum Size Motor h.p.	Approx. Ship. Wgt. Crated Pounds	Code Word for Lathe
920-Z	A	3½	½	720	Sywok
935-Z	B	3½	½	720	Cwcun
903-Z	C	3½	½	720	Pyzot

*NOTE: Tailstock, centers, spindle sleeve, collet chuck, lathe chuck, face plates, thread cutting stop, and electrical equipment are not included in price of lathe. See pages 38 to 48.



Handwheel Type Draw-in Collet Attachment

For Accurately Chucking Small Diameter Work

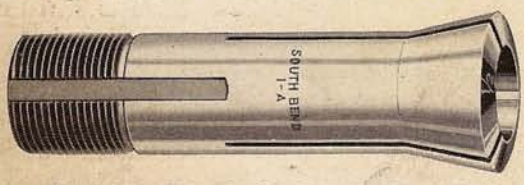
Standard Extra

The draw-in collet chuck is the most accurate of all types of chucks and is used for precision work, such as making small tools and manufacturing small parts for watches, typewriters, radios, etc. Collets for round work are listed below. Collets are made to order for square, hexagonal, and other shapes.

The price of the Handwheel Draw-in Collet Attachment includes handwheel and hollow draw-bar, spindle nose cap, spanner wrenches for draw-bar and nose cap, and tapered steel closing sleeve. Collets are not included in price of draw-in collet attachment, but are extra as listed below.

Handwheel Draw-in Collet Attachment

Catalog Number	Size of Lathe	Hole in Lathe Spindle	Collet Capacity in Sixty-fourths (for Round Work)	Code Word
4306-W	9″ and Series 900	¾ in.	1/16 in. up to ½ in.	Acrut
4310	10″ Regular	1 in.	1/16 in. up to 11/16 in.	Cibah
4312	10″—1″ Col. and Series 1000	1⅜ in.	1/16 in. up to 1 in.	Cihak
4313	13″	1 in.	1/16 in. up to 11/16 in.	About
4314	14½″	1⅛ in.	1/16 in. up to ¾ in.	Cilam
4316	16″	1⅜ in.	1/16 in. up to 1 in.	Adore



Collets for Handwheel and Handlever Draw-in Collet Attachments

Purchased Extras

Collets are for use with either the handwheel type or the handlever type draw-in collet attachments. Collets are made of tool steel, properly hardened and tempered. They are ground both outside and inside to insure accuracy.

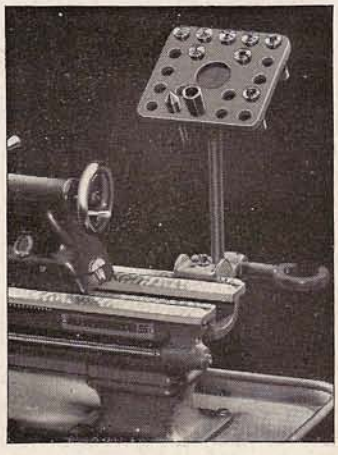
Collets with Standard Hole Sizes for Round Work

Catalog Number	Size of Lathe	Hole in Spindle	Collet Capacity in Sixty-fourths	Code Word
609-W	9″ and Series 900	¾ in.	1/16 in. up to ½ in.	Catra
1721	10″ Regular	1 in.	1/16 in. up to 11/16 in.	Cagin
1722	10″—1″ Col. and Series 1000	1⅜ in.	1/16 in. up to 1 in.	Cagot
613	13″	1 in.	1/16 in. up to 11/16 in.	Chose
1713	14½″	1⅛ in.	1/16 in. up to ¾ in.	Cepas
616	16″	1⅜ in.	1/16 in. up to 1 in.	Clear

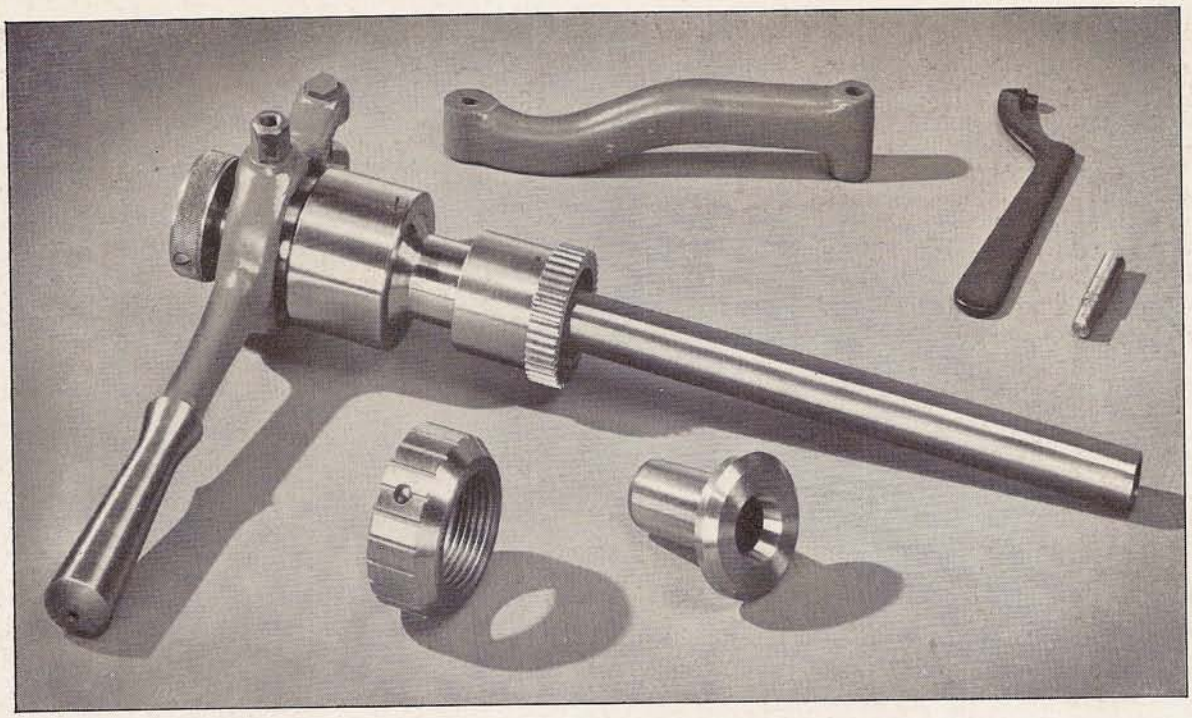
Collet Rack for South Bend Lathes

Standard Extra

This collet rack provides a suitable place for keeping collets, centers, spindle sleeve and draw-bar. Clamp for attaching to back V-way of lathe bed is supplied. Price does not include collets.



Catalog Number	Size of Lathe	Code Word
1770-W	9″ and 900	Rahah
1752	10″ Regular	Rawik
1753	10″—1″ Col. and 1000	Razuk
1772	13″	Rajem
1791	14½″	Rakaw
1774	16″	Rajuc



Handlever Draw-in Collet Attachment

For the Rapid Production of Duplicate Parts

Standard Extra

The Handlever Type Draw-in Collet Attachment permits releasing and feeding bar stock through the collet, without stopping the lathe. The gripping action of the collet can be set to any desired tension by adjusting the cylinder of the adjustable chuck closer.

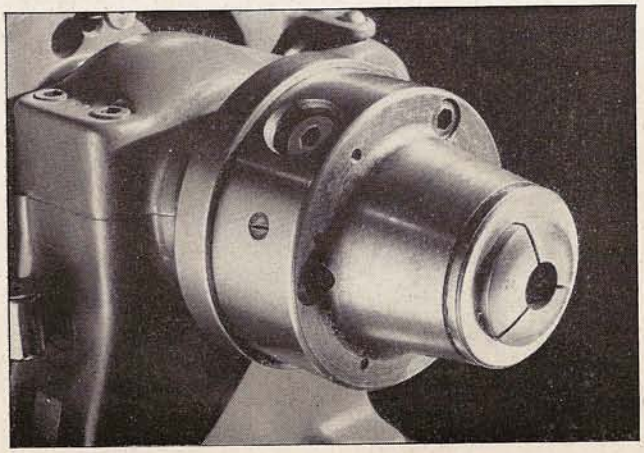
The rapid production and accuracy of the Handlever Collet Attachment make it an economical tool for manufacturing small parts to close tolerances.

The price of the Handlever Draw-in Collet Attachment includes adjustable chuck closing mechanism and hollow draw-bar, spindle nose cap, spanner wrench for nose cap, and tapered steel closing sleeve. Collets are not included in the price of the draw-in collet attachment but are extra, as listed on page 38.

This attachment should be ordered with the lathe so that it can be properly fitted and tested at the factory.

Handlever Draw-in Collet Attachment

Catalog Number	Size of Lathe	Hole in Lathe Spindle	Collet Capacity in Sixty-fourths (for Round Work)	Code Word
5206-W	9" and Series 900	3/4 in.	1/16 in. up to 1/2 in.	Abpat
5210	10" Regular	1 in.	1/16 in. up to 11/16 in.	Cahew
5219	10"—1" Col. and Series 1000	1 3/8 in.	1/16 in. up to 1 in.	Cahum
5213	13"	1 in.	1/16 in. up to 11/16 in.	Andes
5214	14 1/2"	1 1/8 in.	1/16 in. up to 3/4 in.	Ciked
5216	16"	1 3/8 in.	1/16 in. up to 1 in.	Aster



Spindle Nose Draw-in Collet Attachment

Purchased Extra

With this collet chuck, bar or rod work up to the maximum capacity of the hole through the lathe spindle can be passed through the headstock and collet for machining. The chuck screws onto the spindle nose of the lathe, and collets are opened and closed by a pinion wrench. No draw-bar is required. Information and prices on request.

