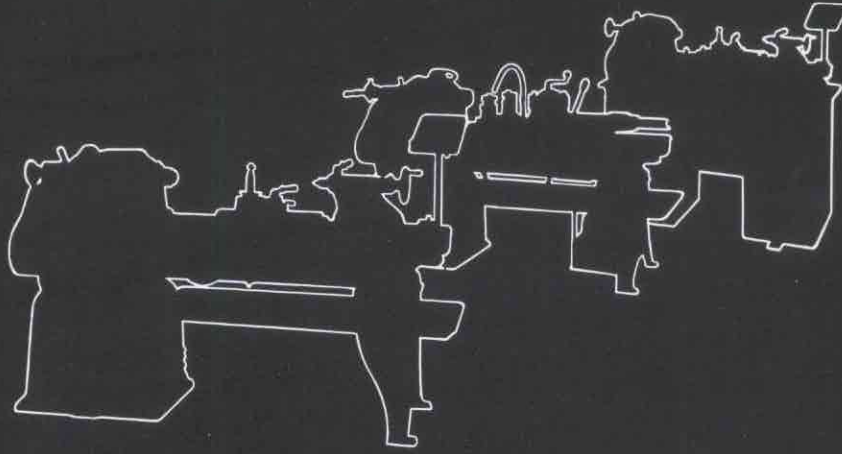
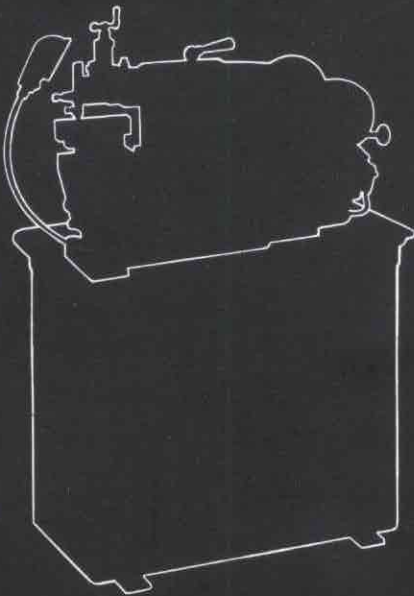
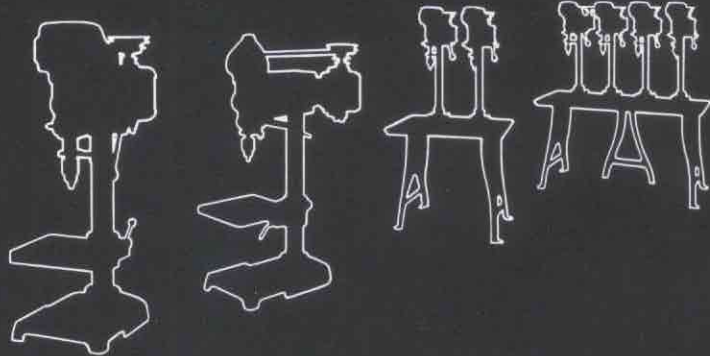


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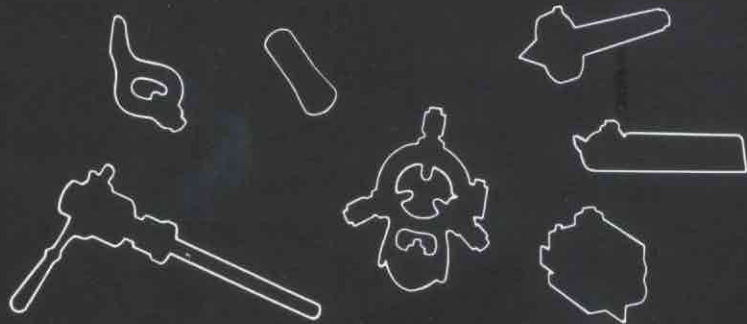
LATHES

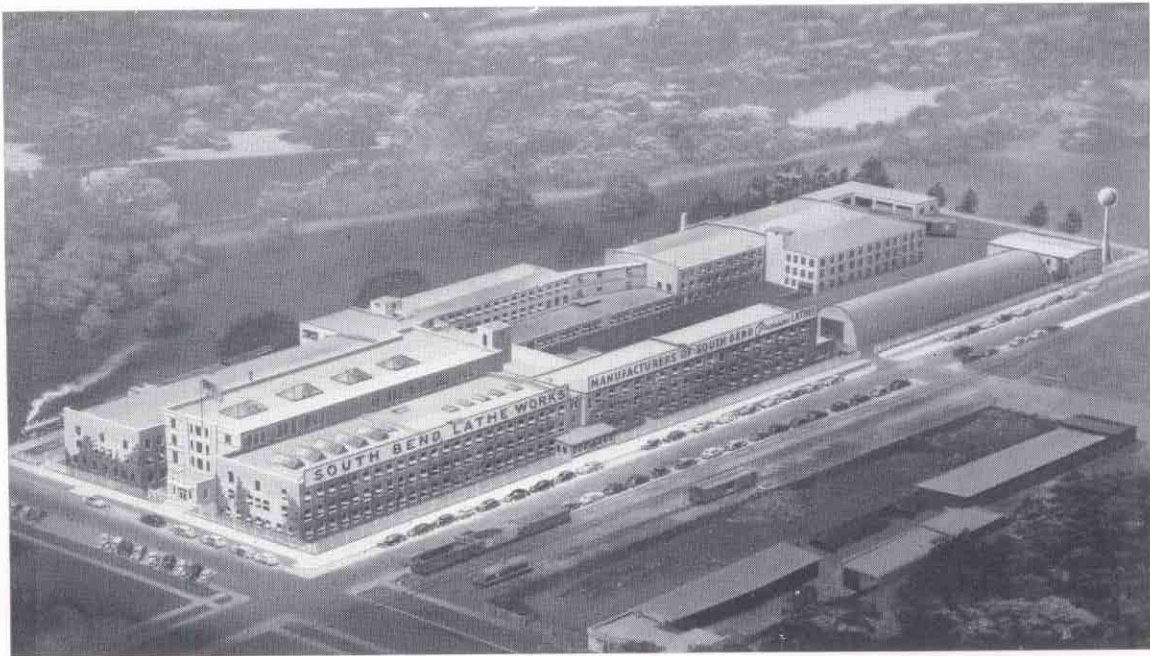
DRILL PRESSES



BENCH SHAPERS

ACCESSORIES





South Bend Lathe Works

The South Bend Lathe Works was founded in 1906 by John J. O'Brien and Miles W. O'Brien, twin brothers who had served toolmaker apprenticeships in some of the finest of the old New England shops. After supplementing their practical training with engineering courses at Purdue University, the O'Brien brothers established their factory at South Bend, on the banks of the beautiful St. Joseph river. Bringing to the midwest a rich heritage of Yankee ingenuity, their products were a success from the beginning.

Operated first as a partnership and incorporated in 1914, the business remained a closely held corporation until 1936 when its stock was first listed on a Chicago stock exchange. Currently listed on the Midwest Stock Exchange of Chicago, the stock is now owned by a diversified group of shareholders residing in all parts of the United States.

Recognizing the fact that there is no substitute for experience, it has been the policy of this company to employ well trained mechanics and to encourage promising young men to remain after their apprenticeship with the company has been completed. Today a large percentage of our workmen are "old timers" having service records of more than twenty-five years.

Catalog 5205

SOUTH BEND *Precision* LATHES DRILL PRESSES - SHAPERS

Copyright 1952 by the South Bend Lathe Works. All rights reserved.

Warranty

The South Bend Lathe Works warrants its products 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.

Finish—Shipping Weights—Case Sizes

All sizes of South Bend Lathes, the Precision Model Drill Presses and the 7" Bench Shaper are attractively finished in the new South Bend light gray enamel. Accessories are finished to match. Shipping weights of all machines include an allowance for a normal amount of electrical equipment and accessories, and have been carefully estimated. However, they should be considered approximate as there is some variation due to the variation in the weight of the lumber and other packing materials used. Case sizes specified are based on current methods of packing and should be accurate within one cubic foot. However, we reserve the right to make changes in packing without notice, and such changes may alter the case size.



SOUTH BEND LATHE WORKS

Building Better Tools Since 1906

425 EAST MADISON STREET, SOUTH BEND 22, INDIANA, U.S.A.

CABLE ADDRESS "TWINS" SOUTH BEND

CODES USED

A. B. C. Fifth Edition Improved — Bentley's Complete Phrase and 2nd Editions
Western Union Five Letter Edition — Western Union Universal Edition
Acme — Lieber's — Standard — Our Own

SOUTH BEND *Precision* LATHES

Careful design and conscientious workmanship are combined in South Bend Lathes to give you a machine tool that you can depend on for years of satisfactory service. Continual research has resulted in many improvements and refinements which contribute to their accuracy, durability, and ease of operation. We know of no other lathe selling at anywhere near the price that can match the performance of South Bend.

As a part of our policy of continual improvement, new ideas, new methods, and new materials are developed and tested in our research laboratory. 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.

Parts for South Bend Lathes are economically produced in our modern factory equipped with efficient production machinery. Measuring instruments and tools are constantly checked to maintain uniform accuracy. Hundreds of special machines, jigs, fixtures, and gauges are used to assure interchangeability of parts. This simplifies assembly, lowers the cost of manufacture, and insures precision. South Bend Lathes are reasonable in price because the savings effected by efficient quantity production are passed on to the customer.

A careful inspection of any South Bend Lathe will disclose the most expert workmanship. The superior quality of workmanship is made possible by the highly specialized skills of our experienced employees and the excellent equipment of our shops. An experienced machinist can see at a glance that only the finest craftsmanship enters into the construction of South Bend Lathes.

The best materials available are used in building South Bend Lathes. That is why they last a lifetime if given the proper care. The headstock spindles

are made from a special quality of alloy steel manufactured to exacting specifications of analysis and heat treatment. The spindle bearings are the best quality phosphor bronze. The lathe beds are of a special grade of hard, close-grained iron having unusual tensile strength and wearing qualities.

The lead screws on South Bend Lathes are made of a special grade of steel that has proved to be most satisfactory for this purpose. The compound rest top, carriage, headstock, and other units of the lathe are made of the specific grades of iron that are the most suitable for the respective parts. Even the gray enamel used in finishing South Bend Lathes is made exclusively for us to our specifications.

The scientifically correct design, the generous proportions of bearing surfaces and the excellent facilities for oiling on South Bend Lathes assure permanent accuracy. We invite comparison with any other make of lathe, made either in this country or abroad. We are confident that you will find South Bend Lathes to be more accurate, and that they will retain their precision through years of service.



Fig. 2. Inspecting a Screw Thread with an Optical Comparator.

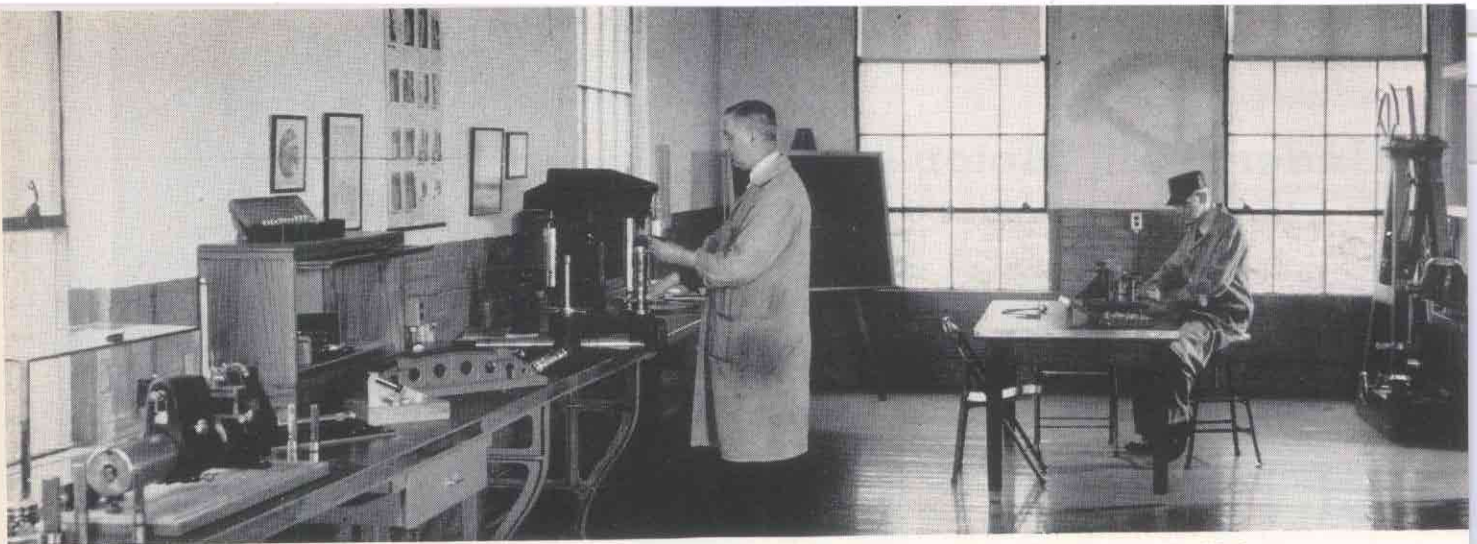


Fig. 3. Testing Laboratory and Research Department for Maintaining Uniformly High Standards of Workmanship and Materials for South Bend Lathes



Fig. 4. Checking a Fixture with Precision Surface Plate and Lapped Gauge Blocks

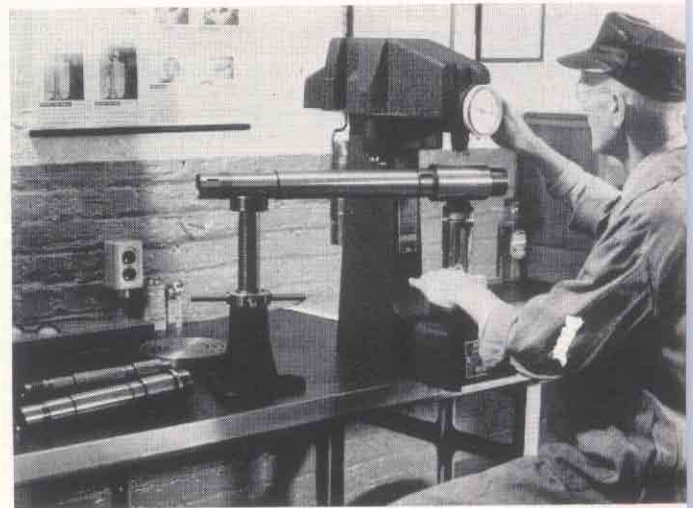


Fig. 5. Testing the Hardness of a Carburized Headstock Spindle Bearing Surface

Fig. 6. Below—Testing Gears for Accuracy of Tooth Form, Pitch Diameter, and Concentricity



SOUTH BEND LATHE WORKS

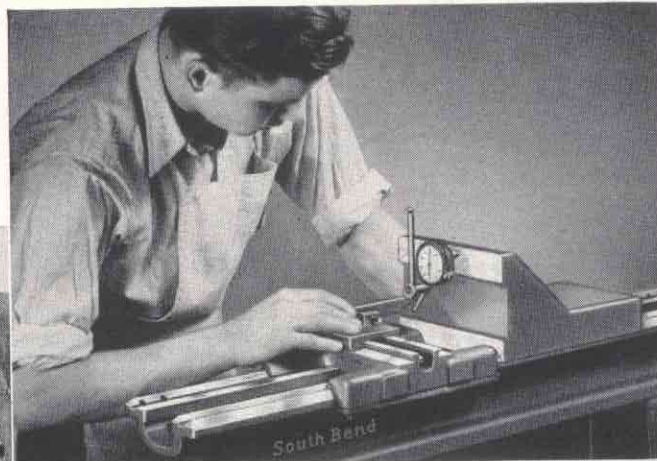
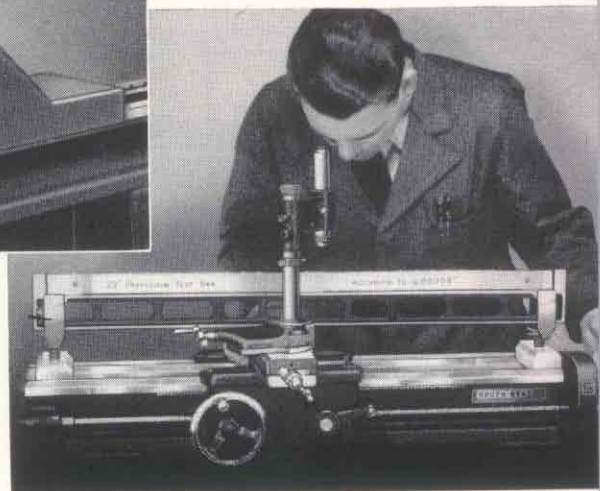


Fig. 7. Above—Testing the Saddle Cross Slide Dovetail for Squareness with V-Ways of the Lathe Bed

Fig. 8. Below—Testing a Lead Screw for Accuracy of Lead with Precision Optical Measuring Equipment



SOUTH BEND 22, INDIANA, U.S.A.

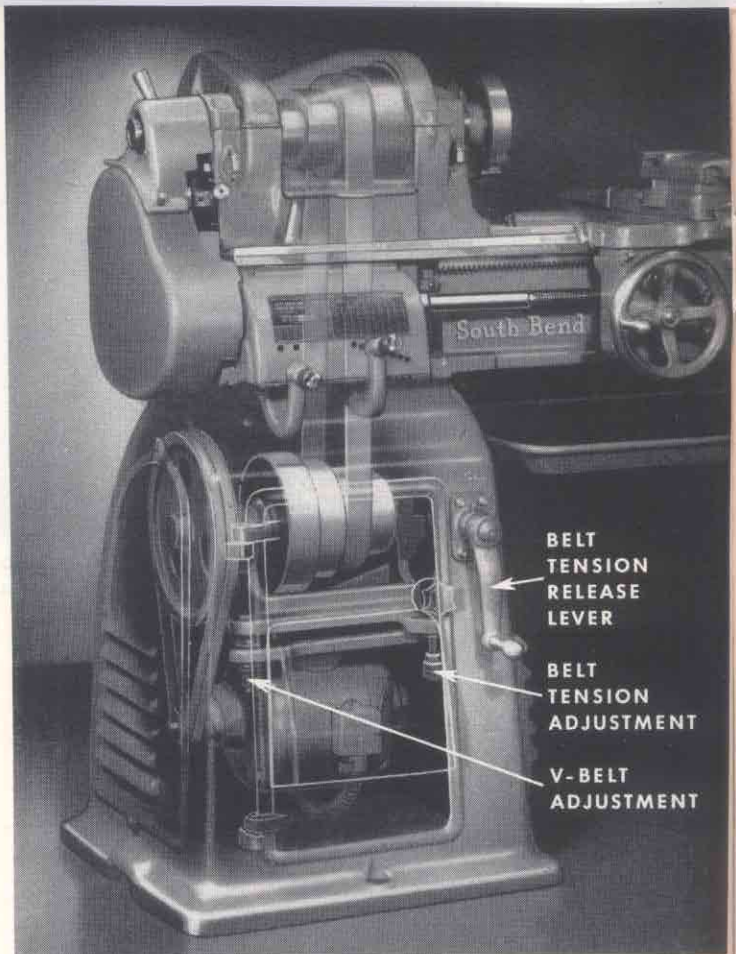
Underneath Motor Drive PROVIDES SMOOTH POWER

The patented South Bend Underneath Belt Motor Drive is unique and exclusive. This fully enclosed drive is unusually compact, silent in operation, powerful, and economical. Although several attempts have been made to imitate it, in our opinion no competitive drive has approached it in excellence of design or quality of construction.

The motor and driving mechanism are mounted in the cabinet leg under the lathe headstock. There are no exposed belts, pulleys or gears. This contributes to the neat appearance of the lathe, and is also noteworthy as a safety feature. V-belts transmit the power from the motor to the lower cone pulley. An endless flat leather belt running over the cone pulleys passes up through the lathe bed. Both the V-belts and the flat leather belt have convenient belt tension adjustments, "B" and "C", Figs. 10, 11, and 12.

The advantage of the smooth direct belt drive to the spindle for high speeds, combined with the powerful back-gear drive for slow speeds are almost too obvious to require explanation. The belt drive back-gear headstock construction has fewer parts and is, therefore, more rugged and durable than the geared head design. The few gears used for slow spindle speeds are of ample proportion to stand the shock of a heavy, interrupted cut; an operation that has proved the Waterloo of many geared head lathes. The noise and vibration of high speed gears (principal defect of the geared head design) are totally absent, thus eliminating the possibility of chatter marks on the work caused by headstock gear vibration. The speed range of a geared head lathe is limited by the gearing, but the belt drive operates smoothly at all speeds.

The quick acting belt tension release "A", Figs. 10, 11, and 12, and convenient headstock back gear change lever permit changing spindle speeds quickly, usually in five to ten seconds. The cover over the headstock cone pulley is hinged and may be raised for easy access to the cone pulley belt. The belt tension can be easily adjusted to transmit just the required amount of power. This feature can be used as a safety factor to prevent damage to the lathe by careless or inexperienced operators who often take too heavy a cut or otherwise stall the motor. When the full power of the motor is required for taking heavy cuts, the belt tension can be tightened quickly and easily to transmit full power. The lower cone pulley shaft assembly is mounted on prelubricated and sealed ball bearings which require no oiling. Pulleys are carefully balanced for smooth operation at all speeds.



Patented

Fig. 9. Phantom View Showing Construction of South Bend Underneath Belt Motor Drive

The control switch is conveniently located to permit the operator to start or stop 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. Pushbutton operated motor controls can be supplied for all 1/2 h.p. and larger motors, and are required for all two-speed motors and for motors operating on currents above 230 volts. Drum type across-the-line reversing switch is optional for 230 volts or less. See page 73 for complete information on motors and controls.

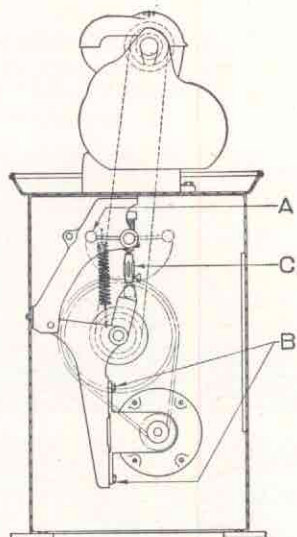


Fig. 10. Underneath Motor Drive Arrangement for 9" and Light Ten South Bend Lathes

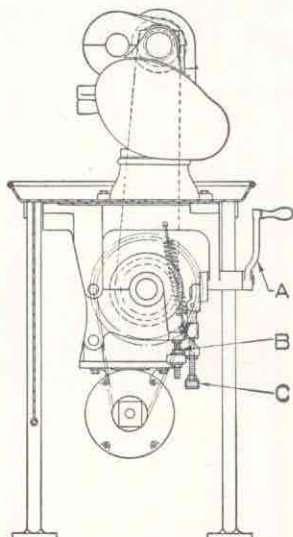


Fig. 11. Underneath Motor Drive Arrangement for 10"-1" Collet Bench Lathes

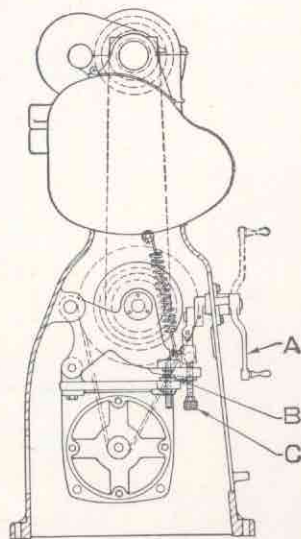


Fig. 12. Underneath Motor Drive Arrangement for 10" and Larger Floor Type Lathes

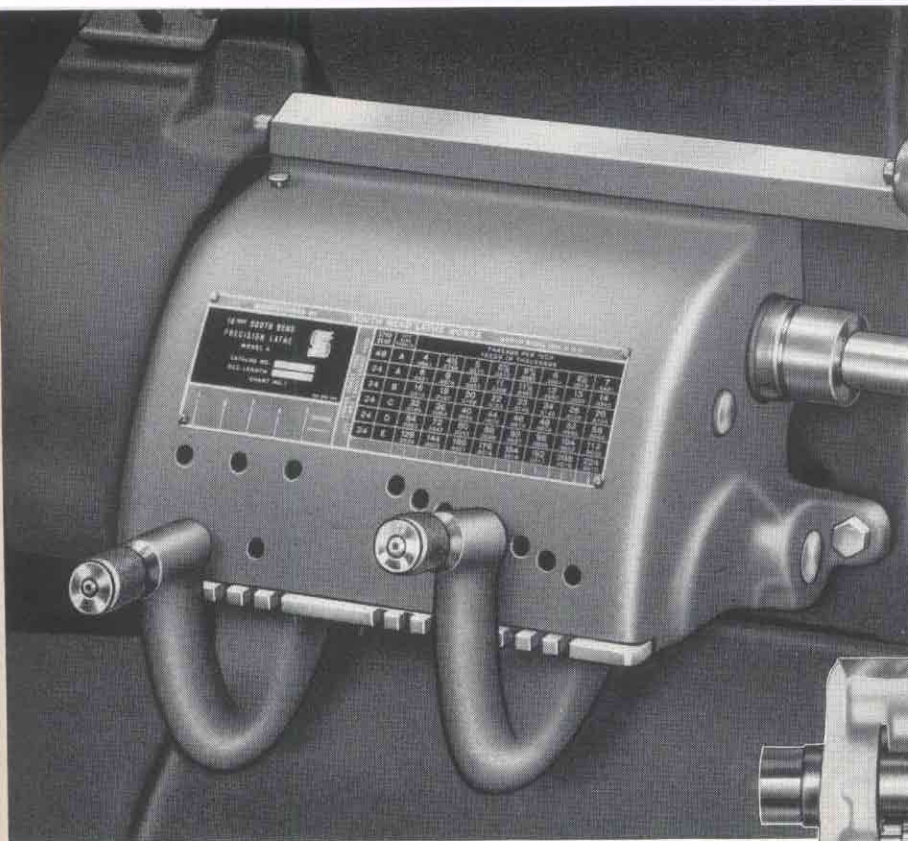


Fig. 13. Improved Quick Change Gear Box for South Bend Lathes

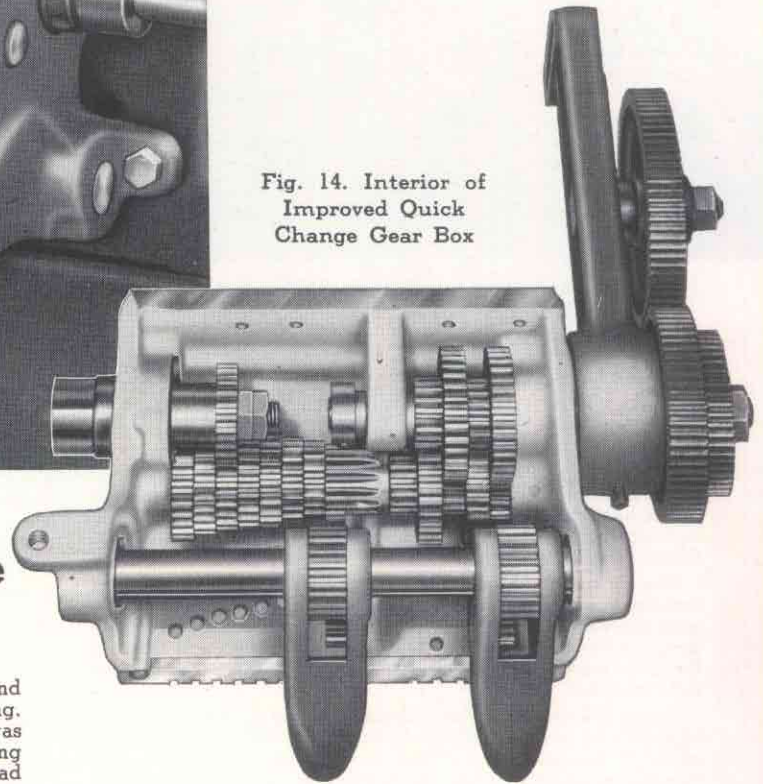


Fig. 14. Interior of Improved Quick Change Gear Box

Improved Quick Change Gear Mechanism

The improved quick change gear mechanism for South Bend Lathes is the result of careful research and thorough testing. Before this new gear box was approved for production, it was used for years on lathes in our own shops which were operating continuously on tough production jobs. Only after it had proved to be rugged, foolproof, and entirely satisfactory from the operator's standpoint was the final OK given. Designed to save time and give long dependable service, we are convinced that this new quick change gear equipment is the most convenient and durable available regardless of price.

A direct reading index chart shows positions in which the two conveniently located tumbler levers are placed for each of 48 screw thread pitches, 48 power longitudinal feeds, and 48 power cross-feeds. (For metric threads see page 46.) There are no sliding clutches or sliding primary end gears to change. Shifting a single lever changes feed instantly from coarse to fine, for roughing or finishing cuts.

Standard screw threads from 8 to 224 per inch are obtained by shifting the two tumbler levers on the gear box. The stud gear is changed for an additional series of coarse pitches rang-

ing from 4 to 7 threads per inch. Provision is made for the use of special stud and intermediate gearing needed to cut metric screw threads, diametrical pitch worm threads, or other special screw threads. Metric transposing gears are listed on page 47. Prices of extra stud gears for special threads will be quoted on request. State pitches of threads to be cut.

The main frame of the gear box consists of a heavy one-piece casting which is attached to the lathe bed near the headstock. Special quality alloy steel is used for all gears and shafts. Gears are precision-cut for maximum accuracy and quiet operation. Shafts are carefully ground and fitted. The lead screw shaft revolves in an annular ball bearing and has a precision thrust bearing to eliminate end play and cam action. Tumbler gears are fitted with needle bearings. A single oil reservoir lubricates the entire quick change gear box.

| MANUFACTURED BY | | SOUTH BEND LATHE WORKS | | SOUTH BEND, IND. U. S. A. | | | | | | | |
|--|-------------------|---|--------------|---------------------------------------|----------------|--------------|----------------|-----------------|----------------|--------------|--------------|
| 14 1/2 & 16 INCH SOUTH BEND PRECISION LATHE MODEL A | | | | THREADS PER INCH FEEDS IN THOUSANDTHS | | | | | | | |
| CATALOG NO. _____ BED LENGTH _____ CHART NO. 1 | | | | 48 | 24 | 24 | 24 | 24 | 24 | 24 | |
| STUD GEAR | LEFT HAND TUMBLER | POWER CROSS FEED 375 TIMES LONGITUDINAL FEED | A | 4 .0841 | 4 1/2 .0748 | 5 .0673 | 5 1/2 .0612 | 6 .0565 | 6 1/2 .0561 | 7 .0518 | 7 .0481 |
| | | | A | 8 .0421 | 9 .0374 | 10 .0337 | 11 .0306 | 11 1/2 .0293 | 12 .0280 | 13 .0269 | 14 .0240 |
| | | | B | 16 .0210 | 18 .0187 | 20 .0168 | 22 .0153 | 23 .0146 | 24 .0140 | 26 .0129 | 28 .0120 |
| | | | C | 32 .0105 | 36 .0093 | 40 .0084 | 44 .0076 | 46 .0073 | 48 .0070 | 52 .0065 | 56 .0060 |
| | | | D | 64 .0053 | 72 .0047 | 80 .0042 | 88 .0038 | 92 .0037 | 96 .0035 | 104 .0032 | 112 .0030 |
| E | 128 .0026 | 144 .0023 | 160 .0021 | 176 .0019 | 184 .0018 | 192 .0017 | 208 .0016 | 224 .0015 | | | |
| POSITION | | ← | | | | | | | | | |

Fig. 15. Direct Reading Index Chart Showing Threads and Feeds Provided by Quick Change Gear Mechanism on 16-inch Swing Lathe

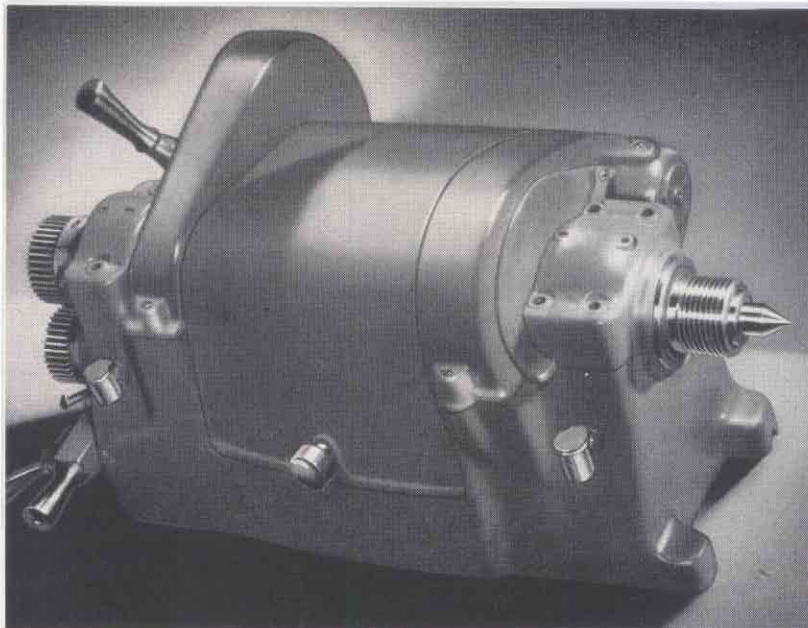


Fig. 16. Headstock for 16-inch Swing South Bend Lathe

Headstock and Spindle Construction

The headstock is the most important unit of the lathe, and it might be said that the life of the lathe is determined by the life of the headstock. Sturdy design, high quality materials, large bearings and excellent oiling facilities assure unusual life for South Bend Headstocks.

The main casting for the headstock is heavily reinforced and webbed for rigidity and permanent alignment of the spindle with the V-ways of the bed. The headstock base has unusually long bearings which are carefully hand-scraped and fitted to the bed ways. All moving parts (except spindle nose) are fully enclosed.

Direct belt drive to the spindle for high speeds assures smooth operation on small diameter work. Slow speeds for heavy cuts on large diameters are driven through the back gears. The threaded spindle nose shown is regularly supplied, but type L Long Taper Key Drive or type D1 Cam Lock Spindle can be supplied to order. See page 40.

The wrenchless bull gear lock permits engaging the headstock back gears without the use of a wrench. A quick acting spring latch reverse on the left end of the headstock enables the operator to change from right-hand to left-hand feeds or threads instantly. These two convenient features will appeal to any busy mechanic for they save a lot of time.

Much time, thought and care have gone into the design and development of the headstock spindle and bearings for South Bend Lathes. Hundreds of different designs have been tested, including many with ball and roller bearings.

Two plain bearing designs were selected as the most satisfactory. For 10-inch and larger lathes, a heat-treated spindle and replaceable bronze sleeve bearings were adopted. Preliminary research and testing of this bearing construction were so thorough that during the five years following its introduction not one spindle bearing was replaced because of wear. The spindle and bearing construction for the 9" lathe is similar, except that the spindle runs in integral cast-iron bearings.

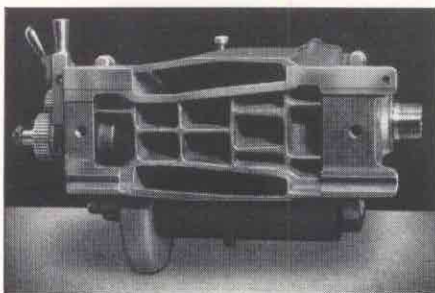


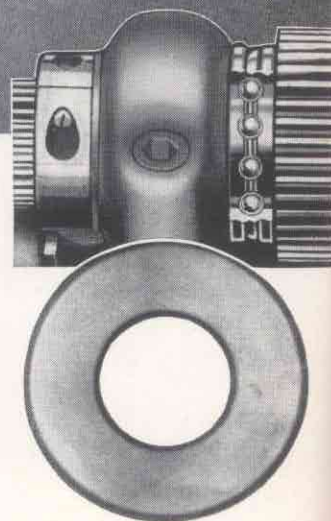
Fig. 20. Bottom View of Headstock Showing Rigid Cross-Ribbed Construction



Fig. 17. Headstock Spindle and Bearings

Fig. 18. Ball Thrust Bearing and Take-up Nut for Spindle

Fig. 19. Cross Section of Spindle Showing Thickness ($\frac{3}{16}$ ") of Carburized and Hardened Bearing Surfaces



The bearing surfaces on the spindle are carburized, hardened to Rockwell C 56 to 61, ground and superfinished to a smoothness of 5 microinches (.000005") r.m.s. The extreme smoothness and accuracy of the superfinished spindle bearing surface eliminates wear, reduces friction, permits higher spindle speeds and assures precision.

The bearings in which the spindle revolves are unusually large, and are precision bored and burnished to a smoothness of ten microinches (.000010") r.m.s. by the bearingizing process. The design permits using a large diameter spindle providing extreme rigidity and reducing the possibility of chatter. The bearings are accurately adjusted at the factory and should require no further adjustment for years. Provision is made for take-up when required.

Large oil reservoirs and an improved circulating capillary oiling system provide a complete film of clean filtered oil which separates the rotating spindle from the bearings. 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.

There is prevalent much misunderstanding and misinformation relative to the respective merits of so-called anti-friction bearings. Certainly they are unequalled for certain applications where low cost or low starting torque are of greater importance than precision and durability. However, it has been our experience that for the spindles of precision lathes such as we manufacture, properly designed and fitted plain bearings are superior, and even though more costly than other types of bearings, their performance justifies the added expense.

The principal advantages of the plain bearing are that it provides better support for the spindle, permits using a larger diameter spindle, eliminates the possibility of chatter marks in the work due to vibration set up by balls or rollers, runs more smoothly and quietly, wears longer, and is adjustable.

On the other hand, a spindle revolving in a ball bearing can only run as true as the combined eccentricity of the outer and inner surfaces of both the outer and inner races, and is supported only by the point of contact between the ball or roller and the bearing race. A slight pit, worn spot, or other imperfection in the bearing race will cause vibrations which result in the familiar chatter marks so often encountered on lathes with ball or roller bearings. The frequent replacement of ball or roller bearings is an annoyance to say nothing of the expense.

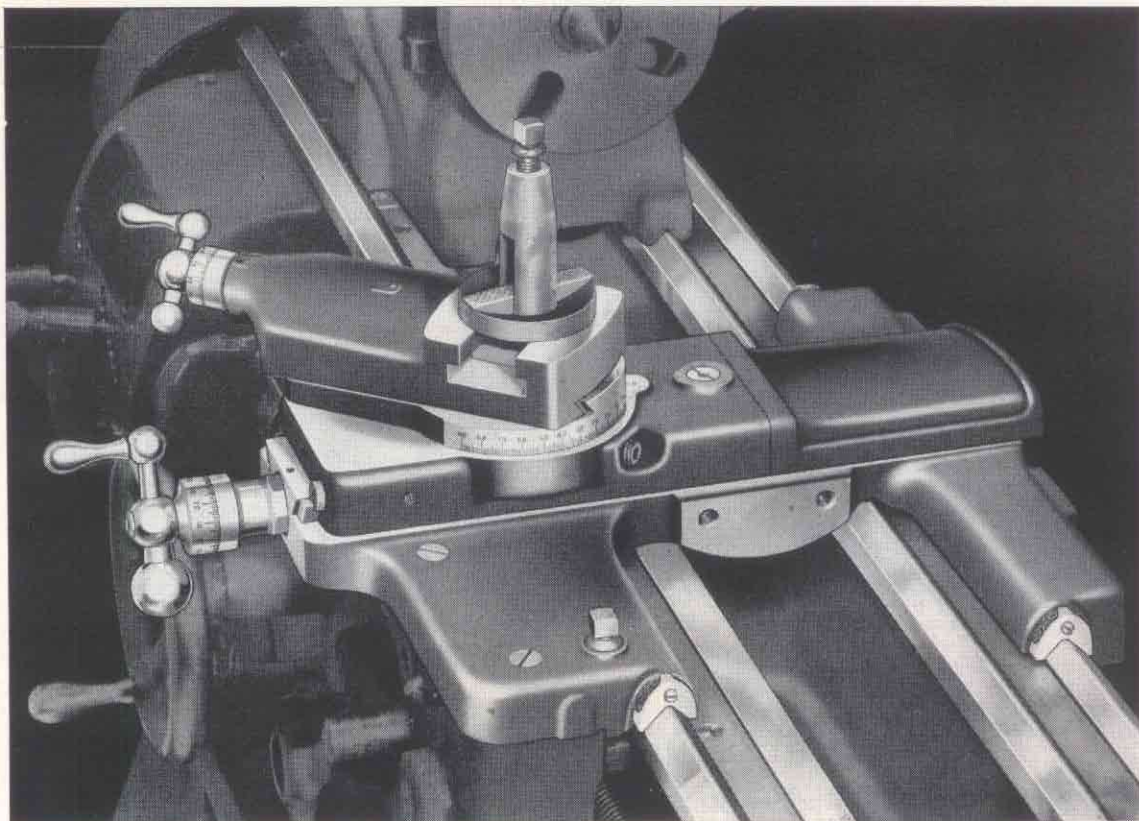


Fig. 21. Improved Saddle and Compound Rest for South Bend Lathes

Improved Saddle and Compound Rest

The saddles for South Bend Lathes have 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 cross slide dovetail is hand-scraped square with the V-ways of the saddle.

The back of the saddle is machined to receive the taper

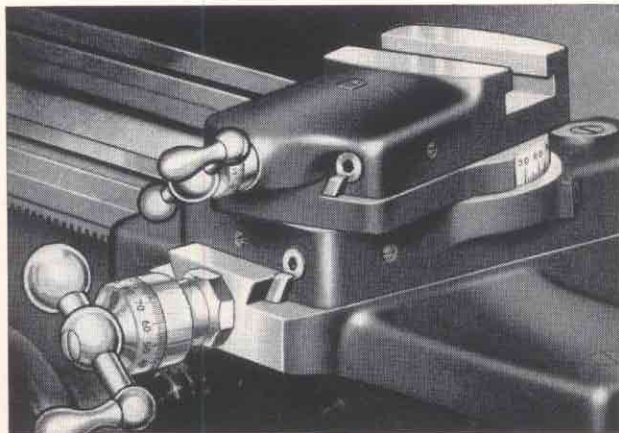


Fig. 22. Close-up Showing Adjustable Tapered Gibs Used on Compound Rest Base and Top Dovetails of 10"-1" Collet and larger South Bend Lathes

attachment. A carriage lock screw, conveniently located on the right-hand front wing of the saddle, is provided for locking the carriage securely to the lathe bed for cutting-off and for precision facing operations.

Both the compound rest base and the compound rest top dovetails are hand-scraped, and on 10-inch 1" collet lathes and larger sizes, the dovetails have adjustable tapered gibs. Dovetails on 9-inch and Light Ten Lathes have flat gibs with screw adjustment. 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 large diameter easy reading micrometer collars which are accurately graduated to read in thousandths of an inch advance of the cutting tool. Graduations reading in the metric system can be supplied to order. The graduated collars are adjustable and may be set at zero whenever desired. Crank handles for both the compound rest screw and cross-feed screw are nicely balanced and are made of polished steel.

The tool post, tool post ring, and tool post rocker are made of steel, heat-treated and hardened. Rocker adjustment is provided for adjusting the cutting edge of the tool to the desired height. A forged steel heat-treated tool post wrench is supplied as regular equipment. Wrench has box opening on one end and fits the carriage lock screw as well as the tool post screw.

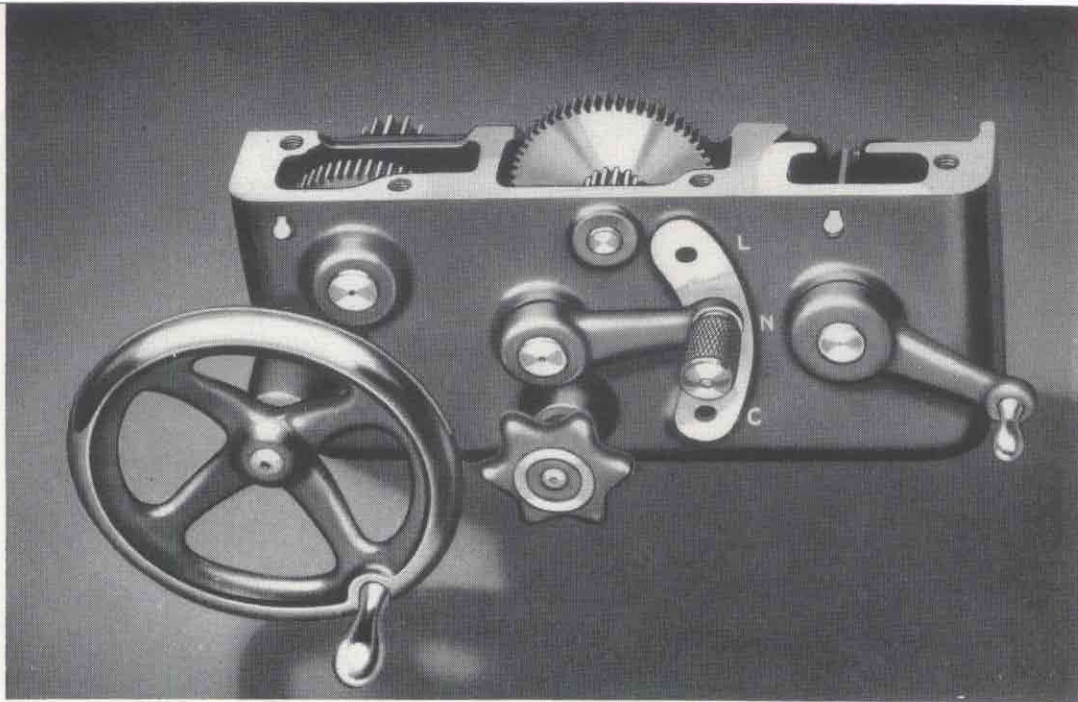


Fig. 23. Front View of Double Wall Apron Showing Rigid Box Type Construction

One-Piece Double Wall Apron For 10"—1" and Larger South Bend Lathes

The one-piece double wall apron supplied on all 10"—1" Collet and larger lathes is rigidly constructed and provides substantial support for both ends of the gear shafts. A tumbler gear shift is used to change from power cross-feed to power longitudinal feed.

The multiple disc friction clutch used for operating both the power cross-feeds and the power longitudinal feeds is shown in Fig. 25. Alternate steel discs precision ground on both sides to close tolerances for flatness and thickness are keyed to the clutch shaft and worm wheel respectively. A slight turn of the clutch knob will engage the clutch, placing the power carriage feed in operation. Clutch will engage or release instantly, 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. 24. 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 power carriage feeds.

An automatic built-in safety device makes it impossible to engage the worm driven power feeds and half-nut feeds at the same time. When the feed lever is in either position "L" or "C", Fig. 23, 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.

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. 24, is rigidly supported by substantial bearings in both the front wall and back wall of the apron.

Fig. 24. (Below) Back View of New Double Wall Apron

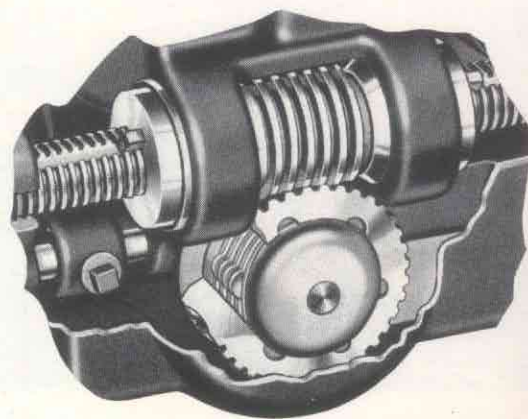
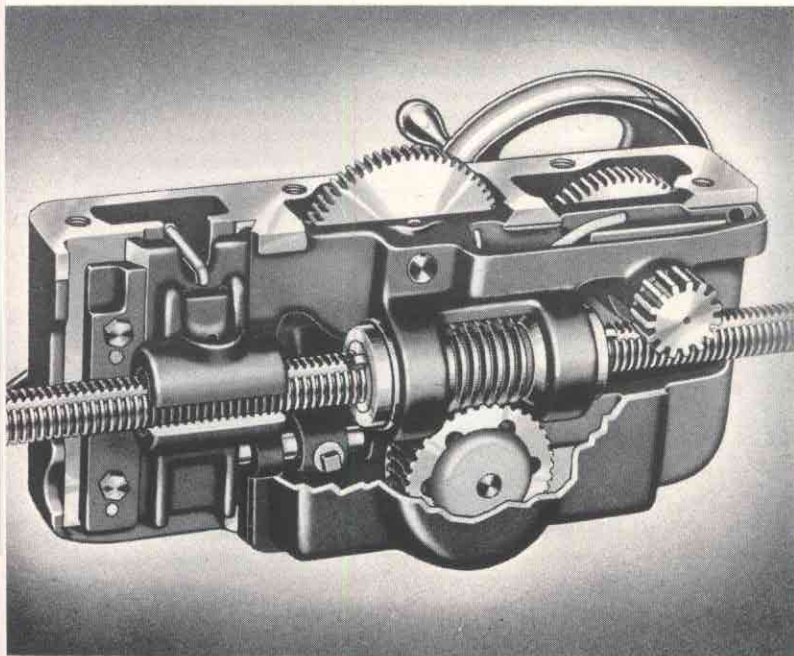


Fig. 25. (Above) Cut-away View Showing the Multiple Disc Friction Feed Clutch

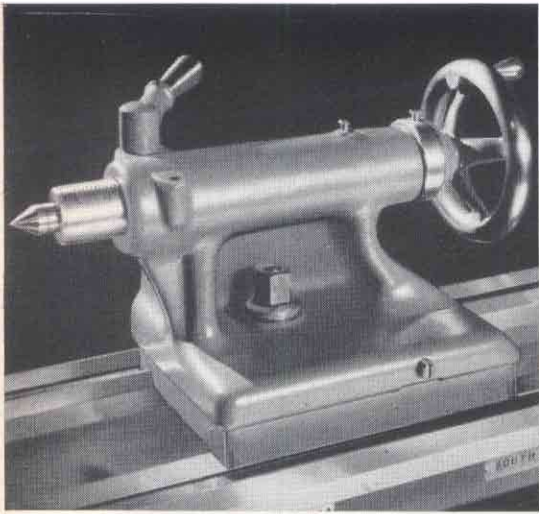


Fig. 26. Tailstock Design Used on 13" and Larger Lathes

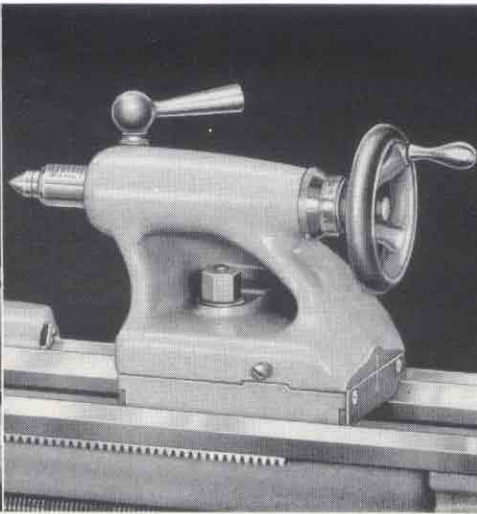


Fig. 27. Tailstock Design Used on 10" Swing Lathes

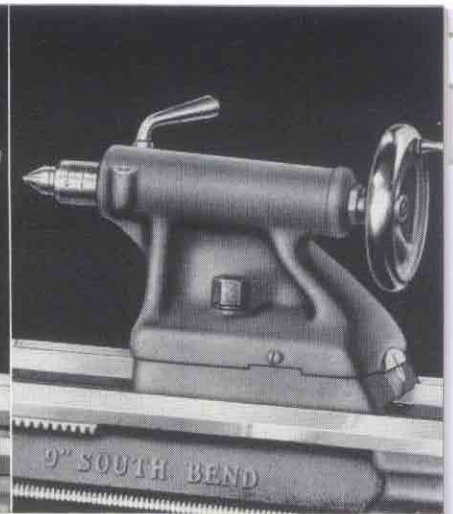


Fig. 28. Tailstock Design Used on 9" Swing Lathes

Tailstocks for South Bend Lathes

Tailstocks for all South Bend Lathes are rigidly constructed to provide solid support for the work. Generous bearing surfaces are carefully fitted to assure precision alignment of the tailstock spindle with the bed ways and the headstock spindle. On all 10" and larger lathes, felt wipers are attached to both ends of the tailstock base to clean and oil the bed ways. A substantial clamp and bolt with convenient box type wrench are provided for locking the tailstock securely at any point along the length of the lathe bed.

The tailstock top is offset to allow the compound rest to swivel over the tailstock base, parallel with the lathe bed. A sensitive screw adjustment is provided to set over the tailstock top for taper turning. Witness marks indicating the position of the tailstock top are conveniently placed on the right end of the tailstock where they can be seen with ease.

The tailstock screw has long wearing Acme thread and a large diameter handwheel which assure smooth and easy operation, especially important for drilling and reaming jobs. Graduations on the tailstock spindle indicate its movement for drilling to accurate depths and similar operations. Graduations read in sixteenths of an inch, except for the 10" swing lathes which have graduations reading in tenths of an inch. Metric graduations can be supplied to order. Tailstock screws for 10" lathes are fitted with graduated collars reading in thousandths of an inch advancement of the spindle.

Tailstocks for 10" swing and larger lathes have an improved internal clutch device which securely locks the spindle without altering the alignment of the centers. Tailstocks for 9" swing lathes have split barrel and binding lever for locking tailstock spindle. A witness mark is scribed on the tailstock spindle at center height for adjusting height of cutter bit. The tailstock center is made of tool steel, is hardened and precision ground all over, and is automatically ejected as the spindle is retracted.

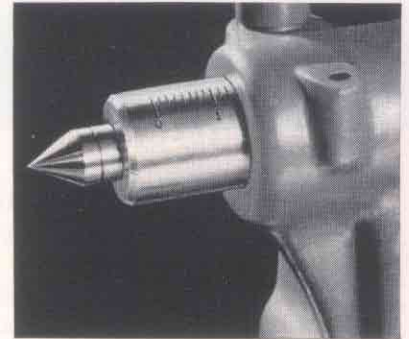


Fig. 29. Close-up of Tailstock Spindle Graduations and Witness Mark

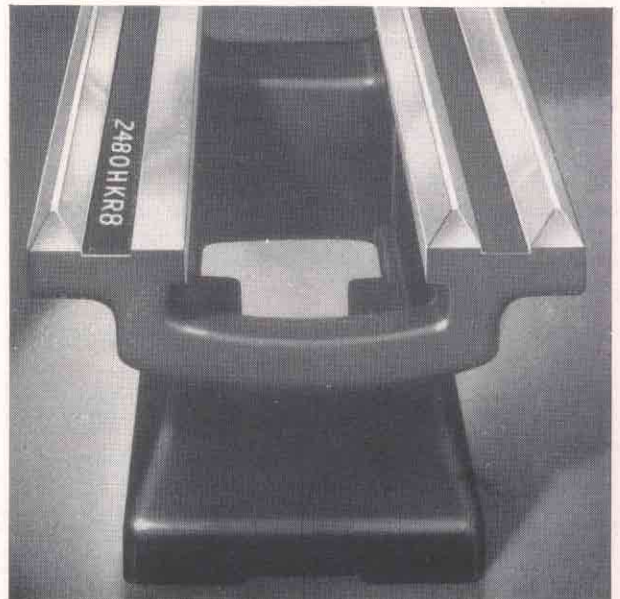
Rigidly Constructed Lathe Bed

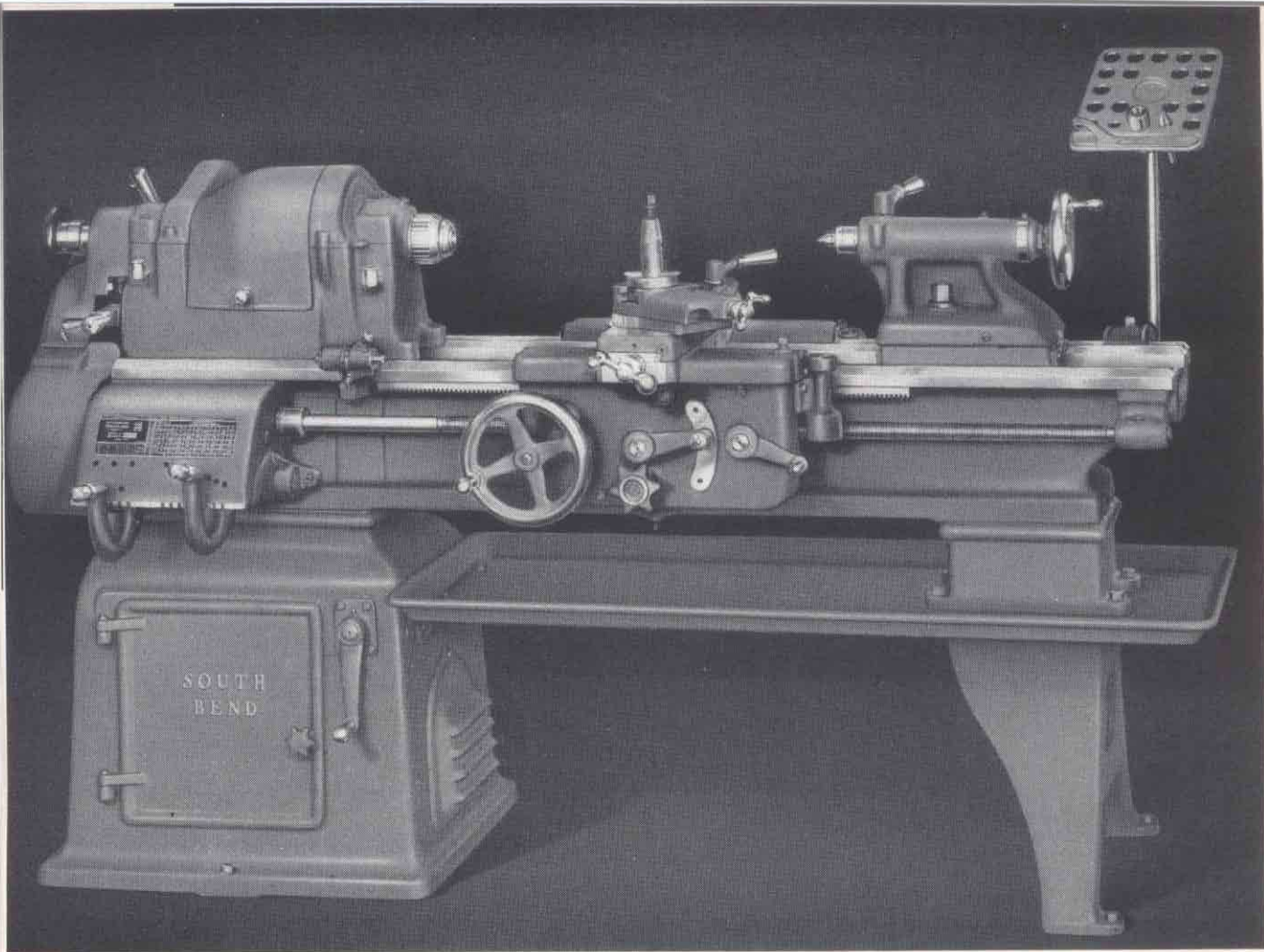
Three V-ways Assure Precision Alignment of Headstock, Tailstock, and Carriage

Beds for South Bend Lathes are heavily constructed with large braces cast in at short intervals. The beds are made of a special grade of iron with 30 to 70 per cent steel (depending on size) which produces a hard close-grained casting having unusual strength and long wearing qualities.

Three large V-ways and one flat way on the bed assure permanent precision alignment of the headstock, carriage, and tailstock. Being cast integral with the bed, there is no possibility of the bed ways working loose and shifting in service. 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 precision finished 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 between the front ways at the tailstock end as shown. A record of each lathe is kept and is filed under this number. When attachments or parts are ordered, the serial number of the lathe should always be stated.





16-inch Toolroom *Precision* Lathe

Eight Spindle Speeds—Back-Geared—Belt Drive to Spindle

We sincerely believe that this is the finest lathe of this size and type that you can buy at anywhere near the price. Capable of the most exacting operations, it has ample power and capacity for most toolroom jobs. Special accuracy tests are made on each lathe during the assembling and testing to assure utmost precision. Husky castings and large, carefully fitted bearings provide the rigidity so essential to smooth operation and a durability that assures long life.

New two-lever gear box gives you quicker, easier changes for threads and feeds. Powerful multiple disc friction clutch in apron permits engaging or disengaging power turning and facing feeds instantly. Direction of feed is reversed by shifting the feed reverse lever conveniently located on the left end of the headstock. Apron has an automatic safety interlock which makes it impossible to damage the lathe or the work by engaging a second feed accidentally when one power carriage feed is already in operation.

Toolroom attachments included in price of lathe consist of: precision lead screw; 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; heat-treated steel 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." Electrical equipment is not included in the price of the lathe.

16-inch Toolroom Lathes with Eight-Speed Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL8117C | 6 | 33 1/4 | 95 | 2925 | 2525 |
| CL8117D | 7 | 45 1/4 | 101 | 3175 | 2605 |
| CL8117E | 8 | 57 1/4 | 111 | 3375 | 2685 |

Specifications of 16-inch Toolroom Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings..... 16 1/4"
Swing over saddle cross slide..... 9 5/8"

SPINDLE SPEEDS

Standard spindle speeds (approximate, not exact)
r.p.m. of spindle, direct belt drive..... 960, 610, 390, 240
r.p.m. of spindle, back-gear drive..... 125, 80, 50, 30

HEADSTOCK

Hole through spindle..... 1 3/8"
Maximum collet capacity..... 1 1/8"
Spindle nose diameter and threads..... 2 3/8"-6
Size of center, Morse taper..... No. 3

Width cone pulley step..... 2 1/4"
Large face plate diameter..... 13 1/4"
Small face plate diameter..... 8 1/4"
Front spindle bearing, diameter..... 2 7/8"

TAILSTOCK

Size of center, Morse taper..... No. 3
Spindle travel..... 5 3/4"
Each graduation on tailstock spindle..... 1/16"
Tailstock top set-over for taper turning..... 1"

COMPOUND REST

Cross slide travel..... 10 1/4"
Angular hand feed of compound rest top slide..... 3 3/4"

THREADS AND FEEDS

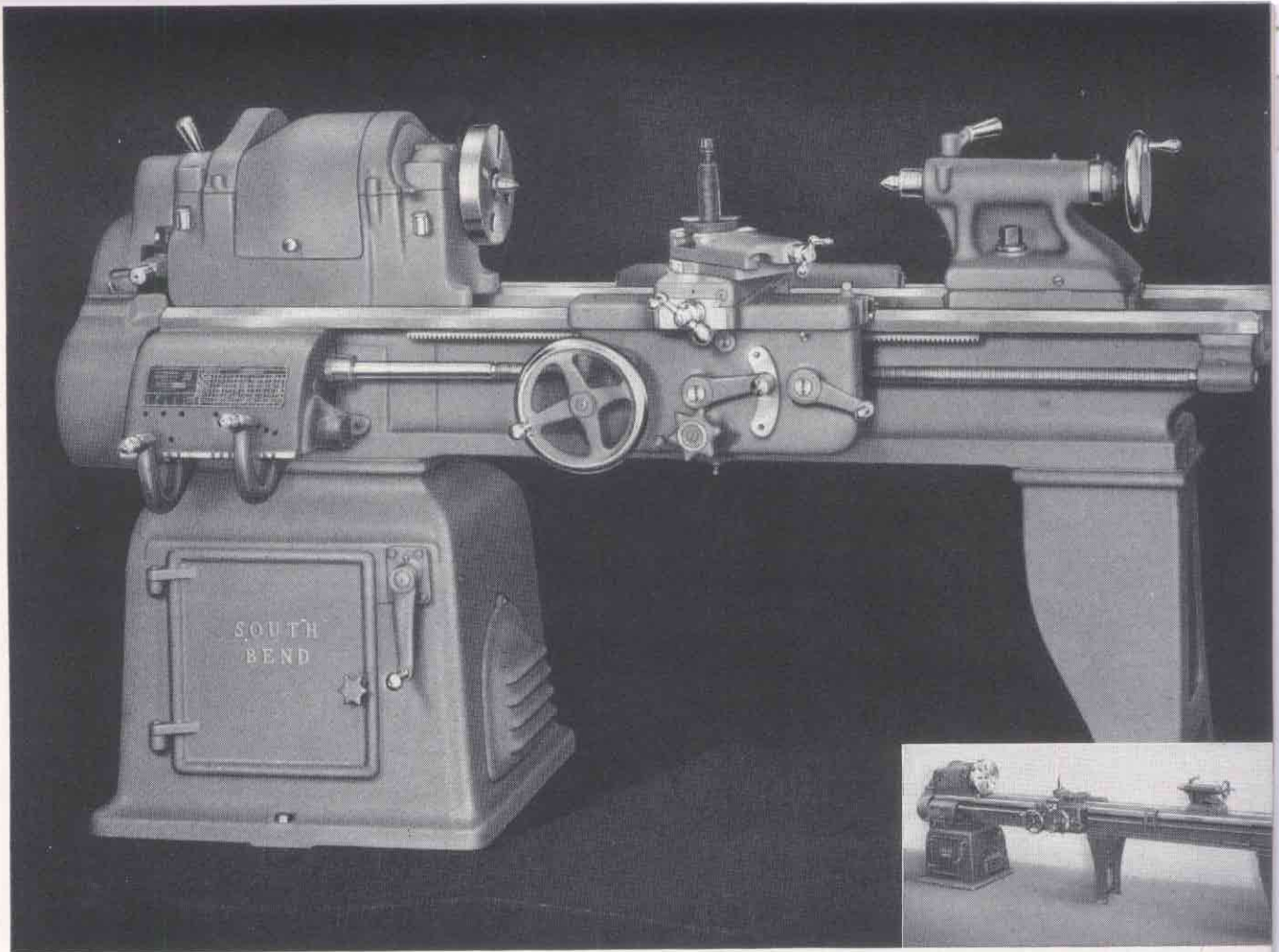
Thread cutting range—48 pitches
R.H. or L.H..... 4 to 224 per inch
Longitudinal feeds through friction
clutch—48 feeds R.H. or L.H..... .0015" to .0841"
Cross-feeds through friction clutch—
48 feeds..... .0006" to .0315"
Lead screw, 29° Acme thread..... 1 3/8" dia.—6 thds.

TOOL POST

Size of tool holder shank..... 5/8" x 1 3/4"
Size of cutter bit for tool holder..... 1/2" sq.

MOTOR

Standard size of motor required..... 1 1/2 h.p.



16-inch Quick Change Gear *Precision* Lathe

Eight Spindle Speeds—Back-Geared—Belt Drive to Spindle

You get maximum lathe value per dollar of cost in this model. It is much the same as the toolroom lathe described on the preceding page, but does not have the taper attachment, collet attachment, and other toolroom accessories, which are usually not needed for general shop use. This reduces the cost, and any attachment needed can be selected from the accessory pages in the back of this catalog.

Having ample power and capacity for efficient production on almost any size or type of job, this lathe is one of the most popular for manufacturing and maintenance work. Large diameter easy reading graduated collars on cross-feed and compound rest screws save time and effort in positioning the cutting tool. Compound rest swivel also has clear cut graduations and may be set at any angle for machining bevels and short tapers. Tailstock spindle is graduated for drilling to accurate depths and witness mark is provided for adjusting tailstock top set-over

for taper turning. Tailstock center is self-ejecting.

Regular equipment included in price of lathe consists of: 4 V-belts; flat leather belt; large and small face plates; heat-treated steel 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." Electrical equipment is not included in price of lathe.

16-inch Quick Change Gear Lathes with Eight-Speed Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL117C | 6 | 33 1/4" | 85 | 2700 | 2300 |
| CL117D | 7 | 45 1/4" | 91 | 2950 | 2380 |
| CL117E | 8 | 57 1/4" | 101 | 3150 | 2460 |
| CL117G | 10* | 81 1/4" | 117 | 3550 | 2800 |
| CL117H | 12* | 105 1/4" | 134 | 3900 | 2975 |

*Center leg is supplied with 10' and 12' beds.

Specifications of 16-inch Quick Change Gear Lathes

CAPACITY OF LATHE

| | |
|--|---------|
| Swing over bed and saddle wings..... | 16 1/4" |
| Swing over saddle cross slide..... | 9 3/8" |
| Swing over cross slide without chip guard..... | 11 3/8" |

SPINDLE SPEEDS

| | |
|--|--------------------|
| Standard spindle speeds (approximate, not exact) | 1" |
| r.p.m. of spindle, direct belt drive..... | 980, 610, 390, 240 |
| r.p.m. of spindle, back-gear drive..... | 125, 80, 50, 30 |

HEADSTOCK

| | |
|--|----------|
| Hole through spindle..... | 1 3/8" |
| Maximum collet capacity..... | 1" |
| Spindle nose diameter and threads..... | 2 3/8"-6 |
| Size of center, Morse taper..... | No. 3 |

| | |
|--------------------------------------|---------|
| Width cone pulley step..... | 2 1/4" |
| Large face plate diameter..... | 13 1/4" |
| Small face plate diameter..... | 8 1/2" |
| Front spindle bearing, diameter..... | 2 3/8" |

TAILSTOCK

| | |
|---|--------|
| Size of center, Morse taper..... | No. 3 |
| Spindle travel..... | 5 3/4" |
| Each graduation on tailstock spindle..... | 1/16" |
| Tailstock top set-over for taper turning..... | 1" |

COMPOUND REST

| | |
|---|---------|
| Cross slide travel without taper attachment..... | 10 1/2" |
| Cross slide travel with taper attachment..... | 10 1/2" |
| Angular hand feed of compound rest top slide..... | 3 3/4" |

THREADS AND FEEDS

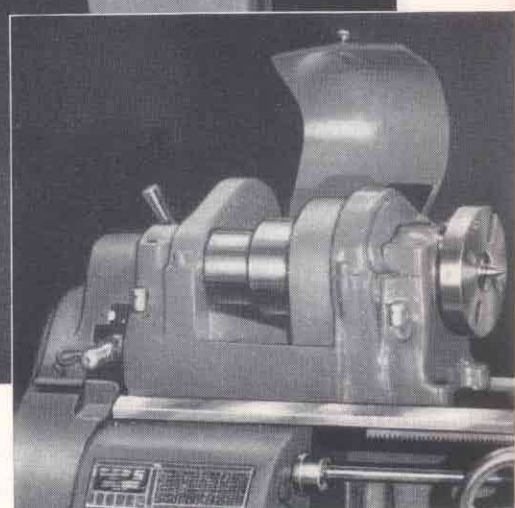
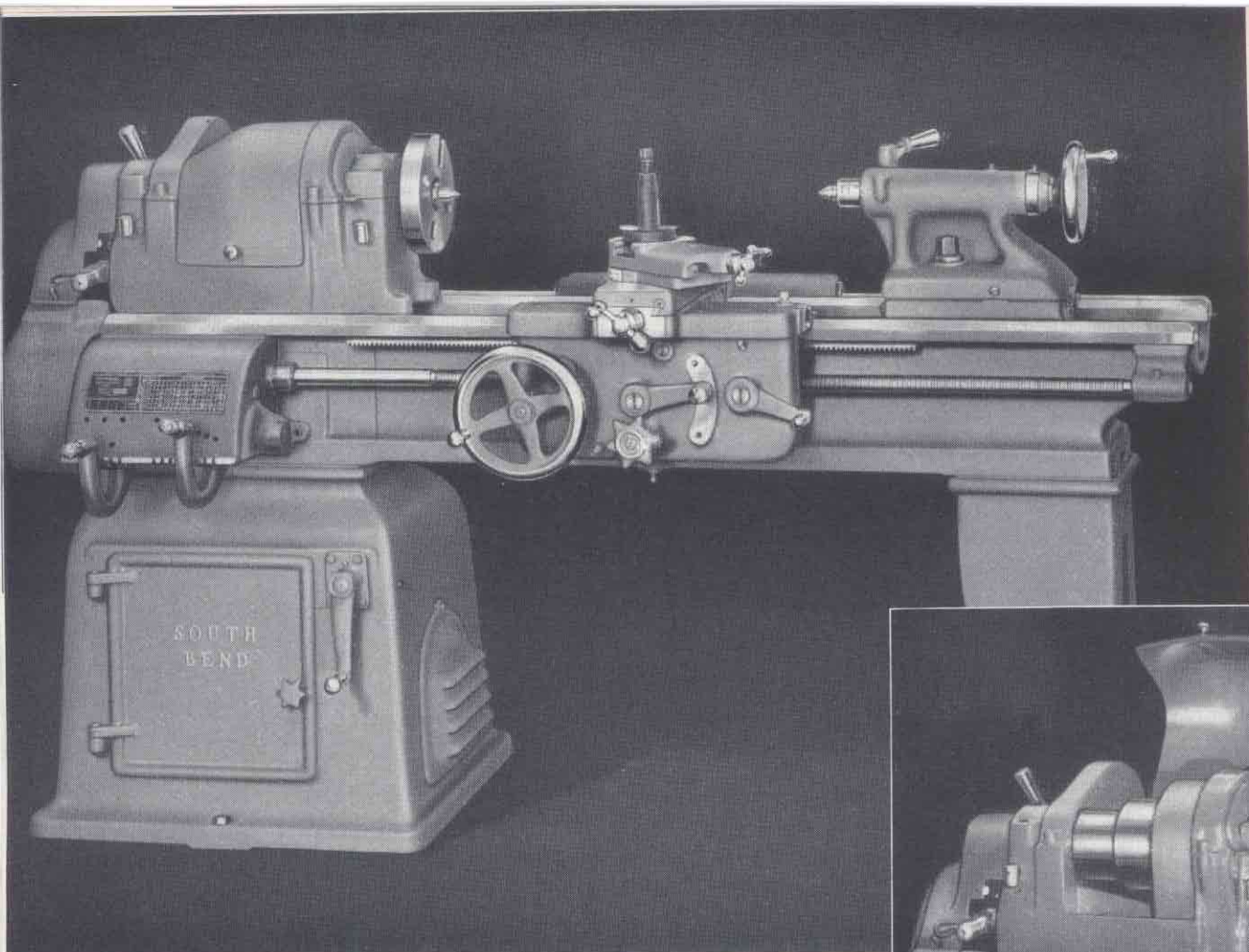
| | |
|--|---------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H..... | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H..... | .0015" to .0841" |
| Cross-feeds through friction clutch—48 feeds..... | .0006" to .0315" |
| Lead screw, 29° Acme thread..... | 1 1/8" dia.-6 thds. |

TOOL POST

| | |
|---|---------------|
| Size of tool holder shank..... | 5/8" x 1 3/8" |
| Size of cutter bit for tool holder..... | 3/8" sq. |

MOTOR

| | |
|--------------------------------------|------------|
| Standard size of motor required..... | 1 1/2 h.p. |
|--------------------------------------|------------|



Twelve-Speed 16-inch Lathes

Toolroom and Quick Change Gear Types

The new Twelve-Speed 16-inch Lathes are an important addition to the South Bend line. In the production shop, toolroom, maintenance department, or wherever maximum power and an extra wide range of spindle speeds are needed, these lathes will save time, labor, and money. Equipped with push-button control which provides instantaneous changes between corresponding high and low speeds, multiple operations requiring frequent speed changes such as drilling and tapping, boring and reaming or turning and facing can be performed with utmost efficiency. The low spindle speeds are approximately one-half the corresponding high speeds.

A two-speed three-phase A.C. reversing motor mounted in the base of the lathe develops two horsepower at high speed and one horsepower at low speed. The six-station pushbutton control conveniently mounted within easy reach of the operator permits starting, stopping, or reversing the motor instantly, either at high speed or low speed. Changes from high to low speed, forward or reverse, can be made without stopping the motor. The three step cone pulley permits using an extra wide (2 7/8") endless belt which efficiently and smoothly transmits power to the lathe spindle.

Except for the motor, controls, and necessary alterations in the driving mechanism, these lathes are the same as corresponding models shown on the preceding pages. They have the same equipment, and take the same chucks, tools, and accessories as the Eight-Speed 16-inch Lathes.

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|--|-----------------|------------------------|------------------|---------------------|----------------------|
| Twelve-Speed 16-inch Quick Change Gear Lathes | | | | | |
| CL155C | 6 | 33 1/4 | 85 | 2775 | 2375 |
| CL155D | 7 | 45 1/4 | 91 | 3025 | 2455 |
| CL155E | 8 | 57 1/4 | 101 | 3225 | 2535 |
| CL155G | 10* | 81 1/4 | 117 | 3625 | 2875 |
| CL155H | 12* | 105 1/4 | 134 | 3975 | 3050 |
| Twelve-Speed 16-inch Toolroom Lathes | | | | | |
| CL8155C | 6 | 33 1/4 | 95 | 3000 | 2600 |
| CL8155D | 7 | 45 1/4 | 101 | 3250 | 2680 |
| CL8155E | 8 | 57 1/4 | 111 | 3450 | 2760 |

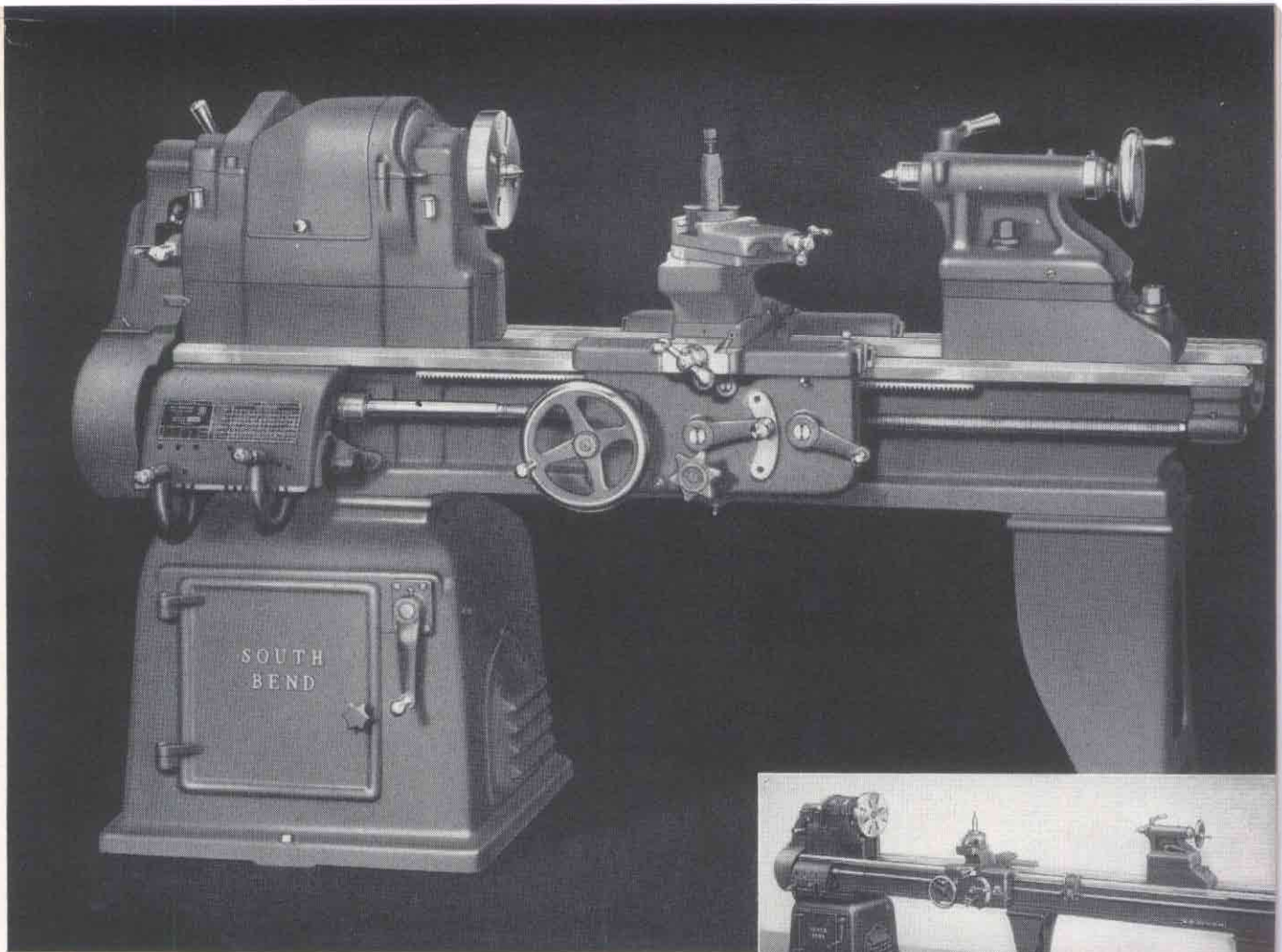
*Center leg is supplied with 10' and 12' beds.

Specifications of Twelve-Speed 16-inch Lathes

- CAPACITY OF LATHE**
- Swing over bed and saddle wings.....16 1/2"
 - Swing over saddle cross slide.....9 5/8"
- SPINDLE SPEEDS** (approximate, not exact)
- | | | |
|---------------------|---------------|-------------|
| | Direct Drive | Back-Geared |
| High speeds, r.p.m. | 945, 550, 300 | 118, 70, 32 |
| Low speeds, r.p.m. | 475, 276, 150 | 60, 33, 20 |
- HEADSTOCK**
- Hole through spindle.....1 3/8"
 - Maximum collet capacity.....1"
 - Spindle nose diameter and threads.....2 3/8"-6
 - Size of center, Morse taper.....No. 3

- Width cone pulley step, 12-speed drive.....3"
 - Large face plate diameter.....13 1/4"
 - Small face plate diameter.....8 1/2"
 - Front spindle bearing, diameter.....2 7/8"
- TAILSTOCK**
- Size of center, Morse taper.....No. 3
 - Spindle travel.....5 3/4"
 - Each graduation on tailstock spindle.....1/16"
 - Tailstock top set-over for taper turning.....1"
- COMPOUND REST**
- Cross slide travel without taper attachment.....10 1/2"
 - Cross slide travel with taper attachment.....10 1/2"
 - Angular hand feed of compound rest top slide.....3 3/4"

- THREADS AND FEEDS**
- Thread cutting range—48 pitches
 - R.H. or L.H.....4 to 224 per inch
 - Longitudinal feeds through friction clutch—48 feeds R.H. or L.H......0015" to .0841"
 - Cross-feeds through friction clutch—48 feeds......0006" to .0315"
 - Lead screw, 29° Acme thread.....1 1/4" dia.—6 thrs.
- TOOL POST**
- Size of tool holder shank.....5/8" x 1 3/8"
 - Size of cutter bit for tool holder.....3/8" sq.
- MOTOR**
- Standard size of motor required.....2-1 h.p.



16-24-inch Large Swing Lathe Eight or Sixteen-Speed Drive

The 16-24-inch Large Swing Lathe is a practical tool for machining large diameter work that is not excessively heavy. It is the same as the 16-inch Quick Change Gear Lathe except that the height of the centers is increased to take work up to 25 $\frac{1}{8}$ " in diameter over the bed and 18 $\frac{3}{4}$ " in diameter over the saddle cross slide.

The large capacity of this lathe makes it a valuable tool for the shop requiring a general purpose precision lathe for large diameter jobs, such as boring jig plates, turning and boring wheels, machining pulleys, turning brake drums, and similar work. Although this lathe has ample capacity for large awkward jobs, it is not too heavy and cumbersome for efficient operation on small parts.

The underneath motor drive (patented) provides a series of eight spindle speeds with a one-speed motor, or sixteen spindle speeds with a two-speed motor, as listed below. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and free from gear vibration.

Regular equipment included in price of lathe is same as for 16-inch Quick Change Gear Lathe as listed on page 11.

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|

16-24" Large Swing Lathes with Eight-Speed Drive

| | | | | | |
|--------|-----|-----|-----|------|------|
| CL198C | 6 | 30 | 93 | 3100 | 2480 |
| CL198D | 7 | 42 | 99 | 3200 | 2560 |
| CL198E | 8 | 54 | 108 | 3300 | 2640 |
| CL198G | 10* | 78 | 127 | 3700 | 2980 |
| CL198H | 12* | 102 | 150 | 3900 | 3155 |

16-24" Large Swing Lathes with Sixteen-Speed Drive

| | | | | | |
|--------|-----|-----|-----|------|------|
| CL179C | 6 | 30 | 93 | 3175 | 2555 |
| CL179D | 7 | 42 | 99 | 3275 | 2635 |
| CL179E | 8 | 54 | 108 | 3375 | 2715 |
| CL179G | 10* | 78 | 127 | 3775 | 3055 |
| CL179H | 12* | 102 | 150 | 3975 | 3230 |

*Center leg is supplied with 10' and 12' bed lengths.

Specifications of 16-24" Large Swing Lathes

CAPACITY OF LATHE

| | |
|---|--------------------|
| Swing over bed | 25 $\frac{1}{8}$ " |
| Swing over saddle wings | 24 $\frac{3}{8}$ " |
| Swing over saddle cross slide | 18 $\frac{3}{4}$ " |
| Swing over cross slide without chip guard | 19 $\frac{1}{4}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|-------------------------|--------------------|-----------------|
| 8-speed drive | 470, 280, 175, 105 | 60, 35, 22, 15 |
| 16 sp. dr., high speeds | 900, 550, 340, 203 | 116, 70, 45, 30 |
| 16 sp. dr., low speeds | 455, 274, 170, 104 | 60, 34, 24, 15 |

HEADSTOCK

| | |
|-------------------------|-------------------|
| Hole through spindle | 1 $\frac{3}{8}$ " |
| Maximum collet capacity | 1" |

| | |
|-----------------------------------|---------------------|
| Spindle nose diameter and threads | 2 $\frac{3}{8}$ "-6 |
| Size of center, Morse taper | No. 3 |
| Width cone pulley step | 2 $\frac{1}{4}$ " |
| Large face plate diameter | 13 $\frac{1}{4}$ " |
| Small face plate diameter | 8 $\frac{1}{16}$ " |
| Front spindle bearing, diameter | 2 $\frac{7}{8}$ " |

TAILSTOCK

| | |
|--|-------------------|
| Size of center, Morse taper | No. 3 |
| Spindle travel | 5 $\frac{1}{4}$ " |
| Each graduation on tailstock spindle | $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning | 1" |

COMPOUND REST

| | |
|--|--------------------|
| Cross slide travel without taper attachment | 10 $\frac{1}{2}$ " |
| Cross slide travel with taper attachment | 10 $\frac{1}{8}$ " |
| Angular hand feed of compound rest top slide | 3 $\frac{3}{4}$ " |

THREADS AND FEEDS

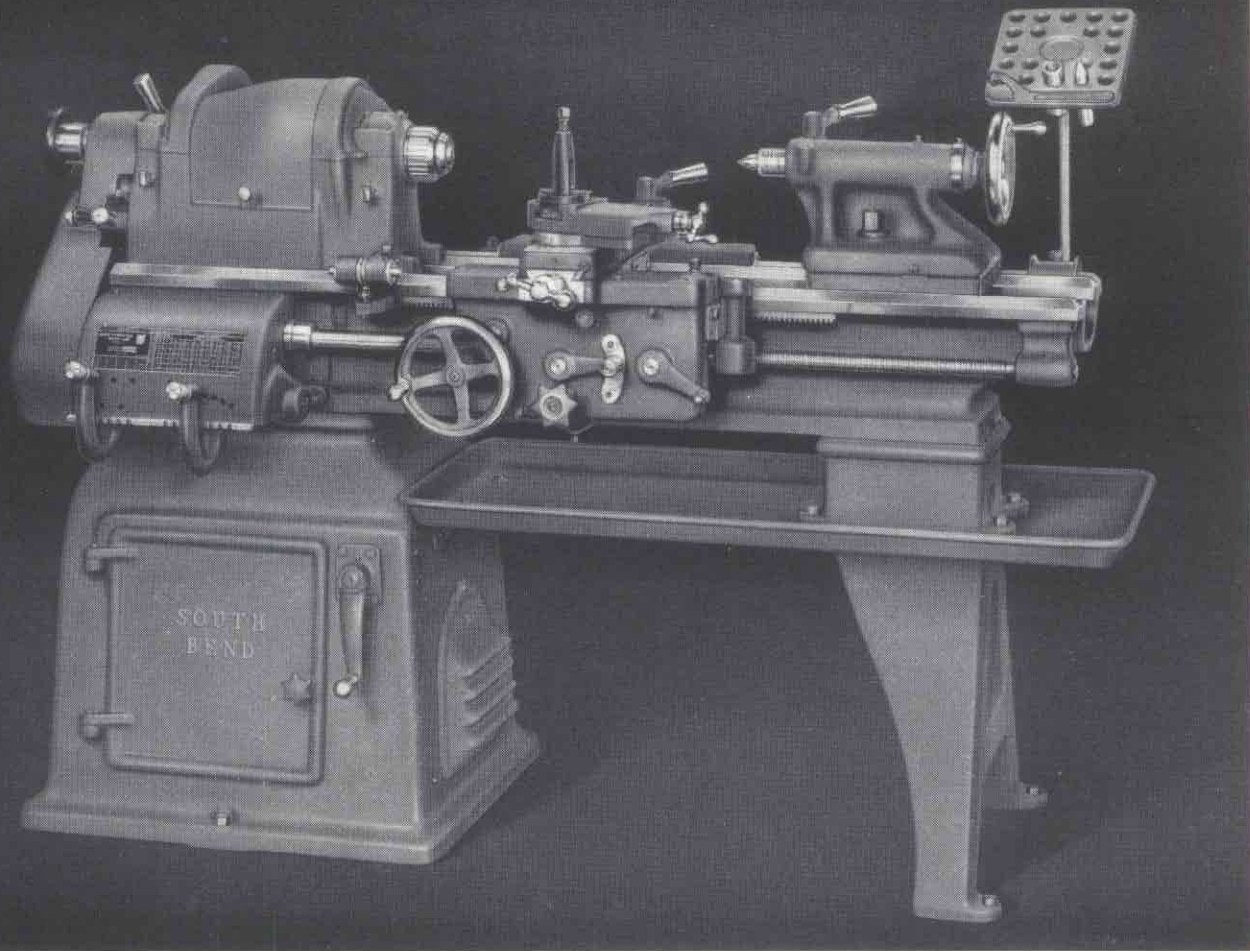
| | |
|--|--------------------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0341" |
| Cross-feeds through friction clutch—48 feeds | .0006" to .0315" |
| Lead screw, 29° Acme thread | 1 $\frac{1}{8}$ " dia.—6 thds. |

TOOL POST

| | |
|------------------------------------|---------------------------------------|
| Size of tool holder shank | 5 $\frac{1}{8}$ " x 1 $\frac{3}{8}$ " |
| Size of cutter bit for tool holder | 3 $\frac{1}{2}$ " sq. |

MOTOR (Standard size)

| | |
|------------------------------------|----------------------|
| For 8-speed lathe (1-speed motor) | 1 $\frac{1}{2}$ h.p. |
| For 16-speed lathe (2-speed motor) | 2-1 h.p. |



14 1/2-inch Toolroom Precision Lathe

Precision Lead Screw—Telescopic Taper Attachment

The perfect proportions of this superbly engineered model will appeal to the most discriminating technician. It has plenty of power, rigidity, and stamina for large jobs, yet it is not too heavy for economical operation on small work. Conveniently placed easy operating controls save time and effort.

Improved features of this lathe include an 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 power cross-feeds and power longitudinal feeds; easy reading micrometer graduated collars; and improved two-lever quick change gear box for threads and feeds.

Toolroom attachments included in price of lathe consist of: precision lead screw; 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; heat treated steel 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." Electrical equipment is not included in the price of the lathe.

14 1/2-inch Toolroom Lathes with Eight-Speed Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL8185B | 5 | 24 1/8 | 90 | 2685 | 2180 |
| CL8185C | 6 | 36 1/8 | 95 | 2785 | 2255 |
| CL8185D | 7 | 48 1/4 | 101 | 2935 | 2330 |
| CL8185E | 8 | 60 1/4 | 111 | 3085 | 2405 |

Specifications of 14 1/2-inch Toolroom Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings..... 14 3/8"
Swing over saddle cross slide..... 8 1/16"

SPINDLE SPEEDS

Standard spindle speeds (approximate, not exact)
r.p.m. of spindle, direct belt drive 875, 545, 350, 215
r.p.m. of spindle, back-gear drive..... 130, 80, 50, 30

HEADSTOCK

Hole through spindle..... 1 3/8"
Maximum collet capacity..... 1"
Spindle nose diameter and threads..... 2 3/8"-8
Size of center, Morse taper..... No. 3

Width of cone pulley step for belt..... 2 1/16"
Large face plate diameter..... 13 3/4"
Small face plate diameter..... 8 1/2"
Front spindle bearing, diameter..... 2 5/8"

TAILSTOCK

Size of center, Morse taper..... No. 3
Spindle travel..... 5 1/4"
Each graduation on tailstock spindle..... 1/32"
Tailstock top set-over for taper turning..... 1 5/16"

COMPOUND REST

Cross slide travel..... 9 1/2"
Angular hand feed of compound rest top slide..... 3 3/8"

THREADS AND FEEDS

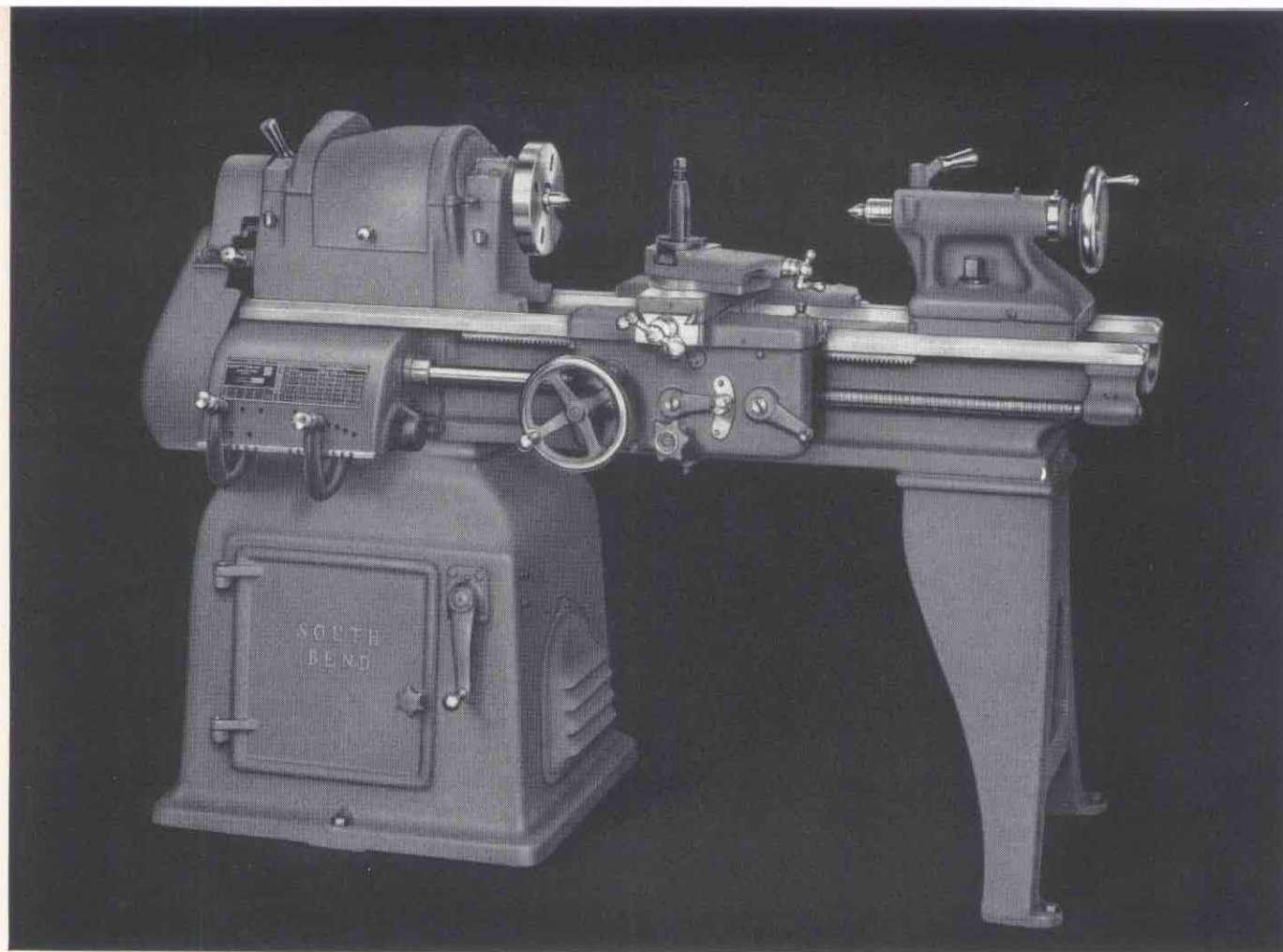
Thread cutting range—48 pitches
R.H. or L.H..... .4 to 224 per inch
Longitudinal feeds through friction
clutch—48 feeds R.H. or L.H..... .0015" to .0841"
Cross-feeds through friction clutch—
48 feeds..... .0008" to .0315"
Lead screw, 29° Acme thread..... 1 1/2" dia.—6 thrs.

TOOL POST

Size of tool holder shank..... 5/8" x 1 3/8"
Size of cutter bit for tool holder..... 3/8" sq.

MOTOR

Standard size of motor required..... 1 1/2 h.p.



14 1/2-inch Quick Change Gear *Precision* Lathe

Eight Spindle Speeds—Back-Geared—Belt Drive to Spindle

Designed and built to give you years of satisfactory service, this is an economical lathe to buy and to use. It has the same power and capacity as the toolroom model shown on the opposite page, but is less costly because it does not have the taper attachment, collet attachment, and other toolroom accessories. However, any attachment that may be needed can be ordered with the lathe as an extra.

New two-lever gear box gives you quicker, easier changes for all threads and feeds. Powerful multiple disc friction clutch in apron permits engaging or disengaging power turning and facing feeds instantly. Direction of feed is reversed by shifting the feed reverse lever conveniently located at the left end of the headstock. An automatic safety interlock makes it impossible to damage the lathe or the work by engaging a second feed accidentally when one feed is already in operation.

The underneath motor drive (patented) is entirely self-contained and fully enclosed. It provides an unusually wide range of spindle speeds. A precision belt tension adjustment is pro-

vided. The endless belt drive to the spindle is silent in operation and develops smooth, steady power, free from gear vibration.

Regular equipment included in price of lathe consists of: 4 V-belts; flat leather belt; large and small face plates; heat-treated steel 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." Electrical equipment is not included in price of lathe.

14 1/2-inch Quick Change Gear Lathes with Eight-Speed Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL185B | 5 | 24 1/8 | 81 | 2500 | 1995 |
| CL185C | 6 | 36 1/8 | 85 | 2600 | 2070 |
| CL185D | 7 | 48 1/8 | 91 | 2750 | 2145 |
| CL185E | 8 | 60 1/8 | 100 | 2900 | 2225 |

Specifications of 14 1/2-inch Quick Change Gear Lathes

CAPACITY OF LATHE

- Swing over bed and saddle wings 14 5/8"
- Swing over saddle cross slide 8 3/4"
- Swing over cross slide without chip guard 10 1/4"

SPINDLE SPEEDS

- Standard spindle speeds (approximate, not exact)
- r.p.m. of spindle, direct belt drive. 875, 545, 350, 215
- r.p.m. of spindle back-gear drive. 130, 80, 50, 30

HEADSTOCK

- Hole through spindle 1 3/8"
- Maximum collet capacity 1"
- Spindle nose diameter and threads 2 5/8"-6

- Size of center, Morse taper No. 3
- Width of cone pulley step for belt 2 1/8"
- Large face plate diameter 13 1/4"
- Small face plate diameter 8 1/8"
- Front spindle bearing, diameter 2 5/8"

TAILSTOCK

- Size of center, Morse taper No. 3
- Spindle travel 5 1/4"
- Each graduation on tailstock spindle 1/16"
- Tailstock top set-over for taper turning 1 1/8"

COMPOUND REST

- Cross slide travel 10"
- Angular hand feed of compound rest top slide 3 3/4"

THREADS AND FEEDS

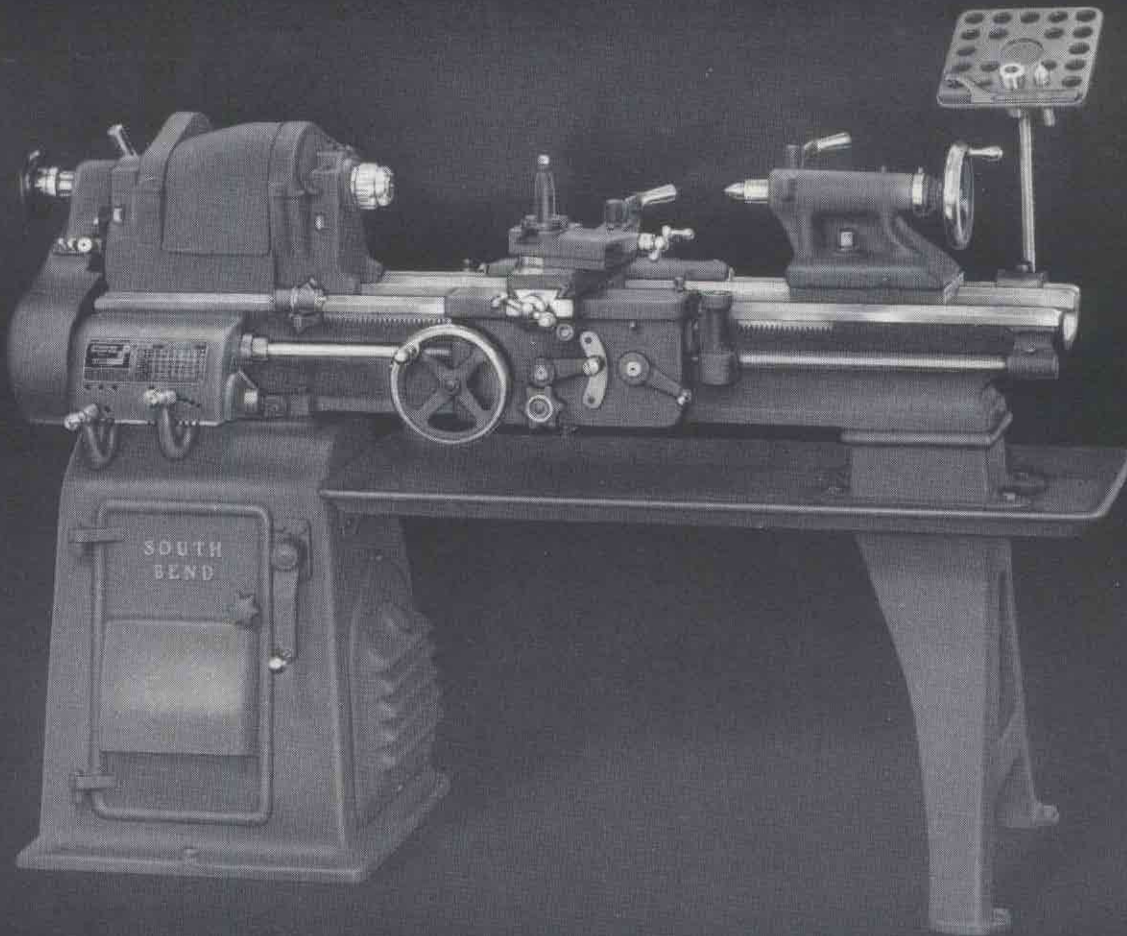
- Thread cutting range—48 pitches
- R.H. or L.H. 4 to 224 per inch
- Longitudinal feeds through friction clutch—48 feeds R.H. or L.H.0015" to .0841"
- Cross feeds through friction clutch—48 feeds0006" to .0315"
- Lead screw, 29° Acme thread 1 1/8" dia.-6 thds.

TOOL POST

- Size of tool holder shank 5/8" x 1 3/8"
- Size of cutter bit for tool holder 3/8" sq.

MOTOR

- Standard size of motor required 1 1/2 h.p.



13-inch Toolroom *Precision* Lathe

Precision Lead Screw—Telescopic Taper Attachment

The 13-inch Toolroom Lathe is especially popular for small and medium sized jobs requiring speed and accuracy. Having greater sensitivity and speed than larger lathes, it will save you time and effort on all work within its capacity. You can also save on first cost, power, and floor space by selecting one or more of these lathes for your shop.

Equipped with the South Bend Telescopic Taper Attachment, this lathe is unsurpassed for turning and boring precision tapers or cutting tapered screw threads. To engage the taper attachment, it is only necessary to tighten two binding screws. The telescopic cross-feed screw eliminates the necessity of disconnecting the cross-feed nut at any time. Before engaging the taper attachment, the cross-feed screw may be used to adjust the position of the cutting tool. A rigid connecting bar locks the compound rest base to the taper attachment slide block to eliminate all lost motion of the cross-feed screw assembly when tapers are being machined.

Toolroom attachments included in price of lathe consist of: precision lead screw; 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; heat-treated steel 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." Electrical equipment is not included in the price of the lathe.

13-inch Underneath Toolroom Lathes with Eight-Speed Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL8145B | 5 | 28 $\frac{1}{4}$ | 81 | 1995 | 1665 |
| CL8145C | 6 | 40 $\frac{1}{4}$ | 82 | 2150 | 1715 |
| CL8145D | 7 | 52 $\frac{1}{4}$ | 90 | 2305 | 1770 |

Specifications of 13-inch Toolroom Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....13 $\frac{1}{8}$ "
Swing over saddle cross slide.....8"

SPINDLE SPEEDS

Standard spindle speeds (approximate, not exact)
r.p.m. of spindle, direct belt drive...940, 628, 418, 270
r.p.m. of spindle, back-gear drive...135, 90, 60, 40

HEADSTOCK

Hole through spindle.....1 $\frac{3}{8}$ "
Maximum collet capacity.....1"
Spindle nose diameter and threads.....2 $\frac{1}{4}$ "-8
Size of center, Morse taper.....No. 3

Width of cone pulley step for belt.....1 $\frac{3}{8}$ "
Large face plate diameter.....10 $\frac{1}{2}$ "
Small face plate diameter.....6 $\frac{3}{8}$ "
Front spindle bearing, diameter.....2 $\frac{1}{2}$ "

TAILSTOCK

Size of center, Morse taper.....No. 3
Spindle travel.....4 $\frac{1}{4}$ "
Each graduation on tailstock spindle..... $\frac{1}{16}$ "
Tailstock top set-over for taper turning.....1 $\frac{5}{16}$ "

COMPOUND REST

Gross slide travel.....8 $\frac{1}{2}$ "
Angular hand feed of compound rest top slide.....3 $\frac{1}{8}$ "

THREADS AND FEEDS

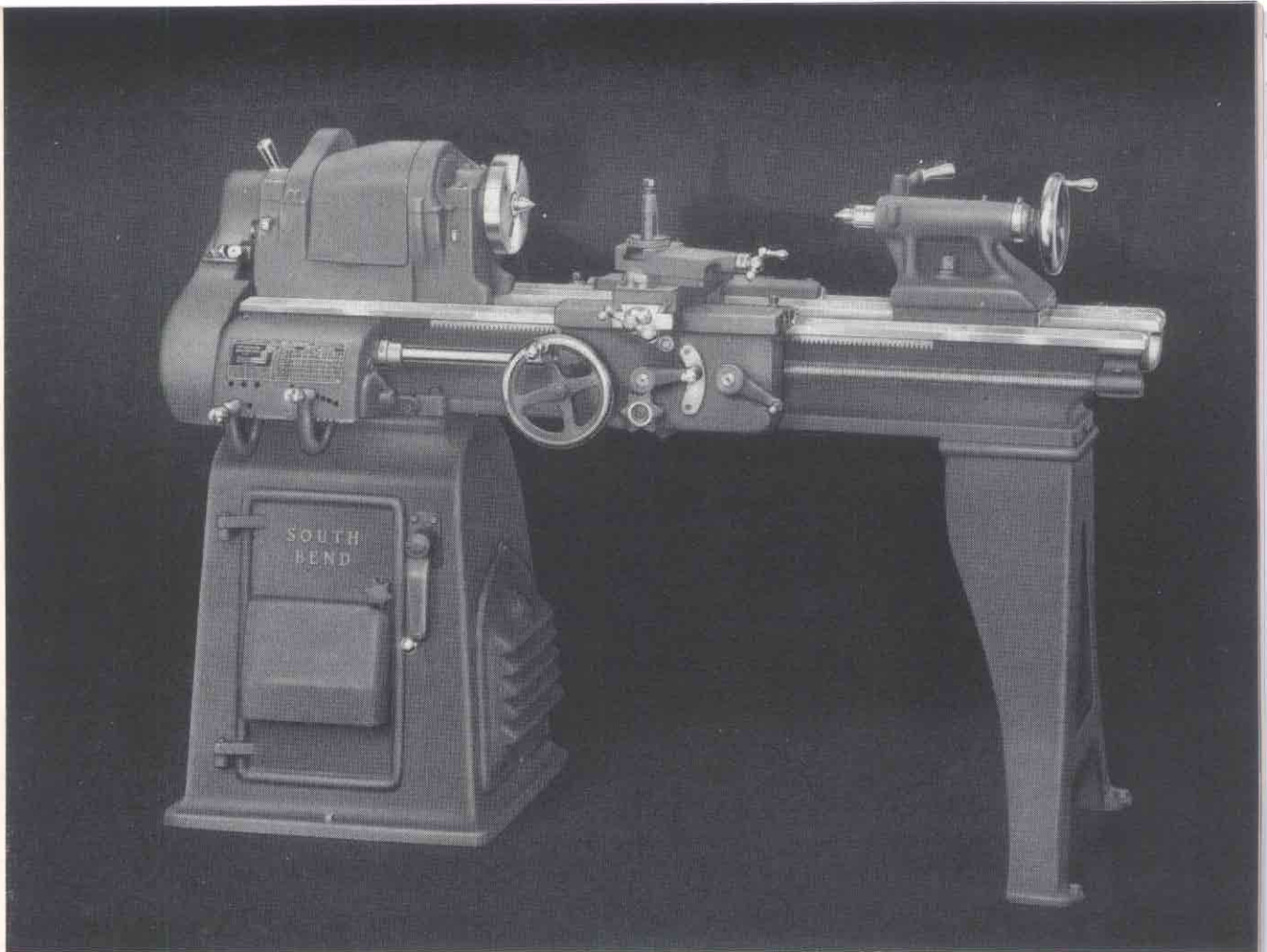
Thread cutting range—48 pitches
R.H. or L.H.....4 to 224 per inch
Longitudinal feeds through friction
clutch—48 feeds R.H. or L.H......0015" to .0841"
Cross-feeds through friction clutch—
48 feeds......0006" to .0315"
Lead screw, 29° Acme thread.....1" dia.—6 thrds.

TOOL POST

Size of tool holder shank.....1 $\frac{1}{2}$ " x 1 $\frac{1}{8}$ "
Size of cutter bit for tool holder..... $\frac{3}{16}$ " sq.

MOTOR

Standard size of motor required.....1 h.p.



13-inch Quick Change Gear *Precision* Lathe

Eight Spindle Speeds—Back-Geared—Belt Drive to Spindle

The 13-inch Quick Change Gear Lathe is efficient and economical for manufacturing or maintenance operations on work of average size. Its sensitivity and ease of operation save effort and speed production, especially on multiple operation jobs requiring several changes or adjustments of controls.

These lathes are carefully engineered to give you years of satisfactory service. Large bearings and excellent facilities for oiling reduce wear to a minimum. The time tested prismatic V-way construction assures permanent alignment of the headstock, tailstock, and carriage. The headstock spindle is of heat-treated alloy steel. Other important parts are made of similarly high quality materials selected for long service. Given the proper care, these lathes will retain their accuracy indefinitely.

Many practical attachments for this lathe are listed in the back of this catalog. These attachments and accessories greatly increase the usefulness of the lathe. They simplify tooling the

lathe for operations that might otherwise require special fixtures or machinery.

Regular equipment included in price of lathe consists of: 2 V-belts; flat leather belt; large and small face plates; heat-treated steel 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." Electrical equipment is not included in the price of the lathe.

13-inch Quick Change Gear Lathes with Eight-Speed Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL145A | 4 | 16 1/4 | 60 | 1835 | 1460 |
| CL145B | 5 | 28 1/4 | 69 | 1940 | 1510 |
| CL145C | 6 | 40 1/4 | 70 | 2045 | 1560 |
| CL145D | 7 | 52 1/4 | 78 | 2150 | 1615 |

Specifications for 13-inch Quick Change Gear Lathes

CAPACITY OF LATHE

| | |
|---|---------|
| Swing over bed and saddle wings | 13 1/8" |
| Swing over saddle cross slide | 7 3/4" |
| Swing over cross slide without chip guard | 8 3/4" |

SPINDLE SPEEDS

| | |
|--|--------------------|
| Standard spindle speeds (approximate, not exact) | |
| r.p.m. of spindle, direct belt drive | 940, 628, 418, 270 |
| r.p.m. of spindle, back-gear drive | 135, 90, 60, 40 |

HEADSTOCK

| | |
|-----------------------------------|----------|
| Hole through spindle | 1 3/8" |
| Maximum collet capacity | 1" |
| Spindle nose diameter and threads | 2 1/4"-8 |

SOUTH BEND LATHE WORKS

| | |
|------------------------------------|---------|
| Size of center, Morse taper | No. 3 |
| Width of cone pulley step for belt | 1 3/4" |
| Large face plate diameter | 10 3/4" |
| Small face plate diameter | 6 3/8" |
| Front spindle bearing, diameter | 2 1/4" |

TAILSTOCK

| | |
|--|---------|
| Size of center, Morse taper | No. 3 |
| Spindle travel | 4 1/4" |
| Each graduation on tailstock spindle | 1/16" |
| Tailstock top set-over for taper turning | 1 1/16" |

COMPOUND REST

| | |
|--|--------|
| Cross slide travel | 8 3/4" |
| Angular hand feed of compound rest top slide | 3 1/8" |

THREADS AND FEEDS

| | |
|--|-------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | 4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0841" |
| Cross-feeds through friction clutch—48 feeds | .0006" to .0315" |
| Lead screw, 29° Acme thread | 1" dia.-6 thds. |

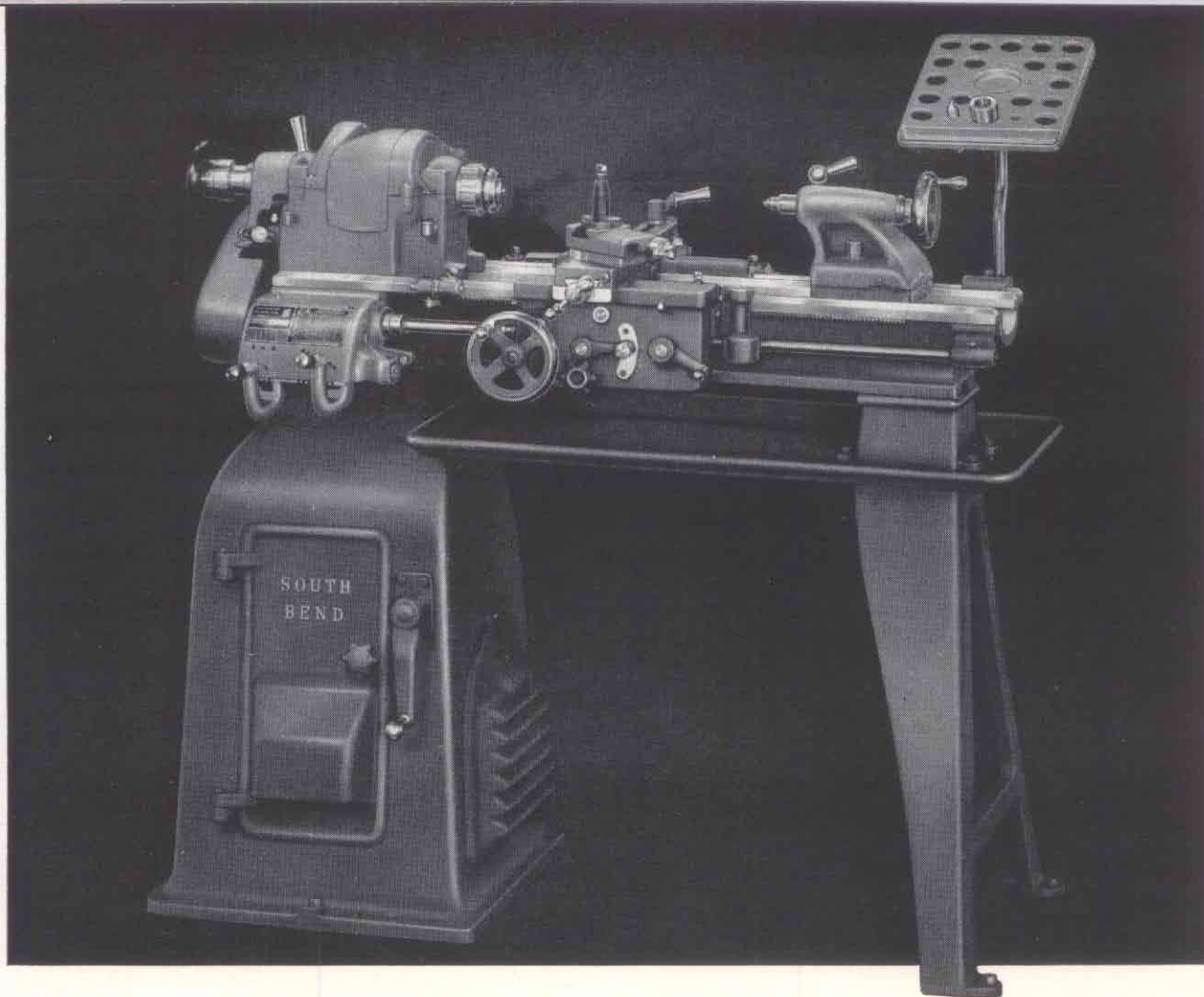
TOOL POST

| | |
|------------------------------------|---------------|
| Size of tool holder shank | 1/2" x 1 1/8" |
| Size of cutter bit for tool holder | 3/16" sq. |

MOTOR

| | |
|---------------------------------|--------|
| Standard size of motor required | 1 h.p. |
|---------------------------------|--------|

SOUTH BEND 22, INDIANA, U.S.A.



10-inch Toolroom *Precision* Lathe

Precision Lead Screw—Telescopic Taper Attachment

This is one of our finest 10-inch swing lathes. Equipped with a precision lead screw, thread dial indicator, and thread cutting stop, you can use it with confidence for cutting screw threads on precision gauges, taps, dies, instrument parts, etc. The telescopic taper attachment makes taper turning and boring almost as easy as machining straight work.

New two-lever gear box gives you quicker, easier changes for threads and feeds. Powerful multiple disc friction clutch in apron permits engaging or disengaging power turning and facing feeds instantly. Direction of feed is reversed by shifting the feed reverse lever conveniently located on the left end of the headstock. An automatic safety interlock makes it impossible to damage the lathe or the work by engaging a second feed accidentally when one feed is already in operation.

Toolroom attachments included in price of lathe consist of: precision lead screw; 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; heat-treated 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." Electrical equipment is not included in price of lathe.