Handlever Bed Turret

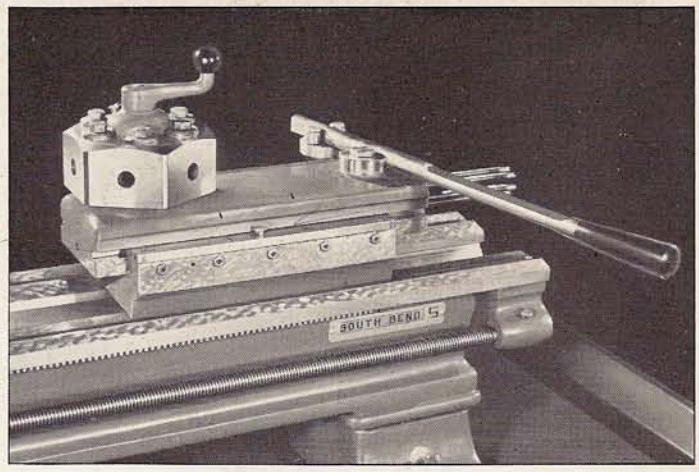
(Standard Extra)

for 9″ and 10″ South Bend Lathes

This turret mounts on the inside bed ways in place of the tailstock. The turret head indexes automatically each time the lever is moved to the extreme right. Each face of the turret has an independently adjustable feed stop screw which accurately regulates the length of the cut. Effective feed of turret slide 4″. Center of turret hole to top of turret slide 1½″. Takes standard turret tools with ⅝″ diameter shank. When turret is ordered separate from lathe, the purchaser must assume the responsibility of fitting and boring.

Cat. No. 1611-W. Handlever Bed Turret for 9″ South Bend Lathe. Shipping weight 76 lbs. Code word. . . . . "Fywam".

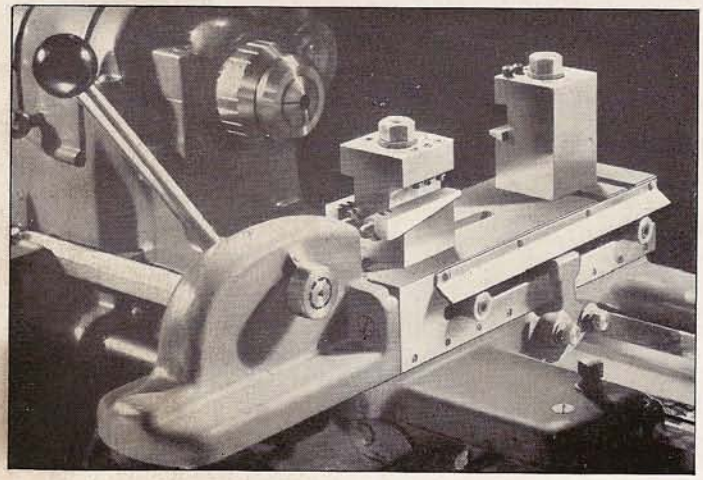
Cat. No. 1612. Handlever Bed Turret for 10″ South Bend Lathe. Shipping weight 83 lbs. Code word. . . . . "Dymek".



Handlever Bed Turret

Handlever Double Tool Cross Slide

(Standard Extra)



Handlever Double Tool Cross Slide

for 9″ and 10″ South Bend Lathes

This handlever double tool cross slide is mounted on the saddle cross slide dovetail in place of the compound rest assembly. Adjustable stops limit the movement of the cross slide in either direction, in or out. The cross slide has front and back square tool blocks in which 7/16″ square cutter bits can be mounted. The front tool block takes two cutter bits, and the back tool block takes one cutter bit. Tapered wedges and thumb screws provide precision adjustment for the height of the cutter bits.

Cat. No. 2030-W. Handlever Cross Slide for 9″ South Bend Lathe. Shipping weight 36 lbs. Code word. . "Sywic".

Cat. No. 2031. Handlever Cross Slide for 10″ South Bend Lathe. Shipping weight 45 lbs. Code word. . . . . "Sywik".

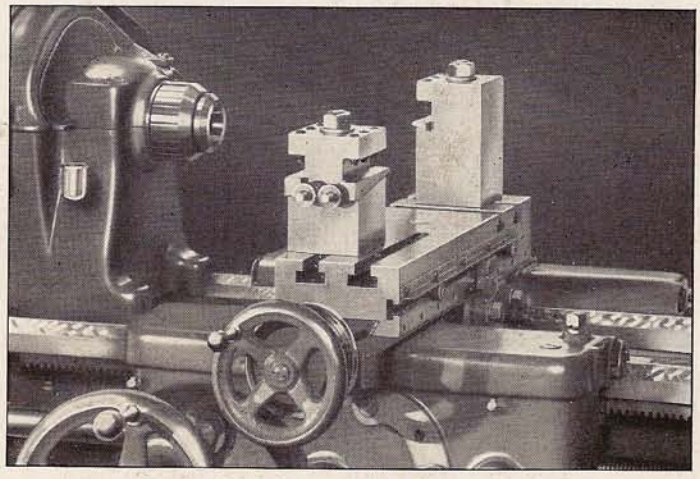
Screw Feed Double Tool Cross Slide

(Standard Extra)

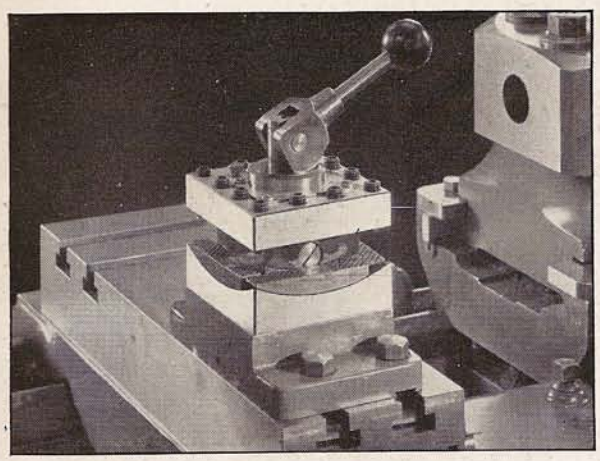
for 16″ South Bend Lathe

This cross slide fits on the saddle dovetail in place of the compound rest assembly. The cross-feed may be operated by power through the friction clutch in the apron, as well as by the cross-feed handwheel. A large diameter micrometer graduated collar permits adjusting the cutting tools with extreme precision. Adjustable stops are provided for locating the position of the front and rear tools for repetitive operations. The front tool block takes two ⅝″ square cutter bits and the back tool block takes one ⅝″ square cutter bit. Tapered wedges are provided for adjusting the height of the cutter bits.

Cat. No. 2027. Screw Feed Double Tool Cross Slide for 16″ Lathe. Ship. wt. 95 lbs. Code word. . . . "Sywox".



Screw Feed Double Tool Cross Slide



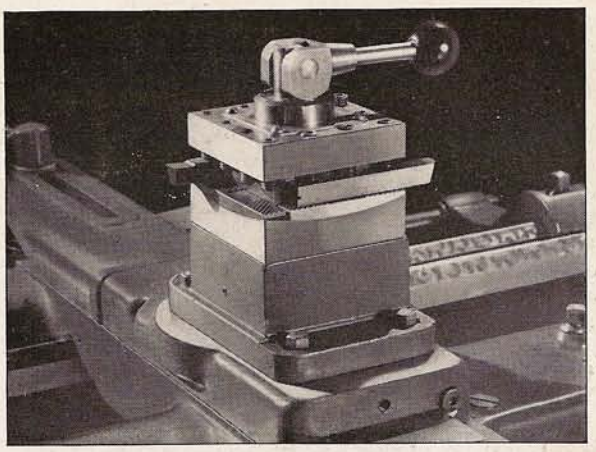
4-Way Turret Tool Block
For Double Tool Cross Slide
Standard Extra

The 4-Way Turret Tool Block shown above is designed for use on the handlever double tool cross slide or the screw feed double tool cross slide. It cannot be used on lathes equipped with compound rest only.

Four cutting tools can be mounted in the turret tool block. The turret indexes accurately, permitting each tool to be used in sequence for rough turning, finish turning, facing, boring, cutting-off, or other operations as required. A quick acting cam operated binder locks the turret securely in each of the four positions. Rocker adjustment is provided for adjusting the height of the cutting edge of each tool.