10-inch 1" Collet South Bend Toolroom Lathes with Floor Legs

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL8187Y | 3 | 14 1/4" | 45 | 1290 | 990 |
| CL8187Z | 3 1/2 | 20 1/4" | 48 | 1310 | 1010 |
| CL8187A | 4 | 26 3/8" | 48 | 1330 | 1030 |

Specifications of 10-inch Toolroom Floor Lathes

CAPACITY OF LATHE

| | |
|--------------------------------------|---------|
| Swing over bed and saddle wings..... | 10 1/2" |
| Swing over saddle cross slide..... | 5 3/4" |

SPINDLE SPEEDS (approximate, not exact)

| | | |
|-------------------------|----------------|---------------|
| | Direct Drive | Back-Gear |
| High speeds, r.p.m..... | 1400, 898, 585 | 250, 160, 105 |
| Low speeds, r.p.m..... | 740, 470, 304 | 130, 85, 55 |

HEADSTOCK

| | |
|-------------------------------------|----------|
| Collet capacity, maximum..... | 1" |
| Headstock spindle hole..... | 1 3/8" |
| Headstock spindle nose threads..... | 2 1/4"-8 |
| Size of center, Morse taper..... | No. 2 |

| | |
|---|--------|
| Width of cone pulley step for belt..... | 1 3/8" |
| Large face plate diameter..... | 8 3/8" |
| Small face plate diameter..... | 5 5/8" |
| Front spindle bearing diameter..... | 2 1/4" |

TAILSTOCK

| | |
|---|---------|
| Size of center, Morse taper..... | No. 2 |
| Spindle travel..... | 2 1/2" |
| Each graduation on tailstock spindle..... | 1/10" |
| Tailstock top set-over for taper turning..... | 1 1/16" |

COMPOUND REST

| | |
|---|--------|
| Cross slide travel..... | 5 3/8" |
| Angular hand feed of compound rest top slide..... | 2" |

THREADS AND FEEDS

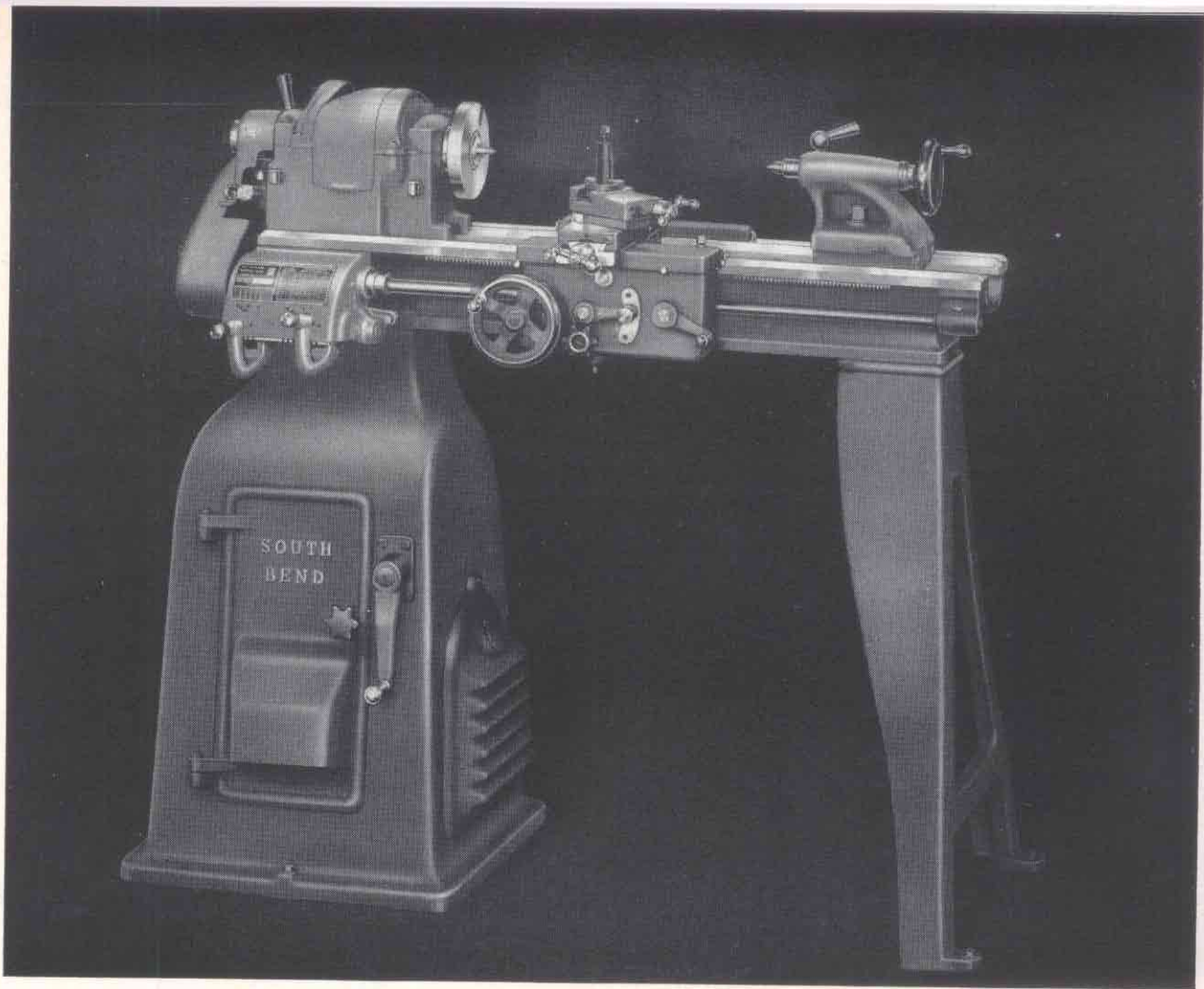
| | |
|--|---------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H..... | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H..... | .0015" to .0836" |
| Cross-feeds through friction clutch—48 feeds..... | .0006" to .0303" |
| Lead screw 29° Acme thread..... | 3/4" dia.—8 threds. |

TOOL POST

| | |
|---|---------------|
| Size of tool holder shank..... | 3/8" x 1 3/8" |
| Size of cutter bit for tool holder..... | 1/4" sq. |

MOTOR

| | |
|--------------------------------------|----------|
| Standard size of motor required..... | 3/4 h.p. |
|--------------------------------------|----------|



10-inch Quick Change Gear *Precision* Lathe Underneath Motor Drive—Back-gear—Belt Drive to Spindle

Ruggedly constructed throughout, this lathe has ample power for all work within its capacity. Motor and driving mechanism are fully enclosed. Direct belt drive to the spindle assures quiet, vibration free operation at high spindle speeds. Slow speeds for heavy cuts on large diameter work are driven through powerful back gears.

The tailstock spindle is graduated and the tailstock screw is fitted with a micrometer collar for drilling to a specified depth with extreme precision. Both the cross-feed screw and the compound rest screw have large diameter easy reading micrometer collars for adjusting the position of the cutting tool.

New two-lever gear box gives you quicker, easier changes for threads and feeds. Powerful multiple disc friction clutch in apron permits engaging or disengaging power turning and facing feeds instantly. Direction of feed is reversed by shifting the feed reverse lever conveniently located on the left end of

the headstock. An automatic safety interlock makes it impossible to damage the lathe or the work by engaging a second feed accidentally when one feed is already in operation.

Regular equipment included in price of lathe consists of: V-belt; flat leather belt; large and small face plates; heat-treated 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." Electrical equipment is not included in price of lathe.

10-inch 1" Collet South Bend Quick Change Gear Lathes
with Floor Legs

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL187Y | 3 | 14 1/4 | 42 | 1230 | 930 |
| CL187Z | 3 1/2 | 20 1/4 | 45 | 1250 | 950 |
| CL187A | 4 | 26 1/4 | 45 | 1270 | 970 |
| CL187R | 4 1/2 | 34 1/4 | 48 | 1290 | 990 |

Specifications of 10-inch Quick Change Gear Floor Lathes

CAPACITY OF LATHE

| | |
|---|---------|
| Swing over bed and saddle wings | 10 1/8" |
| Swing over saddle cross slide | 5 7/8" |
| Swing over cross slide without chip guard | 6 3/4" |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Gear |
|---------------------|----------------|---------------|
| High speeds, r.p.m. | 1400, 898, 585 | 250, 160, 105 |
| Low speeds, r.p.m. | 740, 470, 304 | 130, 85, 55 |

HEADSTOCK

| | |
|--------------------------------|----------|
| Collet capacity, maximum | 1" |
| Headstock spindle hole | 1 3/8" |
| Headstock spindle nose threads | 2 1/4"-8 |
| Size of center, Morse taper | No. 2 |

| | |
|------------------------------------|---------|
| Width of cone pulley step for belt | 1 3/16" |
| Large face plate diameter | 8 3/4" |
| Small face plate diameter | 5 5/8" |
| Front spindle bearing diameter | 2 1/4" |

TAILSTOCK

| | |
|--|---------|
| Size of center, Morse taper | No. 2 |
| Spindle travel | 2 1/2" |
| Each graduation on tailstock spindle | 1/10" |
| Tailstock top set-over for taper turning | 1 1/16" |

COMPOUND REST

| | |
|--|--------|
| Cross slide travel | 6 1/2" |
| Angular hand feed of compound rest top slide | 2" |

THREADS AND FEEDS

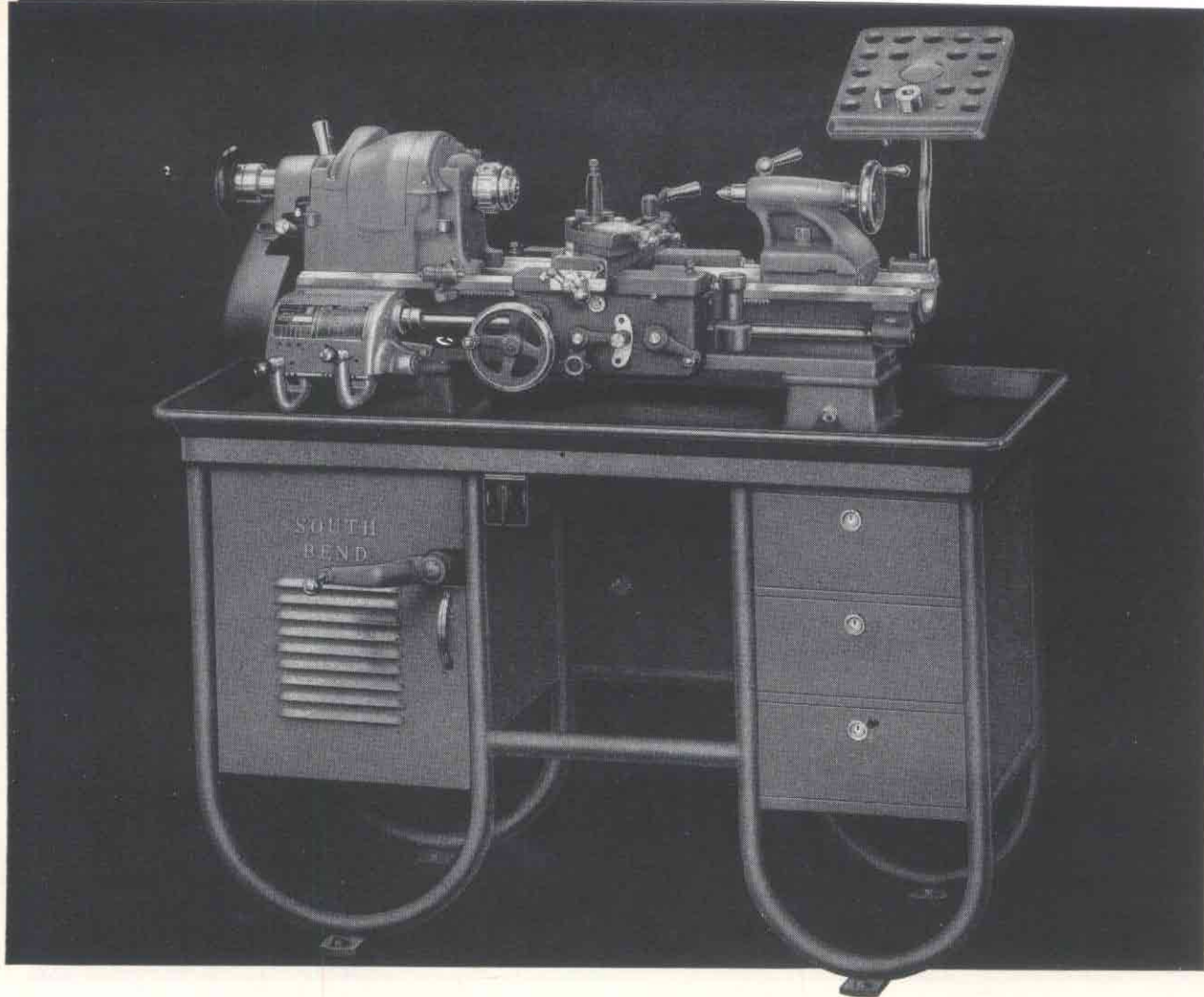
| | |
|--|-------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | 4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0836" |
| Cross-feeds through friction clutch—48 feeds | .0008" to .0303" |
| Lead screw, 29° Acme thread | 3/4" dia.—8 thrs. |

TOOL POST

| | |
|------------------------------------|----------------|
| Size of tool holder shank | 3/8" x 1 1/16" |
| Size of cutter bit for tool holder | 1/4" sq. |

MOTOR

| | |
|---------------------------------|----------|
| Standard size of motor required | 3/4 h.p. |
|---------------------------------|----------|



10-inch Toolroom *Precision* Bench Lathe

Precision Lead Screw—Telescopic Taper Attachment

Designed especially for precision toolroom operations, this lathe has many improvements and refinements that will make your most difficult lathe jobs easier. The telescopic taper attachment is graduated in both degrees and inches per foot for machining tapers up to $3\frac{1}{2}$ " per foot. A rigid connecting bar and binding lever remove the thrust from the cross-feed nut and lock the compound rest base rigidly to the taper attachment slide block to eliminate lost motion in the cross slide when turning or boring tapers.

New two-lever gear box gives you quicker, easier changes for threads and feeds. Powerful multiple disc friction clutch in apron permits engaging or disengaging power turning and facing feeds instantly. Direction of feed is reversed by shifting the feed reverse lever conveniently located on the left end of the headstock. An automatic safety interlock makes it impossible to damage the lathe or the work by engaging a second feed accidentally when one feed is already in operation.

Toolroom attachments included in price of lathe consist of: precision lead screw; 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: steel bench with built-in chip pan and three drawers; V-belt; flat leather belt; large and small face plates; heat-treated 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." Electrical equipment is not included in price.

10-inch 1" Collet South Bend Toolroom Bench Lathes

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CLB187YB | 3 | 14 $\frac{1}{4}$ | 56 | 1310 | 960 |
| CLB187ZB | 3 $\frac{1}{4}$ | 20 $\frac{1}{4}$ | 56 | 1360 | 990 |
| CLB187AB | 4 | 26 $\frac{1}{8}$ | 65 | 1410 | 1060 |

Specifications of 10-inch Toolroom Bench Lathes

CAPACITY OF LATHE

| | |
|--------------------------------------|--------------------|
| Swing over bed and saddle wings..... | 10 $\frac{1}{8}$ " |
| Swing over saddle cross slide..... | 5 $\frac{3}{4}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|-------------------------|----------------|---------------|
| High speeds, r.p.m..... | 1400, 898, 585 | 250, 160, 105 |
| Low speeds, r.p.m..... | 740, 470, 304 | 130, 85, 55 |

HEADSTOCK

| | |
|-------------------------------------|---------------------|
| Collet capacity, maximum..... | 1" |
| Headstock spindle hole..... | 1 $\frac{3}{8}$ " |
| Headstock spindle nose threads..... | 2 $\frac{1}{2}$ "-8 |
| Size of center, Morse taper..... | No. 2 |

| | |
|---|--------------------|
| Width of cone pulley step for belt..... | 1 $\frac{5}{16}$ " |
| Large face plate diameter..... | 8 $\frac{3}{8}$ " |
| Small face plate diameter..... | 5 $\frac{5}{8}$ " |
| Front spindle bearing diameter..... | 2 $\frac{1}{4}$ " |

TAILSTOCK

| | |
|---|-------------------|
| Size of center, Morse taper..... | No. 2 |
| Spindle travel..... | 2 $\frac{1}{8}$ " |
| Each graduation on tailstock spindle..... | 1/10" |
| Tailstock top set-over for taper turning..... | 1 $\frac{1}{8}$ " |

COMPOUND REST

| | |
|---|-------------------|
| Cross slide travel..... | 5 $\frac{7}{8}$ " |
| Angular hand feed of compound rest top slide..... | 2" |

THREADS AND FEEDS

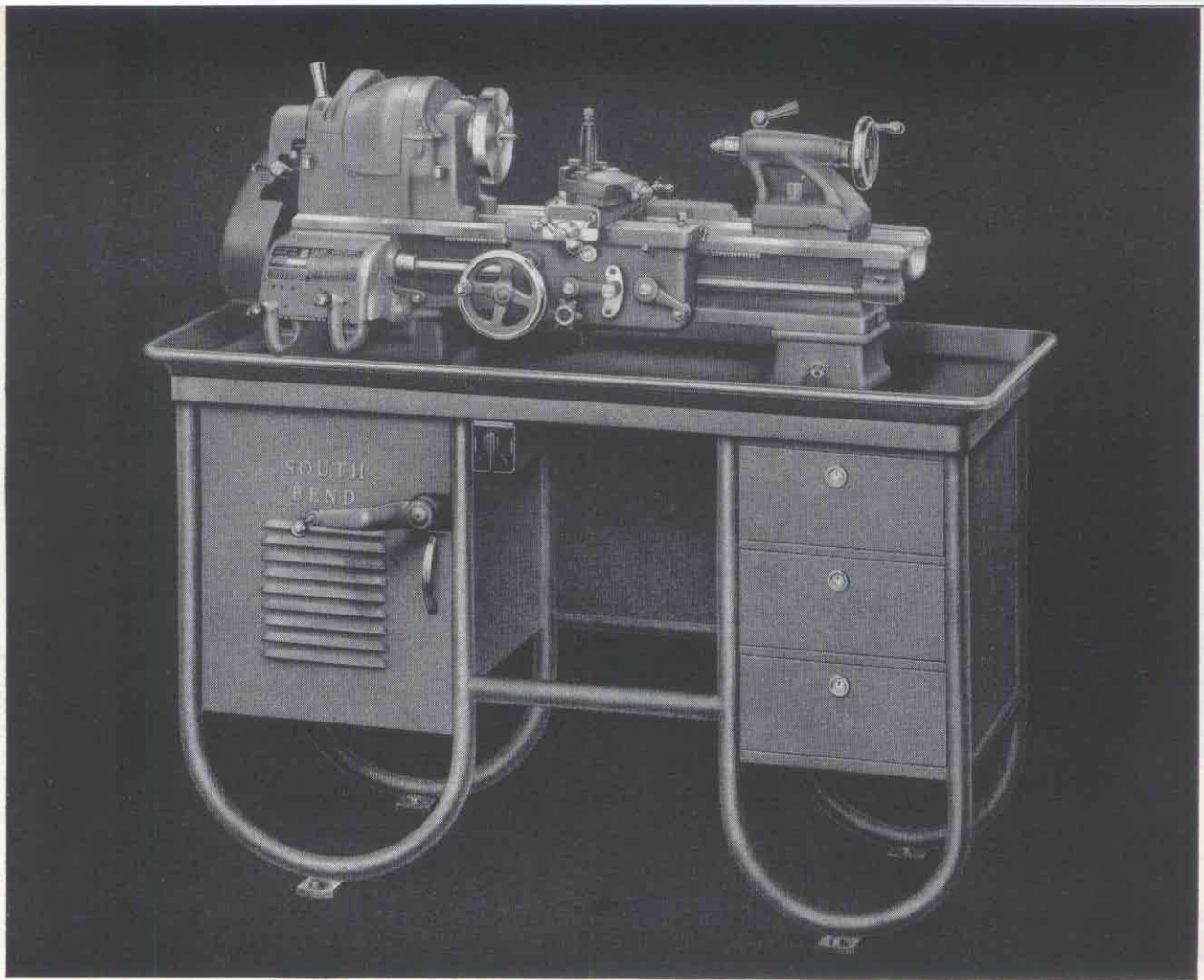
| | |
|--|-------------------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H..... | 4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H..... | .0015" to .0836" |
| Cross-feeds through friction clutch— | |
| 48 feeds..... | .0006" to .0303" |
| Lead screw 28° Acme thread..... | $\frac{3}{4}$ " dia.—8 thrds. |

TOOL POST

| | |
|---|-------------------------------------|
| Size of tool holder shank..... | $\frac{3}{8}$ " x $\frac{11}{16}$ " |
| Size of cutter bit for tool holder..... | $\frac{1}{4}$ " sq. |

MOTOR

| | |
|--------------------------------------|--------------------|
| Standard size of motor required..... | $\frac{3}{4}$ h.p. |
|--------------------------------------|--------------------|



10-inch Quick Change Gear *Precision* Bench Lathe

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

Mounted on a substantial welded steel bench with built-in chip pan and three roomy drawers, this is one of our most convenient models. Control switch is always within easy reach and permits starting, stopping or reversing lathe spindle instantly. Motor and driving mechanism are fully enclosed in cabinet beneath lathe headstock.

New two-lever gear box gives you quicker, easier changes for threads and feeds. Powerful multiple disc friction clutch in apron permits engaging or disengaging power turning and facing feeds instantly. Direction of feed is reversed by shifting the feed reverse lever conveniently located on the left end of the headstock. An automatic safety interlock makes it impossible to damage the lathe or the work by engaging a second feed accidentally when one feed is already in operation.

A complete line of practical attachments and accessories simplifies tooling the lathe for many classes of work, including some that might otherwise require special machinery or equip-

ment. Most of these attachments and accessories may be purchased either with the lathe or later.

Regular equipment included in price of lathe consists of: steel bench with built-in chip pan and three drawers; V-belt; flat leather belt; large and small face plates; heat-treated 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." Electrical equipment is not included in the price.

10-inch 1" Collet South Bend Quick Change Gear Bench Lathes

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL187YB | 3 | 14 1/4 | 56 | 1200 | 850 |
| CL187ZB | 3 1/2 | 20 1/4 | 56 | 1250 | 880 |
| CL187AB | 4 | 26 1/4 | 65 | 1300 | 950 |
| CL187RB | 4 1/2 | 34 1/4 | 65 | 1350 | 980 |

Specifications of 10-inch Quick Change Gear Bench Lathes

CAPACITY OF LATHE
 Swing over bed and saddle wings 10 1/2"
 Swing over saddle cross slide 5 7/8"
 Swing over cross slide without chip guard 6 3/4"

SPINDLE SPEEDS (approximate, not exact)
 Direct Drive Back-Geared
 High speeds, r.p.m. 1400, 898, 585 250, 160, 105
 Low speeds, r.p.m. 740, 470, 304 130, 85, 55

HEADSTOCK
 Collet capacity, maximum 1"
 Headstock spindle hole 1 1/8"
 Headstock spindle nose threads 2 1/4"-8
 Size of center, Morse taper No. 2

Width of cone pulley step for belt 1 1/8"
 Large face plate diameter 8 3/8"
 Small face plate diameter 5 5/8"
 Front spindle bearing diameter 2 1/4"

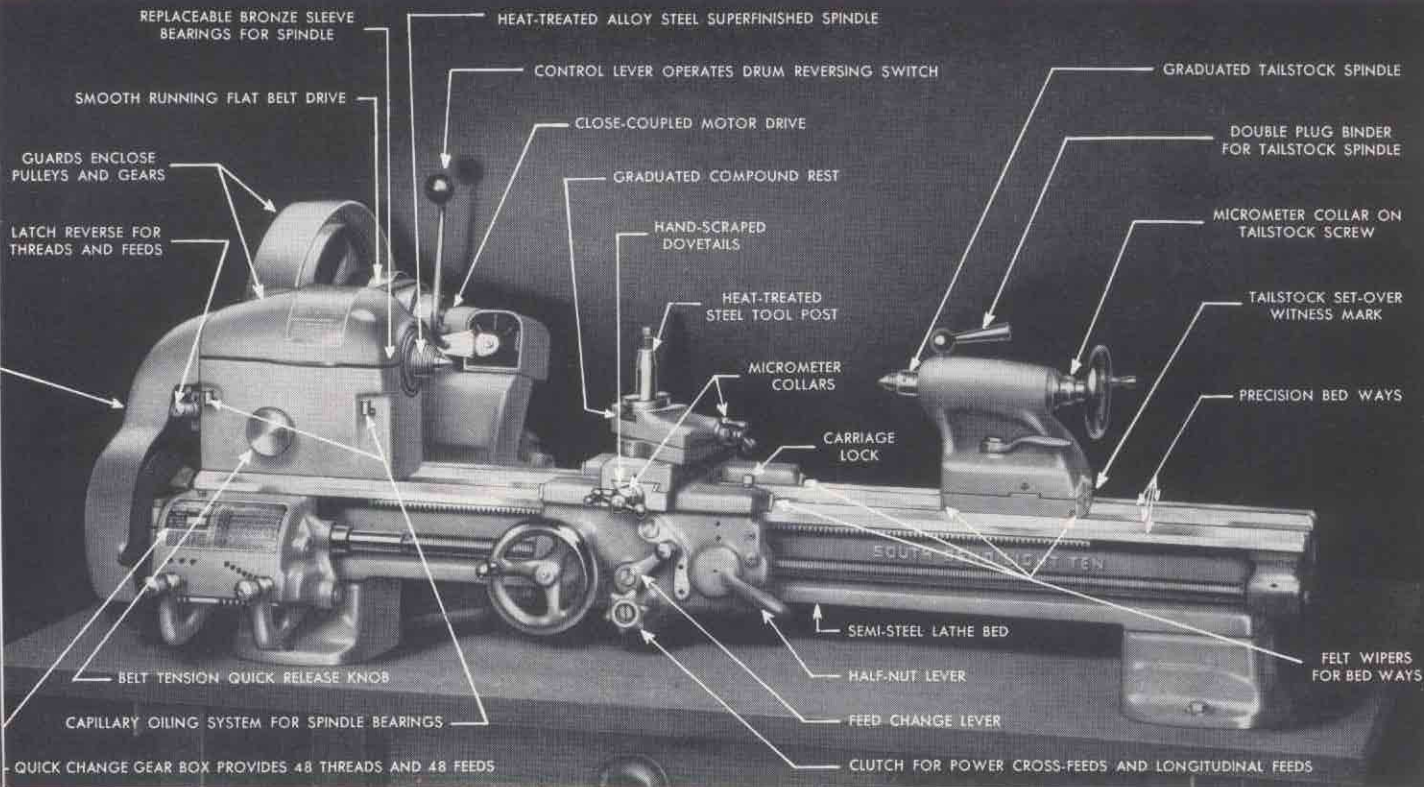
TAILSTOCK
 Size of center, Morse taper No. 2
 Spindle travel 2 1/8"
 Each graduation on tailstock spindle 1/10"
 Tailstock top set-over for taper turning 1 1/16"

COMPOUND REST
 Cross slide travel 6 1/2"
 Angular hand feed of compound rest top slide 2"

THREADS AND FEEDS
 Thread cutting range—48 pitches
 R.H. or L.H.4 to 224 per inch
 Longitudinal feeds through friction clutch—48 feeds R.H. or L.H.0015" to .0836"
 Cross-feeds through friction clutch—48 feeds0006" to .0303"
 Lead screw 29° Acme thread 3/4" dia.—8 threds.

TOOL POST
 Size of tool holder shank 3/8" x 1 1/16"
 Size of cutter bit for tool holder 1/4" sq.

MOTOR
 Standard size of motor required 3/4 h.p.



Features of South Bend Light Ten Lathes

Forty-Five Years of experience in designing and building fine precision lathes have gone into the development of the new South Bend Light Ten Lathe. It is a modern precision tool having the most recently developed improvements and refinements. The workmanship and materials used in its construction are the best that can be obtained, and the highest standards of inspection are maintained throughout its manufacture.

Lathe Bed is rigidly constructed of a special grade of gray iron having thirty per cent steel, which produces a hard close-grained metal having unusual strength and long wearing qualities. The time proved superior design of the bed, having three V-ways and one flat way, assures permanent precision alignment of the headstock, tailstock, and carriage, practically unaffected by wear. The bed ways are carefully precision finished the entire length of the bed.

Back-Geared Headstock is hand-scraped to the bed to assure precision alignment of the spindle with the bed ways. A wrenchless bull gear lock permits engaging and disengaging the back gears without the use of a wrench. The cone pulley and back gears are enclosed in a hinged cover which may be raised to permit easy shifting of the cone pulley belt to change spindle speeds. An improved spring latch reverse on the left end of the headstock permits changing the direction of power carriage feeds instantly.

Bearings for headstock spindle are replaceable bronze sleeve type, and are precision bored and burnished to a smoothness of ten microinches (.000010")* by the bearingizing process. The use of large sleeve bearings to carry the radial load prevents chatter marks on the work due to vibrations which might be set up by ball or roller bearings. 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.

Headstock Spindle is made of a special quality alloy spindle steel, with all bearing surfaces carburized, hardened, and ground. Journal bearing surfaces are superfinished to a smoothness of five microinches (.000005")*. Spindle has ball thrust bearing and take-up nut for eliminating end play.

Tailstock is substantially designed with long hand-scraped bearing on bed. Tailstock top has set-over for taper turning. A double plug binder locks the tailstock spindle without throwing it out of alignment. Tailstock spindle is graduated and is made of special quality spindle steel. For drilling operations, a micrometer collar on the tailstock spindle feed screw indicates movement of spindle in thousandths of an inch. Tailstock center is hardened and is self-ejecting. Felt wipers are attached to both ends of the tailstock base to clean and oil the bed ways.

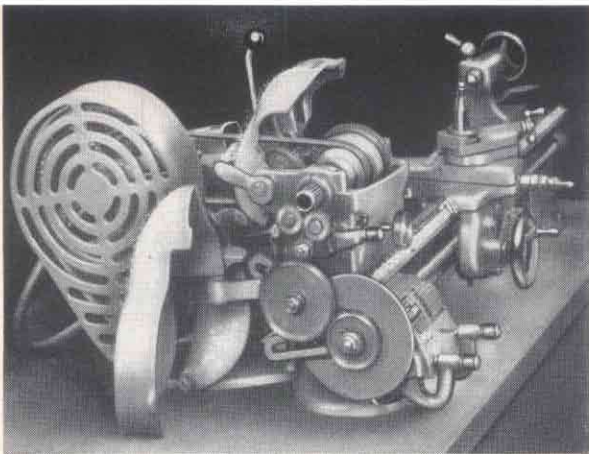
Quick Change Gear Box supplied on Model A and Tool-room Lathes permits changing thread cutting feeds, power longitudinal feeds, and power cross-feeds instantly by shifting two levers. Model B and Model C Lathes have independent change gears for changing threads and feeds.

Carriage has long bearings ($9\frac{1}{16}$ inches) on V-ways of lathe bed, providing a solid support for the cutting tool and reducing wear to a minimum. V-ways of saddle are hand-scraped to match V-ways of lathe bed perfectly and are fitted with felt wipers to clean and oil the bed. Carriage lock for facing operations is conveniently located on front wing of saddle.

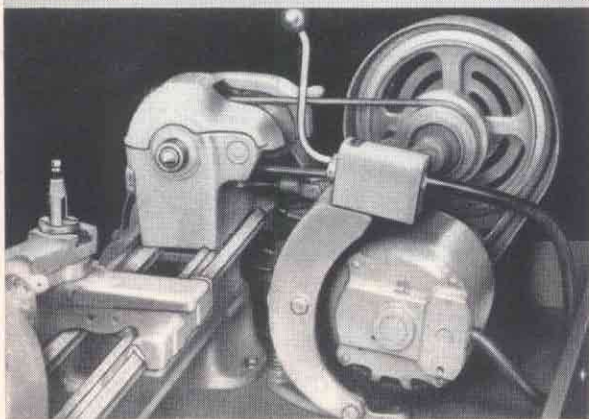
Apron for Model A and Model B Lathes (patented) is equipped with a worm driven by a spline in the lead screw, and a friction clutch for operating the power cross-feeds and the power longitudinal feeds. The threads of the lead screw are not used for the power longitudinal turning feeds. The plunger type feed change knob on the front of the apron has three positions: top for power longitudinal feeds; center for a neutral position; and bottom for the power cross-feeds. An automatic safety interlock prevents engaging half-nuts accidentally when the power turning or facing feeds are in operation. Apron for Model C Lathe has power longitudinal feeds driven through the lead screw and half-nuts, and hand operated cross-feed.

Compound Rest is graduated 180 degrees, swivels to any angle, and has improved locking device with double binder. Compound rest screw and cross-feed screw have large micrometer collars graduated to read in thousandths of an inch. Dovetails are hand-scraped and have adjustable gibs. Tool post is made of heat-treated steel.

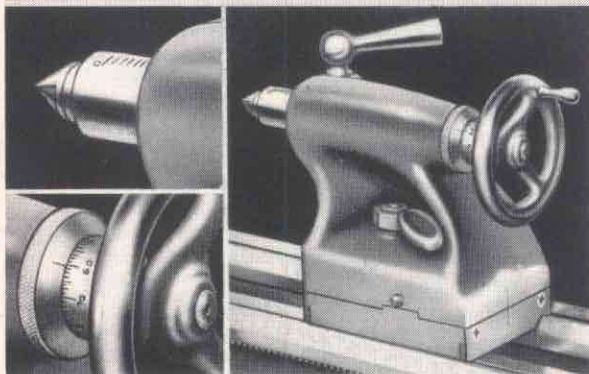
*Profilometer reading in microinches rms.



Headstock end of Light Ten Lathe with guards open showing cone pulley belt, end gearing, and quick acting spring latch reverse for threads and feeds.



View from tailstock end of Light Ten Lathe showing close-coupled horizontal motor drive mechanism.



Close-up of tailstock, with insets showing graduated spindle and micrometer graduated collar.



Heat-treated alloy steel superfinished spindle and replaceable bronze spindle bearings.

SPEED

High spindle speeds are essential for machining small diameters, drilling, polishing, diamond turning and boring, finishing plastics, machining brass, aluminum, magnesium, and many other similar operations. Slow speeds are just as important for cutting screw threads, reaming, machining large diameters, etc. The South Bend Light Ten Lathe has been designed to perform equally well over an unusually wide range of spindle speeds. The improved close-coupled horizontal motor drive (patented) provides twelve spindle speeds ranging from 48 to 1435 r.p.m. (approximately). Direct belt drive to the spindle assures smooth operation at high speeds. Slow speeds are driven through powerful back gears.

ACCURACY

Built by craftsmen who take pride in their work, the Light Ten Lathe is capable of machining to the exacting tolerances demanded in modern industry. The workmanship and materials entering into its construction are of a quality hard to equal in any other lathe, regardless of price. The bed ways are carefully precision finished to assure accurate alignment of the headstock, tailstock, and carriage. All dovetails are hand-scraped and flat bearing surfaces are ground, lapped, or hand-scraped. Even the bearing surfaces between the bed and legs are precision ground, just to make sure that no strain will be put on the bed when the leg bolts are tightened. Each lathe is critically tested under power, and must actually machine work to close tolerances before it can be approved for shipment from the factory.

ECONOMY

The Light Ten Lathe is economical to buy and to use. It is the lowest priced 10" Lathe in our line and it can be fitted with chucks, tools, and attachments at reasonable prices. The wide range of speeds and feeds available permit machining all classes of work at the correct speed and feed for maximum efficiency. Power consumption is held to a minimum by the use of a fractional horsepower motor and an efficient drive mechanism. The Light Ten Lathe is especially suited to small toolroom and manufacturing operations, which often cannot be economically handled on the larger and more costly heavy duty lathes.

CONVENIENCE

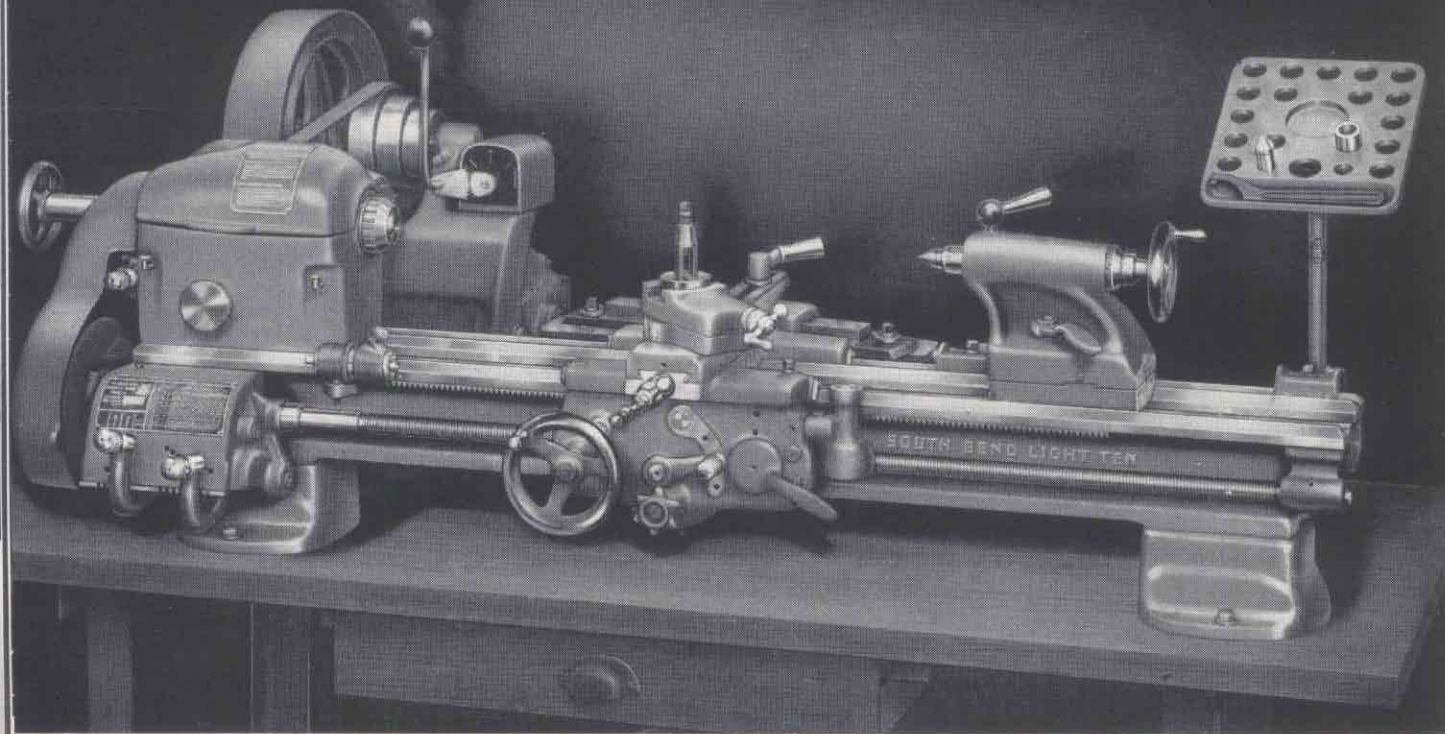
Large diameter handwheels, clear-cut easy reading graduations, and a convenient arrangement of controls contribute to the ease of operating the new Light Ten Lathe. This reduces operator fatigue, increases efficiency and prevents mistakes so that maximum production can be maintained on either toolroom or manufacturing operations. The quick change gear box on Model A and Toolroom Lathes makes threads or feeds instantly available.

SPINDLE BEARINGS

The weight of a needle applied point first will easily break through an oil film, yet the same film of oil between two optically flat surfaces will support almost an infinite load. To remove the "needle points," spindles for South Bend Light Ten Lathes are superfinished to a smoothness of five microinches, and bearing sleeves are burnished to ten microinches, approaching a surface smoothness equal to that of an optical flat. Conditions within the bearings are such that an almost unbreakable film of oil is maintained at all times. This provides extremely rigid support for the spindle, and the absence of metal to metal contact eliminates wear, reduces friction, and assures long, trouble-free service.

DURABILITY

The South Bend Light Ten Lathe is carefully engineered to give years of satisfactory service. Large bearing surfaces and excellent facilities for oiling, reduce wear to a minimum. The time tested prismatic V-way construction assures permanent precision alignment of the headstock, tailstock, and carriage. The headstock spindle is of heat-treated alloy steel. Other important parts are made of similarly high quality materials selected for long service. Given the proper care, the South Bend Light Ten will retain its accuracy indefinitely.



Light Ten Toolroom *Precision* Bench Lathe

Precision Lead Screw—Plain Taper Attachment

This is a very fine precision lathe for small work in the toolroom, manufacturing plant, maintenance department or repair shop. Although it is competitively priced, it has the same precision and many of the features and refinements usually found only on larger and much more expensive lathes. Its speed and ease of handling will save much time and effort on work within its capacity.

Twelve spindle speeds ranging from 48 to 1435 r.p.m. (approximately) are provided by the patented horizontal motor drive. Power is supplied by a $\frac{1}{2}$ h.p. instant reversing motor mounted on a cradle back of the lathe. Direct drive to the spindle through a flat leather cone pulley belt assures smooth operation at high speeds. Slow speeds are driven through powerful back gears. A conveniently located control lever permits starting, stopping, or reversing the rotation of the lathe spindle instantly. The quick acting belt tension release and hinged cone pulley cover make it easy to shift the belt to change spindle speeds.

Large diameter replaceable sleeve type spindle bearings provide rigid support for the heat-treated alloy steel spindle. Bearing surfaces on the spindle are carburized, hardened, and superfinished for extreme precision and maximum durability. The threads on the spindle nose are held to close tolerances to assure precision and interchangeability of chucks and face plates. Spindle bearings have large oil reservoirs with

capillary wicks which supply a continuous flow of clean filtered oil. After flowing through the bearing, the oil is collected and returned to the oil reservoir for recirculation.

Toolroom attachments included in price of lathe consist of: precision lead screw; handwheel type draw-in collet chuck attachment (without collets); collet rack; taper attachment; thread dial indicator; thread cutting stop; large face plate; and micrometer carriage stop.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

Light Ten Toolroom Bench Lathes with Horizontal Motor Drive
Less Electrical Equipment and Bench

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL8670Y | 3 | 16 $\frac{1}{8}$ | 22 | 650 | 520 |
| CL8670Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{8}$ | 22 | 665 | 535 |
| CL8670A | 4 | 28 $\frac{1}{8}$ | 22 | 690 | 550 |

Specifications of Light Ten Toolroom Bench Lathes

CAPACITY OF LATHE

| | |
|-------------------------------|---------------------|
| Swing over bed, maximum | 10" |
| Swing over saddle wings | 9 $\frac{15}{16}$ " |
| Swing over saddle cross slide | 5 $\frac{7}{8}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | |
|--------------------------------------|----------------|
| High spindle speeds | |
| r.p.m. of spindle, direct belt drive | 1435, 844, 502 |
| r.p.m. of spindle, back-gear drive | 276, 165, 96 |
| Low spindle speeds | |
| r.p.m. of spindle, direct belt drive | 706, 415, 244 |
| r.p.m. of spindle, back-gear drive | 137, 80, 48 |

HEADSTOCK

| | |
|-------------------------|-------------------|
| Hole through spindle | $\frac{75}{64}$ " |
| Maximum collet capacity | $\frac{3}{8}$ " |

| | |
|--|---------------------|
| Spindle nose diameter and threads per inch | 1 $\frac{1}{4}$ "-8 |
| Size of center, Morse taper | No. 2 |
| Width of cone pulley step for belt | 1" |
| Large face plate diameter | 7 $\frac{3}{8}$ " |
| Small face plate diameter | 5 $\frac{1}{2}$ " |
| Front spindle bearing diameter | 1 $\frac{13}{16}$ " |

TAILSTOCK

| | |
|--|-------------------|
| Size of center, Morse taper | No. 2 |
| Spindle travel | 2 $\frac{1}{2}$ " |
| Each graduation on tailstock spindle | $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning | $\frac{3}{8}$ " |

COMPOUND REST

| | |
|--|-------------------|
| Cross slide travel | 5 $\frac{3}{8}$ " |
| Angular hand feed of compound rest top slide | 2 $\frac{1}{4}$ " |

THREADS AND FEEDS

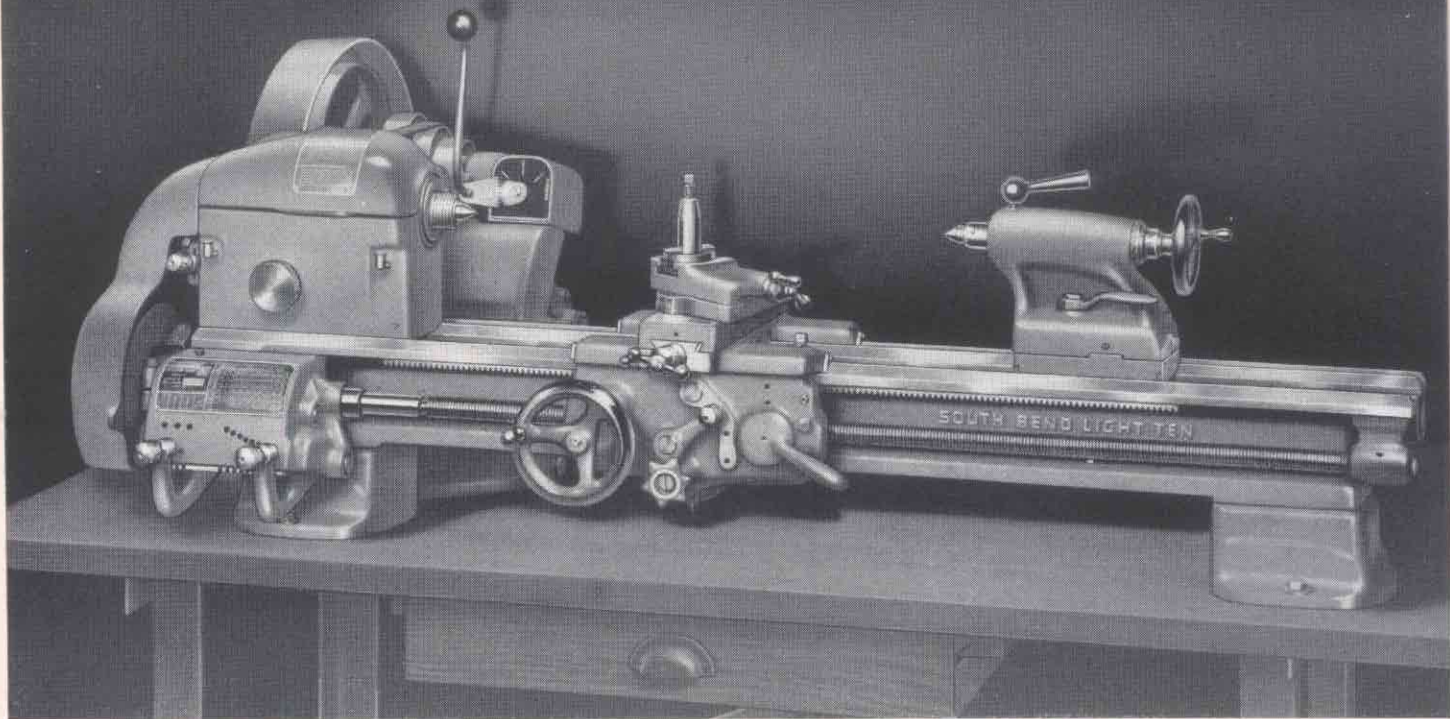
| | |
|--|------------------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0853" |
| Cross-feeds through friction clutch—48 feeds R.H. or L.H. | .0004" to .0255" |
| Lead screw, 29° Acme thread | $\frac{3}{4}$ " dia.—8 thds. |

TOOL POST

| | |
|------------------------------------|-------------------------------------|
| Size of tool holder shank | $\frac{5}{8}$ " x $\frac{13}{16}$ " |
| Size of cutter bit for tool holder | $\frac{1}{4}$ " sq. |

MOTOR

| | |
|---------------------------------|--------------------|
| Standard size of motor required | $\frac{1}{2}$ h.p. |
|---------------------------------|--------------------|



Light Ten Model A *Precision* Bench Lathe

Horizontal Motor Drive—Back-Geared—Quick Change

This is an exceptional value in a really fine small lathe with big lathe features including the double tumbler quick change gear box, power feed apron (patented), superfinished spindle, graduated tailstock spindle with micrometer collar on screw, and heavy bed with prismatic V-ways. Except for the taper attachment and other toolroom attachments, it has most of the features and refinements of the toolroom lathe shown on the opposite page.

Quick and easy selection of a desired thread cutting, turning, or facing feed is made by placing the two levers on the gear box in the positions indicated by the direct reading index chart. Direction of feed is changed by shifting the spring latch reverse gear lever conveniently located on the left end of the headstock. All gears are precision cut to assure accuracy and smooth, quiet operation.

The patented apron construction is unsurpassed for convenience, ease of operation, and efficiency. Power feeds are driven through worm gearing and are engaged by turning the clutch knob to the right. A large oil reservoir provides ample lubrication for the clutch and power feed gearing. The worm is driven by a spline in the lead screw so that the threads of the lead screw are used only when the half-nuts are engaged for cutting screw threads. An automatic safety interlock makes it impossible to damage the lathe by accidentally engaging two opposing feeds at the same time. The large handwheel is geared to the rack on the lathe bed for positioning the carriage

and for hand-operated longitudinal feeds.

Graduations on the tailstock spindle reading in tenths of an inch, and on the tailstock screw micrometer collar reading in thousandths of an inch permit drilling or reaming to a specified depth with extreme precision. The hardened tailstock center is automatically ejected when the spindle is fully retracted into the tailstock barrel. An internal clutch securely locks the tailstock spindle without disturbing its alignment.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

Light Ten Model A Bench Lathes with Horizontal Motor Drive
Less Electrical Equipment and Bench

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL670Y | 3 | 16 $\frac{1}{8}$ | 21 | 600 | 490 |
| CL670Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{8}$ | 21 | 615 | 505 |
| CL670A | 4 | 28 $\frac{1}{8}$ | 23 | 640 | 520 |
| CL670R | 4 $\frac{1}{2}$ | 34 $\frac{1}{8}$ | 26 | 670 | 535 |

Specifications of Light Ten Model A Bench Lathes

CAPACITY OF LATHE

| | |
|--|---------------------|
| Swing over bed, maximum | 10" |
| Swing over saddle wings | 9 $\frac{15}{16}$ " |
| Swing over saddle cross slide chip guard | 6 $\frac{1}{4}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | |
|--------------------------------------|----------------|
| High spindle speeds | |
| r.p.m. of spindle, direct belt drive | 1435, 844, 502 |
| r.p.m. of spindle, back-gear drive | 276, 165, 96 |
| Low spindle speeds | |
| r.p.m. of spindle, direct belt drive | 706, 415, 244 |
| r.p.m. of spindle, back-gear drive | 137, 80, 48 |

HEADSTOCK

| | |
|-------------------------|-------------------|
| Hole through spindle | $\frac{27}{32}$ " |
| Maximum collet capacity | $\frac{3}{8}$ " |

| | |
|--|---------------------|
| Spindle nose diameter and threads per inch | 1 $\frac{1}{8}$ "-8 |
| Size of center, Morse taper | No. 2 |
| Width of cone pulley step for belt | 1" |
| Small face plate diameter | 5 $\frac{1}{4}$ " |
| Front spindle bearing diameter | 1 $\frac{13}{16}$ " |

TAILSTOCK

| | |
|--|-------------------|
| Size of center, Morse taper | No. 2 |
| Spindle travel | 2 $\frac{3}{8}$ " |
| Each graduation on tailstock spindle | 1/10" |
| Tailstock top set-over for taper turning | $\frac{3}{8}$ " |

COMPOUND REST

| | |
|--|-------------------|
| Cross slide travel | 5 $\frac{7}{8}$ " |
| Angular hand feed of compound rest top slide | 2 $\frac{1}{4}$ " |

THREADS AND FEEDS

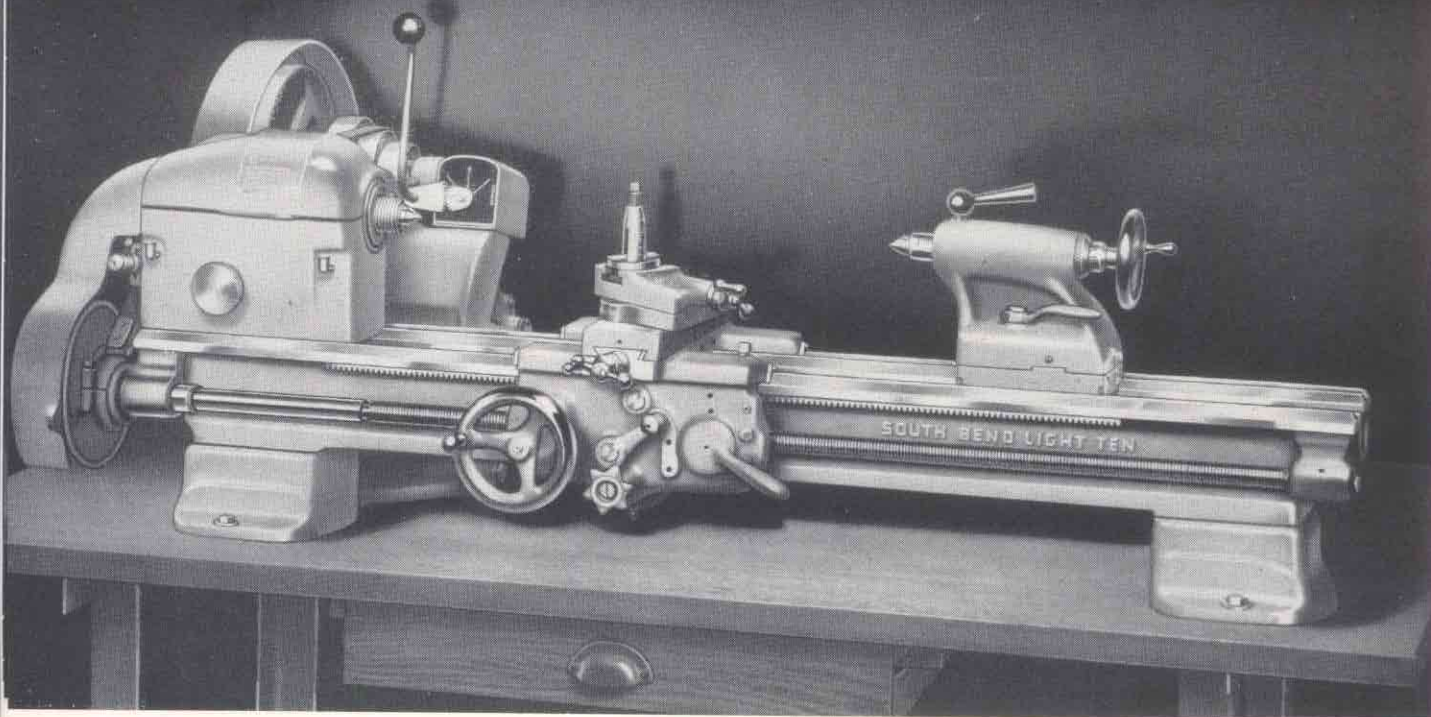
| | |
|--|------------------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0853" |
| Cross-feeds through friction clutch—48 feeds R.H. or L.H. | .0004" to .0255" |
| Lead screw, 29° Acme thread | $\frac{3}{4}$ " dia.—8 thrs. |

TOOL POST

| | |
|------------------------------------|-------------------------------------|
| Size of tool holder shank | $\frac{3}{8}$ " x $\frac{15}{16}$ " |
| Size of cutter bit for tool holder | $\frac{1}{4}$ " sq. |

MOTOR

| | |
|---------------------------------|--------------------|
| Standard size of motor required | $\frac{1}{2}$ h.p. |
|---------------------------------|--------------------|



Light Ten Model B *Precision* Bench Lathe

Horizontal Motor Drive—Back-Geared—Power Cross-Feeds

This is an attractively priced model, especially suited for production operations or other work which requires few changes of threads and feeds. It is the same as the Model A Lathe shown on the preceding page, except that it does not have the quick change gear box.

A set of independent change gears is supplied with each lathe for cutting various pitches of screw threads and for power longitudinal and cross-feeds. An index chart attached to the lathe shows the arrangement of the gears for cutting 45 pitches of screw threads, 4 to 160 per inch and 26 power longitudinal feeds .0021" to .0155". Twenty-three power cross-feeds range from .0009" to .0046".

The patented apron construction is unsurpassed for convenience, ease of operation, and efficiency. Power feeds are driven through worm gearing and are engaged by turning the clutch knob to the right. A large oil reservoir provides ample lubrication for the clutch and power feed gearing. The worm is driven by a spline in the lead screw so that the threads of the lead screw are used only when the half-nuts are engaged for cutting screw threads. An automatic safety interlock makes it impossible to damage the lathe by accidentally engaging two opposing feeds at the same time. The large handwheel is geared to the rack on the lathe bed for positioning the carriage and for hand-operated longitudinal feeds.

Large diameter easy reading graduated collars on cross-feed and compound rest screws save time and effort in positioning the cutting tool. The compound rest swivel has clear cut accurately divided graduations and may be set at any angle for machining bevels and short tapers. The carriage lock for facing operations is located on the right side of the front saddle wing.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; set of change gears; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

Light Ten Model B Bench Lathes with Horizontal Motor Drive
Less Electrical Equipment and Bench

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL667Y | 3 | 16 $\frac{1}{2}$ | 21 | 585 | 475 |
| CL667Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 21 | 600 | 490 |
| CL667A | 4 | 28 $\frac{1}{2}$ | 23 | 625 | 505 |
| CL667R | 4 $\frac{1}{2}$ | 34 $\frac{1}{2}$ | 26 | 655 | 520 |

Specifications of Light Ten Model B Bench Lathes

CAPACITY OF LATHE

| | |
|--|-------------------|
| Swing over bed, maximum | 10" |
| Swing over saddle wings | 9 $\frac{1}{2}$ " |
| Swing over saddle cross slide chip guard | 6 $\frac{1}{4}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | |
|--------------------------------------|----------------|
| High spindle speeds | |
| r.p.m. of spindle, direct belt drive | 1435, 844, 502 |
| r.p.m. of spindle, back-gear drive | 276, 165, 96 |
| Low spindle speeds | |
| r.p.m. of spindle, direct belt drive | 706, 415, 244 |
| r.p.m. of spindle, back-gear drive | 137, 80, 48 |

HEADSTOCK

| | |
|-------------------------|-------------------|
| Hole through spindle | $\frac{27}{32}$ " |
| Maximum collet capacity | $\frac{3}{8}$ " |

| | |
|--|---------------------|
| Spindle nose diameter and threads per inch | 1 $\frac{1}{2}$ "-8 |
| Size of center, Morse taper | No. 2 |
| Width of cone pulley step for belt | 1" |
| Small face plate diameter | 5 $\frac{1}{2}$ " |
| Front spindle bearing diameter | 1 $\frac{13}{16}$ " |

TAILSTOCK

| | |
|--|-------------------|
| Size of center, Morse taper | No. 2 |
| Spindle travel | 2 $\frac{1}{2}$ " |
| Each graduation on tailstock spindle | $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning | $\frac{3}{8}$ " |

COMPOUND REST

| | |
|--|-------------------|
| Cross slide travel | 5 $\frac{7}{8}$ " |
| Angular hand feed of compound rest top slide | 2 $\frac{1}{4}$ " |

THREADS AND FEEDS

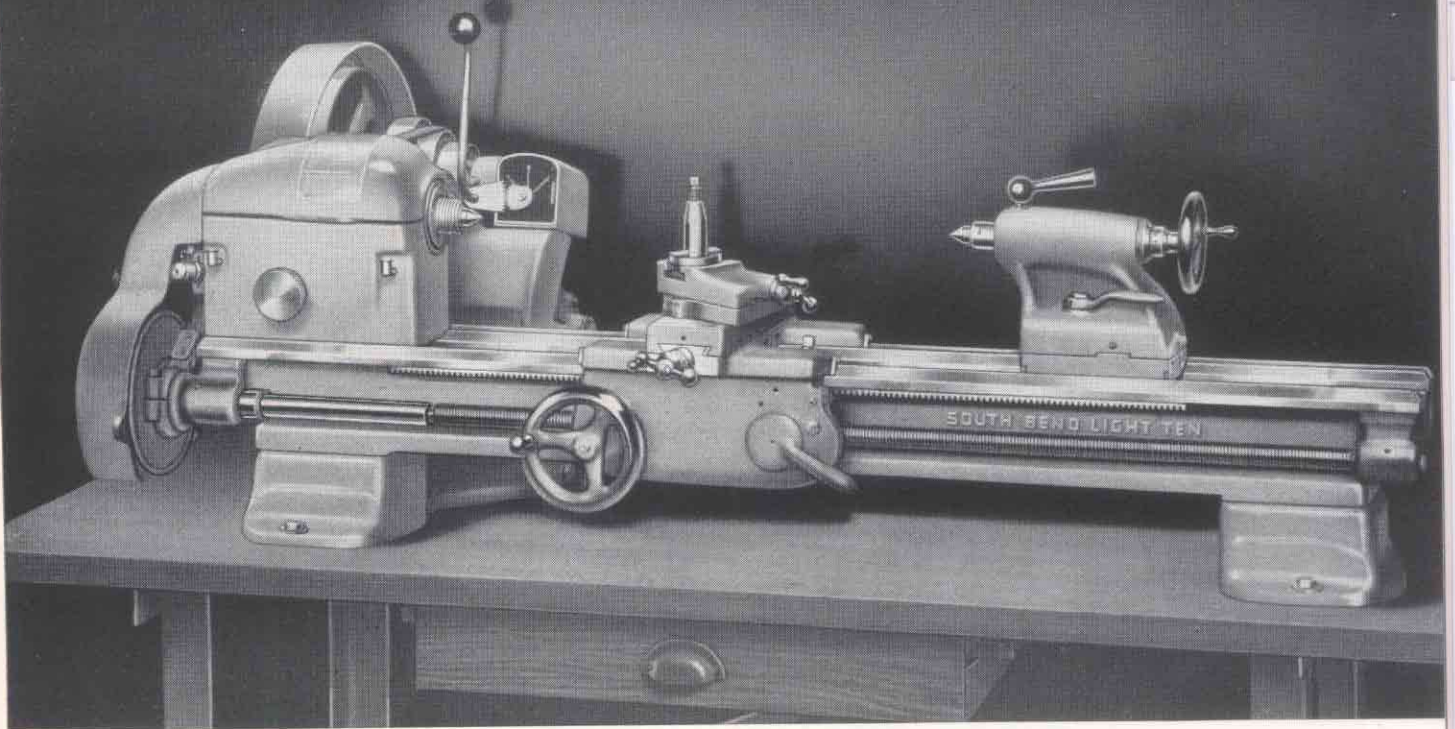
| | |
|--|------------------------------|
| Thread cutting range—45 pitches | |
| R.H. or L.H. | 4 to 160 per inch |
| Longitudinal feeds through friction clutch—26 feeds R.H. or L.H. | .0021" to .0155" |
| Cross-feeds through friction clutch—23 feeds R.H. or L.H. | .0009" to .0046" |
| Lead screw, 29° Acme thread | $\frac{3}{4}$ " dia.—8 thds. |

TOOL POST

| | |
|------------------------------------|-------------------------------------|
| Size of tool holder shank | $\frac{3}{4}$ " x 1 $\frac{1}{2}$ " |
| Size of cutter bit for tool holder | $\frac{1}{4}$ " sq. |

MOTOR

| | |
|---------------------------------|--------------------|
| Standard size of motor required | $\frac{1}{2}$ h.p. |
|---------------------------------|--------------------|



Light Ten Model C *Precision* Bench Lathe

Horizontal Motor Drive—Back-Geared—Hand Cross-Feed

One of our best small lathe values, this model is especially popular for use in small shops. It is also widely used in the larger shops for production operations on small parts. Except that it does not have the friction clutch and worm drive for power cross-feeds and power longitudinal feeds, it is the same as the lathe shown on the preceding page.