4-Way Turret Tool Block for Double Tool Slide

Catalog Number	Size Lathe	Size Square	Takes Tools	Code Word
40-HD	9" and Series 900	3"	3/8" x 3/8"	Lytus
41-HD	10" and Series 1000	3"	3/8" x 3/8"	Lytub
42-HD	16"	4"	5/8" x 5/8"	Lytoc



4-Way Turret Tool Block
For Compound Cross Slide
Standard Extra

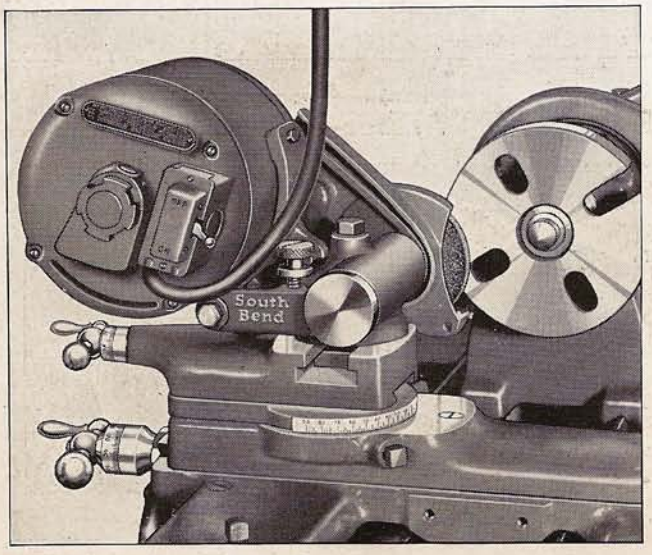
The 4-Way Turret Tool Block shown above is designed for use on the base of the compound cross slide. It cannot be used on the double tool cross slide.

Four cutting tools can be mounted in the turret tool block. The turret indexes accurately, permitting each tool to be used in sequence for rough turning, finish turning, facing, boring, cutting-off, or other operations as required. A quick acting cam operated binder locks the turret securely in each of the four positions. Rocker adjustment is provided for adjusting the height of the cutting edge of each tool.

4-Way Turret Tool Block for Compound Cross Slide

Catalog Number	Size Lathe	Size Square	Takes Tools	Code Word
40-HC	9" and Series 900	3"	3/8" x 3/8"	Lytux
41-HC	10" and Series 1000	3"	3/8" x 3/8"	Lytuk
43-HC	13"	4"	5/8" x 5/8"	Lytos
44-HC	14½"	4"	5/8" x 5/8"	Lytoz
42-HC	16"	4"	5/8" x 5/8"	Lytom

Electric Grinding Attachment for South Bend Lathes



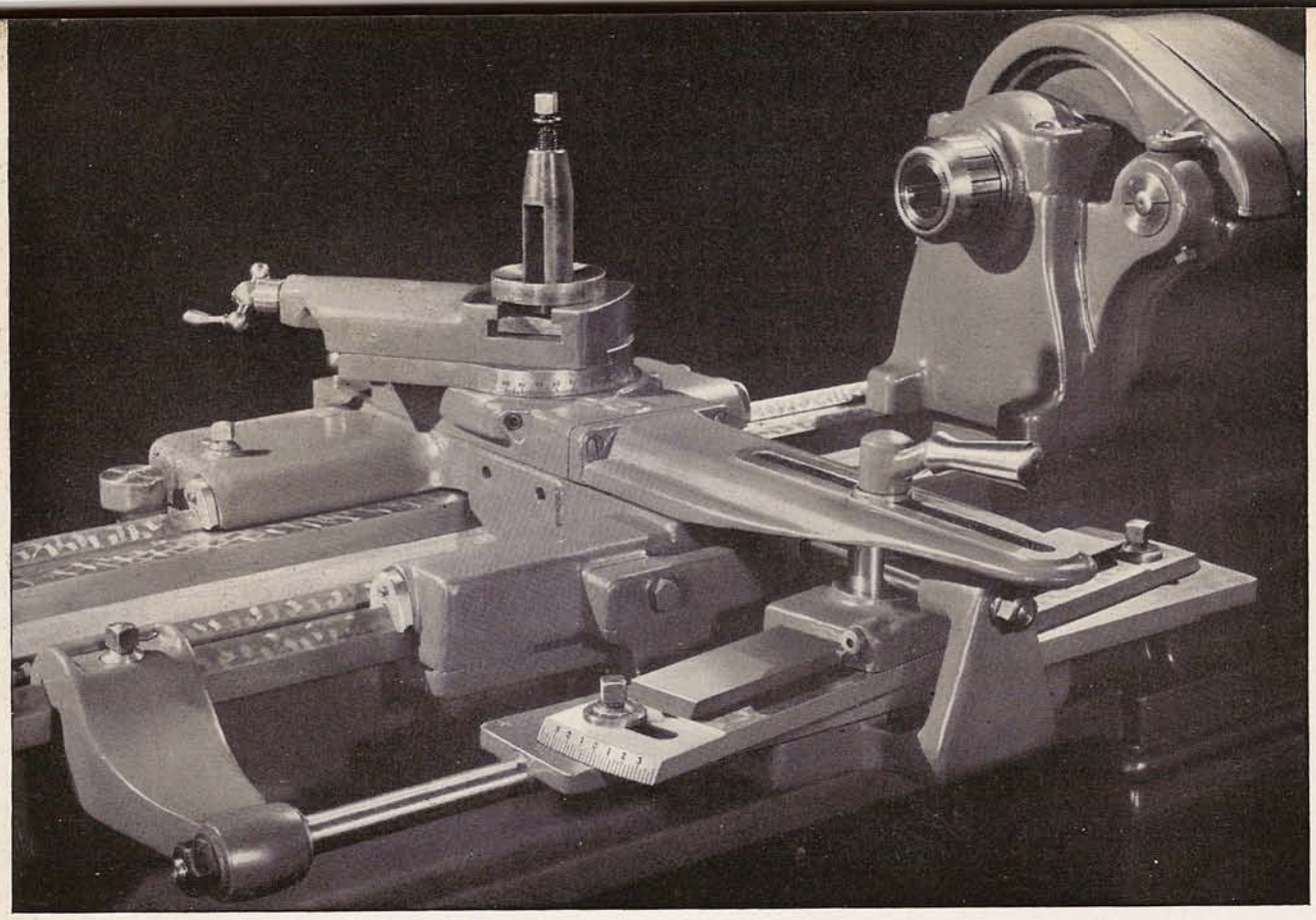
Equipped with Ball-Bearing Spindle
Standard Extra

This powerful and efficient Grinding Attachment is recommended for external grinding. The grinding spindle revolves on pre-lubricated, precision ball bearings which are sealed to protect them from damage by dust and grit from the grinding wheel.

Price includes ¼ h.p. Motor, 1725 r.p.m., ball-bearing grinding spindle, V-belt, belt guard, one 4" x ½" Alundum grinding wheel (grain 46-N, grade 5-B), and mounting clamp. 3-phase motor is supplied with extension cord but *not* switch or plug. 1-phase, and D.C. motors are supplied with extension cord, switch, and plug. When ordering Grinder specify exact voltage, phase, and cycle.

Size of Lathe	Diameter Will Grind	3-Phase 50/60 Cycle A.C. 220 or 440 V. Motor		1-Phase 60-Cycle A.C. 115 V. Motor*		Direct Current 110-120 V., or 230-250 V. Motor	
		No.	Code	No.	Code	No.	Code
9" & 900	5¼-in.	30-WT	Raton	30-W	Sunar	30-WD	Kusaz
10" & 1000	5 7/16-in.	30-NT	Rater	30-N	Sunev	30-ND	Kused
13"	8 -in.	30-DT	Rativ	30-D	Suniz	30-DD	Kuson
14½"	9 -in.	30-KT	Ratoc	30-K	Surat	30-KD	Kuxes
16"	9⅛-in.	30-GT	Raxet	30-G	Surex	30-GD	Kuxiw

*1-phase 60-cycle A.C. 230-Volt motor can also be supplied.



Telescopic Taper Attachment

For 10-inch and Larger South Bend Lathes

Standard Extra

Taper turning and boring are as easily accomplished as straight turning on lathes equipped with the South Bend Telescopic Taper Attachment.

The taper attachment swivel bar is graduated in degrees on one end and in taper per foot on the other end. A telescopic cross-feed screw eliminates the necessity of disconnecting the cross-feed nut when the tapers are machined. The cross-feed screw may be used to adjust the lathe tool for the required diameter. When the binding lever is tightened, the cross slide base is rigidly locked to the taper attachment swivel slide, and the thrust is removed from the cross-feed screw.

The taper attachment is permanently mounted on the lathe carriage and is always ready for use. It does not in any way interfere with straight turning and boring, and only a few seconds are required to change over from straight to taper work. Accuracy and smooth operation are assured by the practical design and rugged construction of this attachment.

The telescopic taper attachment must be fitted to lathe at factory.

Telescopic Taper Attachment
(Can be Used only on Lathe with Graduated Compound Rest)

Cat. No.	Size of Lathe	Swing Over Cross Slide	Maximum Taper			Approx. Ship. Wgt.	Code Word
			At One Setting	Per Foot	In Degrees		
1545	10" and Ser. 1000	5¾ in.	8½ in.	3½ in.	16½	40 lbs.	Mekoc
379	13"	8 in.	9¼ in.	3½ in.	16½	65 lbs.	Mokil
399	14½"	8 15/16 in.	9¼ in.	3½ in.	16½	80 lbs.	Mokux
381	16"	9⅝ in.	11½ in.	3½ in.	16½	100 lbs.	Munar

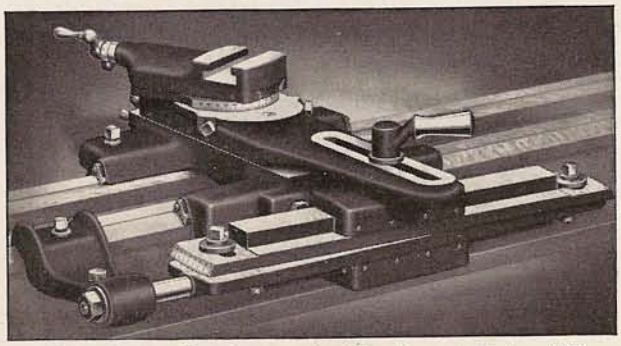
Plain Taper Attachment for 9" and Series 900 Lathes—*Standard Extra*

The plain taper attachment shown at right is supplied for turning and boring all classes of taper work on the 9-inch and Series 900 Lathes. The attachment is bolted to the lathe carriage and can be used in any position along lathe bed. Does not interfere with straight turning.

This taper attachment has plain cross-feed screw and straight gibs. The cross-feed screw and nut must be disconnected before the taper attachment can be engaged for taper turning and boring. Telescopic cross-feed screw cannot be supplied.

The swivel bar which controls the taper is graduated and can be set for cutting any taper up to 3½" per foot and up to 7" in length at one setting; maximum taper 16½ degrees, in either direction. Swing over lathe cross slide with taper attachment is 5". Attachment must be fitted to lathe at factory. (Can be used only on lathe with graduated compound rest.)

Cat. No. 428-W. Plain Taper Attachment for 9-inch and Series 900 South Bend Lathes. Weight 35 lbs. Code....."Hapwo".



Plain Taper Attachment for 9-inch and Series 900 South Bend Lathes

Oil Pans, Splash Pans, and Chip Pans

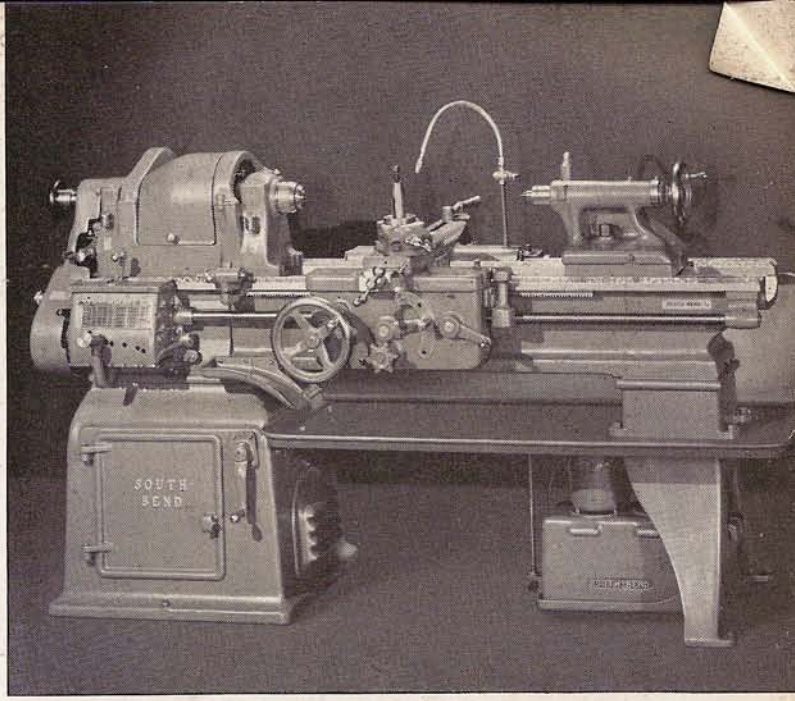
Standard Extras

Oil Pans, Splash Pans, and Chip Pans for South Bend Lathes are made of heavy gauge sheet steel with welded corners and roll rim. Pans should be specified at the time the lathe is ordered so that they can be properly fitted at the factory.

Oil Pans are designed for collecting both oil and chips and are oil tight. Oil pans extend from the headstock leg to the tailstock end of bed as shown. Oil return troughs are provided at the headstock end of the lathe.

Splash Pans are an essential addition to the oil pans for all lathes that are equipped with taper attachments and for all turret lathes. The splash pans are attached to the back of the oil pans, as shown in the illustration at right.

Chip Pans are intended for collecting chips only and are not necessarily oil tight. Chip pans extend from the headstock leg to the tailstock end of bed.



16-inch South Bend Lathe equipped with oil pan, splash pan, coolant reservoir, coolant pump, and piping

Oil Pans for Floor Leg Lathes

Cat. No.	Size Lathe	LENGTH OF BED 3′	3½′	4′	4½′	5′	6′	7′	8′	10′	12′
2020-N	10 in.	Zokem	Cokun	Disoz	Fucam	.....	.....	.....	.....	.....	.....
2022	13 in.	.....	.....	Dafik	.....	Himeg	Kucar	Litaz	.....	.....	.....
2023	14½ in.	.....	.....	.....	.....	Himuz	Kucen	Lited	Mesar	Nekuh	.....
2024	16 in.	.....	.....	.....	.....	.....	Kuciz	Liton	Mesiz	Nemix	Penim

Splash Pans for Floor Leg Lathes

Cat. No.	Size Lathe	LENGTH OF BED 3′	3½′	4′	4½′	5′	6′	7′	8′	10′	12′
2059-N	10″ and 1000	Wynac	Wyneb	Wynik	Wynos	.....	.....	.....	.....	.....	.....
2060	13 in.	.....	.....	Wymoc	.....	Wymot	Wymug	Wymux	.....	.....	.....
2061	14½ in.	.....	.....	.....	.....	Wypaz	Wypeh	Wypim	Wypos	Wypox	.....
2062	16 in.	.....	.....	.....	.....	.....	Wywer	Wywem	Wywik	Wywob	Wywuh

Chip Pans for Floor Leg Lathes

Cat. No.	Size Lathe	LENGTH OF BED 3′	3½′	4′	4½′	5′	6′	7′	8′	10′	12′
1987-N	10 in.	Zemoh	Casoz	Dihon	Fehar	.....	.....	.....	.....	.....	.....
1989	13 in.	.....	.....	Dadiz	.....	Hewob	Kecah	Lepab	.....	.....	.....
1990	14½ in.	.....	.....	.....	.....	Hewuh	Kecip	Lepif	Menab	Nenac	.....
1991	16 in.	.....	.....	.....	.....	.....	Kecov	Lepop	Menop	Nenog	Pakey

Oil Pans for Bench Lathes

Cat. No.	Size Lathe	LENGTH OF BED 3′	3½′	4′	4½′
Horizontal Motor Driven Bench Lathes					
1497-W	9 in.	Buzag	Cunab	Dopen	Fopal
Underneath Belt Motor Driven Bench Lathes					
1597-N	10 in.	Zehoc	Canez	Dozik	Fumar

Splash Pans for Bench Lathes

Cat. No.	Size Lathe	LENGTH OF BED 3′	3½′	4′	4½′
Horizontal Motor Driven Bench Lathes					
2056-W	9″ and 900	Wyrab	Wyrek	Wyrin	Wyroz
Underneath Belt Motor Driven Bench Lathes					
2058-W	9″ and 900	Wytak	Wytem	Wytis	Wytoh
2057-N	10″ and 1000	Wysac	Wysem	Wysir	Wysox

Chip Pans for Bench Lathes

Cat. No.	Size Lathe	LENGTH OF BED 3′	3½′	4′	4½′
Horizontal Motor Driven Bench Lathes					
1297-W	9 in.	Boxal	Cupac	Domav	Fokaw
Underneath Belt Motor Driven Bench Lathes					
1377-N	10 in.	Zasuk	Cuxek	Doxer	Femah

Coolant Pump, Reservoir, and Piping

Standard Extras

The coolant equipment described below is intended for use with South Bend Lathes equipped with oil pans as described above. The oil pump is self-priming as it is below the oil level.

Coolant equipment includes a motor driven coolant pump, tubing, reservoir, ¼ h.p. motor, as listed below, with switch wired to motor. When ordering specify voltage, phase, and cycle of motor wanted.

Coolant Pump, Reservoir, and Piping

Size of Lathe Inches	FOR FLOOR LEG LATHES: Underneath Motor Driven Floor Leg Lathes — Cat. No.	3-Phase 50/60 Cy. A.C. 220 V. or 440 V.	1-Phase 60 Cycle A.C. 115 V.	D.C. 110-120 V., or 230-250 Volt	FOR BENCH LATHES: Horizontal Motor Driven Bench Lathes — Cat. No.	3-Phase 50/60 Cy. A.C. 220 V. or 440 V.	1-Phase 60 Cycle A.C. 115 V.	D.C. 110-120 V., or 230-250 Volt	Underneath Motor Driven Bench Lathes — Cat. No.	3-Phase 50/60 Cy. A.C. 220 V. or 440 V.	1-Phase 60 Cycle A.C. 115 V.	D.C. 110-120 V., or 230-250 Volt
9	.....	.....	.....	.....	1854-W	Rugix	Rucay	Ruhan	1901-W	Sanep	Soxac	Sudam
10	1674-N	Lowem	Limen	Lutan	.....	.....	.....	.....	1901-N	Sanoz	Socuz	Sudco
13	1676	Lowsa	Linur	Lutbo	.....	.....	.....	.....	.....	.....	.....	.....
14½	1677	Lowuc	Lipax	Luter	.....	.....	.....	.....	.....	.....	.....	.....
16	1678	Loxav	Lipeb	Lutiv	.....	.....	.....	.....	.....	.....	.....	.....