Change gears supplied with the lathe permit cutting 45 pitches of screw threads ranging from 4 to 160 per inch, right or left-hand. The change gears are also used for lead screw driven power longitudinal turning feeds .0021" to .0156". Cross-feeds are hand operated. A chart attached to the lathe shows the arrangement of the gears for all screw threads and power turning feeds.

The horizontal motor drive (patented) provides a series of twelve spindle speeds approximately 48 to 1435 r.p.m. Motor and driving mechanism are mounted on a tilting cradle back of the lathe. Power is transmitted from the motor to a countershaft by a V-belt, and from the countershaft cone pulley to the lathe spindle by a smooth running flat leather belt. A hinged cover encloses the headstock cone pulley. A quick acting belt tension release knob located on the front of the headstock permits releasing the cone pulley belt tension for easy shifting of the belt to change spindle speeds.

Graduations on the tailstock spindle reading in tenths of an inch, and on the tailstock screw micrometer collar reading in thousandths of an inch permit drilling or reaming to a specified depth with extreme precision. The hardened tailstock center is automatically ejected when the spindle is fully retracted into the tailstock barrel. An internal clutch securely locks the tailstock spindle without disturbing its alignment.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with 3/4" hole; V-belt; flat leather belt and lacing; plain apron; graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; headstock spindle sleeve; wrenches; set of change gears; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

Light Ten Model C Bench Lathes with Horizontal Motor Drive
Less Electrical Equipment and Bench

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL653Y | 3 | 16 1/8 | 21 | 575 | 465 |
| CL653Z | 3 1/2 | 22 1/8 | 21 | 590 | 480 |
| CL653A | 4 | 28 1/8 | 23 | 615 | 495 |
| CL653R | 4 1/2 | 34 1/8 | 26 | 645 | 510 |

Specifications of Light Ten Model C Bench Lathes

CAPACITY OF LATHE

Swing over bed, maximum 10"
Swing over saddle wings 9 1/16"
Swing over saddle cross slide chip guard 6 3/4"

SPINDLE SPEEDS (approximate, not exact)

High spindle speeds
r.p.m. of spindle, direct belt drive 1435, 844, 502
r.p.m. of spindle, back-gear drive 276, 165, 96
Low spindle speeds
r.p.m. of spindle, direct belt drive 706, 415, 244
r.p.m. of spindle, back-gear drive 137, 80, 48

HEADSTOCK

Hole through spindle 27/32"

SOUTH BEND LATHE WORKS

Maximum collet capacity 5/8"
Spindle nose diameter and threads per inch 1 1/8"-8
Size of center, Morse taper No. 2
Width of cone pulley step for belt 1"
Small face plate diameter 5 1/8"
Front spindle bearing diameter 1 15/16"

TAILSTOCK

Size of center, Morse taper No. 2
Spindle travel 2 1/8"
Each graduation on tailstock spindle 1/16"
Tailstock top set-over for taper turning 3/8"

COMPOUND REST

Cross slide travel 5 7/8"

Angular hand feed of compound rest top slide 2 1/4"

THREADS AND FEEDS

Thread cutting range—45 pitches
R.H. or L.H. 4 to 160 per inch
Longitudinal feeds through lead screw and half-nut—14 feeds R.H. or L.H.0021" to .0156"
Lead screw, 29° Acme thread 3/4" dia.—8 thrds.

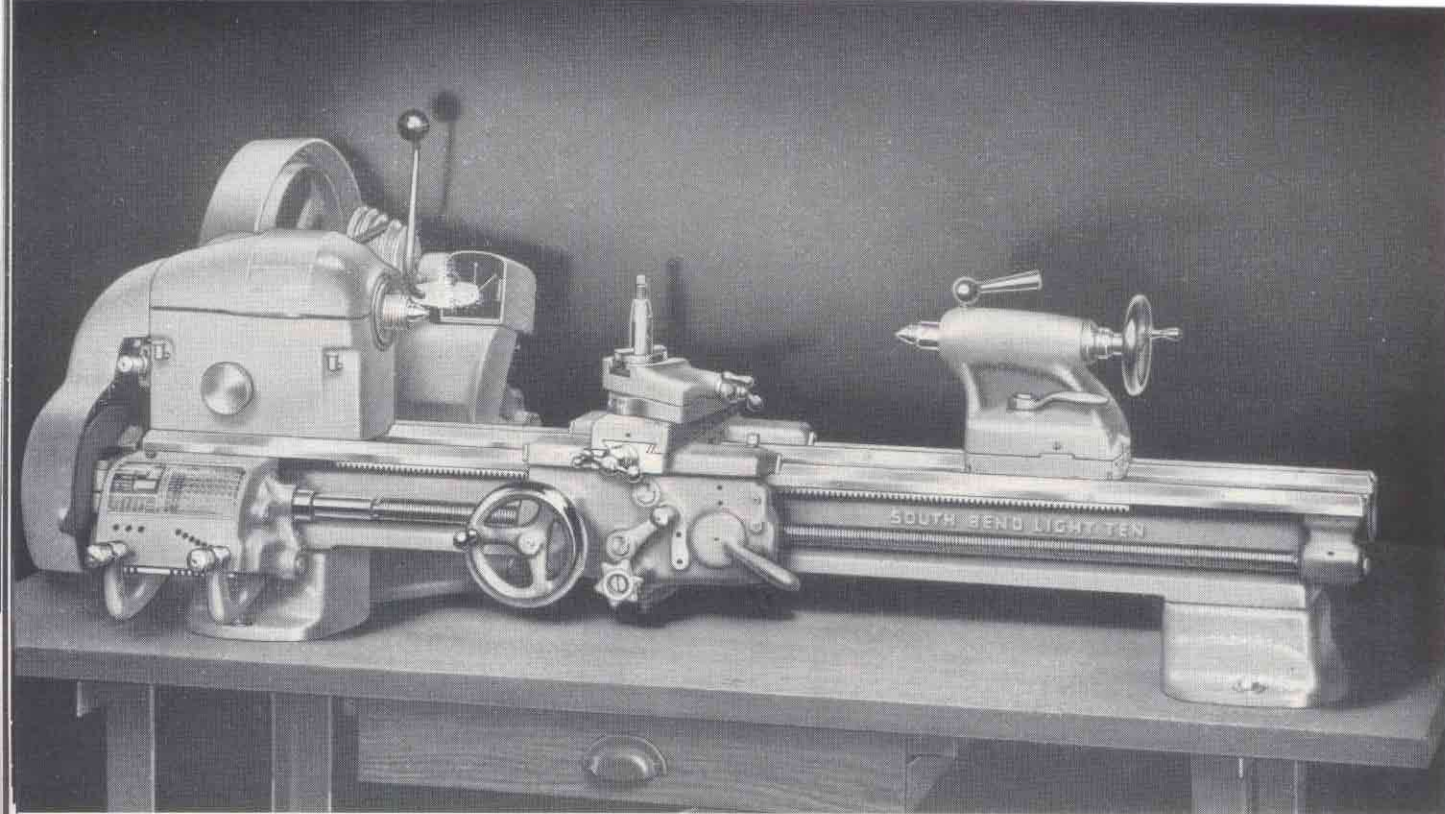
TOOL POST

Size of tool holder shank 3/8" x 1 1/16"
Size of cutter bit for tool holder 1/4" sq.

MOTOR

Standard size of motor required 1/2 h.p.

SOUTH BEND 22, INDIANA, U.S.A.



Light Ten V-Belt Drive Precision Bench Lathes

Sixteen Spindle Speeds—Models A, B, and C

The Light Ten Model A V-Belt Horizontal Motor Driven Bench Lathe is illustrated above. The Model B and Model C Lathes are also made with this drive. Except for the complete V-belt drive equipment, these lathes are the same as corresponding models described on the preceding pages.

The V-belt drive provides a series of sixteen spindle speeds as listed in the specifications below. Power is transmitted from the motor to the countershaft by a V-belt, and from the countershaft to the lathe spindle by a second V-belt. The V-belt cone pulleys on the countershaft and lathe spindle have four steps. A quick acting belt tension release permits releasing the tension of the cone pulley belt for shifting to change spindle speeds. Since the V-belt is endless, the headstock and countershaft must be disassembled to replace the cone pulley V-belt when this becomes necessary.

Drive equipment included in the price of the lathe consists of: horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt cone pulleys for headstock and drive unit; and V-belts.

Regular equipment included in price of lathe consists of: power feed apron on models A and B or plain apron on model C; quick change gear box on model A or set of change gears on models B and C; graduated compound rest; face plate; tool

post; two 60-degree centers; spindle sleeve; wrenches; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price.

Light Ten V-Belt Drive Bench Lathes

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|--|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A Lathes with Sixteen-Speed V-Belt Drive | | | | | |
| CL770Y | 3 | 16 $\frac{1}{8}$ " | 21 | 600 | 490 |
| CL770Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{8}$ " | 21 | 615 | 505 |
| CL770A | 4 | 28 $\frac{1}{8}$ " | 23 | 640 | 520 |
| CL770R | 4 $\frac{1}{2}$ | 34 $\frac{1}{8}$ " | 26 | 670 | 535 |
| Model B Lathes with Sixteen-Speed V-Belt Drive | | | | | |
| CL767Y | 3 | 16 $\frac{1}{8}$ " | 21 | 585 | 475 |
| CL767Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{8}$ " | 21 | 600 | 490 |
| CL767A | 4 | 28 $\frac{1}{8}$ " | 23 | 625 | 505 |
| CL767R | 4 $\frac{1}{2}$ | 34 $\frac{1}{8}$ " | 26 | 655 | 520 |
| Model C Lathes with Sixteen-Speed V-Belt Drive | | | | | |
| CL753Y | 3 | 16 $\frac{1}{8}$ " | 21 | 575 | 465 |
| CL753Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{8}$ " | 21 | 590 | 480 |
| CL753A | 4 | 28 $\frac{1}{8}$ " | 23 | 615 | 495 |
| CL753R | 4 $\frac{1}{2}$ | 34 $\frac{1}{8}$ " | 26 | 645 | 510 |

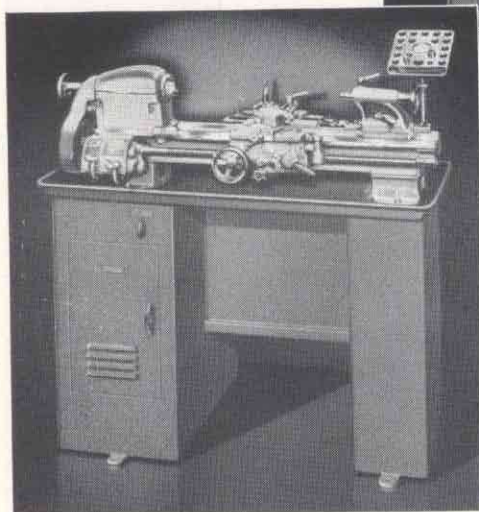
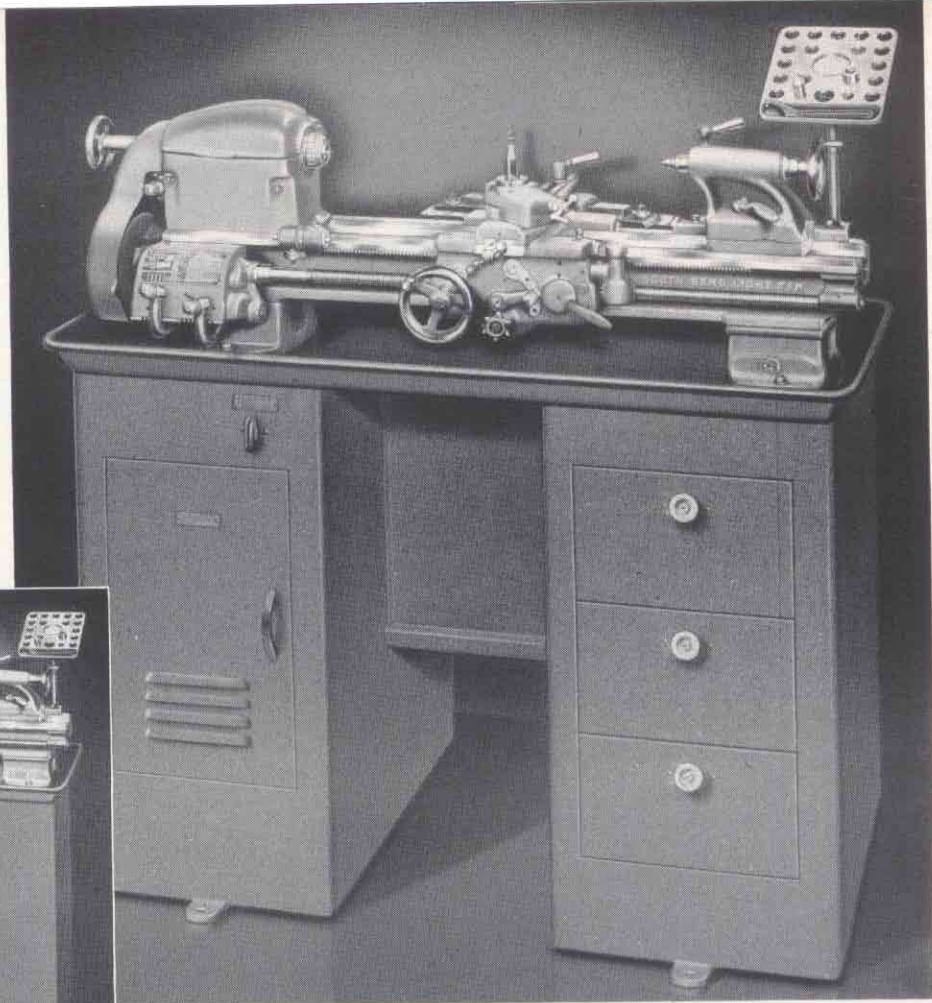
Specifications of V-Belt Drive Light Ten Lathes

| | |
|---|--|
| CAPACITY OF LATHE | |
| Swing over bed, maximum..... | 10" |
| Swing over saddle wings..... | 9 $\frac{13}{16}$ " |
| Swing over saddle cross slide chip guard..... | 6 $\frac{3}{4}$ " |
| SPINDLE SPEEDS (approximate, not exact) | |
| Direct Drive | Back-Geared |
| High, r.p.m..... | 1365, 1010, 780, 570, 265, 195, 150, 112 |
| Low, r.p.m..... | 670, 495, 370, 285, 130, 95, 75, 52 |
| HEADSTOCK | |
| Hole through spindle..... | 2 $\frac{1}{8}$ " |
| Maximum collet capacity..... | 5 $\frac{1}{8}$ " |
| Spindle nose diameter and threads per inch..... | 1 $\frac{1}{8}$ "-8 |
| Size of center, Morse taper..... | No. 2 |
| Width of cone pulley step for belt..... | 1" |

| | |
|---|---------------------|
| Small face plate diameter..... | 5 $\frac{1}{8}$ " |
| Front spindle bearing diameter..... | 1 $\frac{13}{16}$ " |
| TAILSTOCK | |
| Size of center, Morse taper..... | No. 2 |
| Spindle travel..... | 2 $\frac{1}{8}$ " |
| Each graduation on tailstock spindle..... | 1 $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning..... | 5 $\frac{1}{8}$ " |
| COMPOUND REST | |
| Cross slide travel..... | 5 $\frac{1}{8}$ " |
| Angular hand feed of compound rest top slide..... | 2 $\frac{1}{4}$ " |
| THREAD CUTTING RANGE | |
| Model A—48 pitches R.H. or L.H..... | 4 to 224 per inch |
| Models B and C—45 pitches R.H. or L.H..... | 4 to 160 per inch |

| | |
|---|----------------------------|
| Lead screw, 29° Acme thread..... | 3/4" dia.—8 threds. |
| POWER LONGITUDINAL FEEDS | |
| Model A—48 feeds through clutch..... | .0015" to .0853" |
| Model B—26 feeds through clutch..... | .0021" to .0155" |
| Model C—14 feeds through half-nuts..... | .0021" to .0156" |
| POWER CROSS-FEEDS | |
| Model A—48 feeds..... | .0004" to .0255" |
| Model B—23 feeds..... | .0009" to .0046" |
| TOOL POST | |
| Size of tool holder shank..... | 3/8" x 1 $\frac{13}{16}$ " |
| Size of cutter bit for tool holder..... | 1/4" sq. |
| MOTOR | |
| Standard size of motor required..... | 1/2 h.p. |

Light Ten Toolroom *Precision* Floor Lathe



Patented

Precision Lead Screw—Plain Taper Attachment

One of our finest small lathes, this superbly engineered model is as convenient and efficient in operation as it is neat and attractive in appearance. Reasonable in price, it has the same precision and many of the features and refinements usually found only on larger and more expensive lathes. Especially suited for exacting toolroom and manufacturing operations, its speed and ease of handling will save time and effort on all work within its capacity.

The metal column base on which the lathe is mounted is constructed throughout of heavy gauge welded steel and finished in gray wrinkle finish enamel. It is available with three drawers as shown in the large illustration, or without the drawers. Each drawer is 10 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " x 14" inside and is fitted with lock and key. A built-in chip pan with $\frac{5}{8}$ " bead around the edge forms the top of the metal column base.

The patented motor drive unit, enclosed in the cabinet underneath the lathe headstock, provides twelve spindle speeds ranging from 50 to 1365 r.p.m. The cone pulley belt tension may be released and the hinged cone pulley cover on the headstock raised for shifting the belt. Any desired belt tension can be obtained by adjusting a turnbuckle located inside the cabinet.

Toolroom attachments included in price of lathe consist of:

precision lead screw; handwheel type draw-in collet chuck attachment (without collets); collet rack; taper attachment; thread dial indicator; thread cutting stop; large face plate; and micrometer carriage stop.

Regular equipment included in price of lathe consists of: metal column base with chip pan; underneath belt motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; face plate; tool post; two heat-treated tool steel 60-degree centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Electrical equipment is not included in price.

Light Ten Toolroom Floor Lathes with Underneath Motor Drive and Metal Column Base

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|---|-----------------|------------------------|------------------|---------------------|----------------------|
| On Metal Column Base with Three Drawers | | | | | |
| CL8370ZD | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 940 | 750 |
| On Metal Column Base without Drawers | | | | | |
| CL8370Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 925 | 735 |

Specifications of Light Ten Toolroom Floor Lathes

CAPACITY OF LATHE

| | |
|-------------------------------|--------------------|
| Swing over bed | 10" |
| Swing over saddle wings | 9 $\frac{1}{16}$ " |
| Swing over saddle cross slide | 5 $\frac{7}{8}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|---------------------|----------------|--------------|
| High speeds, r.p.m. | 1365, 780, 460 | 265, 155, 90 |
| Low speeds, r.p.m. | 715, 410, 240 | 135, 78, 50 |

HEADSTOCK

| | |
|--|---------------------|
| Hole through spindle | 2 $\frac{1}{16}$ " |
| Maximum collet capacity | 3 $\frac{1}{8}$ " |
| Spindle nose diameter and threads per inch | 1 $\frac{1}{2}$ "-8 |

| | |
|------------------------------------|---------------------|
| Size of center, Morse taper | No. 2 |
| Width of cone pulley step for belt | 1" |
| Small face plate diameter | 5 $\frac{1}{8}$ " |
| Front spindle bearing, diameter | 1 $\frac{13}{16}$ " |

TAILSTOCK

| | |
|--|---------------------|
| Size of center, Morse taper | No. 2 |
| Spindle travel | 2 $\frac{1}{8}$ " |
| Each graduation on tailstock spindle | 1 $\frac{10}{16}$ " |
| Tailstock top set-over for taper turning | 5 $\frac{1}{8}$ " |

COMPOUND REST

| | |
|--|-------------------|
| Cross slide travel | 5 $\frac{3}{8}$ " |
| Angular hand feed of compound rest top slide | 2 $\frac{1}{4}$ " |

THREADS AND FEEDS

| | |
|--|------------------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0853" |
| Cross-feeds through friction clutch—48 feeds | .0004" to .0255" |
| Lead screw, 29° Acme thread | $\frac{3}{4}$ " dia.—8 thrs. |

TOOL POST

| | |
|------------------------------------|--|
| Size of tool holder shank | 3 $\frac{1}{8}$ " x 1 $\frac{1}{16}$ " |
| Size of cutter bit for tool holder | $\frac{1}{4}$ " sq. |

MOTOR

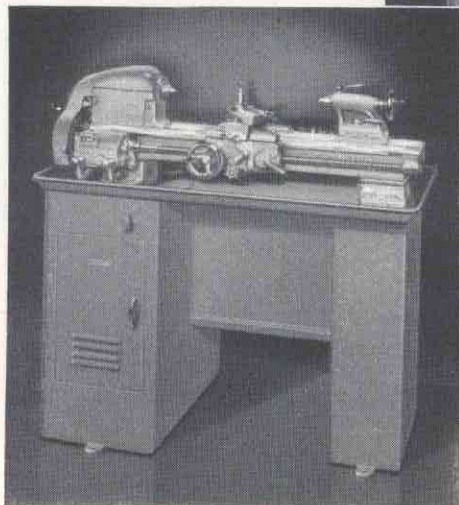
| | |
|---------------------------------|----------------------|
| Standard size of motor required | 1 $\frac{1}{2}$ h.p. |
|---------------------------------|----------------------|

Light Ten Precision Floor Lathes

Models A, B, & C



Patented



Underneath Motor Drive—Back-Geared—Belt Drive

These lathes are the same as corresponding models of Light Ten Bench Lathes, except for the underneath motor drive and the necessary alterations in the headstock. Fully enclosed in the metal column base, the motor and driving mechanism are protected from dust, dirt, and chips. Base is available with three drawers, 10 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " x 14" as shown in large illustration, or

without drawers. A built-in chip pan with $\frac{5}{8}$ " bead around the edge forms the top of the metal column base. Twelve spindle speeds, approximately 50 to 1365 r.p.m. are provided. Regular equipment included in price of lathe is same as for corresponding models of bench lathes listed on preceding pages. Electrical equipment is not included in price of lathe.

Light Ten Lathes on Metal Column Base with Three Drawers

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|-------------------------|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A Light Ten Lathe | | | | | |
| CL370ZD | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 910 | 720 |
| Model B Light Ten Lathe | | | | | |
| CL367ZD | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 895 | 705 |
| Model C Light Ten Lathe | | | | | |
| CL353ZD | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 885 | 695 |

Light Ten Lathes on Metal Column Base Without Drawers

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|-------------------------|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A Light Ten Lathe | | | | | |
| CL370Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 895 | 705 |
| Model B Light Ten Lathe | | | | | |
| CL367Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 880 | 690 |
| Model C Light Ten Lathe | | | | | |
| CL353Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{2}$ | 47 | 870 | 680 |

Specifications

CAPACITY OF LATHE

| | |
|---|-------------------|
| Swing over bed, maximum..... | 10" |
| Swing over saddle wings..... | 9 $\frac{1}{2}$ " |
| Swing over saddle cross slide chip guard..... | 6 $\frac{1}{4}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | | |
|-------------------------|----------------|--------------|
| | Direct Drive | Back-Geared |
| High speeds, r.p.m..... | 1385, 780, 460 | 265, 155, 90 |
| Low speeds, r.p.m..... | 715, 410, 240 | 135, 78, 50 |

HEADSTOCK

| | |
|---|---------------------|
| Hole through spindle..... | 2 $\frac{1}{2}$ " |
| Maximum collet capacity..... | 5 $\frac{1}{8}$ " |
| Spindle nose diameter and threads per inch..... | 1 $\frac{1}{2}$ "-8 |
| Size of center, Morse taper..... | No. 2 |
| Width of cone pulley step for belt..... | 1" |

| | |
|--------------------------------------|-------------------|
| Small face plate diameter..... | 5 $\frac{1}{8}$ " |
| Front spindle bearing, diameter..... | 1 $\frac{1}{8}$ " |

TAILSTOCK

| | |
|---|-------------------|
| Size of center, Morse taper..... | No. 2 |
| Spindle travel..... | 2 $\frac{1}{8}$ " |
| Each graduation on tailstock spindle..... | $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning..... | 5 $\frac{1}{8}$ " |

COMPOUND REST

| | |
|---|-------------------|
| Cross slide travel..... | 5 $\frac{7}{8}$ " |
| Angular hand feed of compound rest top slide..... | 2 $\frac{1}{4}$ " |

THREAD CUTTING RANGE

| | |
|--|-------------------|
| Model A—48 pitches R.H. or L.H..... | 4 to 224 per inch |
| Models B and C—45 pitches R.H. or L.H..... | 4 to 160 per inch |

| | |
|----------------------------------|---------------------------------|
| Lead screw, 29° Acme thread..... | 3 $\frac{1}{4}$ " dia.—8 thrds. |
|----------------------------------|---------------------------------|

POWER LONGITUDINAL FEEDS

| | |
|-----------------------|------------------|
| Model A—48 feeds..... | .0015" to .0853" |
| Model B—28 feeds..... | .0021" to .0155" |
| Model C—14 feeds..... | .0021" to .0158" |

POWER CROSS-FEEDS

| | |
|-----------------------|------------------|
| Model A—48 feeds..... | .0004" to .0255" |
| Model B—23 feeds..... | .0009" to .0048" |

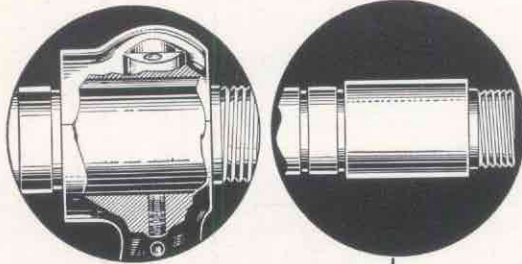
TOOL POST

| | |
|---|---|
| Size of tool holder shank..... | 3 $\frac{1}{2}$ " x 13 $\frac{1}{16}$ " |
| Size of cutter bit for tool holder..... | 1 $\frac{1}{4}$ " sq. |

MOTOR

| | |
|--------------------------------------|----------------------|
| Standard size of motor required..... | 1 $\frac{1}{2}$ h.p. |
|--------------------------------------|----------------------|

FEATURES of Model A 9" Precision Lathes



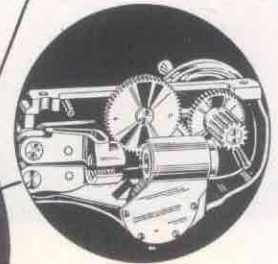
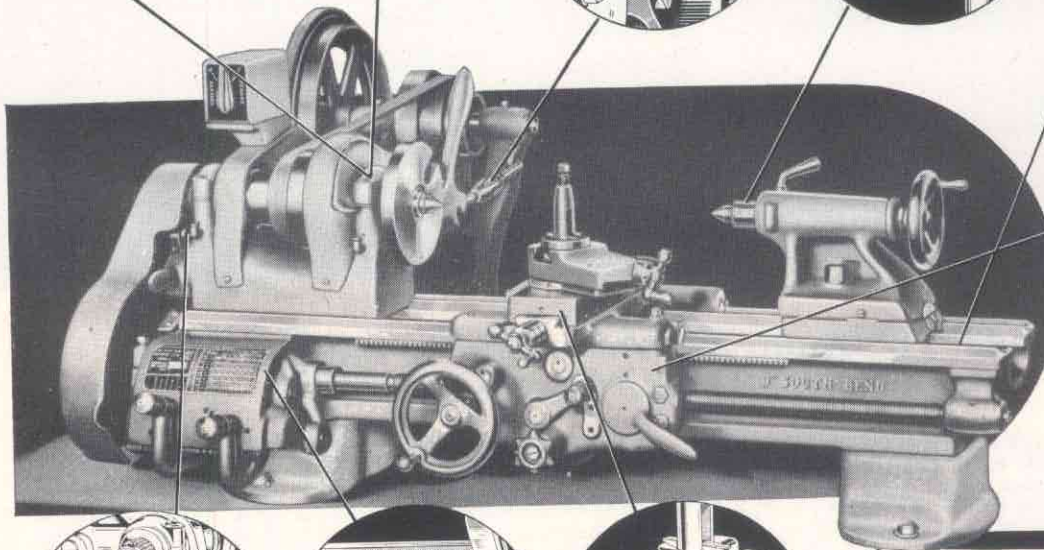
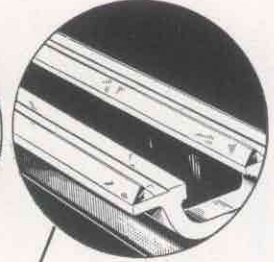
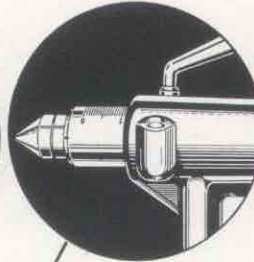
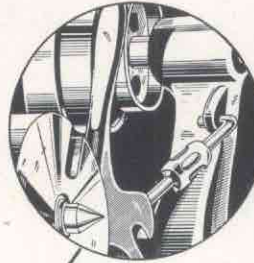
HEADSTOCK

Bearings are line bored and bearingized for precision fit. Ample lubrication from oil reservoirs. Spindle carburized, hardened, and ground; with bearing surfaces superfinished to .000005" rms.

BELT RELEASE
Instant release of belt tension for speed changes. Proper tension of headstock spindle drive belt is easily adjusted.

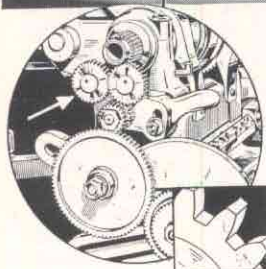
TAILSTOCK
Has set-over for taper turning. Graduated spindle has witness mark for aligning cutter bit. Hardened center self-ejecting.

BED
Three V-ways and flat way are precision finished entire length for accurate alignment of headstock, tailstock, and carriage.



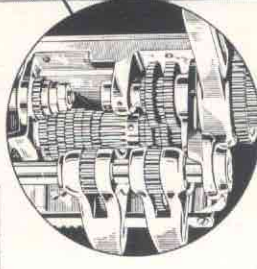
APRON

Has powerful friction clutch and large half-nuts. Safety interlock prevents engaging opposing feeds. All gears machine cut.



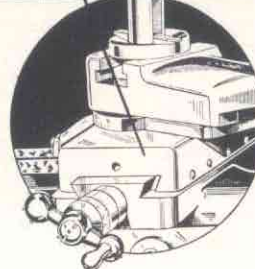
REVERSE GEARS

Easily shifted for reversing lead screw rotation and feeds, positive lock. All the gears used in this lathe are machine cut.



GEAR BOX

Screw threads and power feeds selected by shifting two tumblers as indicated on index chart. All gears machine cut steel.



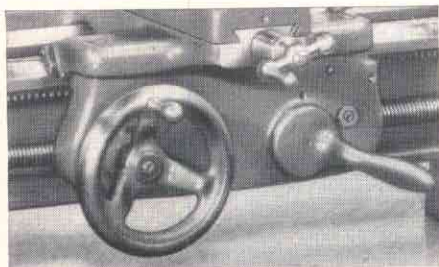
CARRIAGE

V-ways and dovetails hand-scraped. Engine divided micrometer collars on feed screws. Compound rest base graduated 180 degrees.

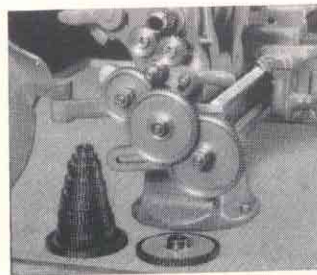
Specifications . . .

South Bend 9" Model A Lathe

| | |
|--------------------------|-----------------------------|
| SWING | over bed—9 1/4" |
| | over cross slide—5 1/2" |
| BED LENGTHS | 3, 3 1/2, 4, and 4 1/2 feet |
| DISTANCE BETWEEN CENTERS | 16" to 34" |
| SPINDLE SPEEDS (12) | 50 to 1270 r.p.m. |
| POWER FEEDS: | |
| Longitudinal (48) | .0015" to .0853" |
| Cross-feed (48) | .0004" to .0255" |
| THREADS (48 pitches) | 4 to 224 per inch |
| MAXIMUM COLLET CAPACITY | 1/2 inch |
| SPINDLE BORE | 3/4 inch |
| TAILSTOCK TOP SET-OVER | 3/8 inch |



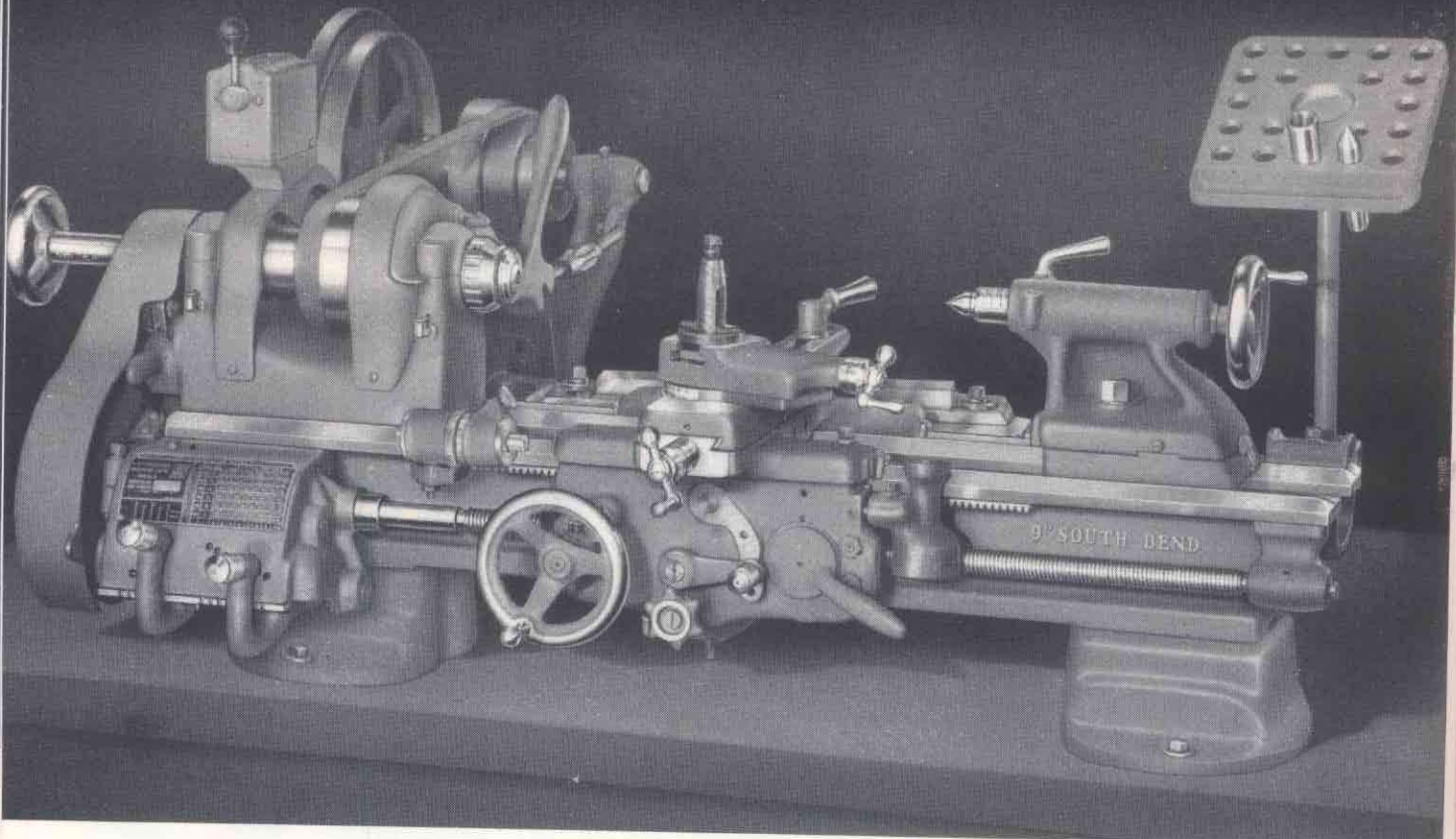
Apron Supplied on Model C 9-inch Lathe



Change Gears for Models B and C

MODEL B 9-inch Lathes are the same as the Model A Lathes, except that instead of the quick change gear box, a set of independent change gears is supplied for cutting screw threads and for power feeds.

MODEL C 9-inch Lathes are the same as the Model B Lathes, except that they do not have the worm drive in the apron for operating the power feeds. Lead screw and half-nuts are used for power longitudinal feeds, and the cross-feeds are hand-operated.



9-inch Toolroom *Precision* Bench Lathe

Precision Lead Screw—Plain Taper Attachment

Although this is our lowest priced toolroom model, it is made to the same exacting tolerances and must pass the same rigid tests for alignment and precision as our larger and more expensive toolroom lathes. Having maximum sensitivity and ease of handling, it is most efficient on all work within its capacity. You can save valuable time and floor space by selecting one or more of these fine lathes for your small tool, die, and gauge work.

Twelve spindle speeds ranging from 50 to 1270 r.p.m. (approximately) are provided by the patented horizontal motor drive. Power is supplied by a 1/2 h.p. instant reversing motor mounted on a cradle back of the lathe. Direct drive to the spindle through a flat leather cone pulley belt assures smooth operation at high speeds. Slow speeds are driven through powerful back gears. A conveniently located control permits starting, stopping, or reversing the rotation of the lathe spindle instantly. The quick acting belt tension release makes it easy to shift the belt to change spindle speeds.

Large diameter bearings provide rigid support for the heat-treated alloy steel spindle. Bearing surfaces on the spindle are carburized, hardened, and superfinished for extreme precision and maximum durability. The threads on the spindle nose are held to close tolerances to assure precision and interchangeability of chucks and face plates. Spindle bearings have large oil reservoirs with capillary wicks which supply a continuous flow of clean filtered oil. After flowing through the bearing,

the oil is collected and returned to the oil reservoir beneath the spindle for recirculation.

Toolroom attachments included in price of lathe consist of: precision lead screw; handwheel type draw-in collet chuck attachment (without collets); collet rack; taper attachment; thread dial indicator; thread cutting stop; large face plate; and micrometer carriage stop.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with 3/4" hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

9-inch Toolroom Bench Lathes with Horizontal Motor Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL8644Y | 3 | 16 | 19 | 550 | 440 |
| CL8644Z | 3 1/2 | 22 | 19 | 565 | 455 |
| CL8644A | 4 | 28 | 20 | 580 | 470 |

Specifications of 9-inch Toolroom Bench Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....9 1/4"
Swing over saddle cross slide.....5"

SPINDLE SPEEDS (approximate, not exact)

| | | |
|-------------------------|----------------|--------------|
| | Direct Drive | Back-Geared |
| High speeds, r.p.m..... | 1270, 750, 446 | 250, 145, 86 |
| Low speeds, r.p.m..... | 692, 410, 244 | 134, 81, 50 |

HEADSTOCK

Hole through spindle.....3/8"
Maximum collet capacity.....1 1/2"
Spindle nose diameter and threads per inch.....1 1/2"-8
Size of center, Morse taper.....No. 2

Width of cone pulley step for belt.....1"
Large face plate diameter.....7 3/4"
Small face plate diameter.....5 1/2"
Front spindle bearing, diameter.....1 13/16"

TAILSTOCK

Size of center, Morse taper.....No. 2
Spindle travel.....2 3/8"
Each graduation on tailstock spindle.....1/16"
Tailstock top set-over for taper turning.....3/8"

COMPOUND REST

Cross slide travel.....5 5/8"
Angular hand feed of compound rest top slide.....2 1/4"

THREADS AND FEEDS

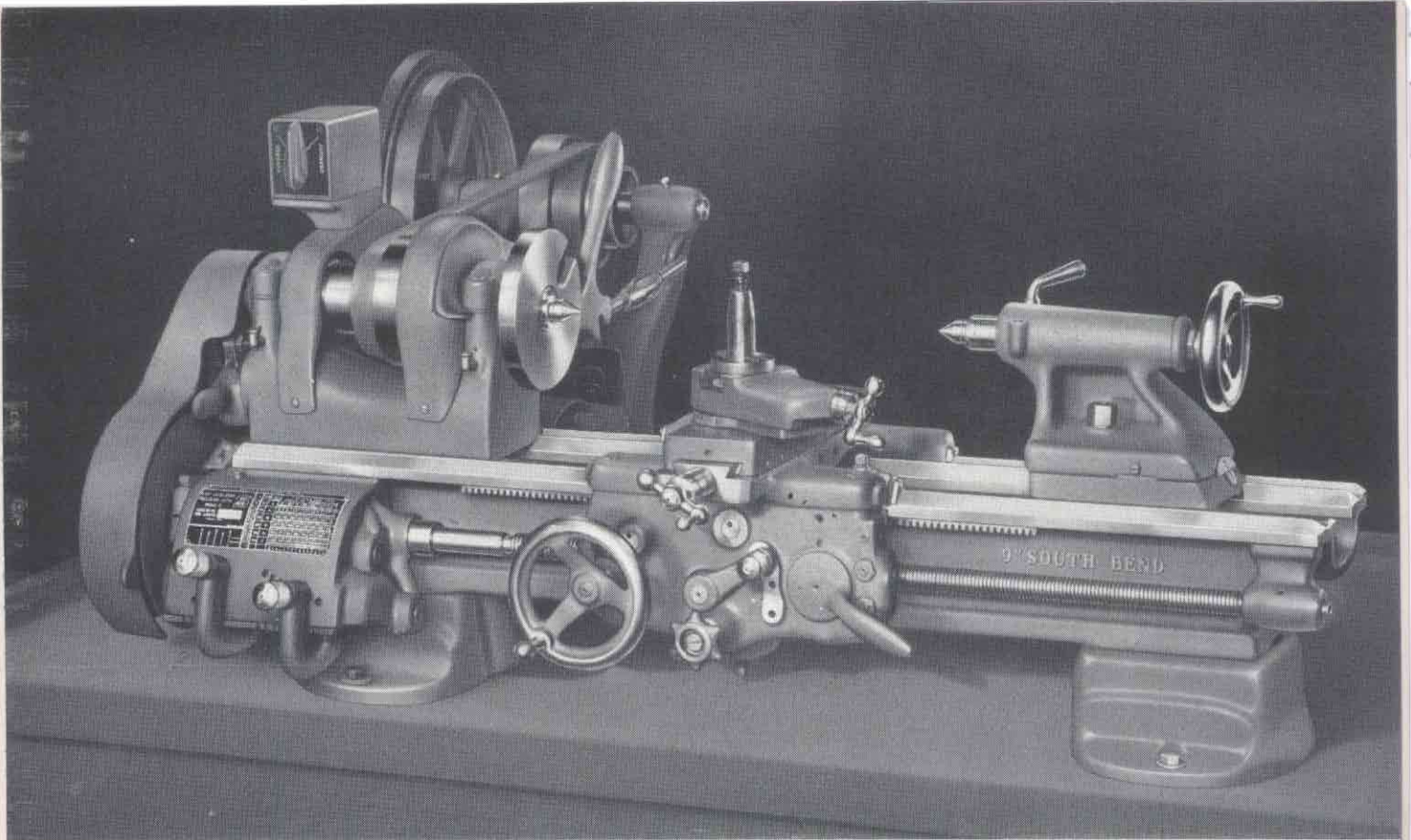
Thread cutting range—48 pitches
R.H. or L.H......4 to 224 per inch
Longitudinal feeds through friction clutch—48 feeds R.H. or L.H......0015" to .0853"
Cross-feeds through friction clutch—48 feeds......0004" to .0255"
Lead screw, 29° Acme thread.....3/4" dia.—8 thrds.

TOOL POST

Size of tool holder shank.....3/8" x 1 1/16"
Size of cutter bit for tool holder.....1/4" sq.

MOTOR

Standard size of motor required.....1/2 h.p.



9-inch Model A *Precision* Bench Lathe

Horizontal Motor Drive—Back-Geared—Quick Change

The 9-inch Model A South Bend Lathe is a precision tool, capable of machining work to the exacting tolerances demanded in modern industry. It is 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. Many practical attachments available simplify tooling.

Quick and easy selection of a desired thread cutting, turning, or facing feed is made by placing the two levers on the gear box in the positions indicated by the direct reading index chart. Direction of feed is changed by shifting the spring latch reverse gear lever conveniently located on the left end of the headstock. All gears are precision cut to assure accuracy and smooth, quiet operation.

The patented apron construction is unsurpassed for convenience, ease of operation, and efficiency. Power feeds are driven through worm gearing and are engaged by turning the clutch knob to the right. A large oil reservoir provides ample lubrication for the clutch and power feed gearing. The worm is driven by a spline in the lead screw so that the threads of the lead screw are used only when the half-nuts are engaged for cutting screw threads. An automatic safety interlock makes it impossible to damage the lathe by accidentally engaging two opposing feeds at the same time. The large handwheel is geared

to the rack on the lathe bed for positioning the carriage and for hand-operated longitudinal feeds.

Graduations on the tailstock spindle permit drilling or reaming to a specified depth. The hardened tailstock center is automatically ejected when the spindle is fully retracted into the tailstock barrel.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

9-inch Model A Bench Lathes with Horizontal Motor Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL644Y | 3 | 16 | 17 | 500 | 390 |
| CL644Z | 3 $\frac{1}{2}$ | 22 | 17 | 515 | 404 |
| CL644A | 4 | 28 | 19 | 530 | 420 |
| CL644R | 4 $\frac{1}{2}$ | 34 | 22 | 545 | 435 |

Specifications of 9-inch Model A Bench Lathes

CAPACITY OF LATHE

| | |
|--------------------------------------|-------------------|
| Swing over bed and saddle wings..... | 9 $\frac{1}{4}$ " |
| Swing over saddle cross slide..... | 5 $\frac{1}{2}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|--------------------------|----------------|--------------|
| High speeds, r.p.m. | 1270, 750, 446 | 250, 145, 86 |
| Low speeds, r.p.m. | 692, 410, 244 | 134, 81, 50 |

HEADSTOCK

| | |
|---|---------------------|
| Hole through spindle..... | $\frac{3}{4}$ " |
| Maximum collet capacity..... | $\frac{1}{8}$ " |
| Spindle nose diameter and threads per inch..... | 1 $\frac{1}{8}$ "-8 |

| | |
|---|---------------------|
| Size of center, Morse taper..... | No. 2 |
| Width of cone pulley step for belt..... | 1" |
| Small face plate diameter..... | 5 $\frac{1}{8}$ " |
| Front spindle bearing, diameter..... | 1 $\frac{11}{16}$ " |

TAILSTOCK

| | |
|---|--------------------|
| Size of center, Morse taper..... | No. 2 |
| Spindle travel..... | 2 $\frac{1}{16}$ " |
| Each graduation on tailstock spindle..... | $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning..... | $\frac{3}{8}$ " |

COMPOUND REST

| | |
|---|-------------------|
| Cross slide travel..... | 5 $\frac{7}{8}$ " |
| Angular hand feed of compound rest top slide..... | 2 $\frac{1}{4}$ " |

THREADS AND FEEDS

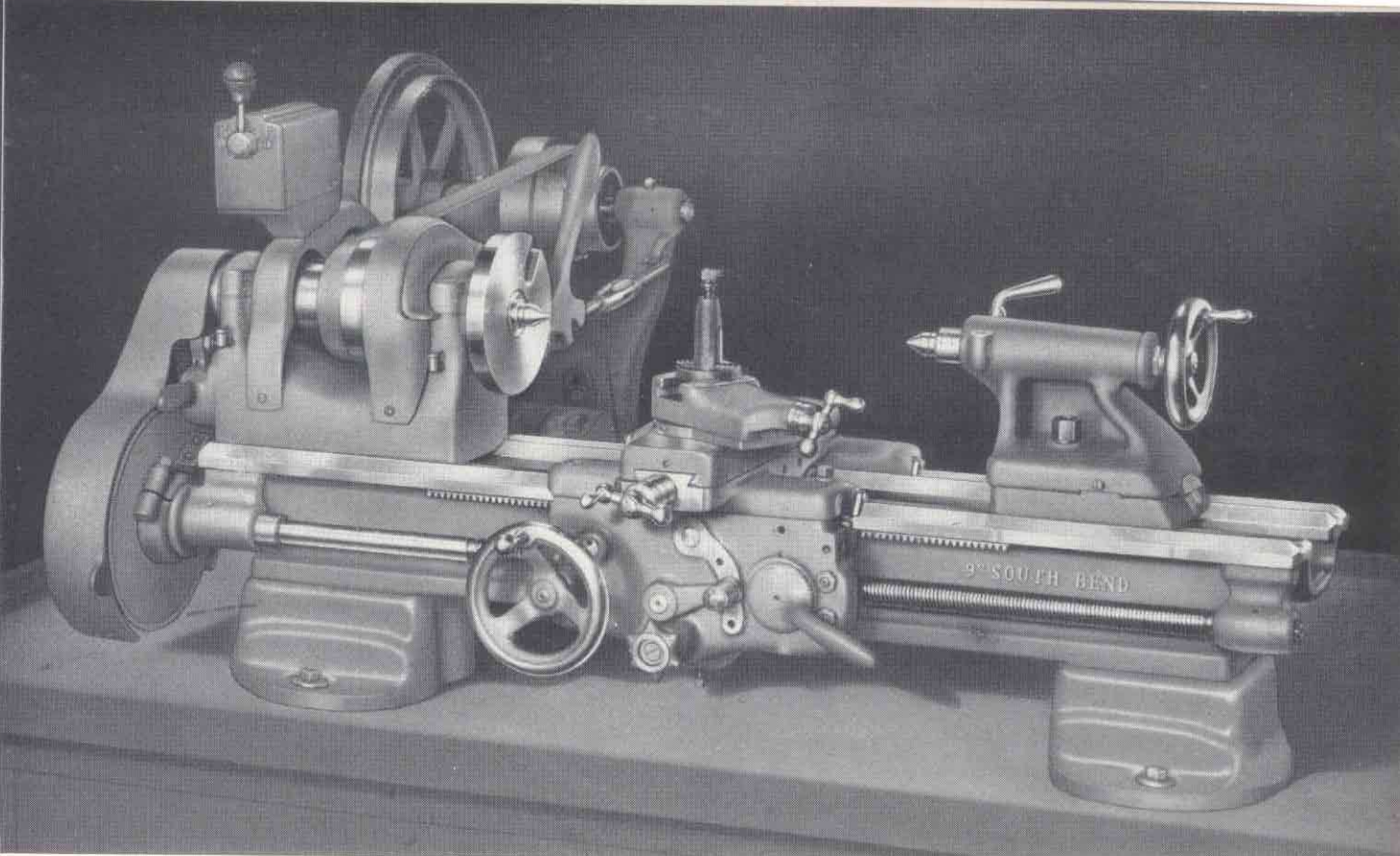
| | |
|---|------------------------------|
| Thread cutting range—48 pitches | |
| R.H. or L.H. | .4 to 224 per inch |
| Longitudinal feeds through friction clutch—48 feeds R.H. or L.H. | .0015" to .0853" |
| Cross-feeds through friction clutch—48 feeds..... | .0004" to .0255" |
| Lead screw, 29° Acme thread..... | $\frac{3}{8}$ " dia.—8 thrs. |

TOOL POST

| | |
|---|-------------------------------------|
| Size of tool holder shank..... | $\frac{3}{8}$ " x $\frac{15}{16}$ " |
| Size of cutter bit for tool holder..... | $\frac{1}{4}$ " sq. |

MOTOR

| | |
|--------------------------------------|--------------------|
| Standard size of motor required..... | $\frac{1}{2}$ h.p. |
|--------------------------------------|--------------------|



9-inch Model B *Precision* Bench Lathe

Horizontal Motor Drive—Back-Gear—Power Cross-Feeds

This is a popular model for manufacturing operations and other work which does not require frequent changes of threads and feeds. Except that it does not have the quick change gear box it is the same as the Model A Lathe shown on the preceding page.

A set of independent change gears is supplied with each lathe for cutting various pitches of screw threads and for power longitudinal and cross-feeds. An index chart attached to the lathe shows the arrangement of the gears for cutting 45 pitches of screw threads, 4 to 160 per inch and 26 power longitudinal feeds .0021" to .0155". Power cross-feeds range from .0009" to .0046".

The patented apron construction is unsurpassed for convenience, ease of operation, and efficiency. Power feeds are driven through worm gearing and are engaged by turning the clutch knob to the right. A large oil reservoir provides ample lubrication for the clutch and power feed gearing. The worm is driven by a spline in the lead screw so that the threads of the lead screw are used only when the half-nuts are engaged for cutting screw threads. An automatic safety interlock makes it impossible to damage the lathe by accidentally engaging two opposing feeds at the same time. The large handwheel is geared to the rack on the lathe bed for positioning the carriage and for hand-operated longitudinal feeds.

Large diameter easy reading graduated collars on cross-feed and compound rest screws save time and effort in positioning the cutting tool. The compound rest swivel has clear cut accurately divided graduations and may be set at any angle for machining bevels and short tapers. The carriage lock for facing operations is located on the right side of the front saddle wing.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron (patented); graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; set of change gears; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

9-inch Model B Bench Lathes with Horizontal Motor Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL677Y | 3 | 16 | 17 | 485 | 375 |
| CL677Z | 3½ | 22 | 17 | 500 | 390 |
| CL677A | 4 | 28 | 19 | 515 | 405 |
| CL677R | 4½ | 34 | 22 | 530 | 420 |

Specifications of 9-inch Model B Bench Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings..... $9\frac{1}{8}$ "
Swing over saddle cross slide..... $5\frac{1}{2}$ "

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Gear |
|-------------------------|----------------|--------------|
| High speeds, r.p.m..... | 1270, 750, 446 | 250, 145, 86 |
| Low speeds, r.p.m..... | 692, 410, 244 | 134, 81, 50 |

HEADSTOCK

Hole through spindle..... $\frac{3}{8}$ "
Maximum collet capacity..... $\frac{1}{2}$ "
Spindle nose diameter and threads per inch..... $1\frac{1}{2}$ "-8

SOUTH BEND LATHE WORKS

Size of center, Morse taper..... No. 2
Width of cone pulley step for belt..... 1"
Small face plate diameter..... $5\frac{1}{8}$ "
Front spindle bearing, diameter..... $1\frac{13}{16}$ "

TAILSTOCK

Size of center, Morse taper..... No. 2
Spindle travel..... $2\frac{1}{8}$ "
Each graduation on tailstock spindle..... $\frac{1}{16}$ "
Tailstock top set-over for taper turning..... $\frac{3}{8}$ "

COMPOUND REST

Cross slide travel..... $5\frac{7}{8}$ "
Angular hand feed of compound rest top slide..... $2\frac{1}{4}$ "

THREADS AND FEEDS

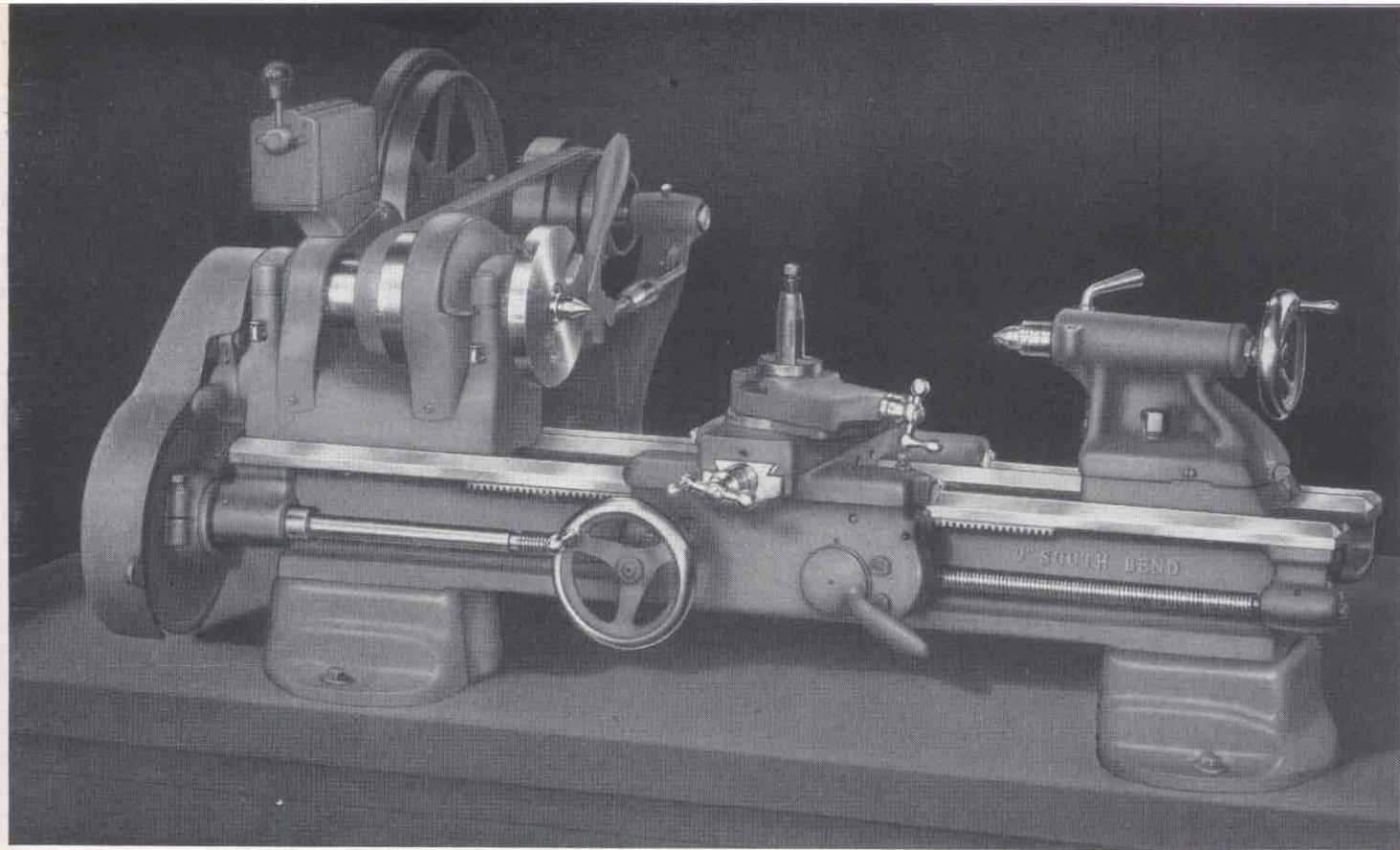
Thread cutting range—45 pitches
R.H. or L.H..... 4 to 160 per inch
Longitudinal feeds through friction clutch—26 feeds R.H. or L.H..... .0021" to .0155"
Cross-feeds through friction clutch—23 feeds..... .0009" to .0046"
Lead screw, 29° Acme thread..... $\frac{3}{8}$ " dia.—8 thds.

TOOL POST

Size of tool holder shank..... $\frac{3}{8}$ " x $1\frac{15}{16}$ "
Size of cutter bit for tool holder..... $\frac{1}{4}$ " sq.

MOTOR

Standard size of motor required..... $\frac{1}{2}$ h.p.



9-inch Model C *Precision* Bench Lathe

Horizontal Motor Drive—Back-Geared—Hand Cross-Feed

One of the most attractively priced models, this lathe is especially popular for repair and maintenance work in small shops. It is also widely used for manufacturing small parts. Groups of six or more lathes are often mounted on a single bench to save floor space.

Change gears supplied with the lathe provide for cutting 45 pitches of screw threads ranging from 4 to 160 per inch, right or left-hand. The change gears are also used for lead screw driven power longitudinal turning feeds .0021" to .0156". A chart attached to the lathe shows the arrangement of the gears for all screw threads and power feeds. Cross-feeds are hand-operated.

The horizontal motor drive (patented) provides a series of twelve spindle speeds approximately 50 to 1270 r.p.m. Motor and driving mechanism are mounted on a tilting cradle back of the lathe. Power is transmitted from the motor to the counter-shaft cone pulley by a V-belt, and to the lathe spindle by a smooth running flat leather belt. A turnbuckle mechanism is provided so that the belt tension can be easily adjusted to

transmit the required amount of power with maximum efficiency. A quick acting belt tension release lever permits releasing the cone pulley belt tension for easy shifting of the belt to change spindle speeds.