Milling and Keyway Cutting Attachment

Standard Extra

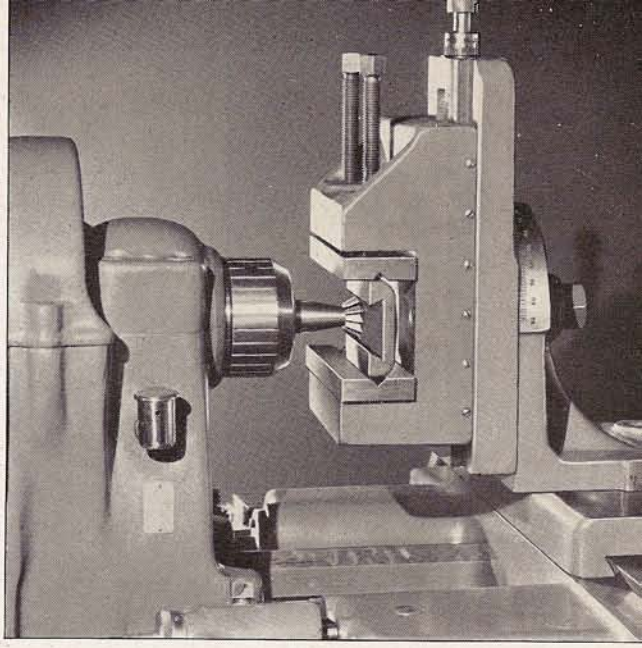
The milling and keyway cutting attachment is excellent equipment for the shop that does not have a milling machine. It is mounted on the compound rest base of the lathe, permitting the power cross-feeds and power longitudinal feeds to be employed for milling and boring operations on work held in the milling attachment vise.

The angle plate to which the vertical slide is attached is graduated 180° in both the horizontal plane and vertical plane, permitting the vise to be swiveled in any direction. The vertical slide adjusting screw is equipped with a micrometer graduated collar.

The equipment included consists of: milling and keyway cutting attachment, two V-blocks for holding round work, one crank handle for feed screw, one double end wrench, and necessary bolts and nuts for installing attachment on lathe. Milling cutters and arbors are not included.

Milling and Keyway Cutting Attachment

Catalog Number	Size of Lathe	Vertical Feed	Cross-Feed	Vise Will Hold	Depth of Jaws	Width of Jaws	Weight Each	Code Word
9-W	9 in.	2½ in.	5⅞ in.	1½ in.	13/16 in.	3 in.	13 lbs.	Vabif
1-N	10 in.	3 in.	5⅞ in.	1¾ in.	15/16 in.	3½ in.	25 lbs.	Vahek
3	13 in.	4¼ in.	8⅛ in.	2⅞ in.	1 11/16 in.	4⅞ in.	40 lbs.	Victo
4-K	14½ in.	6 in.	10 in.	4 in.	2 in.	5¾ in.	50 lbs.	Vulat
5	16 in.	6 in.	10½ in.	4 in.	2 in.	5¾ in.	65 lbs.	Varen



Arbor for Side and Plain Milling Cutters

For holding cutters with standard 1-inch hole. Capacity between nut and shoulder is 1½ inches. Three spacing collars and hardened nut are furnished with each arbor. The Taper Shank is ground to fit the headstock spindle of the lathe.

Arbors for Milling Cutters

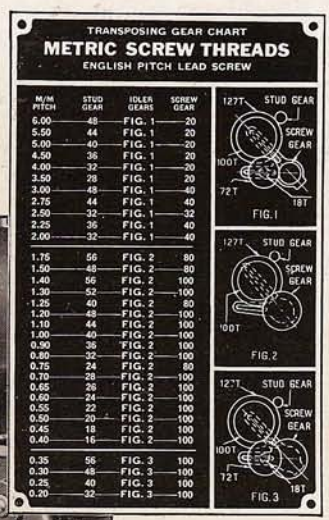
Standard Extras

Cat. No.	Size of Lathe	Morse Taper	Code Word
109-W	9 in.	No. 3	Kacel
1548	10 in.	No. 3	Kahec
113-M	13 in.	No. 3	Kcite
114-M	14½ in.	No. 3	Kezaf
116-M	16 in.	No. 3	Kempy

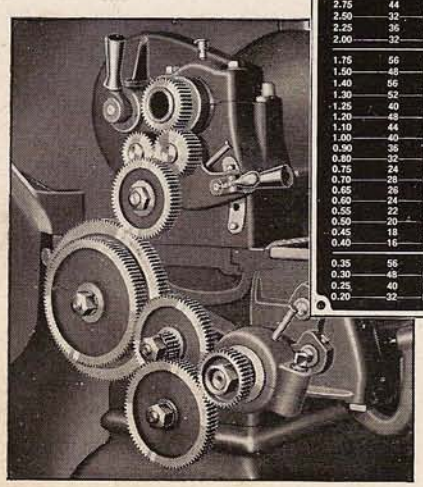
Metric Transposing Gears

For Cutting Metric Screw Threads

Standard Extras



Right—Index Chart Showing Metric Screw Threads Cut with Metric Transposing Gears



Left — South Bend Lathe Equipped with Metric Transposing Gears

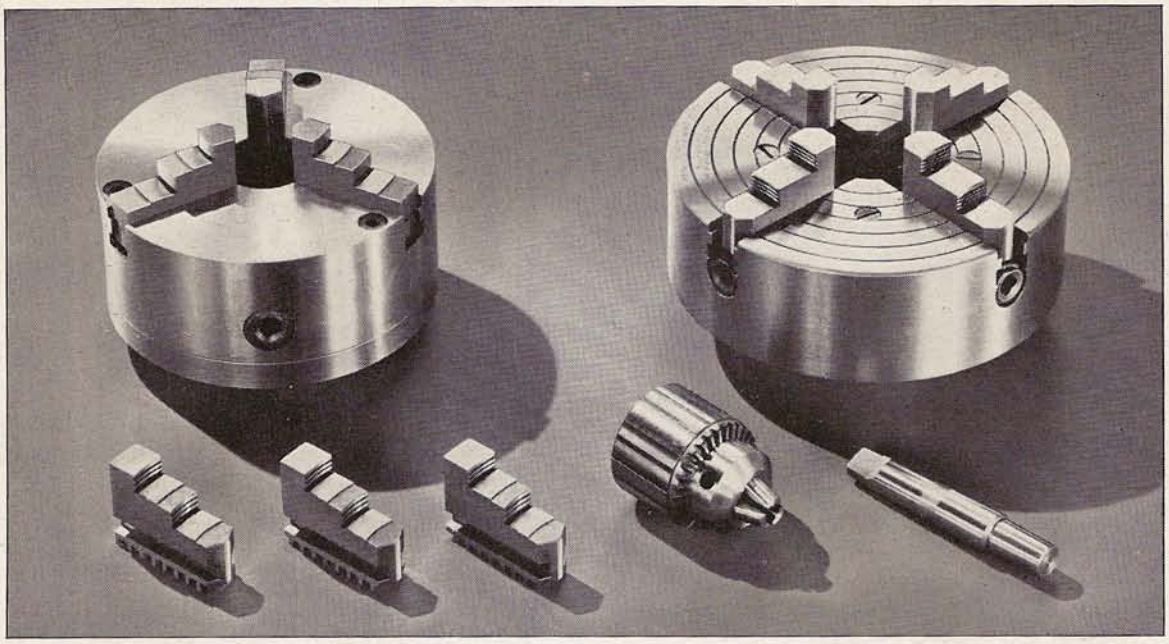
Right-hand and left-hand metric screw threads ranging from 6 mm pitch to 0.20 mm pitch, as listed in the index chart at left, can be cut (in addition to the regular English pitches) on any size or type of South Bend Lathe when equipped with a set of metric transposing gears.

Gear guards designed to enclose the metric gears are supplied at no extra cost when the transposing gears are ordered with the lathe. When transposing gears are ordered separate from the lathe a special gear guard is required. The price of the special gear guard will be quoted on request.

Metric Transposing Gears

Size of Lathe	Standard Change		Quick Change	
	Cat. No.	Code	Cat. No.	Code
9″ and Series 900	1759-W	Kazaj	1955-W	Lupal
10″ and Series 1000	.....	....	1955-N	Lucem
13″	.....	....	1957	Luhov
14½″	.....	....	1961	Lukaw
16″	.....	....	1959	Lujem

Chucks for South Bend Lathes



3-Jaw Universal Lathe Chucks with Two Sets of Jaws
Fitted with Chuck Plate Threaded for Lathe Spindle

Purchased Extras

Two sets of jaws are furnished with each Universal Chuck, one set for chucking internally and the other for chucking externally. Chuck body is ground and jaws are hardened. Chuck jaws are moved simultaneously by a scroll, and work is automatically centered. Prices include chuck with two sets of jaws, wrench, and threaded chuck plate fitted to lathe spindle. Made in the United States.

Cat. No.	Size of Chuck	Approx. Shipping Weight	9-inch & Ser. 900 Lathes	10-inch Regular Lathes	10"–1" Col. & Ser. 1000 Lathes	13-inch Lathes	14½-inch Lathes	16-inch Lathes
3005	5"	12½ lbs.	**Faput**	Focas	Cavba	.....	.....	.....
3505	5"	16 lbs.	Cauco	**Focew**	**Cukan**	Fomol	Cawbo	Catay
3506	6"	22 lbs.	.....	Caulx	Cosax	**Bafuk**	Bosaw	Catca
3507	7½"	37 lbs.	.....	.....	.....	Baguy	**Bosok**	**Balat**

Recommended sizes are shown in **Bold Face Type.**

4-Jaw Independent Lathe Chucks with Reversible Jaws
Fitted with Chuck Plate Threaded for Lathe Spindle

Purchased Extras

These chucks have four independent solid jaws with individual screw adjustment. The jaws may be reversed for chucking work either inside or outside. Chuck body is ground and chuck jaws are hardened and ground.

Prices include chuck, wrench, and threaded chuck plate fitted to lathe spindle and to chuck. Manufactured in the United States.

Cat. No.	Size of Chuck	Approx. Shipping Weight	9-inch & Ser. 900 Lathes	10-inch Regular Lathes	10"–1" Col. & Ser. 1000 Lathes	13-inch Lathes	14½-inch Lathes	16-inch Lathes
4006	6"	13 lbs.	**Fabew**	Fazim	Pabmo	.....	.....	.....
4206	6"	18 lbs.	Padkn	**Fazos**	**Fecik**	Fajub	Pamez	.....
4207	7½"	37 lbs.	.....	Padlo	Padxa	**Cawoc**	Celaq	Pamfa
4209	9"	50 lbs.	.....	.....	.....	Cayes	**Celiy**	Cocet
4210	10"	60 lbs.	.....	.....	.....	.....	Celuk	**Cocuj**

Recommended sizes are shown in **Bold Face Type.**

Jacobs Three-Jaw Drill Chuck—*Purchased Extra*

Cat. No.	Capacity	Diam.	Length	Net Wt.	Ship. Wt.	Code
1200	0 to ⅜ in.	1¾ in.	2¼ in.	1⅛ lbs.	1⅞ lbs.	Cleve
1201	0 to ½ in.	2 1/16 in.	2 19/32 in.	1¾ lbs.	2⅜ lbs.	Wauko
1202	3/16 to ¾ in.	2 9/16 in.	3 31/32 in.	3⅛ lbs.	3½ lbs.	Faloa
1206	⅜ to 1 in.	3 9/16 in.	5⅜ in.	6⅝ lbs.	7½ lbs.	Faped

Almond Three-Jaw Drill Chuck—*Purchased Extra*

Cat. No.	Capacity	Diam.	Length	Net Wt.	Ship. Wt.	Code
219	0 to ⅜ in.	1⅞ in.	2¼ in.	1⅜ lbs.	1⅞ lbs.	Acpen
220	0 to ½ in.	2⅛ in.	2⅝ in.	1¾ lbs.	2½ lbs.	Acpip
327	⅛ to ¾ in.	2½ in.	3⅜ in.	3⅛ lbs.	3¾ lbs.	Rulid
328	⅜ to 1 in.	3 in.	4¾ in.	5⅝ lbs.	6⅜ lbs.	Rulof

Taper Shank Arbors—*Purchased Extras*

For fitting drill chucks to lathe spindles

Specify size and make of chuck for which arbor is to be used.

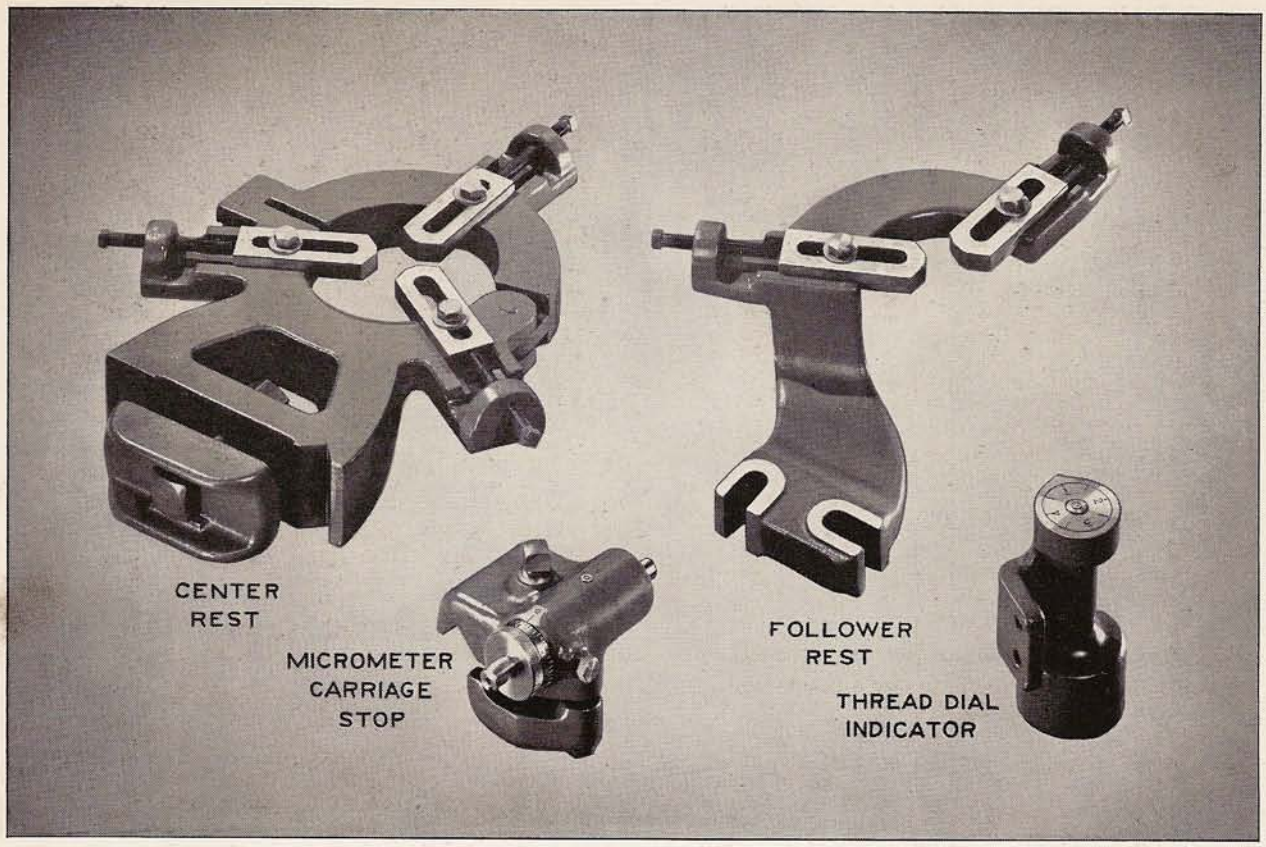
Cat. No.	Size Lathe	Morse Taper	Net Wt.	Ship. Wt.	Code
709-W	9-in.	No. 2	½ lb.	¾ lb.	Achuk
709-N	10-in.	No. 2	½ lb.	¾ lb.	Tizak
713	13, 14½-in.	No. 3	⅞ lb.	1 lb.	Adams
716	16-in.	No. 3	⅞ lb.	1 lb.	Agate

Straight Shank Arbors—*Purchased Extras*

For fitting drill chucks to lathe turrets

Specify size and make of chuck for which arbor is to be used.

Catalog Number	Size Lathe	Diameter of Shank	Length of Shank	Code Word
1865	900 Series	⅝ inch	2½ inch	Cwbeb
1869	1000 Series	⅝ inch	2½ inch	Cwbeh



Attachments for All Sizes of South Bend Lathes

Center Rest

Standard Extra

The center rest clamps onto the inside ways of the lathe bed and is used for supporting long shafts, boring spindles, etc. The three jaws are adjustable to accommodate various sizes of work, and the top of the center rest is hinged to facilitate inserting and removing shafts.

The jaws are made of cast iron, and if properly lubricated will wear very little. The jaws are machined all over and have adjusting screws and lock screws for setting them in the desired position.

Catalog Number	Size of Lathe	Maximum Capacity	Minimum Capacity	Code Word
125-W	9″ and Series 900	3 in.	¼ in.	Cegke
1177	10″ and Series 1000	3 in.	¼ in.	Nuzic
341	13″	3¾ in.	⅜ in.	Nygas
1174	14½″	4¾ in.	⅜ in.	Nuzas
720	16″	4¾ in.	⅜ in.	Nyjou

Follower Rest

Standard Extra

The follower rest shown above, is attached to the lathe carriage and travels with the carriage. The follower rest is used to support long, slender shafts while being machined between the lathe centers. Adjusting screws and lock screws are provided for setting the jaws in position.

Slots in bottom of follower rest are used for attaching follower rest to carriage, and permit attaching or removing quickly as it is not necessary to remove the screws from the saddle.

Catalog Number	Size of Lathe	Maximum Capacity	Minimum Capacity	Code Word
34-W	9″ and Series 900	2 in.	5/16 in.	Cegmo
1353	10″ and Series 1000	2½ in.	5/16 in.	Fanus
376	13″	3¼ in.	5/16 in.	Fanba
1351	14½″	4¼ in.	5/16 in.	Felat
730	16″	4¼ in.	5/16 in.	Famuf

Micrometer Carriage Stop

Standard Extra

This attachment is useful for accurate facing, turning, boring, etc. It is used for locating the carriage at any point along lathe bed. Can be used on either side of carriage. Has accurately graduated micrometer collar. The stop is hardened on both ends and may be locked for duplicate work.