Regular equipment included in price of lathe consists of: twelve-speed horizontal motor drive unit (patented); motor pulley with $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; power feed apron; graduated compound rest; small face plate; heat-treated steel tool post; two 60-degree hardened tool steel centers; spindle sleeve; wrenches; set of change gears; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

9-inch Model C Bench Lathes with Horizontal Motor Drive

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------------|------------------|---------------------|----------------------|
| CL615Y | 3 | 16 | 17 | 475 | 365 |
| CL615Z | 3 $\frac{1}{2}$ | 22 | 17 | 490 | 380 |
| CL615A | 4 | 28 | 19 | 505 | 395 |
| CL615R | 4 $\frac{1}{2}$ | 34 | 22 | 520 | 410 |

Specifications of 9-inch Model C Bench Lathes

CAPACITY OF LATHE

| | |
|--------------------------------------|-------------------|
| Swing over bed and saddle wings..... | 9 $\frac{1}{4}$ " |
| Swing over saddle cross slide..... | 5 $\frac{1}{2}$ " |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|-------------------------|----------------|--------------|
| High speeds, r.p.m..... | 1270, 750, 446 | 250, 145, 86 |
| Low speeds, r.p.m..... | 692, 410, 244 | 134, 81, 50 |

HEADSTOCK

| | |
|---|---------------------|
| Hole through spindle..... | $\frac{3}{8}$ " |
| Maximum collet capacity..... | 1 $\frac{1}{2}$ " |
| Spindle nose diameter and threads per inch..... | 1 $\frac{1}{2}$ "-8 |

| | |
|---|--------------------|
| Size of center, Morse taper..... | No. 2 |
| Width of cone pulley step for belt..... | 1" |
| Small face plate diameter..... | 5 $\frac{1}{2}$ " |
| Front spindle bearing, diameter..... | 1 $\frac{1}{16}$ " |

TAILSTOCK

| | |
|---|-------------------|
| Size of center, Morse taper..... | No. 2 |
| Spindle travel..... | 2 $\frac{1}{8}$ " |
| Each graduation on tailstock spindle..... | $\frac{1}{16}$ " |
| Tailstock top set-over for taper turning..... | $\frac{3}{8}$ " |

COMPOUND REST

| | |
|---|-------------------|
| Cross slide travel..... | 5 $\frac{7}{8}$ " |
| Angular hand feed of compound rest top slide..... | 2 $\frac{1}{4}$ " |

THREADS AND FEEDS

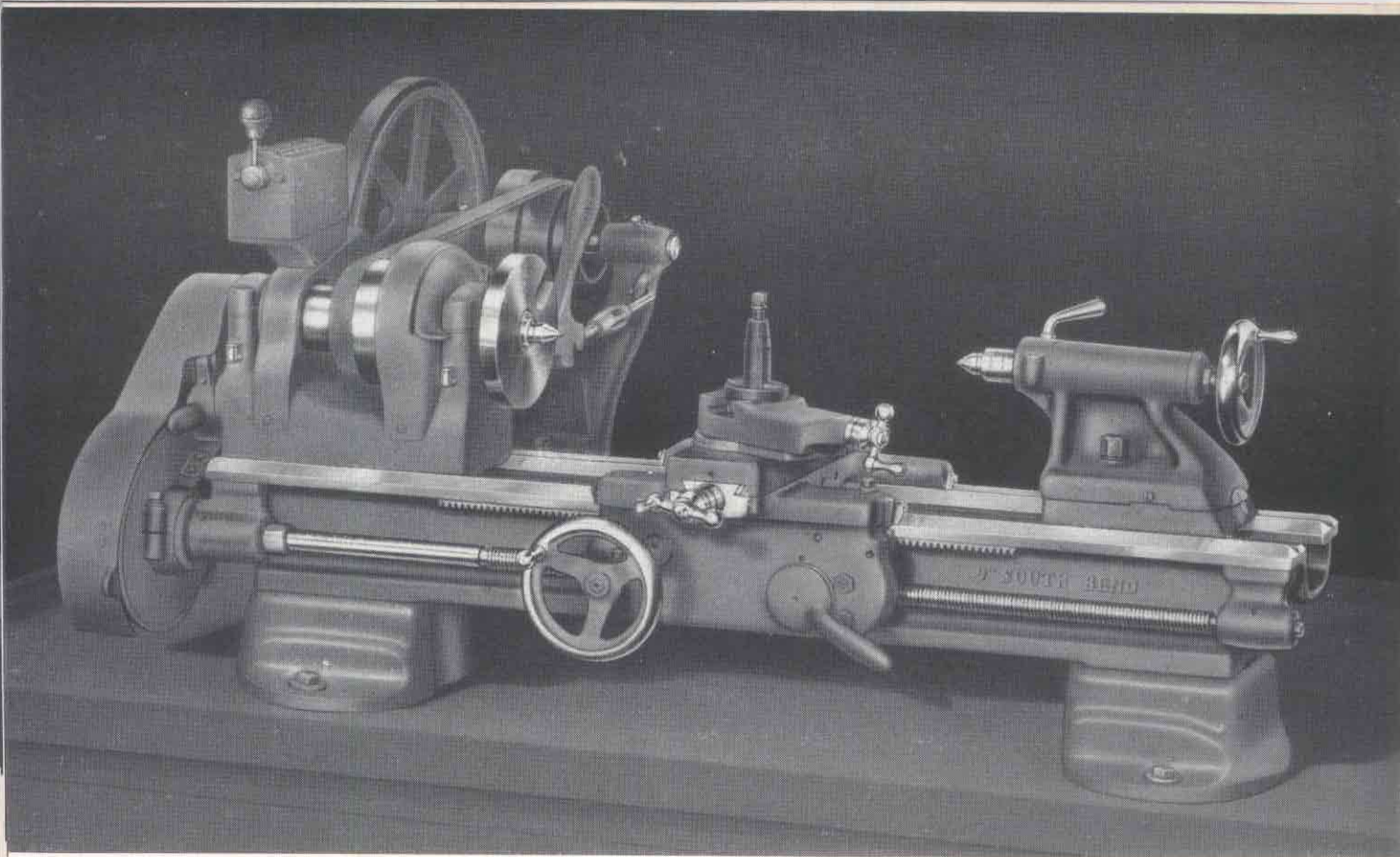
Thread cutting range—45 pitches
 R.H. or L.H..... 4 to 160 per inch
 Longitudinal feeds through half-nuts and lead screw—14 feeds R.H. or L.H..... .0021" to .0156"
 Cross-feed..... Hand-operated
 Lead screw, 29° Acme thread..... $\frac{5}{8}$ " dia.—3 thds.

TOOL POST

Size of tool holder shank..... $\frac{3}{8}$ " x $\frac{13}{16}$ "
 Size of cutter bit for tool holder..... $\frac{1}{4}$ " sq.

MOTOR

Standard size of motor required..... $\frac{1}{2}$ h.p.



9-inch Six-Speed *Precision* Bench Lathes

Model A—Model B—Model C

The 9-inch Model C Bench Lathe with six-speed horizontal motor drive is illustrated above. The 9-inch Model A and Model B Bench Lathes are also available with this drive. Except for the drive equipment, these lathes are the same as corresponding models described on preceding pages.

The six-speed drive provides a series of six spindle speeds ranging from 50 to 680 r.p.m., (approximately). This drive is recommended for those who do not need the higher spindle speeds provided by the twelve-speed drive. The drive unit is made in two sizes, to accommodate either a ¼ h.p. or a ½ h.p. motor. The motor and drive unit are mounted on a tilting cradle back of the lathe. Power is transmitted from the motor to the countershaft cone pulley by a V-belt, and to the lathe

spindle by a smooth running flat leather belt. A turnbuckle mechanism is provided so that the belt tension can be easily adjusted to transmit the required amount of power with maximum efficiency. A quick acting belt tension release lever permits releasing the belt tension for easy shifting of the belt to change spindle speeds.

The drive equipment, included in the price of the lathe, consists of: six-speed horizontal motor drive unit for ¼ h.p. or ½ h.p. motor; motor pulley with ½" hole (for ¼ h.p. motor) or ¾" hole (for ½ h.p. motor); V-belt; flat leather belt; and lacing.

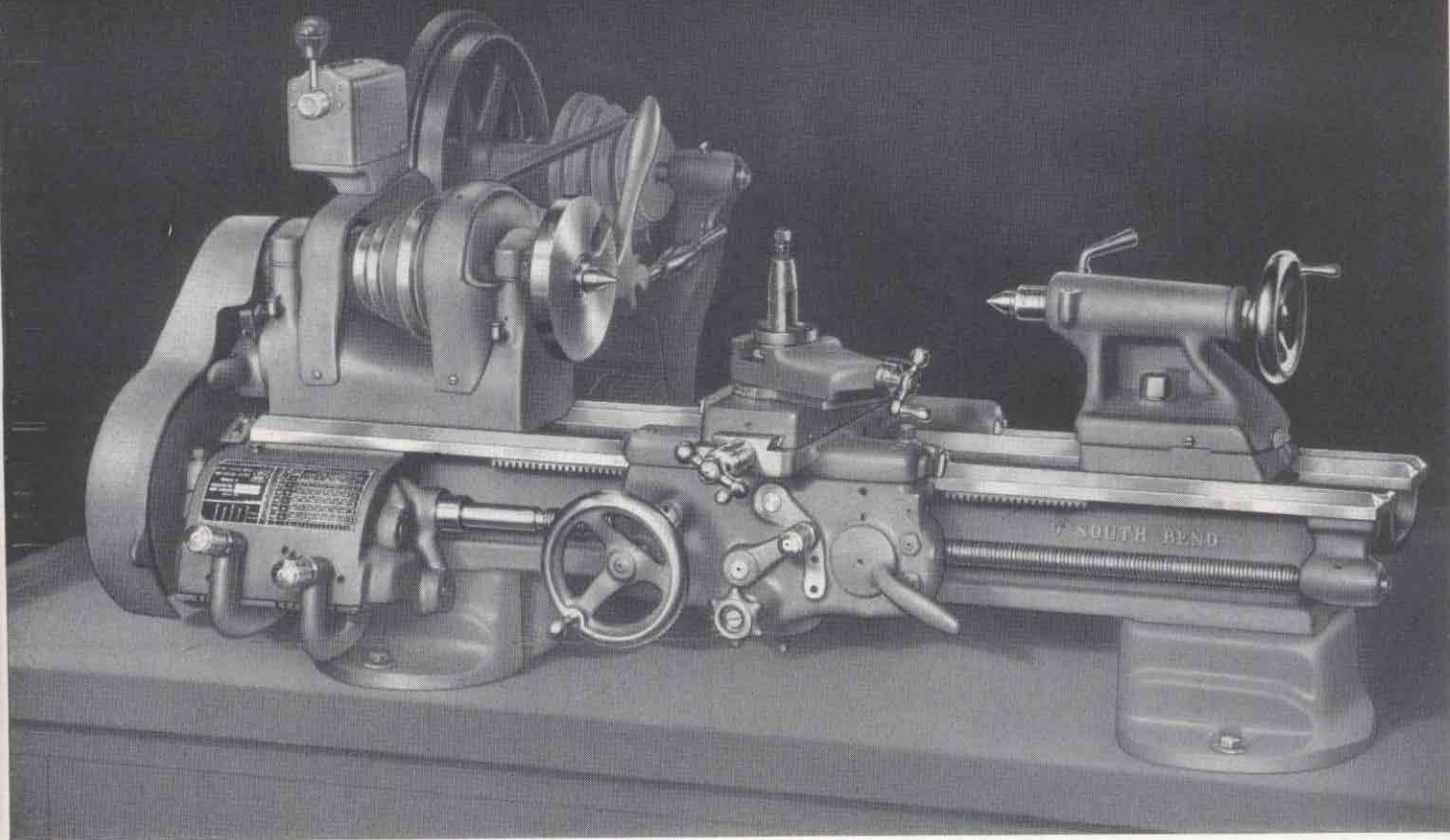
Regular equipment is the same as for corresponding models with twelve-speed drive as listed on preceding pages. Bench and electrical equipment are not included in price of lathe.

9-inch Six-Speed Bench Lathes
With Drive Unit for ¼ h.p. Motor

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|-----------------------|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A Lathes | | | | | |
| CL444Y | 3 | 16 | 17 | 465 | 355 |
| CL444Z | 3½ | 22 | 17 | 480 | 375 |
| CL444A | 4 | 28 | 19 | 500 | 395 |
| CL444R | 4½ | 34 | 22 | 525 | 415 |
| Model B Lathes | | | | | |
| CL477Y | 3 | 16 | 17 | 450 | 345 |
| CL477Z | 3½ | 22 | 17 | 465 | 365 |
| CL477A | 4 | 28 | 19 | 490 | 385 |
| CL477R | 4½ | 34 | 22 | 520 | 405 |
| Model C Lathes | | | | | |
| CL415Y | 3 | 16 | 17 | 440 | 335 |
| CL415Z | 3½ | 22 | 17 | 460 | 355 |
| CL415A | 4 | 28 | 19 | 490 | 375 |
| CL415R | 4½ | 34 | 22 | 520 | 395 |

9-inch Six-Speed Bench Lathes
With Drive Unit for ½ h.p. Motor

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|-----------------------|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A Lathes | | | | | |
| CL2444Y | 3 | 16 | 17 | 490 | 380 |
| CL2444Z | 3½ | 22 | 17 | 510 | 400 |
| CL2444A | 4 | 28 | 19 | 530 | 420 |
| CL2444R | 4½ | 34 | 22 | 550 | 440 |
| Model B Lathes | | | | | |
| CL2477Y | 3 | 16 | 17 | 480 | 370 |
| CL2477Z | 3½ | 22 | 17 | 500 | 390 |
| CL2477A | 4 | 28 | 19 | 520 | 410 |
| CL2477R | 4½ | 34 | 22 | 540 | 430 |
| Model C Lathes | | | | | |
| CL2415Y | 3 | 16 | 17 | 470 | 360 |
| CL2415Z | 3½ | 22 | 17 | 490 | 380 |
| CL2415A | 4 | 28 | 19 | 510 | 400 |
| CL2415R | 4½ | 34 | 22 | 530 | 420 |



9-inch V-Belt Drive *Precision* Bench Lathe

8 or 16 Spindle Speeds—Models A, B, and C

The 9-inch Model A V-belt Horizontal Motor Driven Bench Lathe is illustrated above. The Model B and Model C Lathes are also made with this drive. Except for the complete V-belt drive equipment, these lathes are the same as corresponding models described on the preceding pages.

The V-belt drive provides a series of eight spindle speeds 54 to 640 r.p.m., approximately, or sixteen spindle speeds 54 to 1200 r.p.m., approximately. Power is transmitted from the motor to the countershaft by a V-belt, and from the countershaft to the lathe spindle by a second V-belt. The V-belt cone pulleys on the countershaft and lathe spindle have four steps. A quick acting belt tension release permits releasing the tension of the cone pulley belt for shifting to change spindle

speeds. Since the V-belt is endless, the headstock and countershaft must be disassembled to replace the cone pulley V-belt.

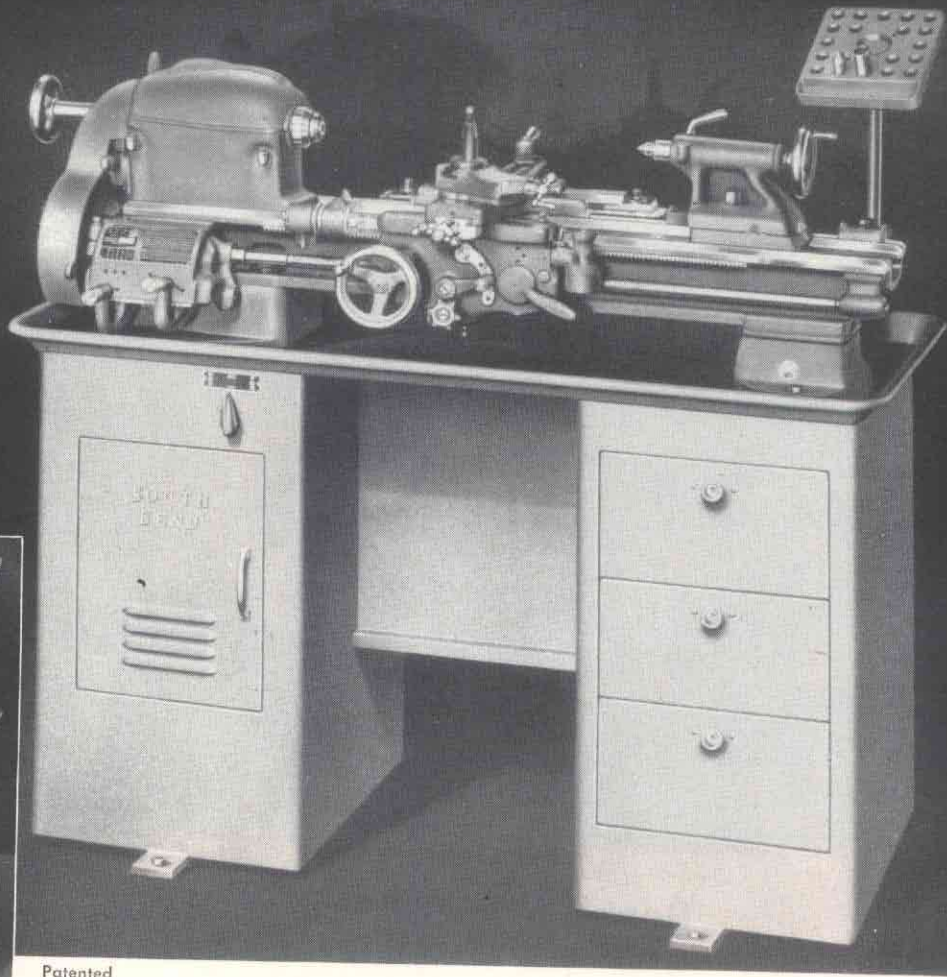
Drive equipment included in the price of the lathe consists of: horizontal motor drive unit (patented) for $\frac{1}{4}$ h.p. or $\frac{1}{2}$ h.p. motor; motor pulley with $\frac{1}{2}$ " or $\frac{3}{4}$ " hole; V-belt cone pulleys for headstock and drive unit; and V-belts.

Regular equipment included in price consists of: power feed apron (patented) on models A and B or plain apron on model C; quick change gear box on model A or set of change gears on models B and C; graduated compound rest; face plate; tool post; two 60-degree centers; spindle sleeve; wrenches; installation plan; and book "How to Run a Lathe." Bench and electrical equipment are not included in price of lathe.

9-inch V-Belt Drive Bench Lathes

| Bed Length Feet | Between Centers Inches | 16-Speed Drive for $\frac{1}{2}$ h.p. Motor | | | | 8-Speed Drive for $\frac{1}{2}$ h.p. Motor | | | | 8-Speed Drive for $\frac{1}{4}$ h.p. Motor | | | |
|---|------------------------|---|------------------|---------------------|----------------------|--|------------------|---------------------|----------------------|--|------------------|---------------------|----------------------|
| | | Catalog Number | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds | Catalog Number | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds | Catalog Number | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
| Model A Lathes with V-Belt Drive | | | | | | | | | | | | | |
| 3 | 16 | CL744Y | 17 | 500 | 390 | CL2544Y | 17 | 490 | 380 | CLS44Y | 17 | 465 | 355 |
| 3½ | 22 | CL744Z | 17 | 515 | 405 | CL2544Z | 17 | 510 | 400 | CLS44Z | 17 | 480 | 375 |
| 4 | 28 | CL744A | 19 | 530 | 420 | CL2544A | 19 | 530 | 420 | CLS44A | 19 | 500 | 395 |
| 4½ | 34 | CL744R | 22 | 545 | 435 | CL2544R | 22 | 550 | 440 | CLS44R | 22 | 525 | 415 |
| Model B Lathes with V-Belt Drive | | | | | | | | | | | | | |
| 3 | 16 | CL777Y | 17 | 485 | 375 | CL2577Y | 17 | 480 | 370 | CLS77Y | 17 | 450 | 345 |
| 3½ | 22 | CL777Z | 17 | 500 | 390 | CL2577Z | 17 | 500 | 390 | CLS77Z | 17 | 465 | 365 |
| 4 | 28 | CL777A | 19 | 515 | 405 | CL2577A | 19 | 520 | 410 | CLS77A | 19 | 490 | 385 |
| 4½ | 34 | CL777R | 22 | 530 | 420 | CL2577R | 22 | 540 | 430 | CLS77R | 22 | 520 | 405 |
| Model C Lathes with V-Belt Drive | | | | | | | | | | | | | |
| 3 | 16 | CL715Y | 17 | 475 | 365 | CL2515Y | 17 | 470 | 360 | CLS15Y | 17 | 440 | 335 |
| 3½ | 22 | CL715Z | 17 | 490 | 380 | CL2515Z | 17 | 490 | 380 | CLS15Z | 17 | 460 | 355 |
| 4 | 28 | CL715A | 19 | 505 | 395 | CL2515A | 19 | 510 | 400 | CLS15A | 19 | 490 | 375 |
| 4½ | 34 | CL715R | 22 | 520 | 410 | CL2515R | 22 | 530 | 420 | CLS15R | 22 | 520 | 395 |

9-inch
Toolroom
Precision
Floor
Lathe



Patented

Precision Lead Screw—Plain Taper Attachment

Convenient and efficient in operation, this excellently designed model is one of our finest 9-inch swing lathes. Neat and attractive in appearance, it has the same precision and many of the features and refinements usually available only on larger and more costly lathes. Its speed and ease of handling save time on all work within its capacity. It is one of our most popular lathes for precision toolroom and manufacturing operations.

The metal column base on which the lathe is mounted is constructed throughout of heavy gauge welded steel and finished in gray wrinkle finish enamel. It is available with three drawers as shown in the large illustration, or without the drawers. Each drawer is 10 3/4" x 5 1/2" x 14" inside and is fitted with lock and key. A built-in chip pan with 5/8" bead around the edge forms the top of the metal column base.

The motor drive unit, enclosed in the cabinet underneath the lathe headstock, provides twelve spindle speeds ranging from 50 to 1365 r.p.m., approximately. The cone pulley belt tension may be released and the hinged cone pulley cover on the headstock raised for shifting the belt. Any desired belt tension can be obtained by adjusting a turnbuckle located inside the cabinet.

Toolroom attachments included in price of lathe consist of:

precision lead screw; handwheel type draw-in collet chuck attachment (without collets); collet rack; taper attachment; thread dial indicator; thread cutting stop; large face plate; and micrometer carriage stop.

Regular equipment included in price of lathe consists of: metal column base with chip pan; underneath belt motor drive unit, (patented); motor pulley with 3/4" hole; V-belt; flat leather belt; power feed apron (patented); graduated compound rest; face plate; tool post; two 60-degree heat-treated tool steel centers; spindle sleeve; wrenches; quick change gear box; installation plan; and book "How to Run a Lathe." Electrical equipment is not included in price of lathe.

9-inch Toolroom Floor Lathes
With Underneath Motor Drive and Metal Column Base

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|---|-----------------|------------------------|------------------|---------------------|----------------------|
| On Metal Column Base with Three Drawers | | | | | |
| CLB344ZD | 3 1/2 | 22 | 47 | 1090 | 820 |
| On Metal Column Base Without Drawers | | | | | |
| CLB344Z | 3 1/2 | 22 | 47 | 1080 | 810 |

Specifications of 9-inch Toolroom Floor Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings..... 9 1/4"
Swing over saddle cross slide..... 5"

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|-------------------------|----------------|--------------|
| High speeds, r.p.m..... | 1365, 780, 460 | 265, 155, 90 |
| Low speeds, r.p.m..... | 715, 410, 240 | 135, 78, 50 |

HEADSTOCK

Hole through center..... 3/4"
Maximum collet capacity..... 1 1/8"
Spindle nose diameter and threads per inch..... 1 1/8"-8
Size of center, Morse taper..... No. 2

Width of cone pulley step for belt..... 1"
Large face plate diameter..... 7 3/8"
Small face plate diameter..... 5 1/2"
Front spindle bearing, diameter..... 1 13/16"

TAILSTOCK

Size of center, Morse taper..... No. 2
Spindle travel..... 2 1/2"
Each graduation on tailstock spindle..... 1/16"
Tailstock top set-over for taper turning..... 5/8"

COMPOUND REST

Cross slide travel..... 5 5/8"
Angular hand feed of compound rest top slide..... 2 1/4"

THREADS AND FEEDS

Thread cutting range—48 pitches
R.H. or L.H..... .4 to 224 per inch
Longitudinal feeds through friction
dia ch—48 feeds R.H. or L.H..... .0015" to .0853"
Cross-feeds through friction clutch—
48 feeds..... .0004" to .0255"
Lead screw, 29° Acme thread..... 3/4" dia.—8 thrs.

TOOL POST

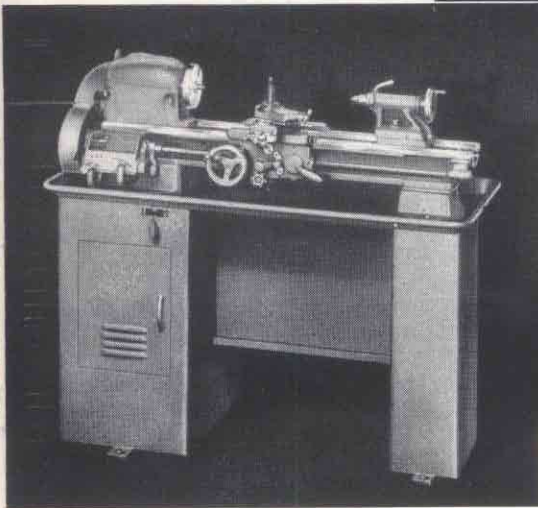
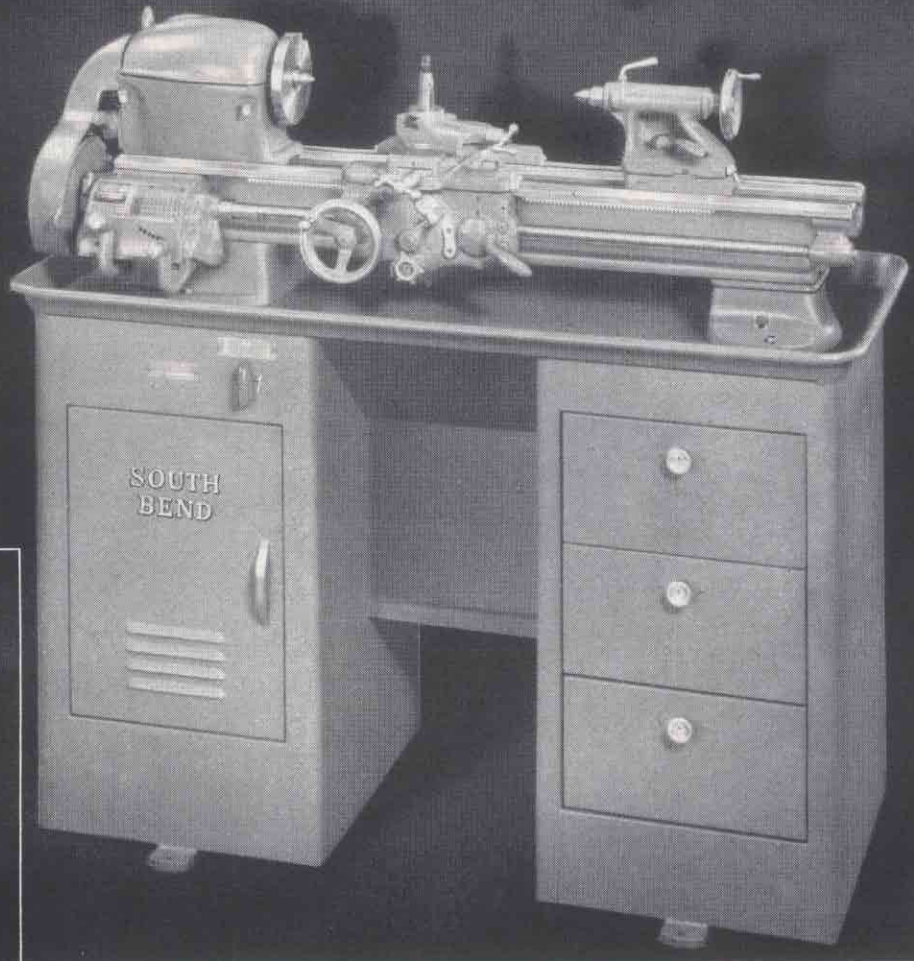
Size of tool holder shank..... 3/8" x 1 1/16"
Size of cutter bit for tool holder..... 1/4" sq.

MOTOR

Standard size of motor required..... 3/4 h.p.

SOUTH BEND LATHE WORKS

9-inch
Precision
Floor
Lathes
Models A, B, & C



Patented

Underneath Motor Drive—Back-Geared—Belt Drive

These lathes are the same as corresponding models of 9-inch Bench Lathes, except for the underneath motor drive and the necessary alterations in the headstock. Fully enclosed in the metal column base, the motor and driving mechanism are protected from dust, dirt, and chips. Base is available with three

drawers, 10 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " x 14" as shown in large illustration, or without drawers. Twelve spindle speeds, approximately 50 to 1365 r.p.m. are provided. Regular equipment included in price of lathe is same as for corresponding models of bench lathes. Electrical equipment is not included in price of lathe.

9-inch Lathes on Metal Column Base With Three Drawers

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------------|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A 9-inch Lathe | | | | | |
| CL344ZD | 3 $\frac{1}{2}$ | 22 | 47 | 1030 | 700 |
| Model B 9-inch Lathe | | | | | |
| CL377ZD | 3 $\frac{1}{2}$ | 22 | 47 | 1020 | 685 |
| Model C 9-inch Lathe | | | | | |
| CL315ZD | 3 $\frac{1}{2}$ | 22 | 47 | 1010 | 675 |

9-inch Lathes on Metal Column Base Without Drawers

| Catalog Number | Bed Length Feet | Between Centers Inches | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------------|-----------------|------------------------|------------------|---------------------|----------------------|
| Model A 9-inch Lathe | | | | | |
| CL344Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{4}$ | 47 | 1020 | 695 |
| Model B 9-inch Lathe | | | | | |
| CL377Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{4}$ | 47 | 1010 | 680 |
| Model C 9-inch Lathe | | | | | |
| CL315Z | 3 $\frac{1}{2}$ | 22 $\frac{1}{4}$ | 47 | 1000 | 670 |

Specifications of 9-inch Underneath Motor Driven Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings..... 9 $\frac{1}{4}$ "
Swing over saddle cross slide..... 5 $\frac{1}{2}$ "

SPINDLE SPEEDS (approximate, not exact)

| | | |
|-------------------------|----------------|--------------|
| | Direct Drive | Back-Geared |
| High speeds, r.p.m..... | 1365, 780, 460 | 265, 155, 90 |
| Low speeds, r.p.m..... | 715, 410, 240 | 135, 78, 50 |

HEADSTOCK

Hole through spindle..... 3 $\frac{1}{2}$ "
Maximum collet capacity..... 1 $\frac{1}{2}$ "
Spindle nose diameter and threads per inch..... 1 $\frac{1}{2}$ "-8
Size of center, Morse taper..... No. 2
Width of cone pulley step for belt..... 1"

Small face plate diameter..... 5 $\frac{1}{8}$ "
Front spindle bearing, diameter..... 1 $\frac{3}{16}$ "

TAILSTOCK

Size of center, Morse taper..... No. 2
Spindle travel..... 2 $\frac{1}{8}$ "
Each graduation on tailstock spindle..... 1 $\frac{16}{1000}$ "
Tailstock top set-over for taper turning..... 3 $\frac{1}{8}$ "

COMPOUND REST

Cross slide travel..... 5 $\frac{3}{8}$ "
Angular hand feed of compound rest top slide..... 2 $\frac{1}{4}$ "

THREAD CUTTING RANGE

Model A—48 pitches R.H. or L.H.... 4 to 224 per inch
Models B and C—45 pitches
R. H. or L.H..... 4 to 160 per inch

Lead screw, 29° Acme thread..... 3 $\frac{1}{2}$ " dia.—8 thuds.

POWER LONGITUDINAL FEEDS

Model A—48 feeds..... .0015" to .0855"
Model B—26 feeds..... .0021" to .0155"
Model C—14 feeds..... .0021" to .0156"

POWER CROSS-FEEDS

Model A—48 feeds..... .0004" to .0255"
Model B—23 feeds..... .001" to .0046"

TOOL POST

Size of tool holder shank..... 3 $\frac{3}{8}$ " x 1 $\frac{13}{16}$ "
Size of cutter bit for tool holder..... 1 $\frac{1}{4}$ " sq.

MOTOR

Standard size of motor required..... 1 $\frac{1}{2}$ h.p.

Right—Type L Long Taper Key Drive Spindle Nose.



Left—Type D1 Cam Lock Spindle Nose.

Type L and Type D1 Spindles for South Bend Lathes

All South Bend Lathes, 10"-1" Collet and larger, can be supplied with Type L Long Taper Key Drive Spindles, or 4" Type D1 Cam Lock Spindles in lieu of the regular threaded spindles at extra cost. Price includes fitting large and small face plates which are supplied with the lathe, but does not include fitting chucks, draw-in collet attachments, or other accessories. Spindle nose dimensions conform with ASA standards, but spindle bore and inside taper are larger to accommodate South Bend collet equipment, spindle sleeves, and centers.

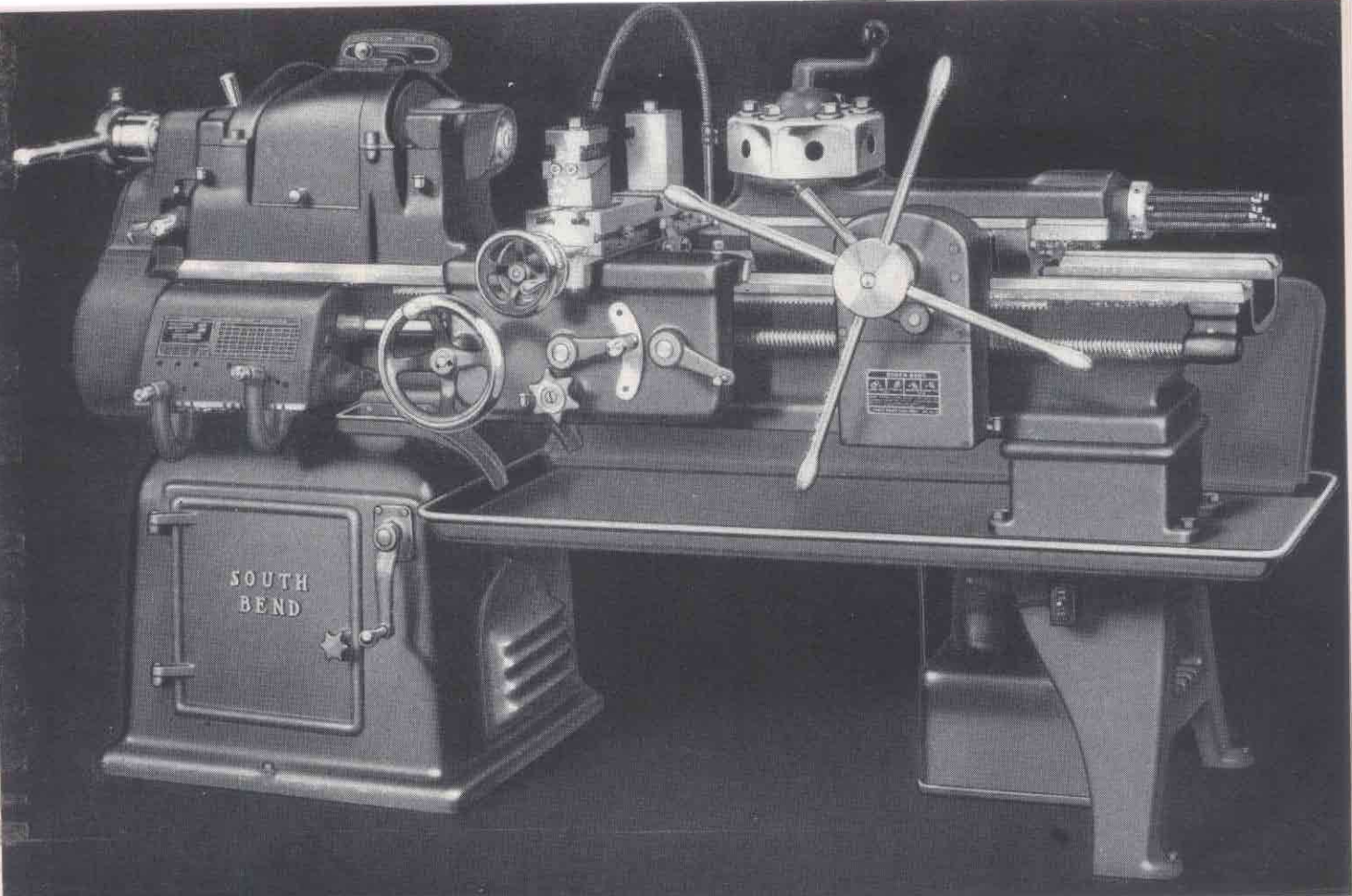
| Size of Lathe | Long Taper Key Drive Spindle Nose In Lieu of Regular Threaded Spindle Nose | | Cam Lock Spindle Nose In Lieu of Regular Threaded Spindle Nose | |
|---|--|------|--|------|
| | Cat. No. | Size | Cat. No. | Size |
| 10"-1" C. & Ser. 1000 13"-1" Collet 14 1/2"-1" Collet 16", 16-24", & 2-H | CA8050L | 00 | CB8050L | 4" |
| | CA8050T | 00 | CB8050T | 4" |
| | CA8050F | 00 | CB8050F | 4" |
| | CA8050H | 00 | CB8050H | 4" |

Accessories for Lathes With Type L Long Taper Key Drive Spindles

| Description | For 10" Lathe | | For 13" Lathe | | For 14 1/2" Lathe | | For 16", 16-24", 2-H | |
|--|----------------|--|----------------|--|-------------------|--|----------------------|--|
| | Catalog Number | | Catalog Number | | Catalog Number | | Catalog Number | |
| Handwheel Collet Attachment | CA4306L | | CA4306T | | CA4306F | | CA4306H | |
| Handlever Collet Attachment | CA5206L | | CA5206T | | CA5206F | | CA5206H | |
| Closer for Step Chucks 3" and 4" maximum capacity | CA6309LH | | CA6309LH | | CA6309LH | | CA6309LH | |
| Closer for Step Chucks 5" and 6" maximum capacity | CA6311LH | | CA6311LH | | CA6311LH | | CA6311LH | |
| Small Face Plate | CA2175L | | CA2175T | | CA2175FH | | CA2175FH | |
| Large Face Plate | CA2180L | | CA2180T | | CA2180FH | | CA2180FH | |
| Fixture Plate | CA46LT | | CA46LT | | CA46LT | | CA46FH | |
| 6" 4-Jaw Independent Chuck | CA4006 | | | | | | | |
| 6" 4-Jaw Independent Chuck | CA4206 | | CA4206 | | | | | |
| 7 1/2" 4-Jaw Independent Chuck | CA4207 | | CA4207 | | CA4207 | | CA4207 | |
| 9" 4-Jaw Independent Chuck | | | CA4209 | | CA4209 | | CA4209 | |
| 10" 4-Jaw Independent Chuck | | | | | CA4210 | | CA4210 | |
| 12" 4-Jaw Independent Chuck | | | | | | | CA4212 | |
| 5" 3-Jaw Universal Chuck with one set of reversible jaws | CA6005 | | CA6005 | | | | | |
| 5" 3-Jaw Universal Chuck with two sets of jaws—one pinion | CA3005 | | CA3005 | | | | | |
| 5" 3-Jaw Universal Chuck with two sets of jaws—three pinions | CA3505 | | CA3505 | | CA3505 | | CA3505 | |
| 6" 3-Jaw Universal Chuck with one set of reversible jaws | CA6506 | | CA6506 | | CA6506 | | CA6506 | |
| 6" 3-Jaw Universal Chuck with two sets of jaws | CA3506 | | CA3506 | | CA3506 | | CA3506 | |
| 7 1/2" 3-Jaw Universal Chuck with two sets of jaws | | | CA3507 | | CA3507 | | CA3507 | |
| 9" 3-Jaw Universal Chuck with two sets of jaws | | | | | CA3509 | | CA3509 | |
| Chuck Plate fitted to chuck | CA2935 | | CA2935 | | CA2935 | | CA2935 | |
| Semi-Machined Chuck Plate—5" | CA2704RH | | CA2704RH | | CA2704RH | | CA2704RH | |
| Semi-Machined Chuck Plate—6 1/2" | CA2707RH | | CA2707RH | | CA2707RH | | CA2707RH | |
| Semi-Machined Chuck Plate—9" | CA2709RH | | CA2709RH | | CA2709RH | | CA2709RH | |
| Collet Splash Guard | CA5223L | | CA5223T | | CA5223F | | CA5223H | |

Accessories for Lathes With 4" Type D1 Cam Lock Spindles

| Description | For 10" Lathe | | For 13" Lathe | | For 14 1/2" Lathe | | For 16", 16-24", 2-H | |
|--|----------------|--|----------------|--|-------------------|--|----------------------|--|
| | Catalog Number | | Catalog Number | | Catalog Number | | Catalog Number | |
| Handwheel Collet Attachment | CB4306L | | CB4306T | | CB4306F | | CB4306H | |
| Handlever Collet Attachment | CB5206L | | CB5206T | | CB5206F | | CB5206H | |
| Closer for Step Chucks 3" and 4" maximum capacity | CB6309LH | | CB6309LH | | CB6309LH | | CB6309LH | |
| Closer for Step Chucks 5" and 6" maximum capacity | CB6311LH | | CB6311LH | | CB6311LH | | CB6311LH | |
| Small Face Plate | CB2175L | | CB2175T | | CB2175FH | | CB2175FH | |
| Large Face Plate | CB2180L | | CB2180T | | CB2180FH | | CB2180FH | |
| Fixture Plate | CB46LT | | CB46LT | | CB46FH | | CB46FH | |
| 6" 4-Jaw Independent Chuck | CB4006 | | | | | | | |
| 6" 4-Jaw Independent Chuck | CB4206 | | CB4206 | | | | | |
| 7 1/2" 4-Jaw Independent Chuck | CB4207 | | CB4207 | | CB4207 | | CB4207 | |
| 9" 4-Jaw Independent Chuck | | | CB4209 | | CB4209 | | CB4209 | |
| 10" 4-Jaw Independent Chuck | | | | | CB4210 | | CB4210 | |
| 12" 4-Jaw Independent Chuck | | | | | | | CB4212 | |
| 5" 3-Jaw Universal Chuck with one set of reversible jaws | CB6005 | | CB6005 | | | | | |
| 5" 3-Jaw Universal Chuck with two sets of jaws—one pinion | CB3005 | | CB3005 | | | | | |
| 5" 3-Jaw Universal Chuck with two sets of jaws—three pinions | CB3505 | | CB3505 | | CB3505 | | CB3505 | |
| 6" 3-Jaw Universal Chuck with one set of reversible jaws | CB6506 | | CB6506 | | CB6506 | | CB6506 | |
| 6" 3-Jaw Universal Chuck with two sets of jaws | CB3506 | | CB3506 | | CB3506 | | CB3506 | |
| 7 1/2" 3-Jaw Universal Chuck with two sets of jaws | | | CB3507 | | CB3507 | | CB3507 | |
| 9" 3-Jaw Universal Chuck with two sets of jaws | | | | | CB3509 | | CB3509 | |
| Chuck Plate fitted to chuck | CB2935 | | CB2935 | | CB2935 | | CB2935 | |
| Semi-Machined Chuck Plate—5" | CB2704RH | | CB2704RH | | CB2704RH | | CB2704RH | |
| Semi-Machined Chuck Plate—6 1/2" | CB2707RH | | CB2707RH | | CB2707RH | | CB2707RH | |
| Semi-Machined Chuck Plate—9" | CB2709RH | | CB2709RH | | CB2709RH | | CB2709RH | |
| Collet Splash Guard | CB5223L | | CB5223T | | CB5223F | | CB5223H | |



Collet attachment, electrical equipment, splash pan, coolant reservoir, and pump shown in illustration are not included in price of lathe

No. 2-H Turret Lathe Power Feed Carriage and Turret

Designed for the efficient production of duplicate parts, the South Bend No. 2-H Turret Lathe has the precision for exacting close-tolerance operations, smooth power for producing a fine finish, and versatility that reduces set-up time to a minimum.

The universal carriage has 48 power cross-feeds, 48 power longitudinal feeds, and 48 thread cutting feeds ranging from 4 to 224 per inch. All changes are made through the quick change gear box at the headstock end of the lathe. Front and back tool blocks are supplied on the screw feed cross slide and a 4-way turret tool block is available to order. The large diameter micrometer graduated collar on the cross slide hand-wheel permits adjusting the cutting tools with extreme accuracy.

The ram-type turret has both power feed and hand feed, with an adjustable feed trip and stop for each of the six turret faces. The turret head indexes automatically on the return stroke of the turret slide. The quick change gear box provides 48 changes for power turret feeds. Change gears in the turret apron provide an additional change for turret power feed, independent of the universal carriage feeds in both rate of feed and direction of feed.

Full advantage may be taken of the higher cutting speeds of tungsten carbide tools as the result of the wide range of speeds and feeds available. The use of a two-speed motor permits quick change from high speeds to low speeds for reaming and tapping operations.

Equipment included in the price of lathe consists of: universal carriage with screw feed double tool slide having front and rear square tool blocks; power feed ram-type turret; quick change gear box; oil pan; coolant return assembly; splash guards; wrenches; and installation plan.

No. 2-H Turret Lathes

| Catalog Number | Bed Length Feet | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|-----------------|------------------|---------------------|----------------------|
| CL2CT | 6 | 112 | 3175 | 2810 |
| CL2DT | 7 | 127 | 3300 | 2900 |

Note—Electrical equipment, handlever collet attachment, coolant reservoir, coolant pump, splash pan, and piping are not included in price of lathe.

Specifications of No. 2-H Turret Lathes

CAPACITY OF LATHE

| | |
|--|----------|
| Hole through spindle | 1 1/8" |
| Swing over double tool cross slide | 6 7/8" |
| Swing over bed and saddle wings | 16 1/4" |
| Width of lathe bed | 11 3/8" |
| Spindle nose diameter and threads per inch | 2 5/8"-6 |
| Maximum collet capacity through handlever collet chuck | 1" |

SPINDLE SPEEDS (Standard spindle speeds with two-speed motor, approximate, not exact)

| | |
|--------------------------------------|---------------|
| High spindle speeds | |
| r.p.m. of spindle, direct belt drive | 945, 550, 300 |
| r.p.m. of spindle, back-gear drive | 118, 70, 32 |

Low spindle speeds (Not available with 1-speed motor)

| | |
|--------------------------------------|---------------|
| r.p.m. of spindle, direct belt drive | 475, 278, 150 |
| r.p.m. of spindle, back-gear drive | 60, 33, 20 |

TURRET

| | |
|---|--------------------------------------|
| Diameter of holes in turret faces | 1 1/2" |
| Center of turret hole to top of turret slide | 2 1/2" |
| Effective feed of turret slide | 5 7/8" |
| Distance between opposite flats | 9 3/4" |
| Maximum distance between spindle nose and turret face at beginning of indexing movement | 6 ft. bed 28 1/4", 7 ft. bed 40 1/2" |

UNIVERSAL CARRIAGE

| | |
|---|--|
| Thread cutting range | 4 to 224 per inch |
| Power longitudinal feeds | .0015" to .0841" |
| Maximum longitudinal travel of universal carriage, hand or power feed | 6 ft. bed 22 1/2" 7 ft. bed 34 1/2" |

MOTOR

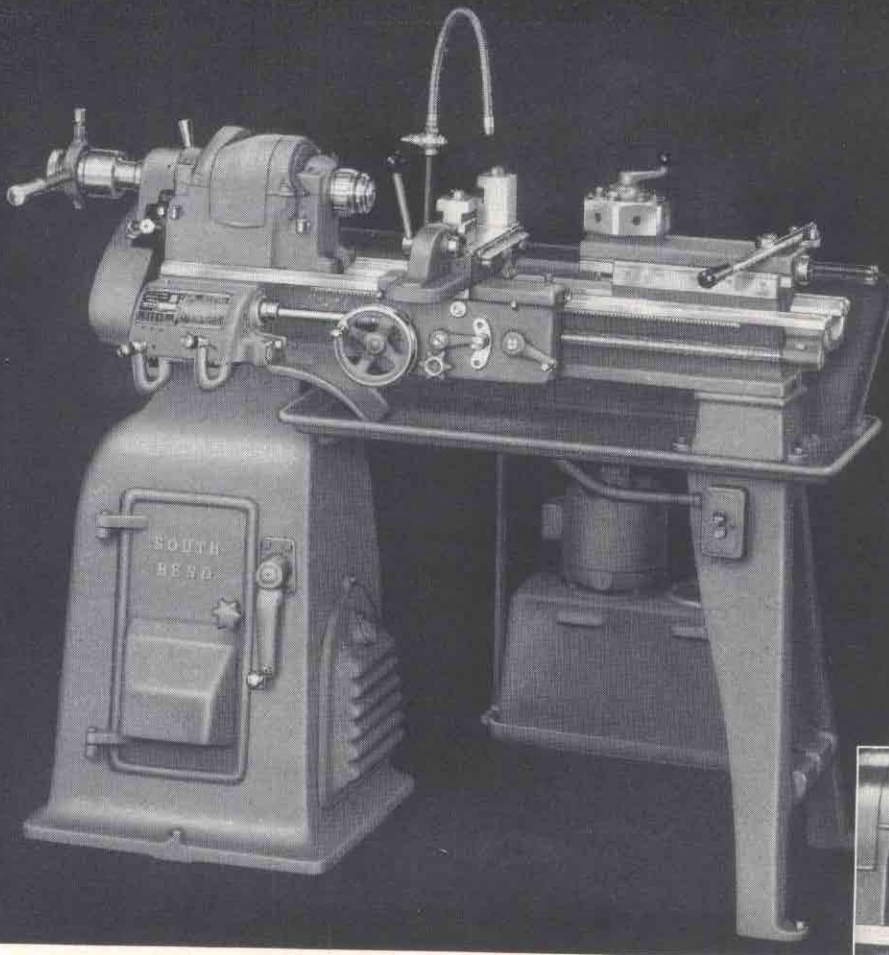
| | |
|---------------------------------------|---|
| For operating on 3-phase A.C. | 2-speed, 1800-900 r.p.m., 2 h.p.-1 h.p. |
| For operating on 1-phase A.C. or D.C. | 1-speed, 1800 r.p.m., 1 1/2 h.p. |

SOUTH BEND LATHE WORKS

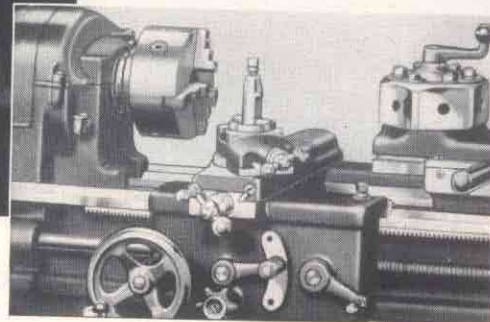
41

SOUTH BEND, INDIANA, U.S.A.

CL1006Z TURRET LATHE



Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the handlever cross slide



The handlever collet attachment, splash pan, lathe chuck, coolant equipment, and electrical equipment shown in these illustrations, are not included in price of lathe

The No. CL1006Z South Bend Turret Lathe has the stamina for exacting, close-tolerance operations, ample power for smooth performance, and the rigidity for producing a fine finish. Designed for the efficient production of duplicate parts, it is especially desirable for second operation work.

Mounted on the inside bed ways, the turret can be locked in position at any point along the length of the bed. The turret head indexes automatically when the handlever is moved to the extreme right, and has individual stops for each of the six turret faces. The turret head is so constructed that it will index within plus or minus .0005", measured 4" from turret face. Accurate indexing is assured by the use of hardened, ground, and superfinished index pin which operates in ground and lapped bushings. The turret head may be back-indexed or spun to skip tool positions. A sturdy binder permits locking the turret head securely for taking heavy cuts.

Equipped with front and rear tool blocks, the handlever cross slide can be used for multiple turning, forming, facing,

and cutting-off operations. Adjustable stops limit the movement of the cross-feed in either direction, in or out. The handlever can be removed and the cross-feed screw attached, permitting use of power cross-feeds and longitudinal feeds with the double tool cross slide.

A compound rest cross slide, supplied in addition to the double tool 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.

Catalog Number CL1006Z Underneath Motor Driven Quick Change Gear Floor Leg Turret Lathe with 3 1/2 ft. bed, power feed universal carriage, handlever bed turret, double tool cross slide, compound rest cross slide, oil pan, and coolant return assembly. Approximate shipping weight crated, 1050 lbs. Boxed weight 1350 lbs. Cubic feet boxed 45.

NOTE: Splash pan, tailstock, centers, spindle sleeve, face plates, draw-in collet chuck attachment, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathe.

Specifications of CL1006Z Turret Lathe

CAPACITY OF LATHE

| | |
|--|----------|
| Hole through spindle | 1 3/8" |
| Swing over bed and saddle wings | 10 1/2" |
| Width of lathe bed | 7 1/2" |
| Spindle nose diameter and threads per inch | 2 1/2"-8 |
| Maximum collet capacity through handlever collet chuck | 1" |
| Maximum capacity through universal lathe chuck | 1 3/8" |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|---------------------|----------------|---------------|
| High speeds, r.p.m. | 1400, 898, 585 | 250, 160, 105 |
| Low speeds, r.p.m. | 740, 470, 304 | 130, 85, 55 |

*Can be supplied to order with 3/4" holes in turret head. No extra charge.

TURRET

| | |
|---|---------|
| Diameter of holes in turret faces* | 3/8" |
| Center of turret hole to top of turret slide | 1 1/2" |
| Effective feed of turret slide | 4" |
| Distance between opposite flats | 4 7/8" |
| Maximum distance between spindle nose and turret face at beginning of indexing movement | 19 3/8" |

UNIVERSAL CARRIAGE

| | |
|---|-------------------|
| Thread cutting range | 4 to 224 per inch |
| Power longitudinal feeds | .0015" to .0836" |
| Maximum longitudinal travel of universal carriage, hand or power feed | 16" |

DOUBLE TOOL CROSS SLIDE

| | |
|------------------------------------|---------|
| Swing over double tool cross slide | 3 3/16" |
|------------------------------------|---------|

| | |
|--|------------------|
| Cross travel of cross slide | 3 3/8" |
| Maximum size cutter bit tool block opening will take | 7/16" x 1/16" |
| Power cross-feeds | .0006" to .0309" |

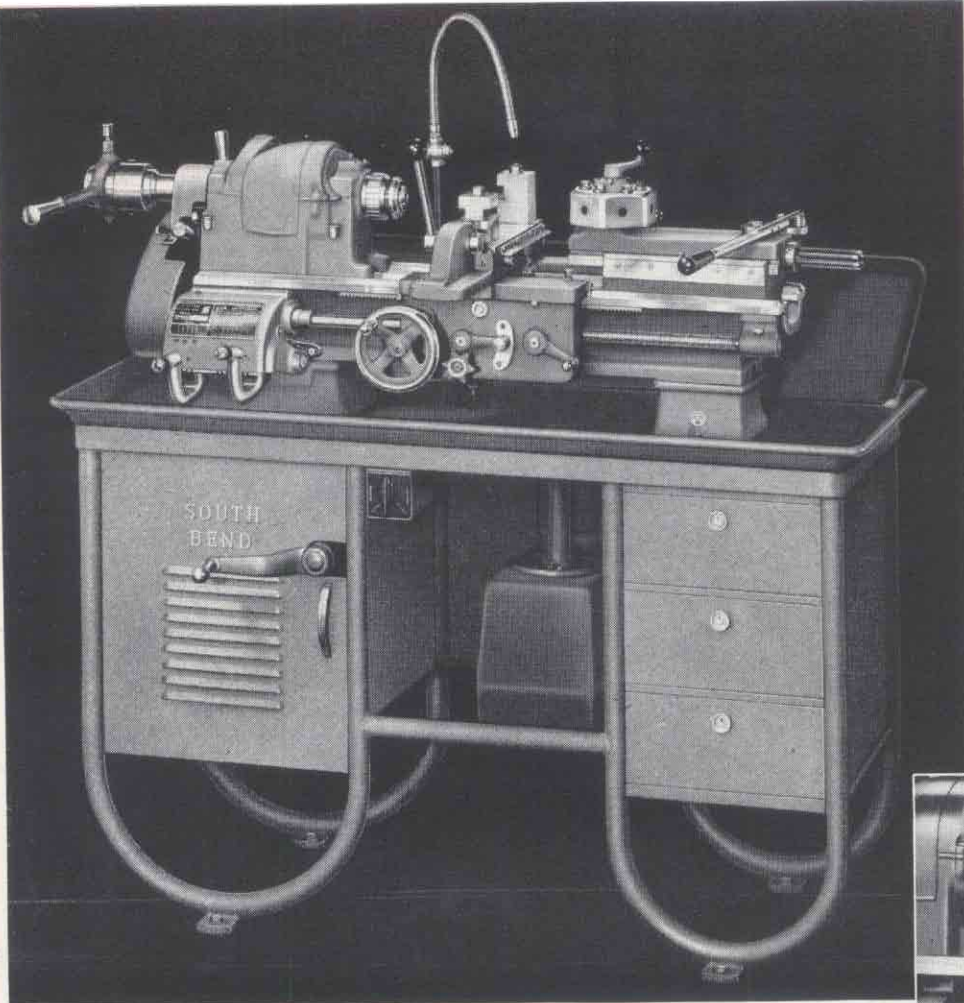
COMPOUND REST CROSS SLIDE

| | |
|---|------------------|
| Swing over compound cross slide | 5 7/8" |
| Cross slide will travel | 6 1/4" |
| Angular hand feed of top slide | 2" |
| Size of tool holder shank for tool post | 3/8" x 1 1/2" |
| Size of cutter bits tool holder takes | 1/4" x 1/4" |
| Power cross-feeds | .0008" to .0309" |

MOTOR

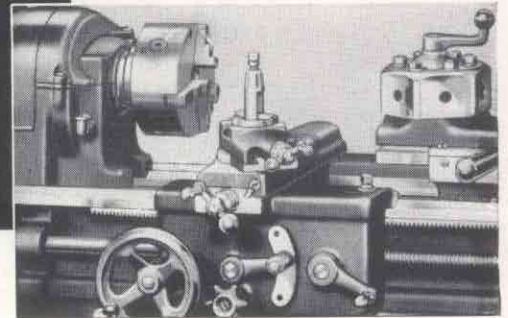
| | |
|---------------------------------|----------|
| Standard size of motor required | 3/4 h.p. |
|---------------------------------|----------|

CL1005Z TURRET LATHE



Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the handlever cross slide

Handlever collet attachment, lathe chuck, coolant equipment, splash pan back of lathe, and electrical equipment shown in illustrations are not included in price of lathe



Mounted on a rigid tubular steel welded bench with built-in chip pan and three roomy drawers, the CL1005Z South Bend Turret Lathe is one of our most popular and convenient models. It meets the demand for fast, efficient production, and is easily adaptable to a wide variety of work. There is no excessive weight in moving parts to slow down operation and cause fatigue. Yet, it has the stamina for exacting, close tolerance operations, ample power for smooth performance and the rigidity for producing a fine finish.

The turret can be locked in position at any point along the length of the bed, and the turret base can be placed close to the headstock to eliminate excessive overhang of the work or the turret tools. The turret head indexes automatically when the lever is moved to the extreme right, and has individual stops for each of the six turret faces. Turret head may be back indexed or spun to skip tool positions.

Equipped with front and rear tool blocks, the handlever cross slide has adjustable stops which limit the movement of

the cross-feed in either direction, in or out. The handlever can be removed and the cross-feed screw attached, permitting use of all power cross-feeds and longitudinal feeds with the double tool cross slide.

A compound rest cross slide, supplied in addition to the handlever cross slide, has power cross-feed and power longitudinal feed. Compound rest swivel is graduated 180° for machining bevels and short tapers.

CL1005Z Underneath Motor Driven Quick Change Gear Bench Turret Lathe with 3½ ft. bed, power feed universal carriage, steel bench with built-in oil pan, handlever bed turret, double tool cross slide, compound rest cross slide, and coolant return assembly. Approximate shipping weight (crated with steel bench) 950 lbs., boxed weight 1250 lbs. Cubic feet boxed 56.

NOTE: Splash pan, tailstock, centers, spindle sleeve, face plates, draw-in collet chuck attachment, lathe chuck, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathe.

Specifications of CL1005Z Turret Lathe

CAPACITY OF LATHE

| | |
|--|----------|
| Hole through spindle | 1 3/8" |
| Swing over bed and saddle wings | 10 1/2" |
| Width of lathe bed | 7 1/2" |
| Spindle nose diameter and threads per inch | 2 1/4"-8 |
| Maximum collet capacity through handlever collet chuck | 1" |
| Maximum capacity through universal lathe chuck | 1 1/8" |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|---------------------|----------------|---------------|
| High speeds, r.p.m. | 1400, 898, 585 | 250, 160, 105 |
| Low speeds, r.p.m. | 740, 470, 304 | 130, 85, 55 |

*Can be supplied to order with 3/4" holes in turret head. No extra charge.