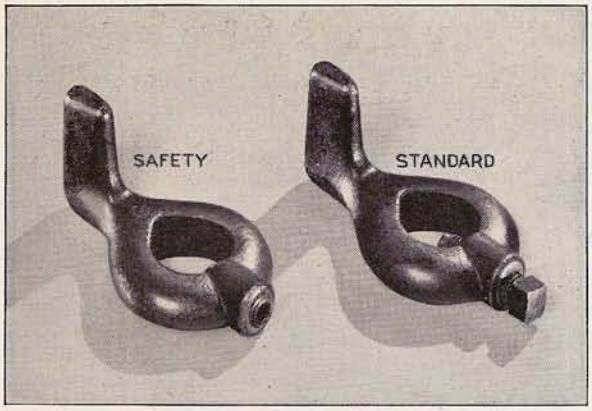
Cat. No.	Size Lathe	Code	Cat. No.	Size Lathe	Code
968-W	9″ and Series 900	Capys	1502	14½″	Ciwot
1518	10″ and Series 1000	Cegab	975	16″	Climb
973	13″	Chain			

Thread Dial Indicator

Standard Extra

This attachment eliminates the necessity of reversing the lathe spindle when cutting screw threads. The half-nuts may be opened to return the carriage to the starting point of each successive cut. The dial is numbered and graduated to show when to close the half-nuts on the lead screw to catch the thread for the next cut.

Cat. No.	Size Lathe	Code	Cat. No.	Size Lathe	Code
810-W	9″ and Series 900	Adnok	814-K	14½″	Dabaq
1588	10″ and Series 1000	Dahun	816	16″	Aflot
813	13″	Advis			



Standard and Safety Lathe Dogs

Standard Extras

These lathe dogs are made of heavy malleable iron and are properly designed for strength and service. The Standard Lathe Dog has square head alloy steel set screw. The Safety Lathe Dog has a headless alloy steel set screw and wrench.

Lathe Dogs for 13″, 14½″, and 16″ Lathes

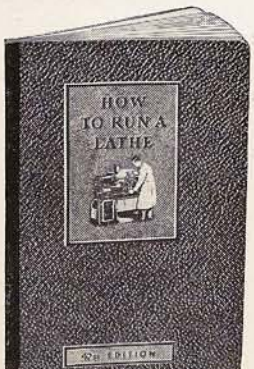
Standard Lathe Dogs			Safety Lathe Dogs		
Cat. No.	Capacity	Code Word	Cat. No.	Capacity	Code Word
1-M	⅜ in.	Holal	1-MH	⅜ in.	Kelig
2-M	½ in.	Holep	2-MH	½ in.	Kelom
4-M	¾ in.	Holit	4-MH	¾ in.	Kelus
6-M	1 in.	Holoz	6-MH	1 in.	Kemam
8-M	1¼ in.	Holuf	8-MH	1¼ in.	Kemug
10-M	1½ in.	Homaz	10-MH	1½ in.	Kenaz
11-M	1¾ in.	Homih	11-MH	1¾ in.	Kened
12-M	2 in.	Homon	12-MH	2 in.	Kenih
14-M	2½ in.	Homut	14-MH	2½ in.	Kenom
15-M	3 in.	Honam	15-MH	3 in.	Kenut
16-M	3½ in.	Honeq	16-MH	3½ in.	Keqes
17-M	4 in.	Honug	17-MH	4 in.	Keqiw

Lathe Dogs for 9″ and 10″ Lathes

Standard Lathe Dogs			Safety Lathe Dogs		
Cat. No.	Capacity	Code Word	Cat. No.	Capacity	Code Word
1-MJ	⅜ in.	Kamuk	1-JH	⅜ in.	Tacey
2-MJ	½ in.	Kanad	2-JH	½ in.	Tacic
4-MJ	¾ in.	Kaneh	4-JH	¾ in.	Tadah
6-MJ	1 in.	Kanil	6-JH	1 in.	Tadip
8-MJ	1¼ in.	Kanar	8-JH	1¼ in.	Tebac
10-MJ	1½ in.	Kanux	10-JH	1½ in.	Tebeg

"How to Run a Lathe"

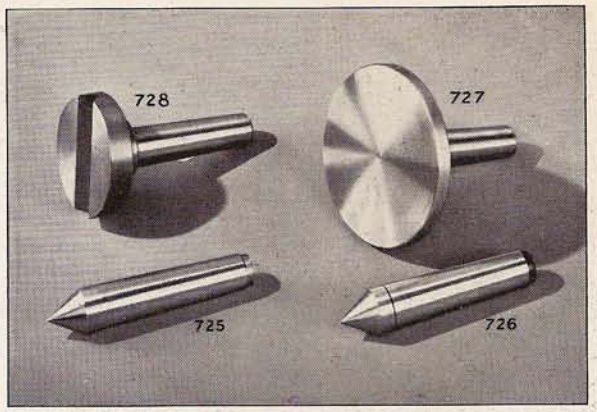
For the Apprentice



"How to Run a Lathe" is a practical reference book on the operation and care of metal working lathes. It is widely used for training apprentices, new workers, and students.

Revised Edition No. 42 of the book "How to Run a Lathe" contains 128 pages size 5⅛″ x 8″, and more than 360 illustrations. Detailed information is given on grinding lathe tool cutter bits, taking accurate measurements, cutting screw threads, taper turning, feeds and speeds, boring, and other classes of lathe work. Valuable reference tables and rules are also included in this book.

"How to Run a Lathe" is printed in English, French, Spanish, and Portuguese. Price postpaid 25c. Stamps or money order of any country accepted. State language wanted.



60° Headstock Spindle Center—*Standard Extra*

Made of tool steel, accurately ground all over. For use in headstock spindle of the lathe. Not hardened.

Size Lathe...	9 in. & 900	10 in. & 1000	13 in.	14½ in.	16 in.
Cat. No.....	725-W	725-N	725-C	725-K	725-E
Code Word..	Adgud	Hosik	Hexop	Hexuv	Heyap

60° Tailstock Spindle Center—*Standard Extra*

Made of tool steel, hardened and ground all over. For use in tailstock spindle of the lathe.

Size Lathe...	9 in. & 900	10 in. & 1000	13 in.	14½ in.	16 in.
Cat. No.....	726-W	726-N	726-C	726-K	726-E
Code Word..	Cenre	Cehob	Cheat	Cepog	Clase

Drill Pad—*Standard Extra*

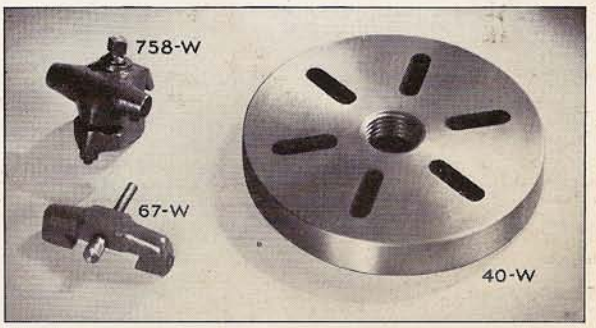
Used in tailstock spindle to support flat work while being drilled. Shank is ground to fit taper in tailstock spindle.

Size Lathe...	9 in. & 900	10 in. & 1000	13 in.	14½ in.	16 in.
Cat. No.....	727-W	727-N	727-C	727-K	727-E
Code Word..	Donav	Dasug	Dahex	Dacim	Dahib

Crotch Center—*Standard Extra*

Used in tailstock for drilling cross holes in shafts, oil holes in bushings, etc.

Size Lathe...	9 in. & 900	10 in. & 1000	13 in.	14½ in.	16 in.
Cat. No.....	728-W	728-N	728-C	728-K	728-E
Code Word..	Fanid	Fenic	Fevay	Fijes	Fomur



9-inch and Series 900 Lathes Accessories

Standard Extras

Large Face Plate—Threaded to fit the spindle nose of lathe. Has slots for clamping work or special face plate fixtures. Heavily constructed and is ribbed on the back. Outside diameter 7⅜″.

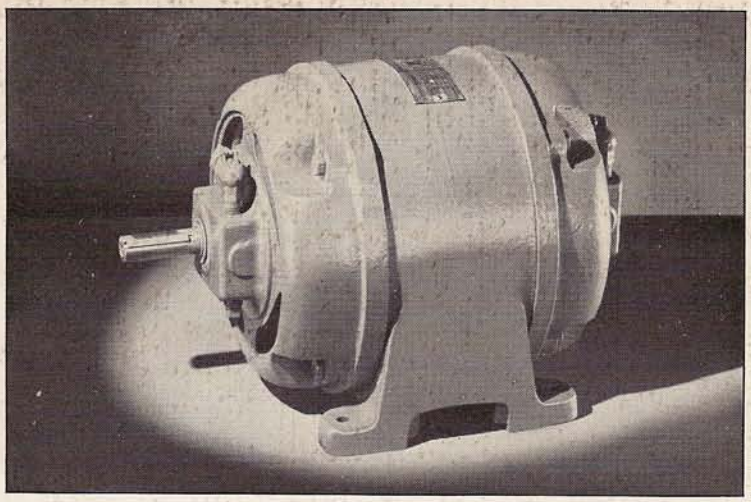
Cat. No. 40-W. Face Plate for 9″ and Series 900 lathes. Code word.....“Cehak”.