TURRET

| | |
|---|---------|
| Diameter of holes in turret faces* | 5/8" |
| Center of turret hole to top of turret slide | 1 1/2" |
| Effective feed of turret slide | 4" |
| Distance between opposite flats | 4 7/8" |
| Maximum distance between spindle nose and turret face at beginning of indexing movement | 19 3/8" |

UNIVERSAL CARRIAGE

| | |
|---|-------------------|
| Thread cutting range | 4 to 224 per inch |
| Power longitudinal feeds | .0015" to .0838" |
| Maximum longitudinal travel of universal carriage, hand or power feed | 16" |

DOUBLE TOOL CROSS SLIDE

| | |
|------------------------------------|---------|
| Swing over double tool cross slide | 3 1/16" |
|------------------------------------|---------|

| | |
|--|------------------|
| Cross travel of cross slide | 3 3/8" |
| Maximum size cutter bit tool block opening will take | 3/8" x 3/8" |
| Power cross-feeds | .0006" to .0393" |

COMPOUND REST CROSS SLIDE

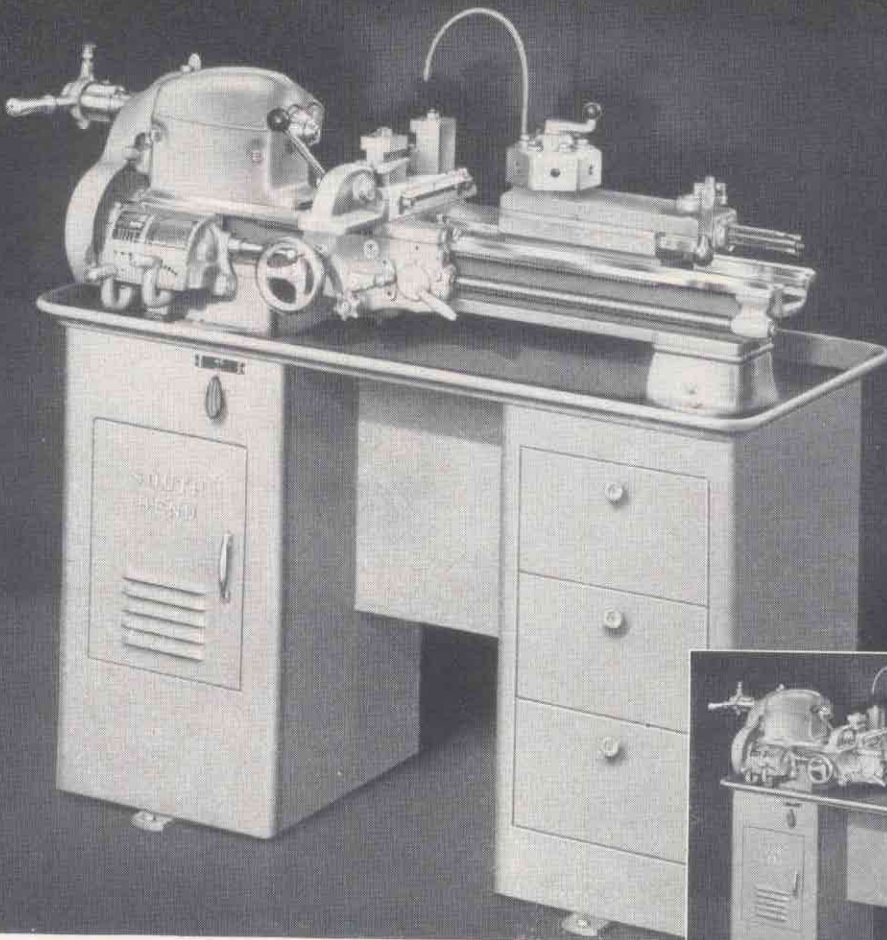
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|---|------------------|
| Swing over compound cross slide | 5 7/8" |
| Cross slide will travel | 8 1/2" |
| Angular hand feed of top slide | 2" |
| Size of tool holder shank for tool post | 3/8" x 1 1/2" |
| Size of cutter bits tool holder takes | 1/4" x 1 1/2" |
| Power cross-feeds | .0006" to .0309" |

MOTOR

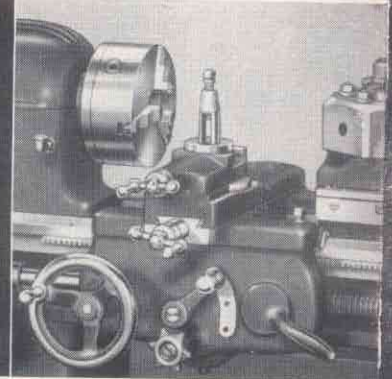
| | |
|---------------------------------|----------|
| Standard size of motor required | 3/4 h.p. |
|---------------------------------|----------|

SERIES 900 TURRET LATHES

Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the handlever cross slide



The handlever collet attachment, lathe chuck, coolant equipment, and electrical equipment shown in these illustrations are not included in price of lathe



Series 900 South Bend Turret Lathes are practical for manufacturing small precision parts. Designed for extreme precision, the turret head will index within plus or minus .0005", measured 4" from the turret face. The metal column base on which the lathe is mounted is made with drawers as shown in the large illustration, or without drawers as shown in small insert.

Mounted on the inside bed ways, 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 head indexes automatically when the lever is moved to the extreme right, and has individual stops for each of the six turret faces. Turret head may be back indexed or spun to skip tool positions.

Equipped with front and rear tool blocks, the handlever cross slide has adjustable stops which limit the movement of the cross-feed in either position, in or out. The handlever can be removed and the cross-feed screw attached, permitting use

of all power cross-feeds and longitudinal feeds with the double tool cross slide.

A compound rest cross slide, supplied in addition to the handlever cross slide, has power cross-feed and power longitudinal feed. Compound rest swivel is graduated 180° for machining bevels and short tapers.

CL930ZD. Underneath Motor Driven Quick Change Gear Turret Lathe with 3 1/2 ft. bed, mounted welded steel column base with drawers, built-in oil pan, underneath motor drive unit, power feed universal carriage, handlever bed turret, double tool cross slide, compound rest cross slide, and coolant return assembly. Approximate shipping weight crated 800 lbs., boxed weight 1130 lbs. Cubic feet boxed 47.

CL930Z. Same as above but mounted on welded steel column base without drawers. Approximate shipping weight crated 795 lbs., boxed weight 1120 lbs. Cubic feet boxed 47.

NOTE: Splash pan, tailstock, centers, spindle sleeve, face plates, draw-in collet chuck attachment, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathes.

Specifications of Series 900 Turret Lathes

CAPACITY OF LATHE

| | |
|---|----------|
| Hole through spindle..... | 3/4" |
| Swing over bed and saddle wings..... | 9 1/4" |
| Width of lathe bed..... | 5 1/2" |
| Spindle nose diameter and threads per inch..... | 1 1/2"-8 |
| Maximum capacity through collet chuck..... | 1 1/2" |
| Maximum capacity through universal lathe chuck..... | 3/4" |

SPINDLE SPEEDS (approximate, not exact)

| | Direct Drive | Back-Geared |
|-------------------------|----------------|--------------|
| High speeds, r.p.m..... | 1365, 780, 460 | 265, 155, 90 |
| Low speeds, r.p.m..... | 715, 410, 240 | 135, 78, 50 |

TURRET

| | |
|---|------|
| Diameter of holes in turret faces*..... | 3/8" |
|---|------|

*Can be supplied to order with 3/4" holes in turret head. No extra charge.

| | |
|--|---------|
| Center of turret hole to top of turret slide..... | 1 1/2" |
| Effective feed of turret slide..... | 4" |
| Distance between opposite flats..... | 4 7/8" |
| Maximum distance between spindle nose and turret face at beginning of indexing movement..... | 20 3/8" |

UNIVERSAL CARRIAGE

| | |
|--|--------------------|
| Thread cutting range..... | .4 to 224 per inch |
| Power longitudinal feeds..... | .0015" to .0853" |
| Maximum longitudinal travel of universal carriage..... | 18" |
| hand or power feed..... | 18" |

DOUBLE TOOL CROSS SLIDE

| | |
|---|--------|
| Swing over double tool cross slide..... | 3 3/8" |
| Cross travel of cross slide..... | 3 3/8" |

| | |
|---|------------------|
| Maximum size cutter bit tool block opening will take..... | 3/16" x 7/16" |
| Power cross-feeds..... | .0004" to .0255" |

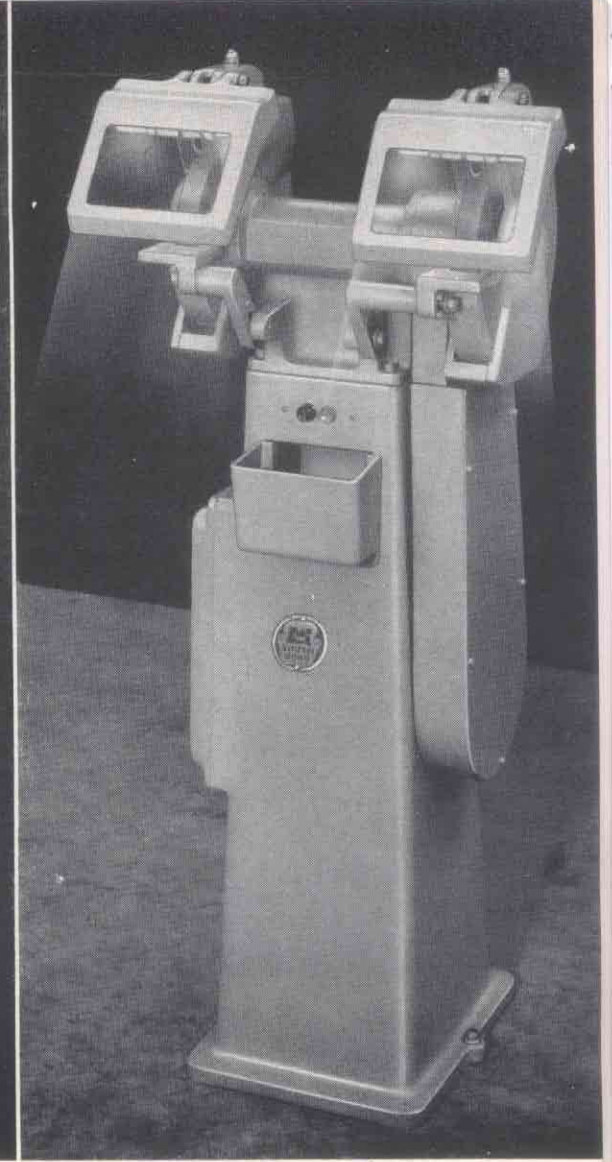
COMPOUND REST CROSS SLIDE

| | |
|--|------------------|
| Swing over compound rest cross slide..... | 5 1/2" |
| Cross slide will travel..... | 5 7/8" |
| Angular hand feed of top slide..... | 2 1/4" |
| Size of tool holder shank for tool post..... | 3/8" x 1 1/2" |
| Size cutter bits tool holder takes..... | 1/4" x 3/4" |
| Power cross-feeds..... | .0004" to .0255" |

MOTOR

| | |
|--------------------------------------|----------|
| Standard size of motor required..... | 1/2 h.p. |
|--------------------------------------|----------|

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New South Bend Pedestal Grinder

V-Belt Drive to Ball-Bearing Spindle—Built-in Illumination

A great deal of careful research has gone into the design of this new South Bend Pedestal Tool Grinder. To provide ample work clearance the grinding wheels are widely separated and the motor is mounted in the pedestal instead of between the wheels. Additional clearance for the work is obtained by mounting the grinding wheel spindle toward the front of the pedestal. This construction also provides ample toe room for the operator. The U-shaped tool rests are adjustable to any angle and are also adjustable for wheel wear. The large water pot for cooling work is conveniently located and is removable for cleaning.

Large safety glass eye shields are hinged and are easily adjusted to three positions. Two light bulbs enclosed in the frame of each shield throw ample light directly onto the work. Close-fitting adjustable spark guards built into the heavy wheel guards provide added protection. Wheel guards have removable end plates and large dust outlets for connecting with dust collector or exhaust ducts.

A two pole pushbutton switch is conveniently mounted on the front of the grinder frame. The fully enclosed motor and V-belt drive the grinding wheel spindle which revolves on sealed ball bearings. This construction practically eliminates vibration, removes the weight of the grinding wheels from the motor bearings and protects the motor from the abrasive dust of the grinding wheels.

The grinder is made with $\frac{1}{2}$ h.p. motor and 8" wheels or with $\frac{3}{4}$ h.p. motor and 10" wheels. Equipment includes one

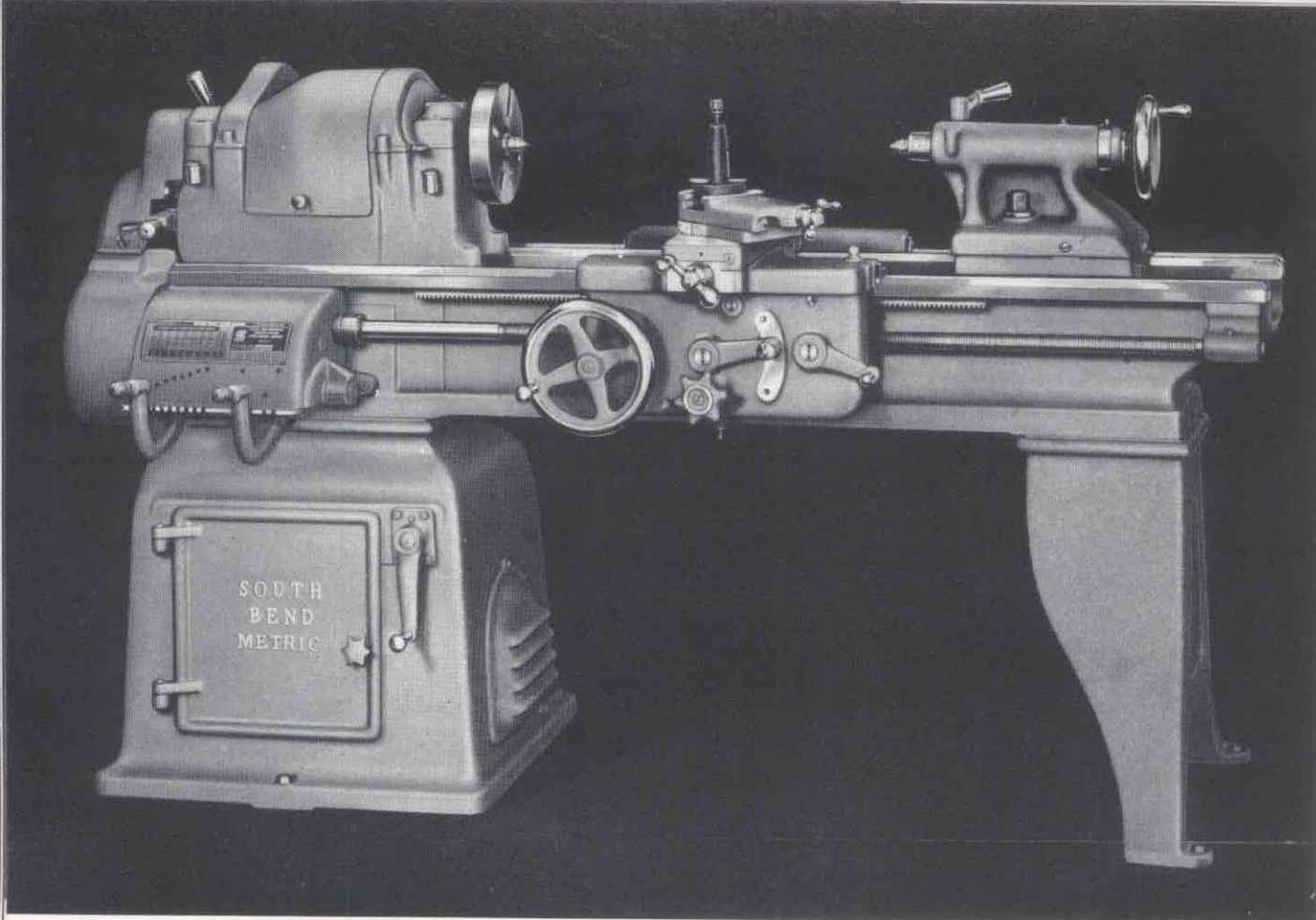
coarse and one fine wheel for general work, tool rests, wheel guards, motor, switch, V-belt, and eye shields with built-in illumination. Bench type mounting cannot be supplied.

Specifications

Wheel Size: With $\frac{3}{4}$ h.p. motor, 10" dia., 1" face, $\frac{3}{4}$ " hole.
 With $\frac{1}{2}$ h.p. motor, 8" dia., 1" face, $\frac{3}{4}$ " hole.
 Spindle: Sealed ball bearings. Approximate speed 2450 r.p.m.
 Motor: Standard 2875 r.p.m. 50 cycle or 3450 r.p.m. 60 cycle and D.C.
 Over-all Dimensions: 10" Grinder, 49 $\frac{1}{2}$ " high, 18 $\frac{1}{2}$ " wide, 20 $\frac{1}{2}$ " deep.
 8" Grinder, 49 $\frac{1}{2}$ " high, 18" wide, 20 $\frac{1}{2}$ " deep.
 Shipping Weight: 10" grinder 397 lbs. crated, 437 lbs. boxed for export.
 8" grinder 380 lbs. crated, 420 lbs. boxed for export.
 Export Space: 16 cubic feet boxed.

South Bend Pedestal Grinder

| $\frac{1}{2}$ h.p. Motor 8" Wheel | | $\frac{3}{4}$ h.p. Motor 10" Wheel | | Motor Specifications | | |
|--------------------------------------|--|---------------------------------------|--|----------------------|-------|-------|
| Cat. No. | | Cat. No. | | Volts | Phase | Cycle |
| CE2611A | | CE2621A | | 115 A.C. | 1 | 50 |
| CE2611B | | CE2621B | | 115 A.C. | 1 | 60 |
| CE2611C | | CE2621C | | 230 A.C. | 1 | 50 |
| CE2611D | | CE2621D | | 230 A.C. | 1 | 60 |
| CE2613C | | CE2623C | | 220 A.C. | 3 | 50 |
| CE2613D | | CE2623D | | 220 A.C. | 3 | 60 |
| CE2613F | | CE2623F | | 440 A.C. | 3 | 60 |
| CE2610K | | CE2620K | | 115 D.C. | .. | .. |
| CE2610L | | CE2620L | | 230 D.C. | .. | .. |



Metric System Lathes

Made in All Sizes with All Types of Drives

All South Bend Lathes can be supplied in the metric system, with metric lead screw and gearing for cutting standard pitches of metric screw threads, and metric cross-feed and compound rest feed screws having micrometer collars with metric graduations. The tailstock spindles and taper attachment are graduated in both the English and metric systems. Except for these features, the metric lathes are identical with corresponding models having English gearing and graduations.

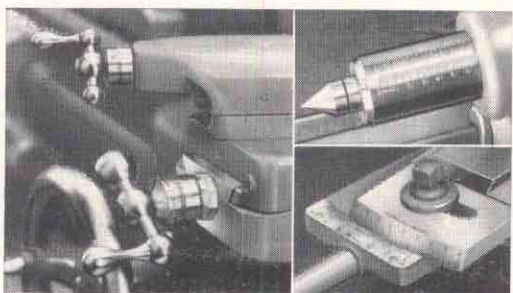
The metric quick change gear box supplied on all Metric Quick Change Gear and Toolroom South Bend Lathes is shown on the lathe in the illustration above. Changes for the various pitches of metric screw threads and power feeds are made by shifting the two levers on front of the gear box.

A direct reading index chart attached to the gear box shows the arrangement of the levers for the various threads and feeds.

(See illustration below.) The screw threads cut range from 0.2 mm pitch to 7.5 mm pitch, as listed on the index chart. Power longitudinal feeds obtained through the gear box range from 0.068 mm to 0.512 mm per revolution of the spindle.

With the metric quick change gear mechanism, it is impossible to lock the gears. All gears in the gear box are made of steel and are precision cut and tested for accuracy. Large bearing surfaces and ample oiling facilities assure smooth operation and long life.

Regular equipment supplied with metric lathes is the same as for corresponding models with English equipment. All South Bend attachments and accessories can be used with the metric lathes. The taper attachment, milling attachment, micrometer carriage stop, and double tool cross slides can be supplied with metric graduations. Metric collets are also available. Write for Circular 5125 describing South Bend Metric Lathes.



Metric Lathes have Metric Graduations on Cross-Feed Screw, Compound Rest Screw, Tailstock Spindle, and Taper Attachment

| MANUFACTURED BY SOUTH BEND LATHE WORKS SOUTH BEND, IND., U.S.A. | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|----------|------|--|--|
| PITCHES IN mm—PASOS EN mm—PAS EN mm | | | | | | | | POSITION | STUD | | |
| FEEDS IN mm—AVANCES EN mm | | | | | | | | POSITION | STUD | | |
| 7.500 | 7.000 | 6.500 | 6.000 | 5.500 | 5.000 | 4.500 | 4.000 | D | 50 | | |
| 3.750 | 3.500 | 3.250 | 3.000 | 2.750 | 2.500 | 2.250 | 2.000 | C | " | | |
| 1.875 | 1.750 | 1.625 | 1.500 | 1.375 | 1.250 | 1.125 | 1.000 | B | " | | |
| 1.500 | 1.400 | 1.300 | 1.200 | 1.100 | 1.000 | 0.900 | 0.800 | C | 20 | | |
| 0.750 | 0.700 | 0.650 | 0.600 | 0.550 | 0.500 | 0.450 | 0.400 | B | " | | |
| 0.375 | 0.350 | 0.325 | 0.300 | 0.275 | 0.250 | 0.225 | 0.200 | A | " | | |
| 0.512 | 0.478 | 0.444 | 0.410 | 0.375 | 0.341 | 0.307 | 0.273 | C | 20 | | |
| 0.256 | 0.239 | 0.222 | 0.205 | 0.188 | 0.171 | 0.154 | 0.137 | B | " | | |
| 0.128 | 0.119 | 0.111 | 0.102 | 0.094 | 0.085 | 0.077 | 0.068 | A | " | | |

SOUTH BEND LATHE

CATALOG NO. _____

BED LENGTH _____

CHOOSE FEEDS AND POSITIONS
AVANCES Y POSICIONES DE LOS PASOS
AVANCES TRANSMISORES EN EL CILINDRO

Positions Posiciones

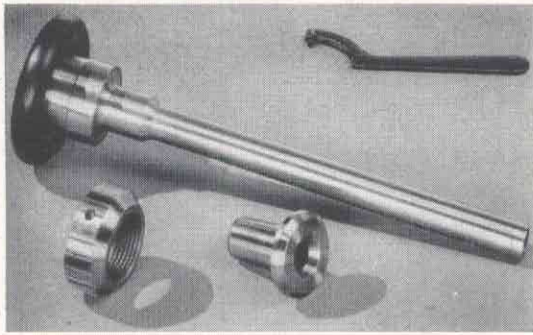
← A B C D

Direct Reading Index Plate is Attached to Metric Quick Change Gear Box to Show Positions of Levers for Metric Screw Threads and Power Carriage Feeds

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



| M.M. PITCH | PLUMBER LEAD | PLUMBER PITCH |
|------------|--------------|---------------|
| 0.50 | A | 1 |
| 0.50 | B | 1 |
| 0.50 | C | 1 |
| 0.50 | D | 1 |
| 0.50 | E | 1 |
| 0.50 | F | 1 |
| 0.50 | G | 1 |
| 0.50 | H | 1 |
| 0.50 | I | 1 |
| 0.50 | J | 1 |
| 0.50 | K | 1 |
| 0.50 | L | 1 |
| 0.50 | M | 1 |
| 0.50 | N | 1 |
| 0.50 | O | 1 |
| 0.50 | P | 1 |
| 0.50 | Q | 1 |
| 0.50 | R | 1 |
| 0.50 | S | 1 |
| 0.50 | T | 1 |
| 0.50 | U | 1 |
| 0.50 | V | 1 |
| 0.50 | W | 1 |
| 0.50 | X | 1 |
| 0.50 | Y | 1 |
| 0.50 | Z | 1 |
| 0.50 | AA | 1 |
| 0.50 | AB | 1 |
| 0.50 | AC | 1 |
| 0.50 | AD | 1 |
| 0.50 | AE | 1 |
| 0.50 | AF | 1 |
| 0.50 | AG | 1 |
| 0.50 | AH | 1 |
| 0.50 | AI | 1 |
| 0.50 | AJ | 1 |
| 0.50 | AK | 1 |
| 0.50 | AL | 1 |
| 0.50 | AM | 1 |
| 0.50 | AN | 1 |
| 0.50 | AO | 1 |
| 0.50 | AP | 1 |
| 0.50 | AQ | 1 |
| 0.50 | AR | 1 |
| 0.50 | AS | 1 |
| 0.50 | AT | 1 |
| 0.50 | AU | 1 |
| 0.50 | AV | 1 |
| 0.50 | AW | 1 |
| 0.50 | AX | 1 |
| 0.50 | AY | 1 |
| 0.50 | AZ | 1 |
| 0.50 | BA | 1 |
| 0.50 | BB | 1 |
| 0.50 | BC | 1 |
| 0.50 | BD | 1 |
| 0.50 | BE | 1 |
| 0.50 | BF | 1 |
| 0.50 | BG | 1 |
| 0.50 | BH | 1 |
| 0.50 | BI | 1 |
| 0.50 | BJ | 1 |
| 0.50 | BK | 1 |
| 0.50 | BL | 1 |
| 0.50 | BM | 1 |
| 0.50 | BN | 1 |
| 0.50 | BO | 1 |
| 0.50 | BP | 1 |
| 0.50 | BQ | 1 |
| 0.50 | BR | 1 |
| 0.50 | BS | 1 |
| 0.50 | BT | 1 |
| 0.50 | BU | 1 |
| 0.50 | BV | 1 |
| 0.50 | BW | 1 |
| 0.50 | BX | 1 |
| 0.50 | BY | 1 |
| 0.50 | BZ | 1 |
| 0.50 | CA | 1 |
| 0.50 | CB | 1 |
| 0.50 | CC | 1 |
| 0.50 | CD | 1 |
| 0.50 | CE | 1 |
| 0.50 | CF | 1 |
| 0.50 | CG | 1 |
| 0.50 | CH | 1 |
| 0.50 | CI | 1 |
| 0.50 | CJ | 1 |
| 0.50 | CK | 1 |
| 0.50 | CL | 1 |
| 0.50 | CM | 1 |
| 0.50 | CN | 1 |
| 0.50 | CO | 1 |
| 0.50 | CP | 1 |
| 0.50 | CQ | 1 |
| 0.50 | CR | 1 |
| 0.50 | CS | 1 |
| 0.50 | CT | 1 |
| 0.50 | CU | 1 |
| 0.50 | CV | 1 |
| 0.50 | CW | 1 |
| 0.50 | CX | 1 |
| 0.50 | CY | 1 |
| 0.50 | CZ | 1 |
| 0.50 | DA | 1 |
| 0.50 | DB | 1 |
| 0.50 | DC | 1 |
| 0.50 | DD | 1 |
| 0.50 | DE | 1 |
| 0.50 | DF | 1 |
| 0.50 | DG | 1 |
| 0.50 | DH | 1 |
| 0.50 | DI | 1 |
| 0.50 | DJ | 1 |
| 0.50 | DK | 1 |
| 0.50 | DL | 1 |
| 0.50 | DM | 1 |
| 0.50 | DN | 1 |
| 0.50 | DO | 1 |
| 0.50 | DP | 1 |
| 0.50 | DQ | 1 |
| 0.50 | DR | 1 |
| 0.50 | DS | 1 |
| 0.50 | DT | 1 |
| 0.50 | DU | 1 |
| 0.50 | DV | 1 |
| 0.50 | DW | 1 |
| 0.50 | DX | 1 |
| 0.50 | DY | 1 |
| 0.50 | DZ | 1 |
| 0.50 | EA | 1 |
| 0.50 | EB | 1 |
| 0.50 | EC | 1 |
| 0.50 | ED | 1 |
| 0.50 | EE | 1 |
| 0.50 | EF | 1 |
| 0.50 | EG | 1 |
| 0.50 | EH | 1 |
| 0.50 | EI | 1 |
| 0.50 | EJ | 1 |
| 0.50 | EK | 1 |
| 0.50 | EL | 1 |
| 0.50 | EM | 1 |
| 0.50 | EN | 1 |
| 0.50 | EO | 1 |
| 0.50 | EP | 1 |
| 0.50 | EQ | 1 |
| 0.50 | ER | 1 |
| 0.50 | ES | 1 |
| 0.50 | ET | 1 |
| 0.50 | EU | 1 |
| 0.50 | EV | 1 |
| 0.50 | EW | 1 |
| 0.50 | EX | 1 |
| 0.50 | EY | 1 |
| 0.50 | EZ | 1 |
| 0.50 | FA | 1 |
| 0.50 | FB | 1 |
| 0.50 | FC | 1 |
| 0.50 | FD | 1 |
| 0.50 | FE | 1 |
| 0.50 | FF | 1 |
| 0.50 | FG | 1 |
| 0.50 | FH | 1 |
| 0.50 | FI | 1 |
| 0.50 | FJ | 1 |
| 0.50 | FK | 1 |
| 0.50 | FL | 1 |
| 0.50 | FM | 1 |
| 0.50 | FN | 1 |
| 0.50 | FO | 1 |
| 0.50 | FP | 1 |
| 0.50 | FQ | 1 |
| 0.50 | FR | 1 |
| 0.50 | FS | 1 |
| 0.50 | FT | 1 |
| 0.50 | FU | 1 |
| 0.50 | FV | 1 |
| 0.50 | FW | 1 |
| 0.50 | FX | 1 |
| 0.50 | FY | 1 |
| 0.50 | FZ | 1 |
| 0.50 | GA | 1 |
| 0.50 | GB | 1 |
| 0.50 | GC | 1 |
| 0.50 | GD | 1 |
| 0.50 | GE | 1 |
| 0.50 | GF | 1 |
| 0.50 | GG | 1 |
| 0.50 | GH | 1 |
| 0.50 | GI | 1 |
| 0.50 | GJ | 1 |
| 0.50 | GK | 1 |
| 0.50 | GL | 1 |
| 0.50 | GM | 1 |
| 0.50 | GN | 1 |
| 0.50 | GO | 1 |
| 0.50 | GP | 1 |
| 0.50 | GQ | 1 |
| 0.50 | GR | 1 |
| 0.50 | GS | 1 |
| 0.50 | GT | 1 |
| 0.50 | GU | 1 |
| 0.50 | GV | 1 |
| 0.50 | GW | 1 |
| 0.50 | GX | 1 |
| 0.50 | GY | 1 |
| 0.50 | GZ | 1 |
| 0.50 | HA | 1 |
| 0.50 | HB | 1 |
| 0.50 | HC | 1 |
| 0.50 | HD | 1 |
| 0.50 | HE | 1 |
| 0.50 | HF | 1 |
| 0.50 | HG | 1 |
| 0.50 | HH | 1 |
| 0.50 | HI | 1 |
| 0.50 | HJ | 1 |
| 0.50 | HK | 1 |
| 0.50 | HL | 1 |
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| 0.50 | HN | 1 |
| 0.50 | HO | 1 |
| 0.50 | HP | 1 |
| 0.50 | HQ | 1 |
| 0.50 | HR | 1 |
| 0.50 | HS | 1 |
| 0.50 | HT | 1 |
| 0.50 | HU | 1 |
| 0.50 | HV | 1 |
| 0.50 | HW | 1 |
| 0.50 | HX | 1 |
| 0.50 | HY | 1 |
| 0.50 | HZ | 1 |
| 0.50 | IA | 1 |
| 0.50 | IB | 1 |
| 0.50 | IC | 1 |
| 0.50 | ID | 1 |
| 0.50 | IE | 1 |
| 0.50 | IF | 1 |
| 0.50 | IG | 1 |
| 0.50 | IH | 1 |
| 0.50 | II | 1 |
| 0.50 | IJ | 1 |
| 0.50 | IK | 1 |
| 0.50 | IL | 1 |
| 0.50 | IM | 1 |
| 0.50 | IN | 1 |
| 0.50 | IO | 1 |
| 0.50 | IP | 1 |
| 0.50 | IQ | 1 |
| 0.50 | IR | 1 |
| 0.50 | IS | 1 |
| 0.50 | IT | 1 |
| 0.50 | IU | 1 |
| 0.50 | IV | 1 |
| 0.50 | IW | 1 |
| 0.50 | IX | 1 |
| 0.50 | IY | 1 |
| 0.50 | IZ | 1 |
| 0.50 | JA | 1 |
| 0.50 | JB | 1 |
| 0.50 | JC | 1 |
| 0.50 | JD | 1 |
| 0.50 | JE | 1 |
| 0.50 | JF | 1 |
| 0.50 | JG | 1 |
| 0.50 | JH | 1 |
| 0.50 | JI | 1 |
| 0.50 | JJ | 1 |
| 0.50 | JK | 1 |
| 0.50 | JL | 1 |
| 0.50 | JM | 1 |
| 0.50 | JN | 1 |
| 0.50 | JO | 1 |
| 0.50 | JP | 1 |
| 0.50 | JQ | 1 |
| 0.50 | JR | 1 |
| 0.50 | JS | 1 |
| 0.50 | JT | 1 |
| 0.50 | JU | 1 |
| 0.50 | JV | 1 |
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| 0.50 | JY | 1 |
| 0.50 | JZ | 1 |
| 0.50 | KA | 1 |
| 0.50 | KB | 1 |
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| 0.50 | KD | 1 |
| 0.50 | KE | 1 |
| 0.50 | KF | 1 |
| 0.50 | KG | 1 |
| 0.50 | KH | 1 |
| 0.50 | KI | 1 |
| 0.50 | KJ | 1 |
| 0.50 | KK | 1 |
| 0.50 | KL | 1 |
| 0.50 | KM | 1 |
| 0.50 | KN | 1 |
| 0.50 | KO | 1 |
| 0.50 | KP | 1 |
| 0.50 | KQ | 1 |
| 0.50 | KR | 1 |
| 0.50 | KS | 1 |
| 0.50 | KT | 1 |
| 0.50 | KU | 1 |
| 0.50 | KV | 1 |
| 0.50 | KW | 1 |
| 0.50 | KX | 1 |
| 0.50 | KY | 1 |
| 0.50 | KZ | 1 |
| 0.50 | LA | 1 |
| 0.50 | LB | 1 |
| 0.50 | LC | 1 |
| 0.50 | LD | 1 |
| 0.50 | LE | 1 |
| 0.50 | LF | 1 |
| 0.50 | LG | 1 |
| 0.50 | LH | 1 |
| 0.50 | LI | 1 |
| 0.50 | LJ | 1 |
| 0.50 | LK | 1 |
| 0.50 | LL | 1 |
| 0.50 | LM | 1 |
| 0.50 | LN | 1 |
| 0.50 | LO | 1 |
| 0.50 | LP | 1 |
| 0.50 | LQ | 1 |
| 0.50 | LR | 1 |
| 0.50 | LS | 1 |
| 0.50 | LT | 1 |
| 0.50 | LU | 1 |
| 0.50 | LV | 1 |
| 0.50 | LW | 1 |
| 0.50 | LX | 1 |
| 0.50 | LY | 1 |
| 0.50 | LZ | 1 |
| 0.50 | MA | 1 |
| 0.50 | MB | 1 |
| 0.50 | MC | 1 |
| 0.50 | MD | 1 |
| 0.50 | ME | 1 |
| 0.50 | MF | 1 |
| 0.50 | MG | 1 |
| 0.50 | MH | 1 |
| 0.50 | MI | 1 |
| 0.50 | MJ | 1 |
| 0.50 | MK | 1 |
| 0.50 | ML | 1 |
| 0.50 | MM | 1 |
| 0.50 | MN | 1 |
| 0.50 | MO | 1 |
| 0.50 | MP | 1 |
| 0.50 | MQ | 1 |
| 0.50 | MR | 1 |
| 0.50 | MS | 1 |
| 0.50 | MT | 1 |
| 0.50 | MU | 1 |
| 0.50 | MV | 1 |
| 0.50 | MW | 1 |
| 0.50 | MX | 1 |
| 0.50 | MY | 1 |
| 0.50 | MZ | 1 |
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| 0.50 | NB | 1 |
| 0.50 | NC | 1 |
| 0.50 | ND | 1 |
| 0.50 | NE | 1 |
| 0.50 | NF | 1 |
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| 0.50 | NM | 1 |
| 0.50 | NN | 1 |
| 0.50 | NO | 1 |
| 0.50 | NP | 1 |
| 0.50 | NQ | 1 |
| 0.50 | NR | 1 |
| 0.50 | NS | 1 |
| 0.50 | NT | 1 |
| 0.50 | NU | 1 |
| 0.50 | NV | 1 |
| 0.50 | NW | 1 |
| 0.50 | NX | 1 |
| 0.50 | NY | 1 |
| 0.50 | NZ | 1 |
| 0.50 | OA | 1 |
| 0.50 | OB | 1 |
| 0.50 | OC | 1 |
| 0.50 | OD | 1 |
| 0.50 | OE | 1 |
| 0.50 | OF | 1 |
| 0.50 | OG | 1 |
| 0.50 | OH | 1 |
| 0.50 | OI | 1 |
| 0.50 | OJ | 1 |
| 0.50 | OK | 1 |
| 0.50 | OL | 1 |
| 0.50 | OM | 1 |
| 0.50 | ON | 1 |
| 0.50 | OO | 1 |
| 0.50 | OP | 1 |
| 0.50 | OQ | 1 |
| 0.50 | OR | 1 |
| 0.50 | OS | 1 |
| 0.50 | OT | 1 |
| 0.50 | OU | 1 |
| 0.50 | OV | 1 |
| 0.50 | OW | 1 |
| 0.50 | OX | 1 |
| 0.50 | OY | 1 |
| 0.50 | OZ | 1 |
| 0.50 | PA | 1 |
| 0.50 | PB | 1 |
| 0.50 | PC | 1 |
| 0.50 | PD | 1 |
| 0.50 | PE | 1 |
| 0.50 | PF | 1 |
| 0.50 | PG | 1 |
| 0.50 | PH | 1 |
| 0.50 | PI | 1 |
| 0.50 | PJ | 1 |
| 0.50 | PK | 1 |
| 0.50 | PL | 1 |
| 0.50 | PM | 1 |
| 0.50 | PN | 1 |
| 0.50 | PO | 1 |
| 0.50 | PP | 1 |
| 0.50 | PQ | 1 |
| 0.50 | PR | 1 |
| 0.50 | PS | 1 |
| 0.50 | PT | 1 |
| 0.50 | PU | 1 |
| 0.50 | PV | 1 |
| 0.50 | PW | 1 |
| 0.50 | PX | 1 |
| 0.50 | PY | 1 |
| 0.50 | PZ | 1 |
| 0.50 | QA | 1 |
| 0.50 | QB | 1 |
| 0.50 | QC | 1 |
| 0.50 | QD | 1 |
| 0.50 | QE | 1 |
| 0.50 | QF | 1 |
| 0.50 | QG | 1 |
| 0.50 | QH | 1 |
| 0.50 | QI | 1 |
| 0.50 | QJ | 1 |
| 0.50 | QK | 1 |
| 0.50 | QL | 1 |
| 0.50 | QM | 1 |
| 0.50 | QN | 1 |
| 0.50 | QO | 1 |
| 0.50 | QP | 1 |
| 0.50 | QQ | 1 |
| 0.50 | QR | 1 |
| 0.50 | QS | 1 |
| 0.50 | QT | 1 |
| 0.50 | QU | 1 |
| 0.50 | QV | 1 |
| 0.50 | QW | 1 |
| 0.50 | QX | 1 |
| 0.50 | QY | 1 |
| 0.50 | QZ | 1 |

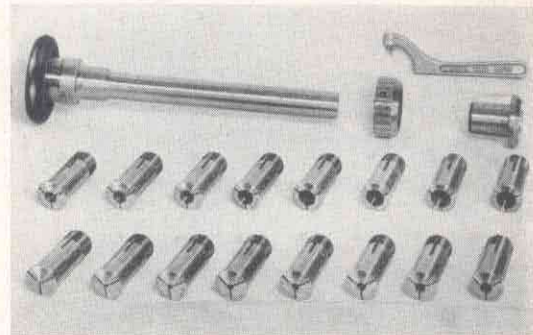


Handwheel Collet Attachment

This attachment will save you time and trouble in mounting small work in the lathe. It is used for chucking small parts, for production, toolroom, and maintenance operations, especially when extremely accurate centering is required.

Bar and tube stock can be fed through the hollow draw bar which operates the collet. When the handwheel is tightened, the collet automatically grips and centers the work. Equipment includes steel draw-bar with handwheel, spindle nose cap, spanner wrench, and heat-treated steel closing sleeve. Collets are not included. See page 49.

| Catalog Number | Size of Lathe | Collet Used | Max. Collet Cap. | Shipping Weight |
|----------------|-------------------------|-------------|------------------|-----------------|
| CL4306N | 9" and Series 900 | No. 3 | 3/8" | 5 lbs. |
| CL4306K | Light Ten | No. 6K | 5/8" | 5 lbs. |
| CL4306R | 10"-11/16" Collet | No. 2 | 11/16" | 8 lbs. |
| CL4306L | 10"-1" Col. & Ser. 1000 | No. 5 | 1" | 10 lbs. |
| CL4306Q | 13"-1" Collet | No. 5 | 1" | 14 lbs. |
| CL4306M | 14 1/2"-1" Collet | No. 5 | 1" | 14 lbs. |
| CL4306H | 16", 16-24", & 2-H | No. 5 | 1" | 15 lbs. |



Handwheel Collet Attachment Complete With Collets

You can save time and money by ordering your collet attachment complete with collets as listed below. Price includes Handwheel Collet Attachment with complete set of steel collets in sixteenths, in sizes from 1/16" capacity up to the maximum capacity shown in table. Each collet packed in individual plastic case. Additional collet sets in 32nds and 64ths may be selected from page 49.

| Catalog Number | Size of Lathe | Number of Collets | Max. Collet Cap. | Shipping Weight |
|----------------|-------------------------|-------------------|------------------|-----------------|
| CL5415N | 9" and Series 900 | 8 | 3/8" | 9 lbs. |
| CL5415K | Light Ten | 10 | 5/8" | 10 lbs. |
| CL5415R | 10"-11/16" Collet | 11 | 11/16" | 24 lbs. |
| CL5415L | 10"-1" Col. & Ser. 1000 | 16 | 1" | 28 lbs. |
| CL5415Q | 13"-1" Collet | 16 | 1" | 33 lbs. |
| CL5415M | 14 1/2"-1" Collet | 16 | 1" | 35 lbs. |
| CL5415H | 16", 16-24", & 2-H | 16 | 1" | 35 lbs. |

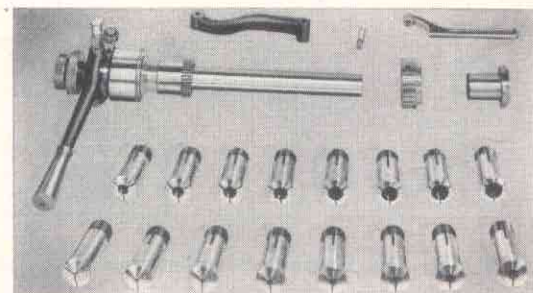


Handlever Collet Attachment

Speed and accuracy are combined in the Handlever Collet Attachment. Without stopping the lathe spindle, the collet can be released, bar stock fed through the spindle, and the collet tightened again. The gripping action of the collet is adjustable and can be set for any desired tension.

Equipment includes adjustable chuck closing mechanism and hollow draw-bar, spindle nose cap, spanner wrench for nose cap and heat-treated steel closing sleeve. Collets are not included. See page 49. This attachment should be ordered with the lathe so that it can be properly fitted to the lathe and tested before it is shipped from the factory.

| Catalog Number | Size of Lathe | Collet Used | Max. Collet Cap. | Shipping Weight |
|----------------|-------------------------|-------------|------------------|-----------------|
| CL5206N | 9" and Series 900 | No. 3 | 3/8" | 10 lbs. |
| CL5206K | Light Ten | No. 6K | 5/8" | 10 lbs. |
| CL5206R | 10"-11/16" Collet | No. 2 | 11/16" | 19 lbs. |
| CL5206L | 10"-1" Col. & Ser. 1000 | No. 5 | 1" | 20 lbs. |
| CL5206Q | 13"-1" Collet | No. 5 | 1" | 25 lbs. |
| CL5206M | 14 1/2"-1" Collet | No. 5 | 1" | 31 lbs. |
| CL5206H | 16", 16-24", & 2-H | No. 5 | 1" | 32 lbs. |



Handlever Collet Attachment Complete With Collets

To be complete, your collet equipment should include a set of collets in sixteenths. Delay caused by waiting for a missing collet size can be more costly than the complete equipment. Price includes handlever collet attachment with a complete set of steel collets in sixteenths, in sizes from 1/16" capacity up to the maximum capacity shown in table. Each collet packed in individual plastic case. Additional collet sets in 32nds and 64ths may be selected from page 49. Also collets for square and hexagonal work.

| Catalog Number | Size of Lathe | Number of Collets | Max. Collet Cap. | Shipping Weight |
|----------------|-------------------------|-------------------|------------------|-----------------|
| CL5416N | 9" and Series 900 | 8 | 3/8" | 14 lbs. |
| CL5416K | Light Ten | 10 | 5/8" | 15 lbs. |
| CL5416R | 10"-11/16" Collet | 11 | 11/16" | 29 lbs. |
| CL5416L | 10"-1" Col. & Ser. 1000 | 16 | 1" | 35 lbs. |
| CL5416Q | 13"-1" Collet | 16 | 1" | 44 lbs. |
| CL5416M | 14 1/2"-1" Collet | 16 | 1" | 51 lbs. |
| CL5416H | 16", 16-24", & 2-H | 16 | 1" | 52 lbs. |

Steel and Brass Collets

For Use With Collet Attachments

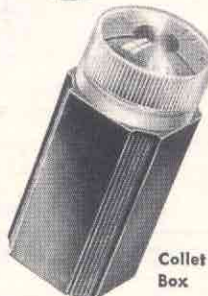
South Bend Collets, manufactured with the same exacting care as South Bend Lathes, deliver long, dependable service on precision work. Each collet is carefully inspected and tested, and packed in a substantial plastic box with transparent lid through which the size can be read for easy selection.

Steel Collets are carefully heat-treated for maximum service and are precision ground to exceedingly close tolerances for size and concentricity.

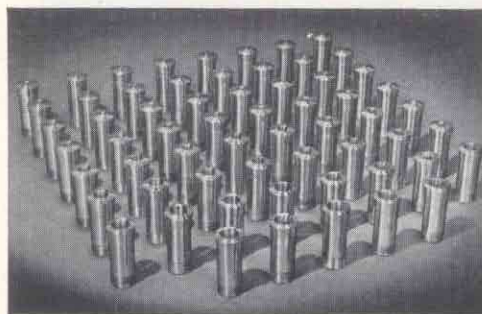
Brass Collets have many practical applications. Their low cost makes them desirable for odd sizes or short run jobs. They give good service and can be readily machined on the job for holding tapered or irregular shapes. When worn, they can be rebored to larger diameters.



Steel Collet

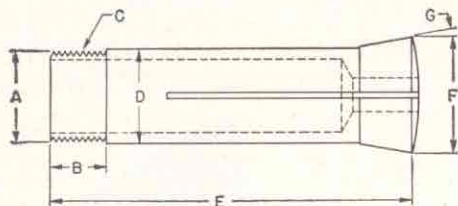


Collet Box



Collets in Sets

Collets for South Bend Lathes can be supplied in sets as listed in the tabulation below. A complete set of collets is especially helpful for toolroom and maintenance work. Often the time saved in getting out a single rush job without having to wait for a collet to come from the factory will more than compensate for the cost of a full set of collets. Each collet is individually packed in a plastic box with transparent lid.



Specifications of Collets for South Bend Lathes

| Collet No. | 3 | 6K | 2 | 5 |
|--------------------------|-----------------|-----------|---------------------|---|
| Sizes of Lathes Used on* | 9" & Series 900 | Light Ten | 10"-11 1/16" Collet | 10"-1" Col. 13", 14 1/2", 16", 16-24", & 2H |
| A, Thread Diameter, in. | .645 | .770 | .850 | 1.245 |
| B, Thread Length, in. | 3/4 | 3/4 | 1 1/16 | 3/4 |
| C, Threads per in. | 26 | 26 | 20 | 20 |
| D, Body Diameter, in. | .6495 | .8425 | .8595 | 1.2495 |
| E, Collet Length, in. | 2 1/16 | 3 | 3 3/16 | 3 3/16 |
| F, Head Diameter, in. | .852 | 1.160 | 1.095 | 1.452 |
| G, Angle of Head, deg. | 12 | 15 | 15 | 10 |

*Collets can also be used on any other lathe or machine which they will fit.

Collets With Standard Hole Sizes for Round Work

| Collet No. | Collet Capacity in 64ths for Round Work | Ship. Wt. | Brass Collets | | Steel Collets | |
|------------|---|-----------|---------------|--|---------------|--|
| | | | Cat. No. | | Cat. No. | |
| 3 | 1/16" to 3/8" | 6 ozs. | CE2825 | | CE2830 | |
| 6K | 1/16" to 5/8" | 8 ozs. | CE2826 | | CE2831 | |
| 2 | 1/16" to 1 1/16" | 8 ozs. | CE2827 | | CE2832 | |
| 5 | 1/16" to 1" | 1 lb. | CE2828 | | CE2833 | |

Collets With Decimal Hole Sizes for Round Work

| Collet No. | Collet Capacity for Round Work | Ship. Wt. | Brass Collets | | Steel Collets | |
|------------|--------------------------------|-----------|---------------|--|---------------|--|
| | | | Cat. No. | | Cat. No. | |
| 3 | .0625" to .500" | 6 ozs. | CE2835 | | CE2841 | |
| 6K | .0625" to .625" | 8 ozs. | CE2836 | | CE2842 | |
| 2 | .0625" to .6875" | 8 ozs. | CE2837 | | CE2843 | |
| 5 | .0625" to 1.000" | 1 lb. | CE2838 | | CE2844 | |

Collets With Metric Hole Sizes for Round Work

| Collet No. | Collet Capacity in 0.5 mm Steps for Round Work | Ship. Wt. | Brass Collets | | Steel Collets | |
|------------|--|-----------|---------------|--|---------------|--|
| | | | Cat. No. | | Cat. No. | |
| 3 | 1.5 mm to 12.5 mm | 6 ozs. | CE2850 | | CE2855 | |
| 6K | 1.5 mm to 15.5 mm | 8 ozs. | CE2851 | | CE2856 | |
| 2 | 1.5 mm to 17.0 mm | 8 ozs. | CE2852 | | CE2857 | |
| 5 | 1.5 mm to 25.0 mm | 1 lb. | CE2853 | | CE2858 | |

Steel Collets in Sets

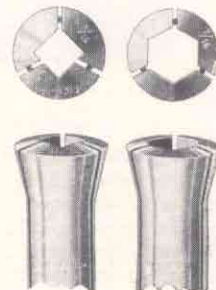
| Collet No. | Catalog No. | Collets in Set | Size of Collets | Ship. Wt. |
|------------|-------------|----------------|-----------------------------|-----------|
| 3 | CE2047 | 8 | 1/16" to 3/8" in 16ths | 3 lbs. |
| | CE2476 | 7 | 3/8" to 1 1/8" in odd 32nds | 3 lbs. |
| | CE2477 | 14 | 3/8" to 2 1/8" in odd 64ths | 6 lbs. |
| 6K | CE2441 | 10 | 1/16" to 5/8" in 16ths | 7 lbs. |
| | CE2442 | 9 | 5/8" to 1 1/2" in odd 32nds | 7 lbs. |
| | CE2443 | 18 | 5/8" to 2 1/4" in odd 64ths | 12 lbs. |
| 2 | CE2432 | 11 | 1/16" to 1 1/8" in 16ths | 6 lbs. |
| | CE2478 | 10 | 3/8" to 2 1/8" in odd 32nds | 6 lbs. |
| | CE2479 | 20 | 3/8" to 4 1/8" in odd 64ths | 12 lbs. |
| 5 | CE2435 | 16 | 1/16" to 1" in 16ths | 11 lbs. |
| | CE2482 | 15 | 3/8" to 2 1/8" in odd 32nds | 11 lbs. |
| | CE2483 | 30 | 3/8" to 4 1/8" in odd 64ths | 20 lbs. |

Brass Collets in Sets

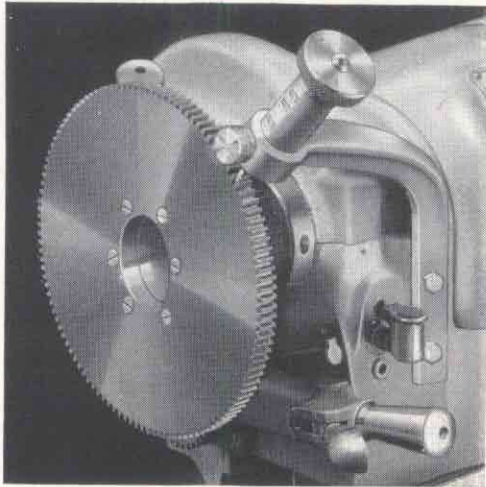
| Collet No. | Catalog No. | Collets in Set | Size of Collets | Ship. Wt. |
|------------|-------------|----------------|-----------------------------|-----------|
| 3 | CE2235 | 8 | 1/16" to 3/8" in 16ths | 3 lbs. |
| | CE2534 | 7 | 3/8" to 1 1/8" in odd 32nds | 3 lbs. |
| | CE2535 | 14 | 3/8" to 2 1/8" in odd 64ths | 6 lbs. |
| 6K | CE2485 | 10 | 1/16" to 5/8" in 16ths | 7 lbs. |
| | CE2486 | 9 | 5/8" to 1 1/2" in odd 32nds | 7 lbs. |
| | CE2487 | 18 | 5/8" to 2 1/4" in odd 64ths | 12 lbs. |
| 2 | CE2238 | 11 | 1/16" to 1 1/8" in 16ths | 6 lbs. |
| | CE2536 | 10 | 3/8" to 2 1/8" in odd 32nds | 6 lbs. |
| | CE2537 | 20 | 3/8" to 4 1/8" in odd 64ths | 12 lbs. |
| 5 | CE2241 | 16 | 1/16" to 1" in 16ths | 11 lbs. |
| | CE2540 | 15 | 3/8" to 2 1/8" in odd 32nds | 11 lbs. |
| | CE2541 | 30 | 3/8" to 4 1/8" in odd 64ths | 20 lbs. |

Collets for Square and Hexagon Work

Collets for holding square and hexagon stock can be supplied to order, as listed below. These collets are made of steel, and are properly heat-treated for long service. Collets are made in sixty-fourths, from 1/8" across flats up to maximum capacity shown in table.



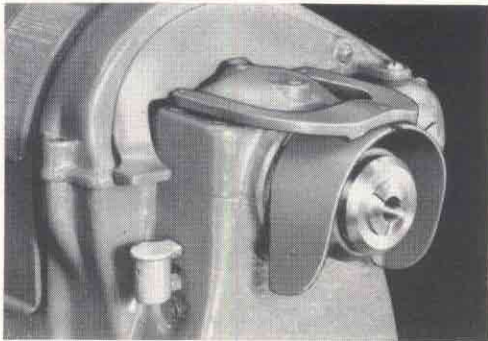
| Collet No. | Shipping Weight | Collets for Square Work | | Collets for Hexagon Work | |
|------------|-----------------|-------------------------|-----------|--------------------------|-----------|
| | | Catalog No. | Max. Cap. | Catalog No. | Max. Cap. |
| 3 | 6 ozs. | CE2176 | 1 1/16" | CE2181 | 1 1/16" |
| 6K | 8 ozs. | CE2189 | 7/16" | CE2186 | 7/16" |
| 2 | 8 ozs. | CE2177 | 15/32" | CE2182 | 15/32" |
| 5 | 1 lb. | CE2178 | 25/32" | CE2183 | 25/32" |



Indexing Attachment for 10" Lathe Headstock

With this attachment the lathe spindle can be accurately indexed for fluting, splining, graduating, cross-drilling, and similar operations. Changeable index wheels are attached to the left end of the spindle, leaving the spindle nose free for mounting chucks, face plates, or other work holding fixtures. The index wheels do not interfere with work passed through the headstock. A spring latch index pin is rigidly attached to the headstock and engages the index wheel to position the spindle. The equipment includes eight index wheels having 45, 56, 60, 64, 72, 80, 84, and 100 divisions respectively. This attachment should be ordered with the lathe and fitted at the factory.

CL2505L. Indexing Attachment for 10"-1" Collet Lathe. Shipping weight 30 lbs.



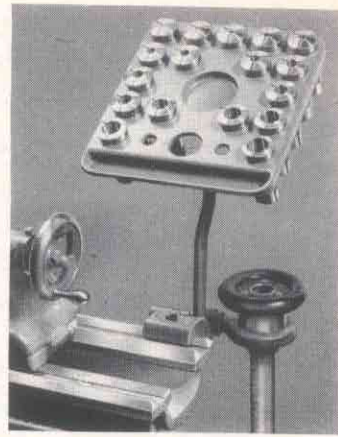
Collet Splash Guard

To prevent chips or coolant from flying off of lathe spindle, the collet splash guard is attached to the lathe headstock as shown above. Guard hooks into socket head cap screws and fits snugly around spindle nose and collet, but does not interfere with use of collet attachment. All lathes fitted with both collet attachment and coolant equipment should also be equipped with one of these guards.

| Cat. No. | Size and Type of Lathe | Ship. Wt. |
|----------|---------------------------------|-----------|
| CL5223NK | 9", Light Ten & Ser. 900 U.M.D. | 2 lbs. |
| CL5200N | 9" Horizontal M.D. | 2 lbs. |
| CL5200K | Light Ten H.M.D. | 2 lbs. |
| CL5223R | 10" & Ser. 1000 U.M.D. | 2 lbs. |
| CL5223T | 13" Underneath M.D. | 2 lbs. |
| CL5223F | 14 1/2" Underneath M.D. | 3 lbs. |
| CL5223H | 16", 16-24", & 2-H U.M.D. | 3 lbs. |

Collet Rack

This collet rack provides a convenient place for keeping collets, centers, spindle sleeve, and draw-bar. Tray along lower edge of collet rack is provided for holding spanner wrench. Clamp for attaching to back V-way of lathe bed is supplied. Price does not include collets or collet attachment.



Collet Racks for South Bend Lathes

| Catalog Number | Size of Lathe | Rack Holds | Ship. Wt. |
|----------------|------------------------------|------------|-----------|
| CE1770N | 9" and Series 900 | 19 Collets | 9 lbs. |
| CE1770K | Light Ten | 17 Collets | 10 lbs. |
| CE1770R | 10", 11, 16" Collet | 17 Collets | 10 lbs. |
| CE1770L | 10", 1" Collet & Series 1000 | 17 Collets | 10 lbs. |
| CE1770Q | 13", 1" Collet | 17 Collets | 12 lbs. |
| CE1770M | 14 1/2", 1" Collet | 17 Collets | 14 lbs. |
| CE1770H | 16", 16-24", and No. 2-H | 17 Collets | 15 lbs. |

Collet Chest

for 9"
Lathe
Only

Protects
Collets
from
Damage



For Holding Collets and Collet Attachment

This is a well-constructed wooden chest for holding the handwheel collet attachment and up to 29 collets for a 9-inch South Bend Lathe. Hinged lid protects the collets and collet attachment from dust and dirt when not in use. Price does not include collet attachment or collets.

Cat. No. CE2225. Shipping weight 7 lbs.

Special Combination Sets

Collet Chest With Collet Attachment and Collets

The Collet Chest illustrated and described above can be supplied fitted with the handwheel type collet attachment for the 9-inch South Bend Lathe and various assortments of steel or brass collets. Space is provided for a full set of 29 collets, regardless of the number of collets included in the price of each of the smaller assortments. This permits adding collets as desired, until a full set is acquired.

| Cat. No. | Description |
|----------|--|
| CE2220 | Collet chest, 9" handwheel collet attachment, 29 steel collets for round work, 1/16" to 1/2" in 64ths. Shipping weight 14 lbs. |
| CE2228 | Collet chest, 9" handwheel collet attachment, 8 steel collets for round work, 1/16" to 1/2" in 16ths. Shipping weight 12 lbs. |
| CE2290 | Collet chest, 9" handwheel collet attachment, 29 brass collets for round work, 1/16" to 1/2" in 64ths. Shipping weight 14 lbs. |
| CE2293 | Collet chest, 9" handwheel collet attachment, 8 brass collets for round work 1/16" to 1/2" in 16ths. Shipping weight 12 lbs. |

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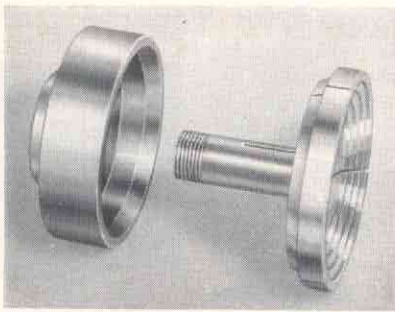
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Step Chuck Equipment

Step Chucks are used with either the handwheel type or the handlever type draw-in chuck attachment for holding discs, gear blanks, and similar round work. The construction of the step chuck is similar to that of the collet, except that it is designed for holding larger diameters. A closer screws onto the threaded end of the lathe spindle nose and the step chuck screws into the threaded hole in the draw bar of the draw-in collet chuck attachment. As the step chuck is drawn back into the closer by the draw-bar of the collet attachment, the three jaws of the step chuck are tightened on the work by the taper inside the step chuck closer.