Thread Cutting Stop—Used for regulating the depth of each chip when cutting screw threads.

Cat. No. 67-W. Thread Cutting Stop for 9″ and Series 900 lathes. Code word.....“Cegpy”.

Plain Carriage Stop—A practical stop for facing, turning, boring, etc. Can be used on either side of the carriage.

Cat. No. 758-W. Plain Carriage Stop for 9″ and Series 900 lathes. Code word.....“Tahro”.



Motors and Controls

(Purchased Extras)

Motors and controls are not manufactured by us but can be supplied with South Bend Lathes at extra cost. All motors and controls supplied by us are made by reliable manufacturers of electrical equipment. Prices are f.o.b. South Bend, Indiana.

Electrically reversing motors are necessary to permit reversing the lathe spindle for tapping, thread cutting, and similar operations. Instant reversing motors are preferable but ¼ h.p. single-phase start-stop reversing motors can be used on the 9-inch Horizontal Motor Driven Lathes.

The horsepower specifications in the tabulation below represent the minimum sizes of motors recommended for the various sizes of lathes. The recommended motor speeds are also listed.

A drum type across-the-line control switch is recommended for operating the motor. Starting resistance is required for D.C. motors of ¾ h.p. and larger.

Motors and controls will be fitted and wired at the factory without additional charge when ordered with the lathe. When customers or distributors ship motors or controls to the factory to be fitted to the lathe, no extra charge is made unless special mounting brackets, special wiring or other special work is required.

We recommend that all motors and controls be ordered with the lathe or shipped to the factory where we have facilities for installing and wiring and are prepared to test the completed job.

Specify Electric Current

When Ordering Electrical Equipment

When ordering motors and controls for South Bend Lathes be sure to give complete information relative to the electric current on which the motor is to operate.

1. State whether alternating current or direct current, and give exact voltage.
2. If A.C., also specify phase and cycle.
3. Do not order double rated motors.
4. Designate make of motor preferred, also second choice and third choice.

Motors and Controls

Size Lathe	Motor H.P. Required	Recommended Motor Speed	Recommended Control Equipment
16″	1½	1800	Drum type reversing switch—(Starting resistance also required for D.C. motors)
14½″	1½	1800	Drum type reversing switch—(Starting resistance also required for D.C. motors)
13″	1	1800	Drum type reversing switch—(Starting resistance also required for D.C. motors)
10″	¾	1800	Drum type reversing switch—(Starting resistance also required for D.C. motors)
9″	½ or ¼	1800	Drum type reversing switch
Series 1000	¾	1800	Drum type reversing switch—(Starting resistance also required for D.C. motors)
Series 900	½	1800	Drum type reversing switch

Note: Push button starting equipment can be supplied to order.

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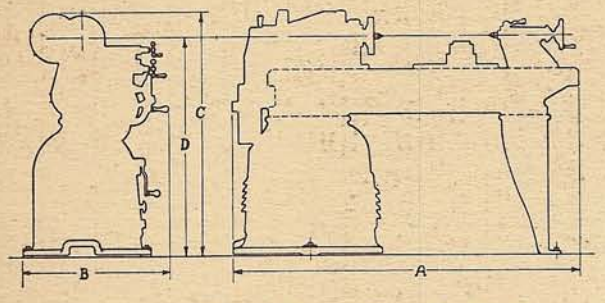
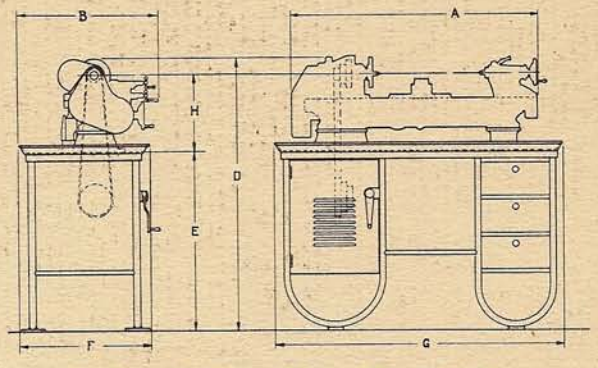
Floor Space Required for South Bend Lathes

Dimensions A to I given in tables below are in inches



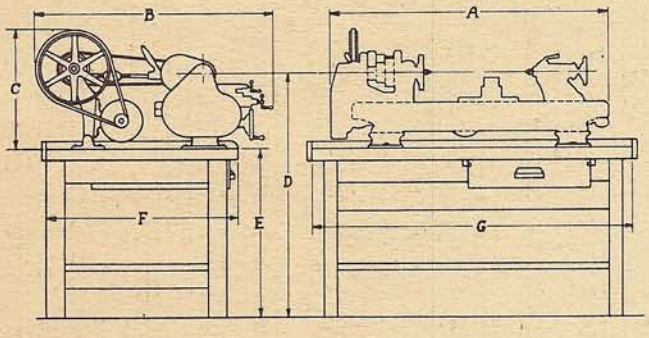
Underneath Motor Driven Floor Leg Lathes

Size Lathe	Bed Length	A	B	C	D
10″	3′	44	20 5/8	44 23/32	41 13/32
13″	5′	66 5/8	26 3/16	45 1/2	41 1/2
14 1/2″	6′	80 1/2	27 1/2	46 1/2	41 9/16
16″	8′	105	28 5/8	46 3/4	42 1/32



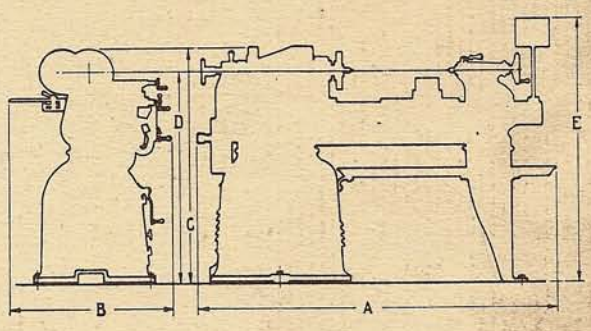
Underneath Motor Driven Bench Lathes

Size Lathe	Bed Length	A	B	D	E	F	G	H
9″	3′	39 3/8	22 7/8	44 25/32	29 3/8	21 1/2	48 1/4	12 11/32
10″	3′	42 3/8	24 11/16	47 15/32	30 3/8	22	51 1/2	13 25/32



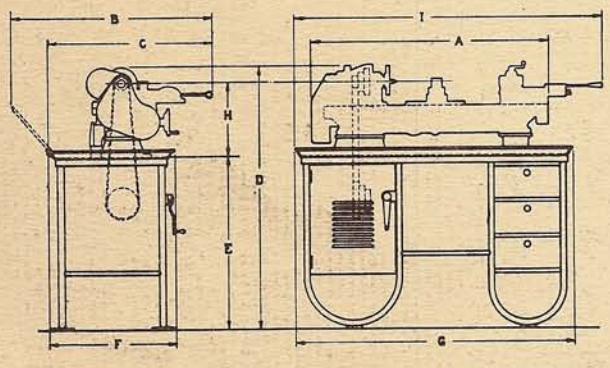
Horizontal Motor Driven Bench Lathes

Size Lathe	Bed Length	A	B	C	D	E	F	G
9″	3′	39 3/8	31 7/8	18 3/8	42 19/32	30 1/2	28	54



Floor Leg Toolroom Lathes

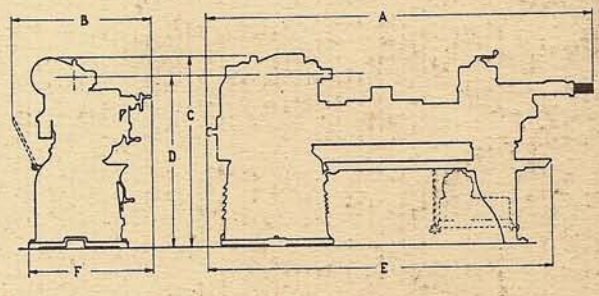
Size Lathe	Bed Length	A	B	C	D	E
10″	3′	46	26 3/4	44 23/32	41 13/32	49 3/4
13″	5′	69 1/8	34 1/4	45 1/2	41 1/2	50 1/2
14 1/2″	6′	85	36 3/4	46 1/2	41 9/16	50
16″	8′	108	41 3/8	46 3/4	42 1/32	52 3/4



Bench Turret Lathes

Lathe Size	Bed Length	A	B	C	D
Series 900	3 1/2′	45 1/2	36 1/4	26 3/4	44 25/32
Series 1000	3 1/2′	47 3/8	40 1/2	31	47 15/32

Size Lathe	Bed Length	E	F	G	H	I
Series 900	3 1/2′	29 3/8	21 1/2	48 1/4	12 11/32	60
Series 1000	3 1/2′	30 5/8	22	51 1/2	13 25/32	63 1/4



Floor Leg Turret Lathes

Size Lathe	Bed Length	A	B	C	D	E	F
Series 1000	3 1/2′	62 1/4	34 1/4	44 23/32	41 13/32	51	26 7/8
No. 2-H	6′	96	37	46 3/4	42 1/32	84	28 3/4
No. 2-H	7′	108	37	46 3/4	42 1/32	96	28 3/4