The work is rigidly supported and can be chucked quickly and accurately. The large gripping surface prevents distortion of thin walled parts such as tubing, and also prevents marring the work. Locating pins may be placed in the step chuck closer, and clearance hole drilled through the step chuck, to position work so that it can be accurately machined to a predetermined length.

Step Chuck Blanks

Extreme precision can be attained by mounting a step chuck blank in the closer of the lathe on which it is to be used, and machining either multiple steps or a single cavity to receive the work. The cavity obviously will run dead true, and should chuck the work to be machined with perfect concentricity.

Step chuck blanks are made in various sizes having a maximum capacity of 2", 3", 4", 5", and 6" respectively. The 2" size fits directly into the collet sleeve and does not require a closer, but all other sizes must be used with a closer of required size. See upper table in right hand column.



Step Chuck Blanks

| Catalog Number | Nominal Size | Size Lathe | Max. Cap. | Shipping Weight |
|----------------|--------------|--------------------|--|-----------------|
| CE5916* | 2" | 9" and Series 900 | 2" | 2 lbs. |
| CE5917 | 3" | | 3" | 3 lbs. |
| CE5918 | 4" | | 4" | 5 lbs. |
| CE5919 | 5" | | 5" | 8 lbs. |
| CE5920 | 6" | | 6" | 12 lbs. |
| CE5936* | 2" | Light Ten | 2" | 3 lbs. |
| CE5937 | 3" | | 3" | 4 lbs. |
| CE5938 | 4" | | 4" | 6 lbs. |
| CE5939 | 5" | | 5" | 8 lbs. |
| CE5940 | 6" | | 6" | 12 lbs. |
| CE5921* | 2" | 10"-1 1/16" Collet | 2" | 4 lbs. |
| CE5922 | 3" | | 3" | 4 lbs. |
| CE5923 | 4" | | 4" | 5 lbs. |
| CE5924 | 5" | | 5" | 9 lbs. |
| CE5925 | 6" | | 6" | 13 lbs. |
| CE5926* | 2" | | 10", Series 1000, 13", 14 1/2", 16", 16-24", & 2-H | 2" | 4 lbs. |
| CE5927 | 3" | 3" | | 4 lbs. |
| CE5928 | 4" | 4" | | 5 lbs. |
| CE5929 | 5" | 5" | | 9 lbs. |
| CE5930 | 6" | 6" | | 13 lbs. |

*This step chuck fits directly into collet sleeve and does not require a closer.



Closers for Step Chucks

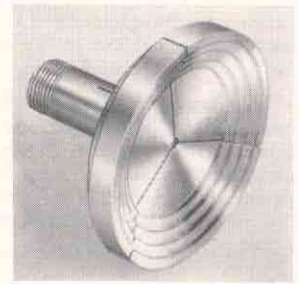
A closer is required for each size of step chuck, with the exception of the 2" size which fits directly into the collet sleeve included in the equipment of the collet attachment. Step chuck closers are made of cast iron or steel, and are threaded to fit the spindle nose of the lathe.

Step Chuck Closers

| Catalog Number | Size Lathe | Takes Step Chuck Sizes | Shipping Weight |
|----------------------|----------------------------------|------------------------|------------------|
| CL6309NK CL6311NK | 9", Light Ten, & Series 900 | 3" and 4" 5" and 6" | 3 lbs. 5 lbs. |
| CL6309R CL6311R | 10"-1 1/16" Collet | 3" and 4" 5" and 6" | 4 lbs. 5 lbs. |
| CL6309LO CL6311LO | 10", Series 1000 & 13"—1" Collet | 3" and 4" 5" and 6" | 4 lbs. 6 lbs. |
| CL6309MH CL6311MH | 14 1/2", 16", 16-24", & 2-H | 3" and 4" 5" and 6" | 5 lbs. 7 lbs. |

Finished Step Chucks

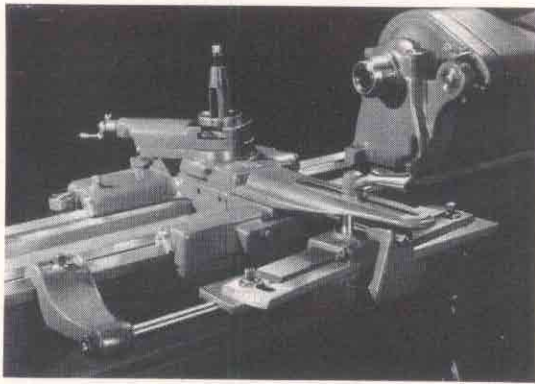
Finished step chucks are the same as the step chuck blanks listed at left, except that the steps are finished to the diameters indicated in table below. Steps are 1/16" deep, and may be remachined as required to any larger diameter up to the maximum capacity of the step chuck.



Finished Step Chucks

| Cat. No. | Nominal Size | Size Lathe | Diameters of Steps | Ship. Wt. Lbs. |
|----------|--------------|--|--|----------------|
| CE5960* | 2" | 9" & Series 900 | 2", 1 1/4", 1 1/2", 1" | 2 lbs. |
| CE5961 | 3" | | 3", 2 3/4", 2 1/2", 2 1/4", 2", 1 1/2" | 3 lbs. |
| CE5962 | 4" | | 4", 3 1/2", 3 1/4", 3", 2 3/4", 2 1/2" | 5 lbs. |
| CE5963 | 5" | | 5", 4 1/2", 4", 3 1/2", 3 1/4", 3" | 8 lbs. |
| CE5964 | 6" | 6", 5 1/2", 5", 4 1/2", 4 1/4", 4" | 12 lbs. | |
| CE5965* | 2" | Light Ten | 2", 1 3/4", 1 1/2", 1" | 3 lbs. |
| CE5966 | 3" | | 3", 2 3/4", 2 1/2", 2 1/4", 2", 1 1/2" | 4 lbs. |
| CE5967 | 4" | | 4", 3 1/2", 3 1/4", 3", 2 3/4", 2 1/2" | 6 lbs. |
| CE5968 | 5" | | 5", 4 1/2", 4", 3 1/2", 3 1/4", 3" | 8 lbs. |
| CE5969 | 6" | 6", 5 1/2", 5", 4 1/2", 4 1/4", 4" | 12 lbs. | |
| CE5970* | 2" | 10"-1 1/16" Col. | 2", 1 3/4", 1 1/2", 1" | 4 lbs. |
| CE5971 | 3" | | 3", 2 3/4", 2 1/2", 2 1/4", 2", 1 1/2" | 4 lbs. |
| CE5972 | 4" | | 4", 3 1/2", 3 1/4", 3", 2 3/4", 2 1/2" | 5 lbs. |
| CE5973 | 5" | | 5", 4 1/2", 4", 3 1/2", 3 1/4", 3" | 9 lbs. |
| CE5974 | 6" | 6", 5 1/2", 5", 4 1/2", 4 1/4", 4" | 13 lbs. | |
| CE5975* | 2" | Series 1000, 10", 13", 14 1/2", 16", 16-24", & 2-H—1" Col. | 2", 1 3/4", 1 1/2", 1" | 4 lbs. |
| CE5976 | 3" | | 3", 2 3/4", 2 1/2", 2 1/4", 2", 1 1/2" | 4 lbs. |
| CE5977 | 4" | | 4", 3 1/2", 3 1/4", 3", 2 3/4", 2 1/2" | 5 lbs. |
| CE5978 | 5" | | 5", 4 1/2", 4", 3 1/2", 3 1/4", 3" | 9 lbs. |
| CE5979 | 6" | | 6", 5 1/2", 5", 4 1/2", 4 1/4", 4" | 13 lbs. |

*This step chuck fits directly into collet sleeve and does not require a closer.



Taper Attachment

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 taper in inches per foot on the other end.

A telescopic taper attachment is supplied on 10"-1" Collet and larger lathes. 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.

A plain taper attachment is supplied for the 9-inch and Light Ten lathes. 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.

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 taper attachment must be fitted to lathe at factory.

Taper Attachment With English Graduations

| Cat. No. | Size of Lathe | Swing Over Cross Slide | Maximum Taper | | | Approx. Ship. Wt. |
|----------|---------------|------------------------|----------------|----------|------------|-------------------|
| | | | At One Setting | Per Foot | In Degrees | |
| CL428NK | 9" | 5" | 7" | 3 1/4" | 16 1/2 | 35 lbs. |
| CL428NK | Lt. 10 | 5 7/8" | 7" | 3 1/2" | 16 1/2 | 35 lbs. |
| CL1545R | 10" | 5 3/4" | 8 1/2" | 3 1/2" | 16 1/2 | 40 lbs. |
| CL1545T | 13" | 8" | 9 1/2" | 3 1/2" | 16 1/2 | 65 lbs. |
| CL1545F | 14 1/2" | 8 15/16" | 9 1/2" | 3 1/2" | 16 1/2 | 80 lbs. |
| CL1545H | 16" | 9 5/8" | 11 1/2" | 3 1/2" | 16 1/2 | 100 lbs. |
| CL1545H | 16-24" | 18 3/4" | 11 1/2" | 3 1/2" | 16 1/2 | 100 lbs. |

Taper Attachment With Metric Graduations

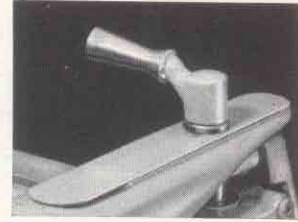
Taper attachments similar to those described above can be supplied to order with metric graduations in addition to the usual English graduations. The metric graduations show the taper in mm per cm. Maximum taper is 3 mm per cm.

Taper Attachment With Metric Graduations

| Catalog No. | Size of Lathe | Swing Over Cross Slide | Maximum Taper | | | Approx. Ship. Wt. |
|-------------|---------------|------------------------|----------------|--------|------------|-------------------|
| | | | At One Setting | Per cm | In Degrees | |
| CL428NKME | 9" | 5" | 7" | 3 mm | 16 1/2 | 35 lbs. |
| CL428NKME | Lt. 10 | 5 7/8" | 7" | 3 mm | 16 1/2 | 35 lbs. |
| CL1545RME | 10" | 5 3/4" | 8 1/2" | 3 mm | 16 1/2 | 40 lbs. |
| CL1545TME | 13" | 8" | 9 1/2" | 3 mm | 16 1/2 | 65 lbs. |
| CL1545FME | 14 1/2" | 8 15/16" | 9 1/2" | 3 mm | 16 1/2 | 80 lbs. |
| CL1545HME | 16" | 9 5/8" | 11 1/2" | 3 mm | 16 1/2 | 100 lbs. |
| CL1545HME | 16-24" | 18 3/4" | 11 1/2" | 3 mm | 16 1/2 | 100 lbs. |

Chip Guard for Taper Attachment

This sheet metal guard fits over the slot in the taper attachment connecting bar to prevent chips and dirt from falling through the slot onto the cross-feed screw. Taper attachment binding screw passes through guard and binding lever holds guard securely in position. Guard is reversible to permit using taper attachment on large or small work. For current models of South Bend Lathes only.

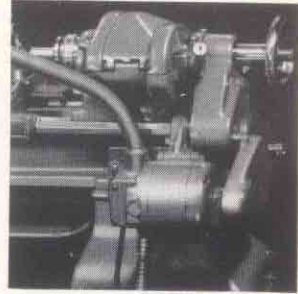


Chip Guard for Taper Attachment

| Cat. No. | Lathe Size | Ship. Wt. |
|----------|------------------|-----------|
| CL3285NK | 9" and Light Ten | 1 lb. |
| CL3285R | 10" | 1 lb. |
| CL3285T | 13" | 1 lb. |
| CL3285F | 14 1/2" | 1 lb. |
| CL3285H | 16" and 16-24" | 1 lb. |

Independent Power Feed Attachment For 10" Lathe

This attachment is especially desirable for manufacturing dental amalgam, diamond turning and diamond boring operations, and other work requiring extremely smooth, fine feeds, or high spindle speeds. The rate of feed is determined by the speed of the lathe spindle. For example, when the spindle revolves at 2500 r.p.m., the power longitudinal feeds range from .00029" to .016" per revolution of the spindle, approximately. This attachment should be ordered with the lathe and fitted at the factory.



Independent Power Feed Attachment for 10-Inch Lathe

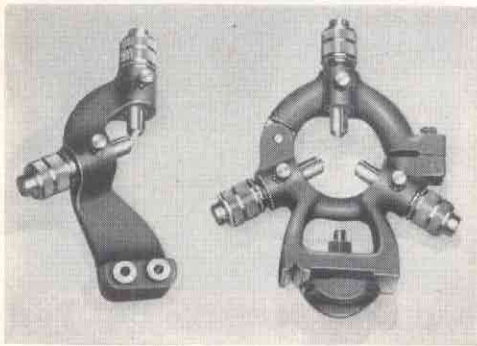
| Catalog Number | Motor Specifications | | | |
|----------------|----------------------|-------|-------|---------|
| | Current | Phase | Cycle | Voltage |
| CL333DR | A.C. | 3 | 60 | 220 |
| CL333FR | A.C. | 3 | 60 | 440 |
| CL331BR | A.C. | 1 | 60 | 115 |
| CL331DR | A.C. | 1 | 60 | 230 |

Lubricating Oil

Recommended for South Bend Lathes and other machinery requiring a high quality lubricant. Oil for general lubrication has about the same body as SAE 20, and the spindle oil for 9" lathes is similar in body to SAE 10. Spindle oil for 10"-1" Collet and larger lathes has a viscosity of approximately 70 seconds Saybolt Universal at 100°F.



| Cat. No. | Quantity | Ship. Wt. |
|---|-----------|-----------|
| Oil for General Lubrication of Lathe and Other Machinery | | |
| CE1603 | 1 quart | 3 lbs. |
| CE1906 | 12 quarts | 31 lbs. |
| Oil for Spindle Bearings of 9" and Light Ten Lathes and Apron Clutch Mechanism of All Sizes of Lathes | | |
| CE1602 | 1 quart | 3 lbs. |
| CE1904 | 12 quarts | 31 lbs. |
| Oil for Spindle Bearings of 10"-1" Collet and Larger Lathes | | |
| CE1600 | 1 quart | 3 lbs. |
| CE1905 | 12 quarts | 31 lbs. |



Telescoping Jaw Steady Rest and Follower Rest

To provide quicker and more efficient operation, the Telescoping Jaw Follower Rest and Steady Rest have been developed. Principal features of both the Follower Rest and Steady Rest are wrenchless adjustment and locking of the telescoping jaws. Each jaw has a large knurled knob for adjusting the jaw position, and a thumb screw for locking. An ingeniously designed double acting compound screw thread provides approximately 3/16" jaw movement for each revolution of the adjusting knob.

The jaws are made of brass and slide through precision steel sleeves which are pressed into the supporting frame. Manufactured to close tolerances throughout, the jaws and other parts are replaceable.

Steady Rest

The Steady Rest is clamped to the inside bed ways, and is used to support long, slender shafts mounted between the lathe centers. It is also used to support the outer end of a bar or shaft in such a way that it may be drilled, bored, reamed, etc., with tools mounted in the tailstock or in the tool post of the lathe. The top of the steady rest is hinged to facilitate inserting and removing shafts.

Telescoping Jaw Steady Rest

| Catalog Number | Size Lathe | Maximum Capacity | Minimum Capacity | Shipping Weight |
|----------------|-------------|------------------|------------------|-----------------|
| CL2400N | 9 inch | 3 in. | 3/8 in. | 11 lbs. |
| CL2400K | Light Ten | 3 in. | 3/8 in. | 11 lbs. |
| CL2400R | 10 inch | 3 in. | 3/8 in. | 13 lbs. |
| CL2400T | 13 inch | 3 3/4 in. | 3/8 in. | 21 lbs. |
| CL2400F | 14 1/2 inch | 4 3/4 in. | 3/8 in. | 28 lbs. |
| CL2400H | 16" & 2-H | 4 3/4 in. | 3/8 in. | 30 lbs. |
| CL2400V | 16-24" | 4 3/4 in. | 3/8 in. | 47 lbs. |

Follower Rest

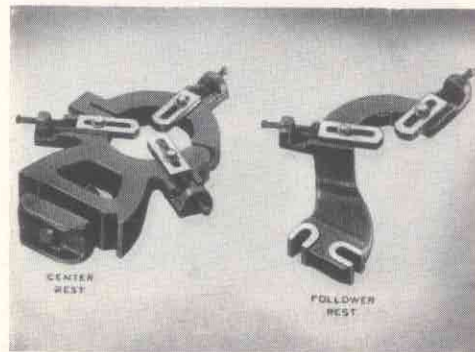
The Follower Rest is attached to the lathe carriage and travels with the carriage. The follower rest is used to support long, slender shafts while being machined between the lathe centers.

Telescoping Jaw Follower Rest

| Catalog Number | Size Lathe | Maximum Capacity | Minimum Capacity | Shipping Weight |
|----------------|-------------|------------------|------------------|-----------------|
| CL2395N | 9 inch | 2 in. | 3/8 in. | 7 lbs. |
| CL2395K | Light Ten | 2 in. | 3/8 in. | 7 lbs. |
| CL2395R | 10 inch | 2 1/2 in. | 3/8 in. | 9 lbs. |
| CL2395T | 13 inch | 3 1/4 in. | 3/8 in. | 11 lbs. |
| CL2395F | 14 1/2 inch | 4 1/4 in. | 3/8 in. | 15 lbs. |
| CL2395H | 16" & 2-H | 4 1/4 in. | 3/8 in. | 17 lbs. |
| CL2395V | 16-24" | 4 1/4 in. | 3/8 in. | 21 lbs. |



SOUTH BEND LATHE WORKS



Regular Steady Rest and Follower Rest

The Regular Steady Rest and Follower Rest are ruggedly designed to provide a rigid support for the work. The jaws are made of cast iron, are machined all over and have adjusting screws and lock screws for setting and securing them in the desired position.

Steady Rest

The Steady Rest clamps onto the inside ways of the lathe bed and is used for supporting long shafts, boring spindles, etc. The top of the steady rest is hinged to facilitate inserting and removing shafts.

Regular Steady Rest

| Catalog Number | Size Lathe | Maximum Capacity | Minimum Capacity | Shipping Weight |
|----------------|------------|------------------|------------------|-----------------|
| CL1177N | 9 in. | 3 in. | 1/4 in. | 10 lbs. |
| ..... | Light Ten | ..... | ..... | ..... |
| CL1177R | 10 in. | 3 in. | 3/4 in. | 11 lbs. |
| CL1177T | 13 in. | 3 3/4 in. | 3/8 in. | 19 lbs. |
| CL1177F | 14 1/2 in. | 4 3/4 in. | 3/8 in. | 27 lbs. |
| CL1177H | 16" & 2-H | 4 3/4 in. | 3/8 in. | 29 lbs. |
| CL1177V | 16-24 in. | 4 3/4 in. | 3/8 in. | 47 lbs. |

Not Made

Follower Rest

The Follower Rest 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. Slots used for attaching follower rest to carriage permit attaching or removing quickly as it is not necessary to remove the screws from the saddle.

Regular Follower Rest

| Catalog Number | Size Lathe | Maximum Capacity | Minimum Capacity | Shipping Weight |
|----------------|------------|------------------|------------------|-----------------|
| CL1353N | 9 in. | 2 in. | 3/8 in. | 4 lbs. |
| ..... | Light Ten | ..... | ..... | ..... |
| CL1353R | 10 in. | 2 1/2 in. | 3/8 in. | 6 lbs. |
| CL1353T | 13 in. | 3 1/4 in. | 3/8 in. | 9 lbs. |
| CL1353F | 14 1/2 in. | 4 1/4 in. | 3/8 in. | 12 lbs. |
| CL1353H | 16 in. | 4 1/4 in. | 3/8 in. | 13 lbs. |
| CL1353V | 16-24 in. | 4 1/4 in. | 3/8 in. | 18 lbs. |

Not Made

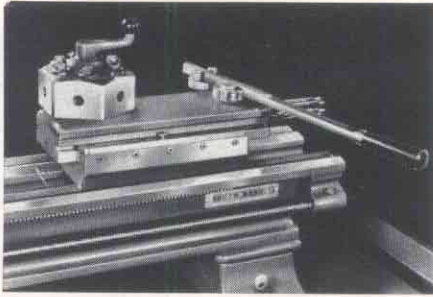
Extra Large Steady Rest

Similar to steady rests described above, but with capacity for large diameter work. Takes from 4-3/4" diameter to 10-3/4" diameter.



| Cat. No. | Lathe | Ship. Wt. |
|--|---------------|-----------|
| Telescoping Jaw Extra Large Steady Rest | | |
| CL2266H | 16" & No. 2-H | 65 lbs. |
| CL2266V | 16-24" | 85 lbs. |
| Regular Style Extra Large Steady Rest | | |
| CL2258H | 16" & No. 2-H | 75 lbs. |
| CL2258V | 16-24" | 95 lbs. |

SOUTH BEND 22, INDIANA, U.S.A.



Handler Bed Turret for 9", 10", and 13" South Bend Lathes

The Handler Bed Turret 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 lathe 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.

With this turret mounted on the lathe, small precision parts can be economically manufactured. It equips the lathe for fast, efficient production, yet the lathe may easily be adapted to other classes of work.

The turret slide has gibs on both sides which provide adjustment for wear. The turret head indexes automatically when the feed lever is pushed to the extreme right. 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 (within plus or minus .0005" measured 4" from turret face) is assured by the use of hardened, ground, and superfinished index pin which operates in heat-treated steel bushings. The index bushings 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.

The effective feed of the turret slide is 4". Center of turret hole to top of turret slide 1 1/2". Takes standard turret tools with 5/8" diameter shank*. Distance between opposite flats on turret head is 4 1/8". When turret is ordered separate from lathe, the purchaser must assume the responsibility of fitting turret to lathe and boring turret head.

| Catalog Number | Size Lathe | Shipping Weight |
|----------------|------------|-----------------|
| CL1611N | 9" | 76 lbs. |
| CL1611K | Light Ten | 76 lbs. |
| CL1611R | 10" | 83 lbs. |
| CL1611T | 13" | 130 lbs. |

*Can be supplied to order with 3/8" holes in turret face. No extra charge.

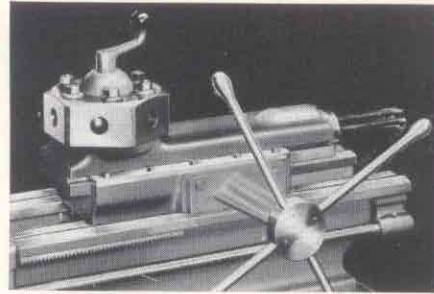
Compound Rest Cross Slide for No. 2-H Turret Lathe

The compound rest type cross slide can be supplied for use on the saddle cross slide dovetail of the No. 2-H Turret Lathe in place of the double tool cross slide. This compound rest is the same as is regularly supplied with the 16" swing lathe.



Price includes compound rest top, swivel, and base assembly complete with tool post and cross-feed screw. Cannot be used with double tool slide. When this unit is required, it must be ordered with the lathe and fitted at the factory.

Cat. No. CL2200P. Compound Rest Cross Slide for No. 2-H Turret Lathe. Ship. wt. 22 lbs.



Hand Feed Turnstile Bed Turret for 16" South Bend Lathe

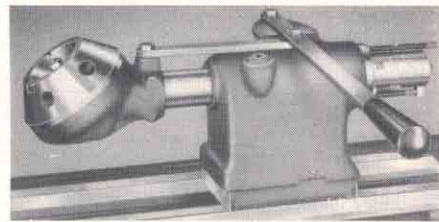
The Hand Feed Turnstile Bed Turret is mounted on the inside bed ways of the lathe. The large turnstile is provided for hand operated turret slide feeds. No power feed is available.

The turret head is hexagonal in shape, having six accurately machined faces. It indexes automatically when the turret slide is returned to the starting position. An individual feed stop is provided for each face of the turret. The stop accurately regulates the length of the cut. The turret head may be back indexed or spun when it is desired to skip tool positions.

Accurate indexing (within plus or minus .0005" measured 4" from turret face) is assured by the use of a hardened, ground, and superfinished index pin which operates in heat-treated steel bushings. The indexing bushings are replaceable. The main central bearing is tapered for adjustment. The turret head is locked securely in position by a substantial binder. The turret slide has tapered gibs on both sides which provide adjustment for wear and alignment.

Effective feed of turret slide 5 7/8". Center of turret hole to top of turret slide 2 1/2". Takes standard turret tools with 1 1/2" diameter shank. Distance between opposite turret flats is 9 3/8". Maximum distance between spindle nose and turret face at beginning of indexing movement is 28 1/4" on 6' bed lathe. When turret is ordered separate from lathe, the purchaser must assume the responsibility of fitting and boring.

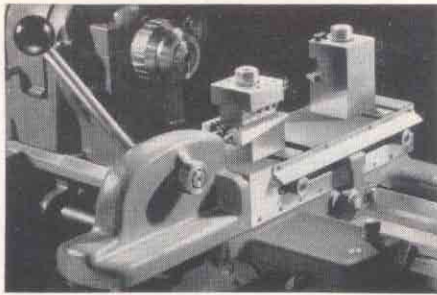
Cat. No. CL1917H. Hand Feed Turnstile Bed Turret for 16" South Bend Lathe. Ship. wt. 505 lbs.



Handler Turret for 9", 10", and 13" South Bend Lathes

This handler turret is mounted on the lathe bed in place of the tailstock. The turret head has six holes for tools with 5/8" diameter shanks. Adjustable stops are provided for each of the six turret holes. The turret head is geared to the stop roll so that the stop is brought in line with each stop screw as the corresponding tool in the turret head is revolved to the working position. The indexing mechanism is of high carbon heat-treated steel. Index lock releases automatically at the end of the return movement of the turret slide. The turret head is revolved by hand. The maximum length of stroke for the turret slide is 3 3/4 inches.

| Cat. No. | Size Lathe | Shipping Weight |
|----------|------------|-----------------|
| CL2045N | 9" | 50 lbs. |
| CL2045K | Light Ten | 50 lbs. |
| CL2045R | 10" | 60 lbs. |
| CL2045T | 13" | 90 lbs. |

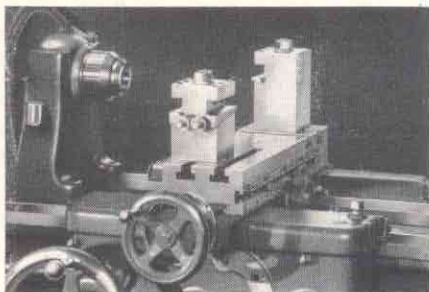


Handlever Double Tool Cross Slide for 9" and 10" South Bend Lathes

This Handlever Double Tool Cross Slide is mounted on the saddle cross slide dovetail in place of the compound rest assembly. It does not interfere with the power longitudinal carriage feeds. The power cross-feed can be used by removing the hand-lever and replacing it with the cross-feed screw. Cross-feed nut is supplied for either English or metric pitch thread. Adjustable stops limit the movement of the cross slide in either direction, in or out. The handlever can be used on either the right side or the left side of the cross slide.

This cross slide has front and back square tool blocks in which $\frac{3}{16}$ " square cutter bits can be mounted. T-slots in the cross slide base permit adjusting the positions of the tool blocks. 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. | Size Lathe | Cross-Feed | Ship. Wt. |
|-------------------------------------|------------------------|------------|-------------------------------|
| CL2030N CL2030K CL2030R | 9" Light Ten 10" | ENGLISH | 36 lbs. 37 lbs. 45 lbs. |
| CL2030NME CL2030KME CL2030RME | 9" Light Ten 10" | METRIC | 36 lbs. 37 lbs. 45 lbs. |



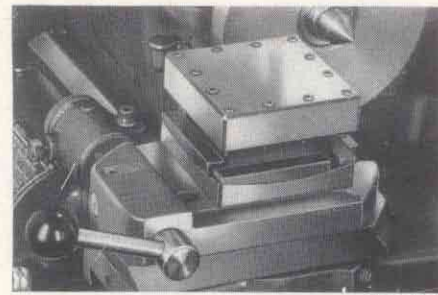
Screw Feed Double Tool Cross Slide for 13" and 16" South Bend Lathes

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. Cross-feed screw and graduations are supplied in either English or metric system.

Adjustable stops are provided for locating the position of the front and rear tools for repetitive operations. The front tool block takes two square cutter bits and the back tool block takes one square cutter bit. Tapered wedges are provided for adjusting the height of the cutter bits. T-slots in the cross slide base are provided for adjusting the position of the tool blocks. Should be ordered with the lathe.

| Catalog Number | Size Lathe | Cross-Feed | Size Bit | Shipping Weight |
|------------------------|------------|------------|---|--------------------|
| CL2027T CL2027H | 13" 16" | ENGLISH | $\frac{3}{16}$ " sq. $\frac{3}{8}$ " sq. | 60 lbs. 95 lbs. |
| CL2027TME CL2027HME | 13" 16" | METRIC | $\frac{1}{8}$ " sq. $\frac{3}{8}$ " sq. | 60 lbs. 95 lbs. |

SOUTH BEND LATHE WORKS



Patented

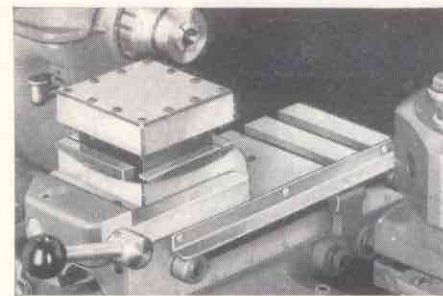
Square Turret Tool Block for Compound Cross Slide

The Square 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 lever 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.

Square Turret Tool Block for Compound Cross Slide

| Catalog Number | Size of Lathe | Size Square | Takes Tools | Shipping Weight |
|----------------|--------------------|-------------|-----------------------------------|-----------------|
| CL3375N | 9" and Ser. 900 | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 13 lbs. |
| CL3375K | Light Ten | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 14 lbs. |
| CL3375R | 10" and Ser. 1000 | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 15 lbs. |
| CL3375T | 13" | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 24 lbs. |
| CL3375F | 14 $\frac{1}{2}$ " | 4" | $\frac{3}{8}$ " x $\frac{5}{8}$ " | 36 lbs. |
| CL3375H | 16" and 16-24" | 4" | $\frac{3}{8}$ " x $\frac{5}{8}$ " | 40 lbs. |



Patented

Square Turret Tool Block for Double Tool Cross Slide

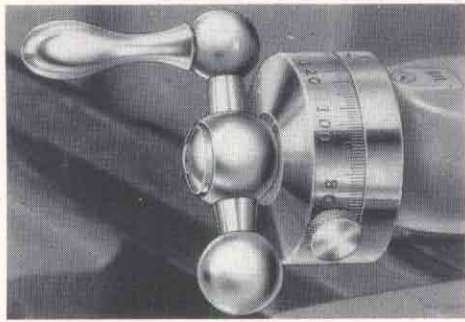
The Square Turret Tool Block shown above is designed for use on the screw feed double tool cross slide. It cannot be used on the compound rest cross slide.

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 lever 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.

Square Turret Tool Block for Double Tool Slide

| Catalog Number | Size of Lathe | Size Square | Takes Tools | Ship. Weight |
|----------------|--------------------------------------|-------------|-----------------------------------|--------------|
| CL3376NR | 9", Series 900, 10" & Series 1000 | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 10 lbs. |
| CL3376K | Light Ten | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 11 lbs. |
| CL3376T | 13" | 3" | $\frac{3}{8}$ " x $\frac{3}{8}$ " | 20 lbs. |
| CL3376H | 16" & No. 2-H | 4" | $\frac{3}{8}$ " x $\frac{5}{8}$ " | 28 lbs. |

SOUTH BEND 22, INDIANA, U.S.A.



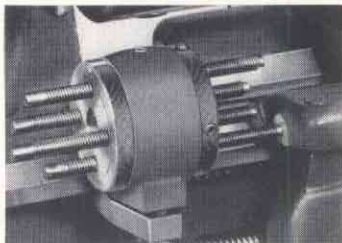
Direct Reading Micrometer Collars

In Lieu of Regular Collars

Direct reading micrometer collars indicate the amount of stock removed from the work directly, in thousandths of an inch. As the cutting tool is fed in, each graduation indicates a movement of one-half thousandth, or a reduction in the diameter of the work of one thousandth. The regular collars have only one-half as many graduations, and each graduation indicates a reduction of two thousandths in the diameter of the work. Direct reading micrometer collars can be supplied in lieu of the regular collars for the compound rest feed screw and the cross-feed screw, provided they are ordered with the lathe.

| Catalog Number | Size Lathe |
|----------------|-----------------------------|
| CL2520NK | 9", Lt. Ten, & Series 900 |
| CL2520R | 10" and Series 1000 |
| CL2520TH | 13", 14 1/2", 16", & 16-24" |
| CL2520P | No. 2-H |

Four Position Carriage Stop

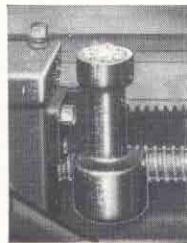


Much time can be saved in positioning the cutting tool for repetitive operations, by using this four position carriage stop. Each of the four adjustable stops may be set for a different tool position, and may be revolved into position to locate the carriage for each of four successive cuts. This attachment is especially desirable for spacing shoulders in shafts and similar operations.

| Catalog Number | Size Lathe | Shipping Weight |
|----------------|-----------------------------|-----------------|
| CL2185NK | 9" & Light Ten | 6 lbs. |
| CL2185RT | 10" & 13" | 6 lbs. |
| CL2185FH | 14 1/2", 16", 16-24", & 2-H | 10 lbs. |

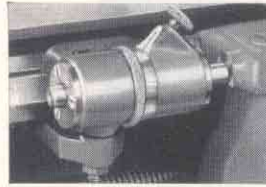
Thread Dial Indicator

Eliminates reversing of lathe spindle when cutting threads. Dial is numbered and graduated to show when to close half-nuts on lead screw to catch the thread on each successive cut, after returning carriage to the starting point. For English pitches only. See page 47 for metric thread dial.



| Catalog Number | Size Lathe | Shipping Weight |
|----------------|--------------------------------|-----------------|
| CL810NK | 9" & Light Ten | 2 lbs. |
| CL810R | 10" | 3 lbs. |
| CL810TH | 13", 14 1/2", 16", 16-24", 2-H | 5 lbs. |

Micrometer Stop



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. Either English or metric graduations can be supplied.

The stop is hardened on both ends and may be locked for repetitive operations on duplicate work.

| Size Lathe | Ship Wt. | English Graduations | | Metric Graduations | |
|-----------------------------|----------|---------------------|--|--------------------|--|
| | | Cat. No. | | Cat. No. | |
| 9" & Light Ten | 2 lbs. | CL968NK | | CL968NKME | |
| | 4 lbs. | CL968R | | CL968RME | |
| | 4 lbs. | CL968T | | CL968TME | |
| 14 1/2", 16", 16-24", & 2-H | 7 lbs. | CL968FH | | CL968FHME | |

Plain Carriage Stop



This stop may be clamped onto the front V-way of the lathe bed, on either side of the saddle, to locate the position of the cutting tool for facing, necking, cutting shoulders, machining grooves, and similar operations.

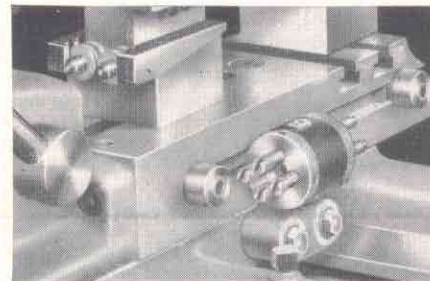
| Catalog Number | Size Lathe | Shipping Weight |
|----------------|-----------------------------|-----------------|
| CL758NK | 9" & Light Ten | 2 lbs. |
| CL758R | 10" | 4 lbs. |
| CL758T | 13" | 4 lbs. |
| CL758FH | 14 1/2", 16", 16-24", & 2-H | 7 lbs. |

Thread Cutting Stop



The Thread Cutting Stop is clamped onto the saddle cross-slide dovetail and is used for regulating the depth of cut for each successive chip when cutting screw threads. Price includes stop complete with clamp and knurled thumb screw.

| Catalog Number | Size Lathe | Shipping Weight |
|----------------|----------------|-----------------|
| CL2250NK | 9" & Light Ten | 1/2 lb. |
| CL2250R | 10" | 1/2 lb. |
| CL2250T | 13" | 1 lb. |
| CL2250F | 14 1/2" | 1 lb. |
| CL2250H | 16" & 16-24" | 2 lbs. |



Four Position Cross Slide Stop

This stop fits onto the saddle and is used with the hand-lever double tool cross slide in place of the regular cross slide stop. It has four adjustable stops for locating the position of the cutting tools for each of four successive operations.

| Cat. No. | Size Lathe | Ship. Wt. |
|----------|------------------------------|-----------|
| CL2154NR | 9", 10", Ser. 900, Ser. 1000 | 2 lbs. |
| CL2154T | 13" | 3 lbs. |
| CL2154H | 16" and No. 2-H | 3 lbs. |

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Cat. N

CE2003
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CE2003
CE2002
CE2002
CE2001
CE2001
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CE2001
CE2000
CE2000



Coolant Pump and Reservoir

The coolant equipment listed below is for use with South Bend Lathes equipped with oil pans. The oil pump is self-priming as it is below the oil level. Equipment includes coolant pump, tubing, reservoir, $\frac{1}{4}$ h.p. motor, and switch. Price includes fitting to lathe at factory.

Coolant Pump and Reservoir Fitted to 10"-1" Collet or Larger Floor Leg Lathes, No. 2-H, or Series 1000 Floor Leg Turret Lathes

| Cat. No. | Current | Phase | Cycle | Voltage |
|----------|---------|-------|-------|---------|
| CL503C | A.C. | 3 | 50 | 220 |
| CL503D | A.C. | 3 | 60 | 220 |
| CL503E | A.C. | 3 | 50 | 440 |
| CL503F | A.C. | 3 | 60 | 440 |
| CL503G | A.C. | 3 | 50 | 550 |
| CL503H | A.C. | 3 | 60 | 550 |
| CL502C | A.C. | 2 | 50 | 220 |
| CL502D | A.C. | 2 | 60 | 220 |
| CL501A | A.C. | 1 | 50 | 115 |
| CL501B | A.C. | 1 | 60 | 115 |
| CL501C | A.C. | 1 | 50 | 230 |
| CL501D | A.C. | 1 | 60 | 230 |
| CL500K | D.C. | ... | .... | 115 |
| CL500L | D.C. | ... | .... | 230 |

Coolant Pump and Reservoir Fitted to 9", Light Ten or Series 900 U.M.D. Lathes, or 10" or Series 1000 Bench Lathes on Tubular Steel Bench

| Cat. No. | Current | Phase | Cycle | Voltage |
|----------|---------|-------|-------|---------|
| CL513C | A.C. | 3 | 50 | 220 |
| CL513D | A.C. | 3 | 60 | 220 |
| CL513E | A.C. | 3 | 50 | 440 |
| CL513F | A.C. | 3 | 60 | 440 |
| CL513G | A.C. | 3 | 50 | 550 |
| CL513H | A.C. | 3 | 60 | 550 |
| CL512C | A.C. | 2 | 50 | 220 |
| CL512D | A.C. | 2 | 60 | 220 |
| CL511A | A.C. | 1 | 50 | 115 |
| CL511B | A.C. | 1 | 60 | 115 |
| CL511C | A.C. | 1 | 50 | 230 |
| CL511D | A.C. | 1 | 60 | 230 |
| CL510K | D.C. | ... | .... | 115 |
| CL510L | D.C. | ... | .... | 230 |

*When ordered for 9" or Light Ten U.M.D. Lathes or 10-inch U.M.D. Lathes on steel bench, there is an additional charge for making chip pan oil tight and installing necessary drain pipes, splash guards, and oil tight seal. This does not apply to turret lathes.

Cat. No. CL2195NK—Making chip pan oil tight on 9" or Light Ten Lathes.

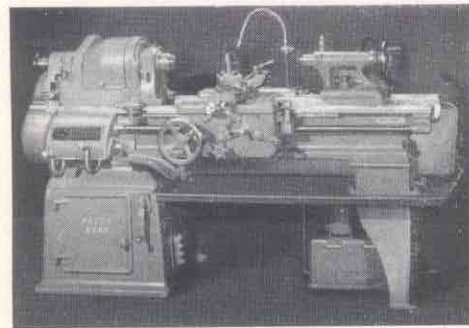
Cat. No. CL2195R—Making chip pan oil tight on 10" Lathes.

Coolant Pump Not Fitted to Lathe

The above coolant equipment may be ordered for application to lathes, drill presses, or other machine tools. Reservoir may be set on floor or attached to machine. Equipment consists of: coolant pump, tubing, reservoir, tray, $\frac{1}{4}$ h.p. motor, switch, and wire for connecting motor and switch. Shipping weight approximately 110 lbs.

| Cat. No. | Current | Phase | Cycle | Voltage |
|----------|---------|-------|-------|---------|
| CE2003C | A.C. | 3 | 50 | 220 |
| CE2003D | A.C. | 3 | 60 | 220 |
| CE2003E | A.C. | 3 | 50 | 440 |
| CE2003F | A.C. | 3 | 60 | 440 |
| CE2003G | A.C. | 3 | 50 | 550 |
| CE2003H | A.C. | 3 | 60 | 550 |
| CE2002C | A.C. | 2 | 50 | 220 |
| CE2002D | A.C. | 2 | 60 | 220 |
| CE2001A | A.C. | 1 | 50 | 115 |
| CE2001B | A.C. | 1 | 60 | 115 |
| CE2001C | A.C. | 1 | 50 | 230 |
| CE2001D | A.C. | 1 | 60 | 230 |
| CE2000K | D.C. | ... | .... | 115 |
| CE2000L | D.C. | ... | .... | 230 |

SOUTH BEND LATHE WORKS



Oil Pans, Splash Pans, and Chip Pans

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 above.

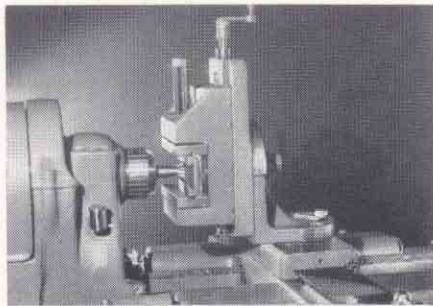
Chip Pans are intended for collecting chips only and are not necessarily oil tight. Chip pans extend from the headstock leg to the tailstock end of bed.

Pans for Floor Leg South Bend Lathes

| Size Lathe | Oil Pan | | Chip Pan | | Splash Pan | |
|--------------|----------|--|----------|--|------------|--|
| | Cat. No. | | Cat. No. | | Cat. No. | |
| Series 900 | ..... |  | ..... |  | CL2057Z | |
| Ten x 3 1/2" | ..... |  | ..... |  | CL2057Z | |
| 10" x 3" | CL2020Y | | CL1987Y | | CL2059Z | |
| 10" x 3 1/2" | CL2020Z | | CL1987Z | | CL2059Z | |
| Series 1000 | ..... |  | ..... |  | CL2059Z | |
| 10" x 4" | CL2020A | | CL1987A | | CL2059R | |
| 10" x 4 1/2" | CL2020R | | CL1987R | | CL2059R | |
| 13" x 4" | CL2022A | | CL1989A | | CL2060A | |
| 13" x 5" | CL2022B | | CL1989B | | CL2060B | |
| 13" x 6" | CL2022C | | CL1989C | | CL2060C | |
| 13" x 7" | CL2022D | | CL1989D | | CL2060D | |
| 14 1/2" x 5" | CL2023B | | CL1990B | | CL2062B | |
| 14 1/2" x 6" | CL2023C | | CL1990C | | CL2062C | |
| 14 1/2" x 7" | CL2023D | | CL1990D | | CL2062D | |
| 14 1/2" x 8" | CL2023E | | CL1990E | | CL2062H | |
| 16" x 6" | CL2024C | | CL1991C | | CL2062C | |
| 16" x 7" | CL2024D | | CL1991D | | CL2062D | |
| 16" x 8" | CL2024E | | CL1991E | | CL2062H | |
| 16" x 10" | CL2024G | | CL1991G | | CL2062H | |
| 16" x 12" | CL2024H | | CL1991H | | CL2062H | |
| 16-24" x 6" | ..... |  | CL1991C |  | ..... |  |
| 16-24" x 7" | ..... |  | CL1991D |  | ..... |  |
| 16-24" x 8" | ..... |  | CL1991E |  | ..... |  |
| 16-24" x 10" | ..... |  | CL1991G |  | ..... |  |
| 16-24" x 12" | ..... |  | CL1991H |  | ..... |  |
| 2-H x 6" | ..... |  | ..... |  | ..... |  |
| 2-H x 7" | ..... |  | ..... |  | ..... |  |

Pans for South Bend Bench Lathes

| Size Lathe | Chip Pan | | Splash Pan | |
|-------------------------|----------|--|------------|--|
| | Cat. No. | | Cat. No. | |
| 9" and Lt. Ten x 3" | CL1297Y | | CL2056Y | |
| 9" and Lt. Ten x 3 1/2" | CL1297Z | | CL2057Z | |
| 9" and Lt. Ten x 4" | CL1297A | | CL2057R | |
| 9" and Lt. Ten x 4 1/2" | CL1297R | | CL2057R | |
| 10" x 3" | CL1377Y | | CL2057Z | |
| 10" x 3 1/2" | CL1377Z | | CL2057Z | |
| Series 1000 | ..... |  | ..... |  |
| 10" x 4" | CL1377A | | CL2057R | |
| 10" x 4 1/2" | CL1377R | | CL2057R | |



Milling and Keyway Cutting Attachment

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

| Cat. No. | Size Lathe Ins. | Vert. Feed Ins. | Cross-Feed Ins. | Vise Holds Ins. | Jaw Depth Ins. | Jaw Width Ins. | Ship. Wt. Lbs. |
|----------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|
| CL2680NK | 9"-Lt.10 | 2 1/2 | 5 7/8 | 1 1/2 | 1 1/16 | 3 | 13 |
| CL2680R | 10 | 3 | 5 7/8 | 1 3/4 | 1 5/16 | 3 1/2 | 25 |
| CL2680T | 13 | 4 1/4 | 8 1/4 | 2 3/8 | 1 11/16 | 4 7/8 | 40 |
| CL2680F | 14 1/2 | 6 | 10 | 4 | 2 | 5 3/4 | 50 |
| CL2680H | 16 | 6 | 10 1/2 | 4 | 2 | 5 3/4 | 65 |
| CL2680H | 16-24 | 6 | 10 1/2 | 4 | 2 | 5 3/4 | 65 |

Metric Milling Attachment

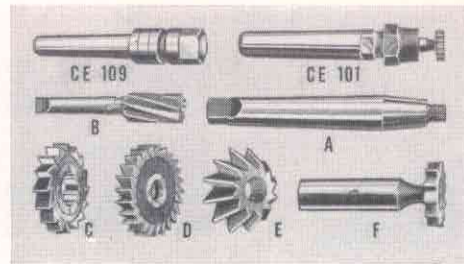
The milling and keyway cutting attachments shown above can be supplied with metric graduations in lieu of English graduations. Prices and specifications are same as for corresponding sizes with English graduations. Specify catalog numbers listed below for milling attachments with metric graduations.

| Catalog Number | Size Lathe | Catalog Number | Size Lathe |
|----------------|--------------|----------------|--------------|
| CL2680NKME | 9" & Lt. Ten | CL2680FMME | 14 1/2" |
| CL2680RME | 10" | CL2680HME | 16" & 16-24" |
| CL2680TME | 13" | | |

Milling Attachment Chest

This substantially constructed wooden chest holds the 9" and Light Ten milling attachment, milling attachment crank, and milling attachment wrench. This protects the attachment from dirt, dust, and other abuse, when it is not in use. Price does not include milling attachment.

CL2224. Hinged Wooden Chest for No. CL2680NK Milling and Keyway Cutting Attachment. Shipping wt. 4 lbs.



Milling Arbors and Cutters

Milling Arbors CE109, CE101, and A

All arbors and chucks listed below have No. 3 Morse taper shanks.

CE109. Plain Arbor for milling cutters with 1-inch hole. Shipping weight 3 lbs.

CE329. Screw Arbor (A) for Angular cutters (E) with right-hand thread. Shipping weight 2 lbs.

CE330. Screw Arbor (A) for angular cutters (E) with left-hand thread. Shipping weight 2 lbs.

CE101. Collet Chuck for Woodruff Cutters (F) with 1/2" diameter shank. Shipping weight 2 lbs.

Spiral End Mills (B)

High Speed Steel, Right-hand Cut, Right-hand Spiral

| Cat. No. | Dia. Mill | Morse Taper | Cat. No. | Dia. Mill | Morse Taper |
|----------|-----------|-------------|----------|-----------|-------------|
| CE3893 | 1/2" | No. 2 | CE3808 | 3/4" | No. 3 |
| CE3894 | 5/8" | No. 2 | CE3809 | 7/8" | No. 3 |
| CE3895 | 1" | No. 2 | CE3810 | 1" | No. 3 |
| CE3896 | 1 1/8" | No. 2 | CE3811 | 1 1/8" | No. 3 |
| CE3897 | 1" | No. 2 | CE3812 | 1 1/4" | No. 3 |

Plain Milling Cutters (C)

High Speed Steel With 1" Hole. Cut on Face Only

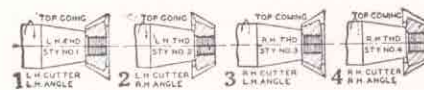
| Cat. No. | Face Width | O.D. | Cat. No. | Face Width | O.D. |
|----------|------------|--------|----------|------------|--------|
| CE3920 | 1 1/2" | 2 1/2" | CE3924 | 1 1/2" | 2 1/2" |
| CE3921 | 1 3/4" | 2 1/2" | CE3925 | 2" | 2 1/2" |
| CE3922 | 2" | 2 1/2" | CE3926 | 2 1/2" | 2 1/2" |
| CE3923 | 2 1/2" | 2 1/2" | CE3927 | 3" | 2 1/2" |

Side Milling Cutters (D)

High Speed Steel With 1" Hole. Cut on Face and Sides

| Cat. No. | Face Width | O.D. | Cat. No. | Face Width | O.D. |
|----------|------------|------|----------|------------|------|
| CE3930 | 1 1/4" | 3" | CE3934 | 1 1/2" | 3" |
| CE3931 | 1 3/8" | 3" | CE3935 | 2" | 4" |
| CE3932 | 1 7/8" | 3" | CE3936 | 2 1/2" | 4" |
| CE3933 | 2 1/8" | 3" | | | |

Angular Cutters (E)



High Speed Steel With Threaded Hole
1 1/4" O.D., 3/16" Face, 60° Included Angle

| Cat. No. | Style | Description |
|----------|-------|------------------------------|
| CE667S1 | 1 | L.H. thread, L.H. angle..... |
| CE667S2 | 2 | L.H. thread, R.H. angle..... |
| CE667S3 | 3 | R.H. thread, L.H. angle..... |
| CE667S4 | 4 | R.H. thread, R.H. angle..... |

Woodruff Keyseat Cutters (F)

High Speed Steel With 1/2" Diameter Straight Shanks
Right-hand Cutters

| Cat. No. | Cutter Dia. | Cutter Face | Cat. No. | Cutter Dia. | Cutter Face |
|----------|-------------|-------------|----------|-------------|-------------|
| CE3940 | 1/2" | 1/16" | CE3948 | 1" | 1/4" |
| CE3941 | 1/2" | 1/8" | CE3949 | 1" | 3/8" |
| CE3942 | 5/8" | 1/8" | CE3950 | 1 1/8" | 1/2" |
| CE3943 | 3/4" | 1/8" | CE3951 | 1 1/8" | 3/4" |
| CE3944 | 7/8" | 1/8" | CE3952 | 1 1/2" | 3/4" |
| CE3945 | 1" | 1/8" | CE3953 | 1 1/2" | 1/2" |
| CE3946 | 1 1/8" | 1/8" | CE3954 | 1 1/2" | 3/8" |
| CE3947 | 1" | 3/16" | CE3955 | 1 1/2" | 5/8" |

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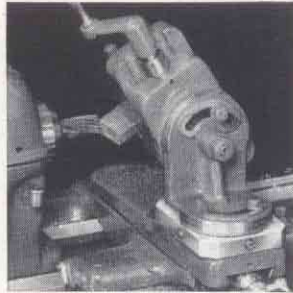
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| Catalog Number |
|----------------|
| CE2450NK |
| CE2450R |
| CE2450T |
| CE2450F |
| CE2450H |



Off-set Base for Milling Attachment

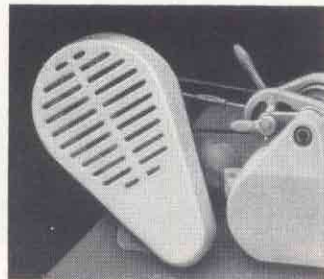
To increase the capacity of the milling attachment for the 9" and Light Ten lathes, the off-set base illustrated above is used. The base consists of a metal plate which is mounted between the compound rest base of the lathe and the milling attachment base. When the off-set base is used, the position of the milling attachment is 1½" farther away from the center line of the lathe spindle. This permits milling parts that might otherwise be too large for machining. See illustration at right. Price of off-set base includes necessary screws for mounting.



CL2408NK. Off-set Base for milling attachment. Fits 9" and Light Ten lathes only. Shipping weight 5 lbs.

Motor Belt Guard for 9" Bench Lathe

This guard is designed to enclose the motor pulley, motor V-belt, and countershaft drive pulley of 9-inch Horizontal Motor Driven Bench Lathes. It can be used with any 9-inch Horizontal Motor Drive Unit made since Feb. 1940. Guard is attached to the motor drive frame by a cap screw or bolt and a dowel pin. Frame must be drilled for pin and bolt or tapped for screw.



CL2885. Motor Belt Guard for 9" Horizontal Motor Drive with ½ h.p. or ¼ h.p. motor. Ship. wt. 26 lbs.

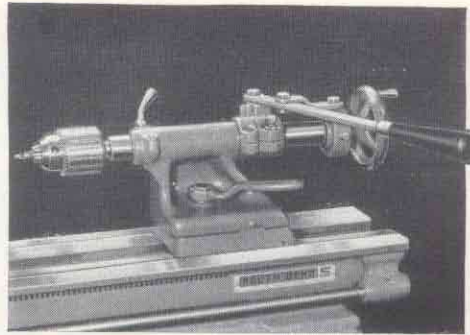
CL2886. Motor Belt Guard for 9" Horizontal Motor Drive with ½ h.p. motor. Ship. wt. 27 lbs.

Extra Tool Posts

Machining time can often be saved by using two tool posts simultaneously. Tool posts may be mounted close together by grinding off sides of tool post rings. Made of heat-treated steel. Price includes tool post assembly complete.



| Catalog Number | Size Lathe | Dimensions In Inches | | | Ship. Wt. |
|----------------|--------------|----------------------|---------------|---------------------|-----------|
| | | Dia. | Opening | Block | |
| CE2450NK | 9" & Lt. Ten | 55/64 | 13/32 x 7/8 | 3/4 x 3/4 x 1 3/8 | 2 lbs. |
| CE2450R | 10" | 21/32 | 15/32 x 1 | 3/4 x 1 3/8 x 1 1/8 | 2 lbs. |
| CE2450T | 13" | 13/16 | 19/32 x 1 1/4 | 3/8 x 1 3/4 x 1 7/8 | 3 lbs. |
| CE2450F | 14 1/2" | 11/32 | 21/32 x 1 3/4 | 1/2 x 2 x 2 5/16 | 4 lbs. |
| CE2450H | 16" | 1 1/2 | 23/32 x 1 3/4 | 1/2 x 2 1/4 x 2 1/2 | 5 lbs. |

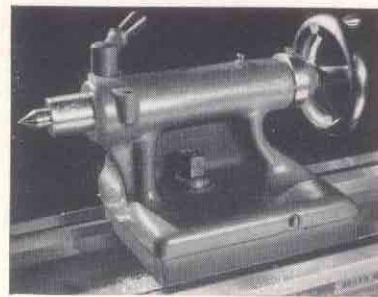


Handlever Tailstock

The Handlever Tailstock is a practical attachment for drilling, reaming, tapping, and centering operations. The convenient lever operation of the spindle saves much time on production work. The spindle may be set for drilling to any depth up to maximum length of feed. This tailstock is similar to the regular tailstock, except for the spindle construction. The tailstock top may be set over for taper turning. The spindle may be operated by the handlever or by turning the tailstock handwheel. This tailstock is interchangeable with the regular tailstock, and can be used for machining work between centers as well as for drilling, reaming, and tapping.

Handlever Tailstock for South Bend Lathes

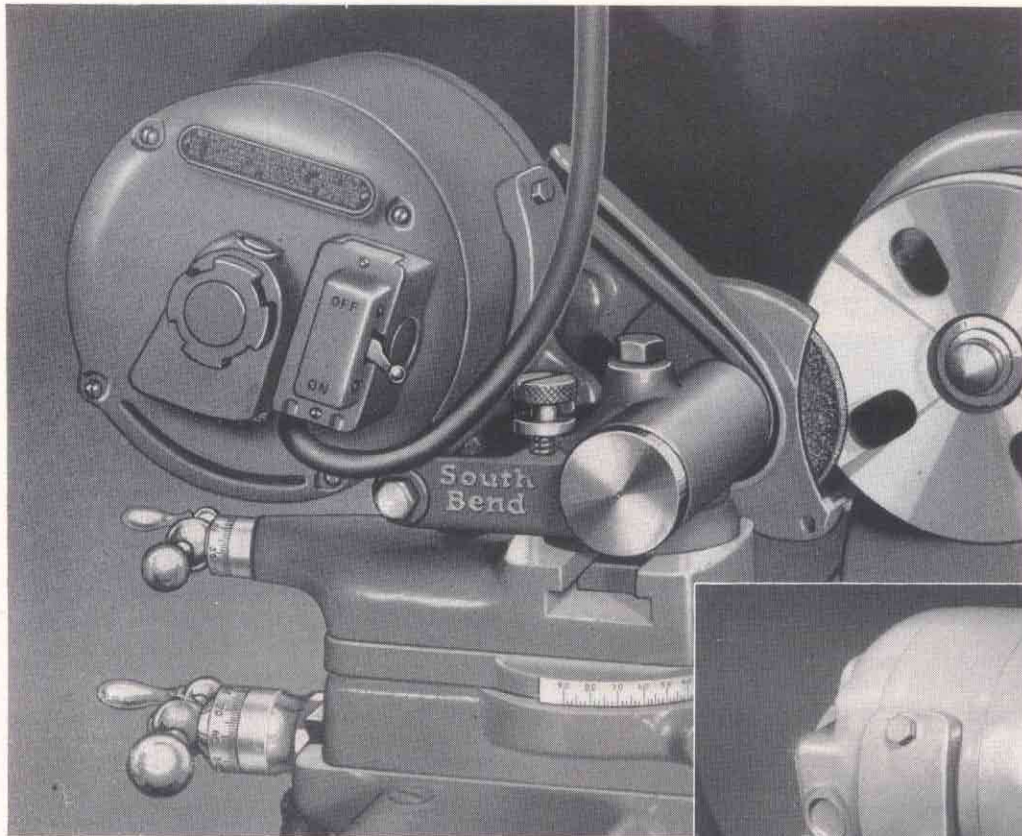
| Size Lathe | Lgth. of Feed Inches | Shpg. Weight Lbs. | In Lieu of Regular Tailstock | | In Addition to Regular Tailstock | |
|------------|----------------------|-------------------|------------------------------|--|----------------------------------|--|
| | | | Cat. No. | | Cat. No. | |
| 9" | 2 3/4 | 25 | CL519N | | CL1197N | |
| Light Ten | 2 3/8 | 25 | CL518K | | CL1197K | |
| 10" | 2 3/8 | 33 | CL519R | | CL1197R | |



Tailstock for South Bend Turret Lathes

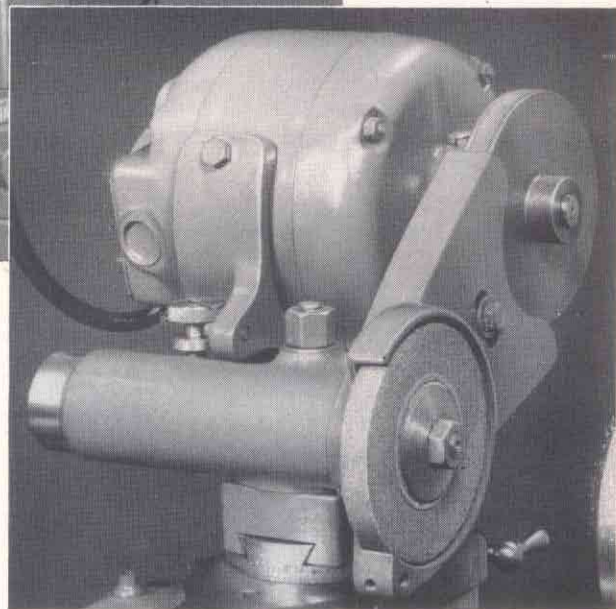
Prices of South Bend No. 2-H, Series 900, and Series 1000 Turret Lathes do not include tailstock, but a standard set-over type tailstock as illustrated above can be supplied to order. The tailstock mounts on the lathe bed, in place of the turret, for machining work between centers. Tailstock spindle is graduated and is fitted with a 60° hardened center. Tailstock top has set-over for taper turning. This unit should be ordered with the lathe and fitted at the factory.

| Catalog No. | Size Lathe | Size Center | Shipping Weight |
|-------------|-------------|-------------|-----------------|
| CL2036P | No. 2-H | No. 3 M.T. | 133 lbs. |
| CL2036R | Series 1000 | No. 2 M.T. | 42 lbs. |
| CL2036N | Series 900 | No. 2 M.T. | 22 lbs. |



Left—External Grinding Attachment Mounted on 16-inch South Bend Lathe.

Below—External Grinding Attachment Mounted on 9-inch South Bend Lathe.



External Grinding Attachment

This powerful and efficient grinding attachment is recommended for grinding bushings, sharpening reamers and cutters, and other external grinding. Designed to fit the various sizes of South Bend Lathes, it is easily adaptable for use on other makes of lathes. The spindle revolves in pre-lubricated, precision ball bearings which are sealed to protect them from damage by dust, grit and metal particles produced when grinding. Supplied with 1/4 h.p., constant speed continuous duty motor, and 4" x 1/2" No. CE2759 general purpose grinding wheel. Grinders with popular motors are listed below. Write for information on grinders having motors with other current characteristics. Shipping weight approximately 55 lbs.

External Grinding Attachments for South Bend Lathes

| Catalog Number | Size Lathe | Dia. Will Grind | Motor Specifications | | |
|----------------|------------------|-----------------|----------------------|----------|-------|
| | | | Volts | Phase | Cycle |
| CE300KNK | 9" and Light Ten | 5" | 115 D.C. | .. | .. |
| CE300LNK | | 5" | 230 D.C. | .. | .. |
| CE301ANK | | 5" | 115 A.C. | 1 | 50 |
| CE301BNK | | 5" | 115 A.C. | 1 | 60 |
| CE301CNK | | 5" | 230 A.C. | 1 | 50 |
| CE301DNK | | 5" | 230 A.C. | 1 | 60 |
| CE303CNK | | 5" | 220 A.C. | 3 | 50 |
| CE303DNK | | 5" | 220 A.C. | 3 | 60 |
| CE303FNK | | 5" | 440 A.C. | 3 | 60 |
| CE300KR | | 10" | 5 3/8" | 115 D.C. | .. |
| CE300LR | 5 3/8" | | 230 D.C. | .. | .. |
| CE301AR | 5 3/8" | | 115 A.C. | 1 | 50 |
| CE301BR | 5 3/8" | | 115 A.C. | 1 | 60 |
| CE301CR | 5 3/8" | | 230 A.C. | 1 | 50 |
| CE301DR | 5 3/8" | | 230 A.C. | 1 | 60 |
| CE303CR | 5 3/8" | | 220 A.C. | 3 | 50 |
| CE303DR | 5 3/8" | | 220 A.C. | 3 | 60 |
| CE303FR | 5 3/8" | | 440 A.C. | 3 | 60 |
| CE300KT | 13" | | 7 3/8" | 115 D.C. | .. |
| CE300LT | | 7 3/8" | 230 D.C. | .. | .. |
| CE301AT | | 7 3/8" | 115 A.C. | 1 | 50 |
| CE301BT | | 7 3/8" | 115 A.C. | 1 | 60 |
| CE301CT | | 7 3/8" | 230 A.C. | 1 | 50 |
| CE301DT | | 7 3/8" | 230 A.C. | 1 | 60 |
| CE303CT | | 7 3/8" | 220 A.C. | 3 | 50 |
| CE303DT | | 7 3/8" | 220 A.C. | 3 | 60 |
| CE303FT | | 7 3/8" | 440 A.C. | 3 | 60 |

| Catalog Number | Size Lathe | Dia. Will Grind | Motor Specifications | | |
|----------------|------------|-----------------|----------------------|----------|-------|
| | | | Volts | Phase | Cycle |
| CE300KF | 14 1/2" | 8 3/4" | 115 D.C. | .. | .. |
| CE300LF | | 8 3/4" | 230 D.C. | .. | .. |
| CE301AF | | 8 3/4" | 115 A.C. | 1 | 50 |
| CE301BF | | 8 3/4" | 115 A.C. | 1 | 60 |
| CE301CF | | 8 3/4" | 230 A.C. | 1 | 50 |
| CE301DF | | 8 3/4" | 230 A.C. | 1 | 60 |
| CE303CF | | 8 3/4" | 220 A.C. | 3 | 50 |
| CE303DF | | 8 3/4" | 220 A.C. | 3 | 60 |
| CE303FF | | 8 3/4" | 440 A.C. | 3 | 60 |
| CE300KH | | 16" | 9 3/8" | 115 D.C. | .. |
| CE300LH | 9 3/8" | | 230 D.C. | .. | .. |
| CE301AH | 9 3/8" | | 115 A.C. | 1 | 50 |
| CE301BH | 9 3/8" | | 115 A.C. | 1 | 60 |
| CE301CH | 9 3/8" | | 230 A.C. | 1 | 50 |
| CE301DH | 9 3/8" | | 230 A.C. | 1 | 60 |
| CE303CH | 9 3/8" | | 220 A.C. | 3 | 50 |
| CE303DH | 9 3/8" | | 220 A.C. | 3 | 60 |
| CE303FH | 9 3/8" | | 440 A.C. | 3 | 60 |
| CE300KH | 16-24" | | 18 3/4" | 115 D.C. | .. |
| CE300LH | | 18 3/4" | 230 D.C. | .. | .. |
| CE301AH | | 18 3/4" | 115 A.C. | 1 | 50 |
| CE301BH | | 18 3/4" | 115 A.C. | 1 | 60 |
| CE301CH | | 18 3/4" | 230 A.C. | 1 | 50 |
| CE301DH | | 18 3/4" | 230 A.C. | 1 | 60 |
| CE303CH | | 18 3/4" | 220 A.C. | 3 | 50 |
| CE303DH | | 18 3/4" | 220 A.C. | 3 | 60 |
| CE303FH | | 18 3/4" | 440 A.C. | 3 | 60 |

For



Cat. No.

- CE2759
- CE2758
- CE2774
- CE2757
- CE2769

No. C
1/2" hole

Ream

For sh
milling o
either str
Also used
CE18 Dia
below.

Cat.
No.

- CE1512N
- CE1512F
- CE1512R
- CE1512T
- CE1512F
- CE1512H
- CE1512V

For saf
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with a di
must be m
ing Stop fi
not includ

No. C
Shipping

Tails

Clamp
diamond
Cannot b
centers. F
listed bel

Cat.
No.

- CE91NK
- CE91R
- CE91T
- CE91F
- CE91H

No. CE

SOUTH B

Extra Grinding Wheels For External Grinding Attachment



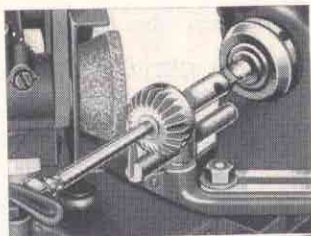
For rapid grinding and smooth finish, the correct grade of grinding wheel should be selected. The grinding wheels listed cover the more important classes of work. Wheels listed in table are 4" in diameter with $\frac{1}{2}$ " face and $\frac{1}{2}$ " hole, to fit external grinding attachment. Shipping weight 2 lbs.

| Cat. No. | Type of Work | Class of Work |
|----------|------------------------|-----------------|
| CE2759 | General Work..... | Rough or Finish |
| CE2758 | Cutting Tools..... | Rough or Finish |
| CE2774 | Automobile Valves..... | Rough or Finish |
| CE2757 | Cast Iron..... | Finish Grinding |
| CE2769 | Soft Steel..... | Finish Grinding |

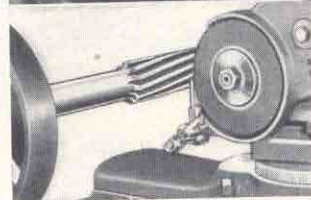
No. CE3236. Cup Grinding Wheel, $3\frac{1}{4}$ " O.D., $1\frac{1}{4}$ " face, $\frac{1}{2}$ " hole for sharpening reamers and cutters.

Reamer Grinding Stops

For sharpening reamers, milling cutters, etc., having either straight or spiral flutes. Also used for holding the No. CE18 Diamond Dresser listed below.



| Cat. No. | Size Lathe | Ship. Wt. |
|----------|-------------------|-----------|
| CE1512N | 9" | 7 lbs. |
| CE1512K | Lt. Ten | 8 lbs. |
| CE1512R | 10" | 9 lbs. |
| CE1512T | 13" | 14 lbs. |
| CE1512F | $14\frac{1}{2}$ " | 20 lbs. |
| CE1512H | 16" | 24 lbs. |
| CE1512V | 16-24" | 30 lbs. |



Diamond Dresser



For satisfactory operation, the grinding wheel should be trued frequently with a diamond dresser. This dresser must be mounted in the Reamer Grinding Stop fixture, listed above. Price does not include the fixture.

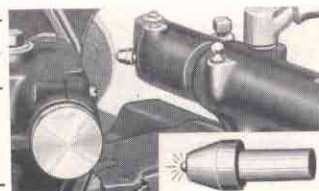
No. CE18. Diamond Dresser only. Shipping weight 1 lb.



Tailstock Diamond Holding Fixture

Clamps to tailstock spindle of lathe for holding the No. CE406 diamond dresser (shown in inset) for truing grinding wheel. Cannot be used while work is mounted between the lathe centers. Price does not include diamond dresser, which is listed below.

| Cat. No. | Size Lathe | Ship. Wt. |
|----------|-------------------|-----------|
| CE91NK | 9" & Lt. Ten | 3 lbs. |
| CE91R | 10" | 3 lbs. |
| CE91T | 13" | 4 lbs. |
| CE91F | $14\frac{1}{2}$ " | 4 lbs. |
| CE91H | 16" & 16-24" | 5 lbs. |

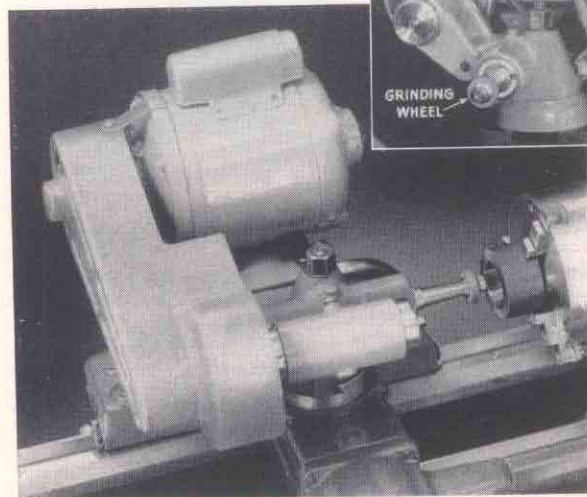
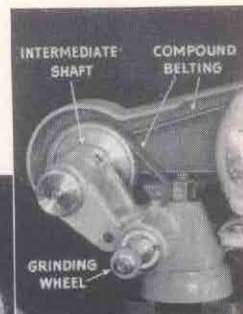


No. CE406. Diamond Dresser. Shipping weight $\frac{1}{2}$ lb.

SOUTH BEND LATHE WORKS

Right—Compound Belting
Drives Grinding Wheel at
30,000 r.p.m.

Below—Internal Grinding At-
tachment on 10" Lathe.



Internal Grinding Attachment

This new South Bend Constant Speed Precision Grinder has been developed to meet the long felt need for an internal grinding attachment having sufficient power to maintain a more constant wheel speed under varying loads and to prevent stalling under comparatively heavy cuts.

The grinder is powered by a standard type, constant speed, continuous duty $\frac{1}{6}$ h.p., 3450 r.p.m., A.C. motor which has proved to be far superior to the universal type A.C.-D.C. motors ordinarily used. The motor is compound belted, through an intermediate shaft, to obtain a quill spindle speed of 30,000 r.p.m. Tests have shown that less than 1000 r.p.m. drop in spindle speed occurs when taking cuts as heavy as .003" on a side in hardened steel. Power loss is negligible.

The grinding wheel and intermediate shaft spindle run on high precision, high speed ball bearings which require no adjustment. Lubricant is supplied from built-in oil wells. Oil is effectively sealed in the spindle units, and dust sealed out in such a way that the bearings will retain their precision indefinitely. The compound belting and the three pulleys are enclosed by a one-piece guard.

This grinder can be easily adapted for use on other makes of lathes or on other machine tools. Grinders have 1 ph., 60 cy., 115 v., A.C. motor, and accessories as listed below under specifications. Shipping weight 51 lbs.

Specifications

Grinding wheel speed.....30,000 r.p.m.
Maximum depth of ground hole with 1-inch wheel..... $3\frac{3}{8}$ inches
Maximum wheel diameter recommended.....1 inch

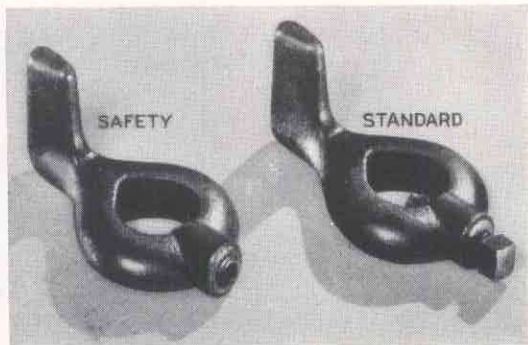
Accessories supplied:

Four $\frac{1}{4}$ " wheel arbors; lengths $2\frac{3}{16}$ ", $2\frac{1}{2}$ ", $3\frac{1}{16}$ ", and $4\frac{1}{16}$ ".

Four grinding wheels: $\frac{1}{4}$ " bore; $\frac{1}{4}$ " face; $\frac{5}{8}$ ", $3/4$ ", $3/8$ ", and 1" diameters.
One chuck for mounted wheels..... $\frac{1}{8}$ " capacity
Eight-foot extension cord, plug, and switch.

| Catalog Number | Lathe Size | Base to Center of Wheel |
|----------------|---------------------|-------------------------|
| CE601BNK | 9" & Light Ten | $1\frac{1}{16}$ in. |
| CE601BR | 10 in. | $1\frac{1}{8}$ in. |
| CE601BT | 13 in. | $1\frac{3}{8}$ in. |
| CE601BF | $14\frac{1}{2}$ in. | $1\frac{7}{8}$ in. |
| CE601BH | 16" & 16-24" | $2\frac{1}{8}$ in. |

Write for information and prices of grinders equipped with motors for other current characteristics.



Standard and Safety Lathe Dogs

Lathe dogs should correspond in capacity to the diameter of the work if the work is to be held securely. These lathe dogs are made of heavy malleable iron and are properly designed for maximum strength and long service. Tail of dog is shaped to fit slot in drive plate. The Standard Lathe Dog has square head alloy steel set screw. The Safety Lathe Dog has a headless alloy steel set screw. Wrenches required for headless set screws are listed in right-hand columns.

Lathe Dogs for 13" and Larger Lathes

| Cap. In. | Ship. Wt. | STANDARD | | SAFETY | | Wrenches for Safety Dogs | |
|----------|-----------|----------|--|----------|--|--------------------------|--|
| | | Cat. No. | | Cat. No. | | Cat. No. | |
| 1/2 | 1 lb. | CE3843 | | CE3826 | | CE2385 | |
| 3/4 | 1 lb. | CE3844 | | CE3827 | | CE2386 | |
| 1 | 2 lbs. | CE3845 | | CE3828 | | CE2387 | |
| 1 1/4 | 2 lbs. | CE3846 | | CE3829 | | CE2388 | |
| 1 1/2 | 3 lbs. | CE3847 | | CE3830 | | CE2389 | |
| 1 3/4 | 3 lbs. | CE3848 | | CE3831 | | CE2389 | |
| 2 | 4 lbs. | CE3849 | | CE3832 | | CE2389 | |
| 2 1/2 | 5 lbs. | CE3850 | | CE3833 | | CE2390 | |
| 3 | 6 lbs. | CE3851 | | CE3834 | | CE2390 | |
| 3 1/2 | 7 lbs. | CE3852 | | CE3835 | | CE2390 | |
| 4 | 9 lbs. | CE3853 | | CE3836 | | CE2390 | |

Lathe Dogs for 9" and 10" Lathes

| Cap. In. | Ship. Wt. | STANDARD | | SAFETY | | Wrenches for Safety Dogs | |
|----------|-----------|----------|--|----------|--|--------------------------|--|
| | | Cat. No. | | Cat. No. | | Cat. No. | |
| 3/8 | 1 lb. | CE3837 | | CE3820 | | CE2385 | |
| 1/2 | 1 lb. | CE3838 | | CE3821 | | CE2385 | |
| 3/4 | 2 lbs. | CE3839 | | CE3822 | | CE2386 | |
| 1 | 2 lbs. | CE3840 | | CE3823 | | CE2387 | |
| 1 1/4 | 3 lbs. | CE3841 | | CE3824 | | CE2388 | |
| 1 1/2 | 3 lbs. | CE3842 | | CE3825 | | CE2388 | |

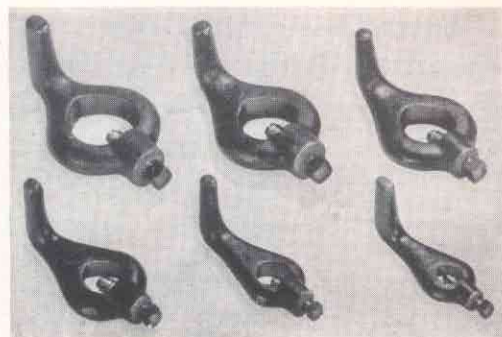
Clamp Lathe Dog

Made of heavy drop-forged steel, carefully machined and hardened. Practical for holding round, hexagonal or rectangular work. Screws have U. S. Standard thread and are hardened and tempered. The nuts permit adjusting screws for minimum projection of screw heads beyond body of lathe dog. Each clamp lathe dog is boxed separately.



Clamp Lathe Dogs

| Catalog Number | Capacity | | Size Lathe Used With | Shipping Weight |
|----------------|-----------------|-------------------------|----------------------|-----------------|
| | Maximum Opening | Distance Between Screws | | |
| CE160 | 1 1/2" | 1 3/4" | 9" & larger | 1 lb. |
| CE161 | 1 3/8" | 2 1/4" | 13" & larger | 2 lbs. |
| CE162 | 2 1/2" | 2 3/4" | 13" & larger | 3 lbs. |
| CE163 | 3 1/4" | 3 1/2" | 14 1/2" & larger | 4 lbs. |



Sets of Lathe Dogs

A complete set of dogs for each lathe will save time and contribute to efficient operation. Having the correct size of lathe dog at hand for any job will more than compensate for the cost of a full set. Two or more dogs of each size will often save time on production work, as this permits changing one dog while the other is in use.

Cat. No. CE2102. Set of 11 Standard Lathe Dogs, 1/2" to 4" capacity for 13" and larger lathes. Ship. wt. 36 lbs.

Cat. No. CE2103. Set of 11 Safety Lathe Dogs, 1/2" to 4" capacity for 13" and larger lathes. Ship. wt. 36 lbs.

Cat. No. CE2105. Set of 6 Standard Lathe Dogs, 3/8" to 1 1/2" capacity for 9" and 10" lathes. Ship. wt. 6 lbs.

Cat. No. CE2107. Set of 6 Safety Lathe Dogs, 3/8" to 1 1/2" capacity for 9" and 10" lathes. Ship. wt. 6 lbs.

Center Gauge

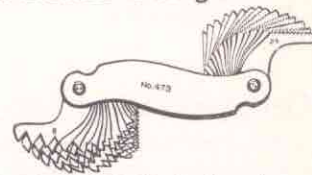
The center gauge is a useful tool for the lathe operator. The 60° included angle is used for checking the angle of the lathe center point. The two small 60° notches in the side of the tool are used for grinding and setting the point of the lathe tool for cutting screw threads. Engine divided graduations in each corner are in 32nds, 24ths, 20ths, and 14ths respectively. Made of good quality tool steel, hardened and tempered. Accurately ground on all faces, and lapped in the notches to a light tight fit with a standard.



No. CE650 Center Gauge. Shipping weight 2 ozs.

Screw Thread Pitch Gauges

With one of these handy gauges you can check the pitches of internal and external screw threads quickly and accurately. Made of steel, with each blade marked to indicate threads per inch. Each blade has standard 60° U. S. thread form accurately milled and held well within commercial tolerances. Can be used for checking V, American National, and U. S. Standard threads.



CE2188. Ace screw pitch gauge with 14 blades for 10, 11, 12, 13, 14, 16, 18, 20, 24, 27, 28, 32, 36, and 40 threads per inch. Shipping weight 4 ozs.

CE2171. Starrett screw pitch gauge with 30 blades for 6, 7, 8, 9, 10, 11, 11 1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42, 48, 50, 56, and 60 threads per inch. Shipping weight 5 ozs.

Mica Undercutting Attachment



PATENTED

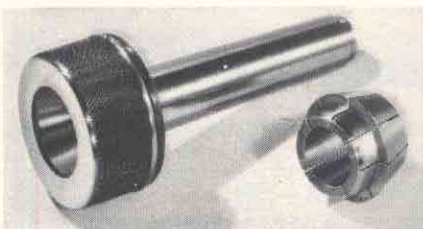
Any shop that repairs armatures for motors, generators or starters will have a lot of use for this practical attachment. It attaches to the saddle of the lathe for undercutting armature commutators. Hand operated, easy to use, and efficient. Cutter blade can be aligned with commutator segments, even though they are not parallel with the armature shaft.

This prevents cutting into copper and throwing up burrs. A screw adjustment is provided for regulating the depth of the cut. Maximum length of stroke is 3". When not in use, the undercutter may be tilted back out of the way. Price includes one cutter blade .020" thick.

| Catalog No | Size Lathe | Ship. Weight |
|------------|---------------|--------------|
| CL67SN | 9" | 7 lbs. |
| CL67SKR | Lt. Ten & 10" | 10 lbs. |
| CL67ST | 13" | 12 lbs. |
| CL67SF | 14 1/2" | 15 lbs. |
| CL67SH | 16" | 17 lbs. |

CE2028. Extra cutter .015" thick. Ship. wt. 1/2 lb.
CE2029. Extra cutter .020" thick. Ship. wt. 1/2 lb.

Adjustable Collet Bushing Chuck



The adjustable Collet Bushing Chuck provides an extremely accurate, but inexpensive equipment for mounting centerless armature shafts, and similar parts in the lathe. Can be used in either head or tail spindle of lathe. Collets are made of brass, and may be adjusted for either running fit or driving fit on shaft.



| Description | Cat. No. | Shank | Shipping Weight |
|---|----------|-------|-----------------|
| Adjustable Collet Bushing Chuck only..... | CE1615NR | No. 2 | 2 lbs. |
| | CE1615TH | No. 3 | 2 lbs. |
| Adjustable Collet Bushing Chuck with set of 3 collets, 1/8", 3/8", and .637" capacity for popular armatures.. | CE1608NR | No. 2 | 3 lbs. |
| | CE1608TH | No. 3 | 4 lbs. |

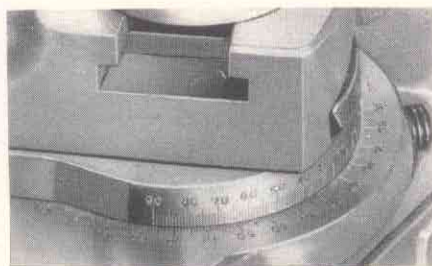
Cat. No. CE1659. Extra Collets for round work, any capacity 1/8" to 1" round by 16ths, ship. wt. 1 lb.

Complete Armature Service Equipment Kit

Consisting of mica undercutting attachment with two cutter blades; adjustable collet bushing chuck with set of three collets; drill chuck, 1/8" to 3/4" capacity for driving armatures; taper shank arbor with No. 3 shank for drill chuck; straight shank turning tool with cutter bit and wrench; and cutter bit ground for truing commutators.

| Catalog No. | Size Lathe | Shipping Weight |
|-------------|------------|-----------------|
| CL2330N | 9" | 20 lbs. |
| CL2330K | Light Ten | 22 lbs. |
| CL2330R | 10" | 22 lbs. |
| CL2330T | 13" | 26 lbs. |
| CL2330F | 14 1/2" | 28 lbs. |
| CL2330H | 16" | 30 lbs. |

SOUTH BEND LATHE WORKS



Compound Rest Base Graduated 360°

The compound rest base of any South Bend Lathe can be graduated 360° as illustrated above. Every tenth graduation in each quarter of the circle is numbered from 0° to 90°, the 0° graduations being at the front and back and 90° graduations on the sides. Having graduations all the way around, it is easy to adjust the angular setting of the compound rest swivel from the front of the lathe. These graduations supplement those on the compound rest swivel, which is graduated 180°. When 360° graduations are wanted, they should be specified when the lathe is ordered.

CL3260. Graduating Compound Rest Base 360°, any size of South Bend Lathe.

Swiveling Machine Handles



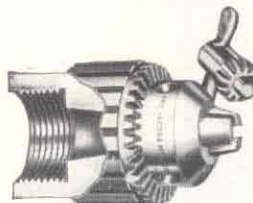
Swivel type machine handles can be supplied in lieu of the regular solid machine handles for the apron handwheel, cross-feed knob, and tailstock handwheel of 10"-1" Collet and larger South Bend Lathes. The swivel handle is made in two parts, having an outer sleeve which revolves on a spindle. When swivel machine handles are wanted in lieu of the solid machine handles, they must be specified when lathe is ordered.

Swivel Machine Handles in Lieu of Solid Machine Handles

| Cat. No. | Size Lathe | Cat. No. | Size Lathe |
|----------|---------------|----------|------------|
| CL2605R | 10"-1" Collet | CL2605F | 14 1/2" |
| CL2605T | 13" | CL2605H | 16" |

Jacobs Valve Chuck

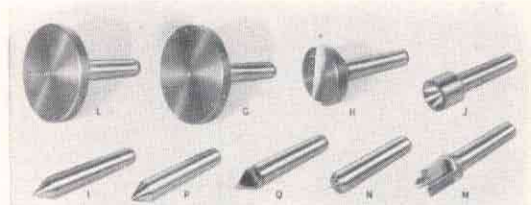
Chuck has 1 1/2"-8 thread to fit spindle nose of 9" and Light Ten lathes only. Has hollow body for holding automobile engine valves for refacing. Also used for holding small rods, bars, and tubes for machining. 3/8" chuck can be used in tailstock of lathe when fitted with solid arbor No. CE2304 or CE2305. Price and weight includes pinion key.



| Cat. No. | Capacity | Ship. Wt. |
|----------|--------------|------------|
| CE907 | 1/8" to 3/8" | 3 3/4 lbs. |
| CE925 | 3/8" to 1/2" | 4 1/2 lbs. |

Ground Cutter Bits for Truing Commutators

| Size of Bit | Single Bit | | Lot of Six Bits | |
|-------------|------------|-----------|-----------------|-------------|
| | Cat. No. | Ship. Wt. | Cat. No. | Ship. Wt. |
| 1/4" sq. | CE1363 | 4 ozs. | CE1744 | 10 ozs. |
| 3/8" sq. | CE1365 | 5 ozs. | CE1746 | 10 1/2 ozs. |
| 3/8" sq. | CE1366 | 5 ozs. | CE1747 | 11 ozs. |



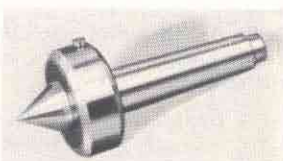
Lathe Centers and Drill Pads

G—Drill Pad, used in tailstock to support flat work for drilling.
 H—Crotch Center, used in tailstock for drilling round work.
 I—60° Center made of tool steel, heat-treated, hardened, and ground all over. For use in headstock or tailstock.
 J—60° Hollow Center for supporting centerless armature shafts, etc.
 L—Screw Center for wood turning.
 M—Spur Center for wood turning.
 N—Cup Center for wood turning.
 P—Carbide Tipped Center for heavy duty use in tailstock.
 Q—Half Center, used in tailstock for facing ends of shafts.

| Catalog Number | Description | Morse Taper | Ship. Wt. |
|----------------|-----------------------|-------------|-----------|
| CE2396 | G—Drill Pad..... | No. 2 | 3 lbs. |
| CE2397 | G—Drill Pad..... | No. 3 | 4 lbs. |
| CE2398 | H—Crotch Center..... | No. 2 | 2 lbs. |
| CE2399 | H—Crotch Center..... | No. 3 | 3 lbs. |
| CE2401 | I—60° Center..... | No. 2 | 1 lb. |
| CE2402 | I—60° Center..... | No. 3 | 2 lbs. |
| CE1896 | J—Hollow Center..... | No. 2 | 2 lbs. |
| CE1897 | J—Hollow Center..... | No. 3 | 2 lbs. |
| CE2413 | L—Screw Center..... | No. 2 | 3 lbs. |
| CE2414 | L—Screw Center..... | No. 3 | 4 lbs. |
| CE2416 | M—Spur Center..... | No. 2 | 2 lbs. |
| CE2417 | M—Spur Center..... | No. 3 | 5 lbs. |
| CE2422 | N—Cup Center..... | No. 2 | 1 lb. |
| CE2423 | N—Cup Center..... | No. 3 | 2 lbs. |
| CE1889 | P—Carbide Center..... | No. 2 | 1 lb. |
| CE1890 | P—Carbide Center..... | No. 3 | 2 lbs. |
| CE2424 | Q—Half Center..... | No. 2 | 1 lb. |
| CE2425 | Q—Half Center..... | No. 3 | 2 lbs. |

Ball Bearing Live Centers

Designed for maximum strength and rigidity, the Ball Bearing Live Centers are recommended for high speeds and heavy roughing cuts. Two styles are available, one having a 60° external point as shown above at right, and one having a 60° hollow as shown in the lower illustration. Both styles are made with No. 2 and No. 3 Morse standard tapers. The substantial precision ball bearing in which the center runs is easily replaceable.



| Catalog Number | Style of Center | Morse Taper | Shipping Weight |
|----------------|-----------------|-------------|-----------------|
| CE3900 | 60° Point | No. 2 | 3 lbs. |
| CE3901 | 60° Point | No. 3 | 5 lbs. |
| CE3903 | 60° Hollow | No. 2 | 3 lbs. |
| CE3904 | 60° Hollow | No. 3 | 5 lbs. |

Die Holder

For holding standard 1" or 1½" diameter button dies in tailstock spindle of lathe for cutting screw threads on work held in lathe chuck. Die holder has ½" hole, 3" deep for stock clearance. Made of a single piece of steel.



| Catalog Number | Takes Dies | Taper Shank | Shipping Weight |
|----------------|--------------|-------------|-----------------|
| CE1829 | 1" diameter | No. 2 | 2 lbs. |
| CE1834 | 1" diameter | No. 3 | 3 lbs. |
| CE1838 | 1½" diameter | No. 2 | 2 lbs. |
| CE1839 | 1½" diameter | No. 3 | 3 lbs. |

Pipe Centers

For mounting tubing, pipe, etc., between the lathe centers for machining. Centers have accurately ground 45° cone, and revolve on steel shanks.



Pipe Centers

| Cat. No. | Takes Pipe | Requires Shank | Shipping Weight |
|----------|------------|----------------|-----------------|
| CE2160 | ½" to 3" | CE2172 | 4 lbs. |
| CE2161 | 3" to 5" | CE2174 | 6 lbs. |
| CE2162 | 5" to 8" | CE2173 | 17 lbs. |

Pipe Center Shanks

| Cat. No. | Shank Taper | Take Centers | Shipping Weight |
|----------|-------------|-----------------|-----------------|
| CE2172 | No. 2 | CE2160 & CE2161 | 2 lbs. |
| CE2174 | No. 3 | CE2160 & CE2161 | 3 lbs. |
| CE2173 | No. 3 | CE2162 | 4 lbs. |

Hardened Pipe Center

CE2163. Takes pipe ½" to 3". Same as CE2160, but made of heat-treated and hardened steel.



Knock-out Bar

For removing headstock center and sleeve from spindle. Made of steel, with knurled handle and brass bushing.

| Catalog Number | Size Lathe | Outside Dia. | Total Length | Ship. Weight |
|----------------|--------------------------------|--------------|--------------|--------------|
| CE1475NK | 9" & Lt. Ten | ¾" | 16" | 4 lbs. |
| CE1475R | 10"-11½" Col. | 1" | 17½" | 5 lbs. |
| CE1475L | 10"-11" Col. | 1 ¼" | 17½" | 7 lbs. |
| CE1475QH | 13", 14 ½", 16", 16-24", & 2-H | 1 ½" | 28 ½" | 7 lbs. |

Combination Center Drill and Countersink

For drilling center hole and countersinking 60° angle for lathe center. Made of high speed tool steel.

| Dia. of Drill | Dia. of Body | Single Drill | | Lot of Twelve | |
|---------------|--------------|--------------|-----------|---------------|-----------|
| | | Cat. No. | Ship. Wt. | Cat. No. | Ship. Wt. |
| ¾" | 1 ¼" | CE2087 | 4 ozs. | CE2555 | 8 ozs. |
| 1 ¼" | 1 ¾" | CE2041 | 4 ozs. | CE2556 | 8 ozs. |
| 1 ½" | 2" | CE2088 | 4 ozs. | CE2557 | 8 ozs. |
| 1 ¾" | 2 ¼" | CE2042 | 4 ozs. | CE2558 | 8 ozs. |
| 2" | 2 ½" | CE2043 | 4 ozs. | CE2559 | 1 lb. |
| 2 ¼" | 2 ¾" | CE2044 | 6 ozs. | CE2560 | 2 lbs. |

Cat. No. CE2554—Set of 6 Combination Center Drills and Countersinks, one of each.



Center Drill Holder

The Center Drill Holder is designed for greater accuracy in center drilling. Holds drill rigidly.

| Catalog Number | Taper Shank | Diameter Will Hold | Shipping Weight |
|----------------|-------------|--------------------|-----------------|
| CE2338 | No. 2 | ½" | 1 lb. |
| CE2340 | No. 2 | 1 ¼" | 1 lb. |
| CE2339 | No. 2 | 1 ½" | 1 lb. |
| CE2341 | No. 2 | .302" | 1 lb. |
| CE2342 | No. 2 | ½" | 1 lb. |
| CE2346 | No. 3 | ½" | 2 lbs. |
| CE2343 | No. 3 | 1 ¼" | 2 lbs. |
| CE2347 | No. 3 | 1 ½" | 2 lbs. |
| CE2344 | No. 3 | .302" | 2 lbs. |
| CE2345 | No. 3 | 1 ¾" | 2 lbs. |



Face Plates

Face Plates are heavily constructed and ribbed on the back. Threaded to fit spindle nose of the lathe. Large Face Plates have slots for clamping work or special face plate fixtures. Small Face Plates have slots for driving lathe dog.

Small Face Plates for South Bend Lathes

| Catalog Number | Size Lathe | Outside Dia. | Thread | Shipping Weight |
|----------------|--|--------------|----------|-----------------|
| CL2175NK | 9", Lt. Ten & Series 900 | 5 1/8" | 1 1/2"-8 | 4 lbs. |
| CL2175R | 10"-11 1/16" Collet | 5 3/8" | 1 3/8"-8 | 5 lbs. |
| CL2175L | 10"-1" Collet & Series 1000 | 5 3/8" | 2 1/4"-8 | 5 lbs. |
| CL2175Q | 13"-1" Collet | 6 3/8" | 2 1/4"-8 | 8 lbs. |
| CL2175MH | 14 1/2", 16", 16-24", 1" Collet, & No. 2-H | 8 1/16" | 2 3/8"-6 | 13 lbs. |

Large Face Plates for South Bend Lathes

| Catalog Number | Size Lathe | Outside Dia. | Thread | Shipping Weight |
|----------------|-----------------------------|--------------|----------|-----------------|
| CL2180NK | 9", Lt. Ten & Series 900 | 7 3/8" | 1 1/2"-8 | 8 lbs. |
| CL2180R | 10"-11 1/16" Collet | 8 3/8" | 1 3/8"-8 | 10 lbs. |
| CL2180L | 10"-1" Collet & Series 1000 | 8 3/8" | 2 1/4"-8 | 10 lbs. |
| CL2180Q | 13"-1" Collet | 10 3/8" | 2 1/4"-8 | 19 lbs. |
| CL2180MH | 14 1/2", 16", 16-24", & 2-H | 13 1/4" | 2 3/8"-6 | 38 lbs. |
| CL2180V* | 16-24" | 22 3/8" | 2 3/8"-6 | 96 1/2 lbs. |

*This is an extra large face plate for mounting large diameter work in 16-24" lathe only.



Multi-Tapped Face Plate

This heavily constructed face plate has six slots and thirty tapped holes for clamping work or special work holding fixtures. The cored slots are 1/16" wide, and the tapped holes have 5/16"-18 threads. The face plate is made of cast iron, and is accurately machined all over. It has a precision milled thread for the spindle nose of the lathe, and is 1/8" thick.

| Catalog Number | Size Lathe | Outside Dia. | Spindle Thread | Shipping Weight |
|----------------|--------------------------------|--------------|----------------|-----------------|
| CL1483NK | 9", Lt. Ten & Ser. 900 | 8 1/2" | 1 1/2"-8 | 13 lbs. |
| CL1483R | 10"-11 1/16" Col. | 8 1/2" | 1 3/8"-8 | 13 lbs. |
| CL1483LQ | 10" & 13", 1" Col. & Ser. 1000 | 8 1/2" | 2 1/4"-8 | 13 lbs. |



Spindle Sleeves for Lathes

| Catalog Number | Size Lathe | Taper Inside | Ship. Wt. |
|----------------|--|--------------|-----------|
| CL205NK | 9" Light Ten and Series 900 | No. 2 | 1 lb. |
| CL205R | 10"-11 1/16" Collet | No. 2 | 1 lb. |
| CL205T | 10"-11 1/16" Collet | No. 3 | 1 lb. |
| CL205L | 10"-1" C., Ser. 1000, 13", 14 1/2", 16", 16-24" and 2-H | No. 2 | 2 lbs. |
| CL205H | 10"-1" C., Ser. 1000, 13", 14 1/2", 16", 16-24", and 2-H | No. 3 | 2 lbs. |

Taper Reducing Sleeve

Standard Morse Taper Reducing Sleeves for fitting drills, reamers, and other taper shank tools to spindle taper of lathe or other machine.



| Catalog No. | Morse Taper | | Shipping Weight |
|-------------|-------------|--------|-----------------|
| | Outside | Inside | |
| CE2525 | 2 | 1 | 8 ozs. |
| CE2526 | 3 | 1 | 12 ozs. |
| CE2527 | 3 | 2 | 12 ozs. |



Fixture Plate

This Fixture Plate is used for mounting special fixtures, jigs, holding devices, and tools on the spindle nose of the lathe. Being accurately machined all over, and threaded to fit the spindle nose of the lathe, its use will save much time and expense when tooling up a lathe for a production operation which calls for a special holding fixture fitted to the spindle nose.

| Catalog Number | Size Lathe | Outside Dia. | Spindle Thread | Shipping Weight |
|----------------|---------------------------------|--------------|----------------|-----------------|
| CL46NK | 9", Lt. Ten & Ser. 900 | 7 1/8" | 1 1/2"-8 | 9 lbs. |
| CL46R | 10"-11 1/16" Col. | 9" | 1 3/8"-8 | 14 lbs. |
| CL46L | 10"-1" Col. & Ser. 1000 | 9" | 2 1/4"-8 | 14 lbs. |
| CL46Q | 13"-1" Collet | 10 1/4" | 2 1/4"-8 | 22 lbs. |
| CL46MH | 14 1/2", 16", 16-24", & No. 2-H | 11 3/4" | 2 3/8"-6 | 29 lbs. |

Threaded Chuck Plate

Semi-machined threaded chuck plates are supplied for those who wish to fit their own chucks to South Bend Lathes. These are heavily constructed cast-iron plates, accurately threaded to fit the spindle nose of the lathe. The back of the plate is finished, and the outside diameter and face are rough machined. When ordering, be sure to specify the correct plate to fit the diameter of the recess in back of chuck. Stock is allowed for finishing to diameter shown in the table.



| Catalog Number | Size Lathe | Spindle Nose Th'd | O.D. of Plate | Shipping Weight |
|----------------|--------------------------------------|-------------------|---------------|-----------------|
| CE2703NK | 9", Lt. Ten and Series 900 | 1 1/2"-8 | 3 1/2" | 3 lbs. |
| CE2704NK | | | 5" | 4 lbs. |
| CE2709NK | | | 7 1/2" | 10 lbs. |
| CE2703LO | 10"-1" Col. 13"-1" Col. Ser. 1000 | 2 1/4"-8 | 3 1/2" | 4 lbs. |
| CE2704LO | | | 5" | 5 lbs. |
| CE2706LO | | | 5 1/2" | 6 lbs. |
| CE2707LO | | | 6 1/4" | 7 lbs. |
| CE2708LO | | | 7 1/2" | 11 lbs. |
| CE2709LO | | | 9" | 13 lbs. |
| CE2710LO | | | 10 1/4" | 18 lbs. |
| CE2703RT | 10"-11 1/16" Col. | 1 3/8"-8 | 3 1/2" | 4 lbs. |
| CE2704RT | | | 5" | 6 lbs. |
| CE2705RT | | | 5 1/2" | 8 lbs. |
| CE2707RT | | | 6 1/4" | 9 lbs. |
| CE2708RT | | | 7 1/2" | 12 lbs. |
| CE2709RT | | | 9" | 16 lbs. |
| CE2710RT | | | 10 1/4" | 20 lbs. |
| CE2704MH | 14 1/2", 16", 16-24", 1" Col., & 2-H | 2 3/8"-6 | 5" | 8 lbs. |
| CE2705MH | | | 5 1/2" | 8 lbs. |
| CE2706MH | | | 6" | 9 lbs. |
| CE2707MH | | | 6 1/4" | 9 lbs. |
| CE2708MH | | | 7 1/2" | 13 lbs. |
| CE2710MH | | | 10 1/4" | 20 lbs. |
| CE2711MH | | | 11 3/4" | 24 lbs. |

Chuck Plates Fitted to Chucks

Catalog numbers listed below cover fitting charges when chucks are shipped to us to be fitted with chuck plates threaded to fit South Bend Lathes. Fitting charges do not include transportation costs.

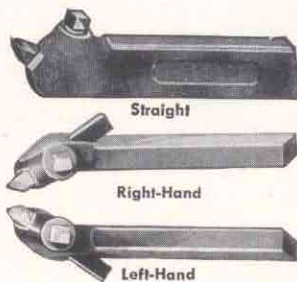


| Catalog Number | Size Lathe |
|----------------|---|
| CE2935NK | 9", Light Ten, & Series 900..... |
| CE2935RT | 10"-11 1/16" Collet..... |
| CE2935LO | 10"-1" Collet, Series 1000, & 13"-1" Collet.... |
| CE2935MH | 14 1/2", 16", 16-24", 1" Collet, & 2-H..... |

Turning Tool Holders

Drop-forged steel, heat-treated and hardened lathe tool holders. Supplied in three styles: straight, right-hand, and left-hand as illustrated.

Price includes: tool holder with hardened steel set screw, one unground hardened high-speed steel cutter bit, and a hardened drop-forged steel wrench.

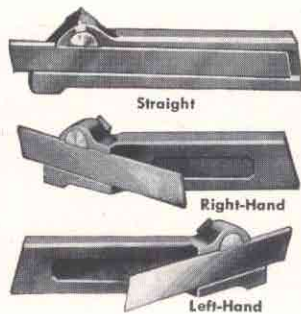


| Cat. No. | Size Lathe | Size Shank | Size Cutter | Ship. Wt. |
|--|-----------------------|---------------|-------------|-----------|
| Straight Shank Turning Tool Holders | | | | |
| CE847S | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 1/2" x 1/2" | 1 lb. |
| CE846S | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 1/2" x 1/2" | 2 lbs. |
| CE852S | 13" | 3/8" x 1 1/8" | 3/8" x 3/8" | 3 lbs. |
| CE853S | 14 1/2", 16" & 16-24" | 3/8" x 1 3/8" | 3/8" x 3/8" | 3 lbs. |
| Right-Hand Turning Tool Holders | | | | |
| CE847R | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 1/2" x 1/2" | 1 lb. |
| CE846R | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 1/2" x 1/2" | 2 lbs. |
| CE852R | 13" | 3/8" x 1 1/8" | 3/8" x 3/8" | 3 lbs. |
| CE853R | 14 1/2", 16" & 16-24" | 3/8" x 1 3/8" | 3/8" x 3/8" | 3 lbs. |
| Left-Hand Turning Tool Holders | | | | |
| CE847L | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 1/2" x 1/2" | 1 lb. |
| CE846L | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 1/2" x 1/2" | 2 lbs. |
| CE852L | 13" | 3/8" x 1 1/8" | 3/8" x 3/8" | 3 lbs. |
| CE853L | 14 1/2", 16" & 16-24" | 3/8" x 1 3/8" | 3/8" x 3/8" | 3 lbs. |

Cutting-off Tool Holders

Cutting-off tool holders are made of drop-forged steel, heat-treated and hardened. Supplied in three styles: straight, right-hand, and left-hand as illustrated.

Price includes: tool holder, one cutter blade, and wrench.



| Cat. No. | Size Lathe | Size Shank | Size Cutter | Ship. Wt. |
|--|-----------------------|---------------|---------------|-----------|
| Straight Shank Cutting-off Tool Holders | | | | |
| CE833S | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 3/32" x .595" | 1 lb. |
| CE736S | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 3/32" x .475" | 2 lbs. |
| CE883S | 13" | 3/8" x 1 1/8" | 1/8" x .735" | 3 lbs. |
| CE884S | 14 1/2", 16" & 16-24" | 3/8" x 1 3/8" | 1/8" x .870" | 3 lbs. |
| Right-Hand Cutting-off Tool Holders | | | | |
| CE833R | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 3/32" x .595" | 1 lb. |
| CE736R | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 3/32" x .475" | 2 lbs. |
| CE883R | 13" | 3/8" x 1 1/8" | 1/8" x .735" | 3 lbs. |
| CE884R | 14 1/2", 16" & 16-24" | 3/8" x 1 3/8" | 1/8" x .870" | 3 lbs. |
| Left-Hand Cutting-off Tool Holders | | | | |
| CE736L | 9", Lt. Ten, & 10" | 3/8" x 1 1/8" | 3/32" x .475" | 2 lbs. |
| CE883L | 13" | 3/8" x 1 1/8" | 1/8" x .735" | 3 lbs. |
| CE884L | 14 1/2", 16" & 16-24" | 3/8" x 1 3/8" | 1/8" x .870" | 3 lbs. |

Cutter Bit Grinding Gauge

For grinding the correct front clearance, side clearance, front rake, and side rake on lathe tool cutter bits for machining iron and steel. Made of stainless steel. Instructions for using are packed with each gauge.

No. CE2169. Shipping weight 1/2 lb.

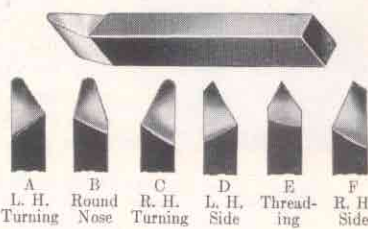


SOUTH BEND LATHE WORKS

Ground Cutter Bits for Forged Turning Tool Holders

These cutter bits are made of good quality high speed steel and are heat-treated and hardened.

When ordering, be sure to specify the catalog numbers and the letters designating shapes of bits wanted.



| Size Square Inch | Length Cutter Inches | Single Bit | | Set of 6 Bits | |
|------------------|----------------------|------------|-----------|---------------|-------------|
| | | Cat. No. | Ship. Wt. | Cat. No. | Ship. Wt. |
| 1/4 | 2 | CE1305 | 4 ozs. | CE1779 | 10 ozs. |
| 3/16 | 2 1/2 | CE1313 | 5 ozs. | CE1777 | 10 1/2 ozs. |
| 3/8 | 3 | CE1316 | 5 ozs. | CE1778 | 11 ozs. |

Ground Cutter Bits for 10 in 1 Tool Holders

High speed steel cutter bits ground for use in 10 in 1 tool holder listed on page 69. Made in four shapes: T for turning, H for threading, R for facing on right side of work, and L for facing on left side of work. When ordering single bits be sure to specify shape wanted.

| Size Square Inch | Length Cutter Inches | Single Bit | | Set of 4 Bits | |
|------------------|----------------------|------------|-----------|---------------|-----------|
| | | Cat. No. | Ship. Wt. | Cat. No. | Ship. Wt. |
| 3/8 | 3 | CE2267 | 5 ozs. | CE2776 | 1 lb. |
| 1/2 | 4 | CE2268 | 8 ozs. | CE2777 | 2 lbs. |
| 5/8 | 4 1/2 | CE2269 | 1 lb. | CE2778 | 3 lbs. |

Unground Cutter Bits

These cutter bits are the same quality as those listed above but they are not ground. They are heat-treated and hardened and are ready for use when sharpened. Specify catalog number and size when ordering cutter bits.

Unground High Speed Steel Cutter Bits

| Catalog Number | Size Square | Length Cutter | Shipping Weight |
|----------------|-------------|---------------|-----------------|
| CE3531 | 3/16" | 1" | 3 ozs. |
| CE3532 | 3/16" | 1 1/2" | 3 ozs. |
| CE3533 | 3/16" | 2" | 4 ozs. |
| CE3534 | 3/16" | 2 1/2" | 5 ozs. |
| CE3535 | 3/16" | 3" | 5 ozs. |
| CE3536 | 3/16" | 3 1/2" | 7 ozs. |
| CE3537 | 3/16" | 4" | 12 ozs. |
| CE3538 | 3/16" | 4 3/4" | 1 lb. |

Unground High Speed Steel Cutter Bits in Lots

| Size Square Inch | Length Cutter Inches | Lot of 6 Bits | | Lot of 24 Bits | |
|------------------|----------------------|---------------|-------------|----------------|-----------|
| | | Cat. No. | Ship. Wt. | Cat. No. | Ship. Wt. |
| 3/16 | 1 | ..... | ..... | CE2370 | 1 lb. |
| 3/16 | 1 1/2 | ..... | ..... | CE2371 | 1 lb. |
| 3/16 | 2 | CE1629 | 10 ozs. | CE2372 | 2 lbs. |
| 3/16 | 2 1/2 | CE1632 | 10 1/2 ozs. | CE2373 | 3 lbs. |
| 3/16 | 3 | CE1633 | 11 ozs. | CE2374 | 4 lbs. |
| 3/16 | 3 1/2 | CE2501 | 2 lbs. | CE2375 | 6 lbs. |
| 3/16 | 4 | CE2502 | 3 lbs. | CE2393 | 13 lbs. |
| 3/16 | 4 3/4 | CE2503 | 4 lbs. | CE2376 | 15 lbs. |

Blades for Cutting-off Tool Holders

Made from high-speed steel, heat-treated, hardened, ground on the edges, ready to use in tool holders or 10 in 1 Tool Holder.

| Cat. No. | Size of Blade | Ship. Wt. |
|----------|------------------------|-----------|
| CE876 | 3/32" x .595" x 5" | 5 ozs. |
| CE1192 | 3/32" x .475" x 4 1/2" | 5 ozs. |
| CE878 | 1/8" x .735" x 6" | 6 ozs. |
| CE879 | 1/8" x .870" x 7" | 8 ozs. |

Style "B" Boring Tool

Made of drop-forged steel. Cutter can be set either straight or at a 45-degree angle. Price includes: drop-forged steel boring tool holder with hardened steel set screws, sleeve bar, end cap, two wrenches, and two unground high speed steel cutter bits. Will take the following sizes of boring bars: No. CE423, $\frac{1}{8}$ " to $\frac{1}{2}$ "; No. CE431, $\frac{1}{4}$ " to $\frac{3}{4}$ "; No. CE432, $\frac{3}{8}$ " to 1".



| Cat. No. | Size of Lathe | Size of Shank, Inches | Size Bar Inches | Size of Cutter, Inch | Ship. Wt. Lbs. |
|----------|---------------------------------|---------------------------------|------------------------------------|---------------------------------|----------------|
| CE423 | 9", Lt. 10, & 10" | $\frac{5}{16}$ x $\frac{3}{4}$ | $\frac{1}{8}$ x 7 $\frac{5}{8}$ | $\frac{3}{16}$ x $\frac{5}{16}$ | 2 |
| CE431 | 13" | $\frac{1}{2}$ x 1 $\frac{1}{2}$ | $\frac{3}{4}$ x 11 | $\frac{1}{4}$ x $\frac{1}{4}$ | 5 |
| CE432 | 14 $\frac{1}{2}$ ", 16", 16-24" | $\frac{3}{8}$ x 1 $\frac{3}{8}$ | $\frac{15}{16}$ x 13 $\frac{1}{4}$ | $\frac{5}{16}$ x $\frac{5}{16}$ | 8 |

Style "D" Boring Tool

For boring or threading work of small internal diameter. Price includes drop-forged steel boring tool holder, one boring bar, and wrench. Will take the following sizes of boring bars: No. CE3175, $\frac{1}{8}$ " to $\frac{1}{2}$ "; No. CE3176, $\frac{1}{4}$ " to $\frac{3}{4}$ "; No. CE3177, $\frac{3}{8}$ " to 1".



| Cat. No. | Size of Lathe | Size of Shank, Inches | Size Bar, Inches | Ship. Wt. Lbs. |
|----------|---------------------------------|---------------------------------|--------------------|----------------|
| CE3175 | 9", Lt. 10, & 10" | $\frac{5}{16}$ x $\frac{3}{4}$ | $\frac{3}{4}$ x 5 | 2 |
| CE3176 | 13" | $\frac{1}{2}$ x 1 $\frac{1}{2}$ | $\frac{3}{8}$ x 7 | 4 |
| CE3177 | 14 $\frac{1}{2}$ ", 16", 16-24" | $\frac{5}{8}$ x 1 $\frac{3}{8}$ | $\frac{7}{16}$ x 8 | 6 |

Solid Boring Bar

For use with Style "B" and "D" Boring Tools and in the 10 in 1 Tool Holder. High speed steel tip welded onto carbon steel shank. Can be ground for either boring or internal thread cutting operations.



| Cat. No. | Bar Inches | Ship. Wt. |
|----------|---------------------------------|-----------|
| CE3856 | $\frac{1}{8}$ x 4 | 3 ozs. |
| CE3857 | $\frac{1}{8}$ x 4 $\frac{1}{2}$ | 4 ozs. |
| CE3858 | $\frac{1}{4}$ x 5 | 5 ozs. |
| CE3859 | $\frac{3}{8}$ x 6 | 5 ozs. |
| CE3860 | $\frac{1}{2}$ x 7 | 8 ozs. |
| CE3861 | $\frac{3}{4}$ x 8 | 1 lb. |

Sleeve Boring Bar

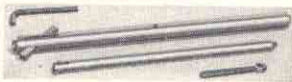
For use with Style "B" and "D" Boring Tools, and in the 10 in 1 Tool Holder. Sleeve can be adjusted to hold square high speed steel cutter bit at 45° and 90° angles for boring and inside thread cutting operations. Price includes two cutter bits and wrench.



| Cat. No. | Size of Bar | Size of Cutter Bit | Ship. Wt. |
|----------|--------------------------------------|-------------------------------------|-----------|
| CE2419 | $\frac{1}{8}$ " x 7 $\frac{5}{8}$ " | $\frac{3}{16}$ " x $\frac{5}{16}$ " | 1 lb. |
| CE2420 | $\frac{3}{16}$ " x 11" | $\frac{3}{16}$ " x $\frac{3}{4}$ " | 2 lbs. |
| CE2421 | $\frac{1}{2}$ " x 13 $\frac{1}{4}$ " | $\frac{3}{16}$ " x $\frac{5}{16}$ " | 4 lbs. |

Plain Boring Bar

For use with 10 in 1 Tool Holder and Boring Tool Holders. Bars will hold cutter bit at 45° and 90° angles. Price includes cutter bit and wrench.



| Cat. No. | Bar Size | Cutter Bit | Ship. Wt. |
|----------|--------------------------------------|-------------------------------------|-----------|
| CE2119 | $\frac{3}{4}$ " x 12 $\frac{1}{8}$ " | $\frac{1}{4}$ " x $\frac{1}{4}$ " | 3 lbs. |
| CE2121 | 1 $\frac{1}{4}$ " x 18" | $\frac{3}{16}$ " x $\frac{1}{16}$ " | 8 lbs. |

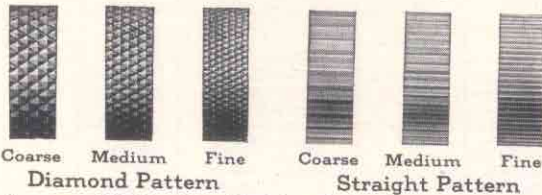
Knurling Tool

Knurling tool holder is made of drop-forged steel, heat-treated and hardened. Knurls are made of tool steel, hardened and tempered. Price includes: holder with choice of knurls in coarse, medium, or fine; straight, or diamond shape. When ordering specify pattern of knurls wanted; otherwise medium diamond knurls will be supplied.



| Cat. No. | Size Lathe | Shank Size | Ship. Wt. |
|----------|-----------------------------------|-------------------------------------|-----------|
| CE820 | 9", Lt. 10, & 10" | $\frac{3}{8}$ " x $\frac{3}{4}$ " | 2 lbs. |
| CE665 | 9", Lt. 10, & 10" | $\frac{1}{2}$ " x $\frac{3}{4}$ " | 2 lbs. |
| CE893 | 13" | $\frac{1}{2}$ " x 1 $\frac{1}{8}$ " | 2 lbs. |
| CE894 | 14 $\frac{1}{2}$ ", 16", & 16-24" | $\frac{3}{8}$ " x 1 $\frac{1}{8}$ " | 3 lbs. |

Extra Knurls for Knurling Tool



For use with Knurling Tool listed above, and with 10 in 1 Tool Holder listed on page 69. Illustrations above show actual size of knurling produced. Supplied in pairs.

| Cat. No. | Pattern | Size | Fits Knurling Tools | Ship. Wt. |
|----------|-----------------|------------------------------------|---------------------|-----------|
| CE3150 | Fine Diamond | $\frac{3}{8}$ " x $\frac{5}{16}$ " | CE820 & CE665 | 4 ozs. |
| CE3151 | Med. Diamond | $\frac{3}{8}$ " x $\frac{5}{16}$ " | CE820 & CE665 | 4 ozs. |
| CE3152 | Coarse Diamond | $\frac{3}{8}$ " x $\frac{5}{16}$ " | CE820 & CE665 | 4 ozs. |
| CE3153 | Fine Straight | $\frac{3}{8}$ " x $\frac{5}{16}$ " | CE820 & CE665 | 4 ozs. |
| CE3154 | Med. Straight | $\frac{3}{8}$ " x $\frac{5}{16}$ " | CE820 & CE665 | 4 ozs. |
| CE3155 | Coarse Straight | $\frac{3}{8}$ " x $\frac{5}{16}$ " | CE820 & CE665 | 4 ozs. |
| CE3156 | Fine Diamond | $\frac{3}{8}$ " x $\frac{3}{8}$ " | CE893 & CE894 | 5 ozs. |
| CE3157 | Med. Diamond | $\frac{3}{8}$ " x $\frac{3}{8}$ " | CE893 & CE894 | 5 ozs. |
| CE3158 | Coarse Diamond | $\frac{3}{8}$ " x $\frac{3}{8}$ " | CE893 & CE894 | 5 ozs. |
| CE3159 | Fine Straight | $\frac{3}{4}$ " x $\frac{3}{4}$ " | CE893 & CE894 | 5 ozs. |
| CE3160 | Med. Straight | $\frac{3}{4}$ " x $\frac{3}{4}$ " | CE893 & CE894 | 5 ozs. |
| CE3161 | Coarse Straight | $\frac{3}{4}$ " x $\frac{3}{4}$ " | CE893 & CE894 | 5 ozs. |

Fits all sizes of 10 in 1 Tool Holders.

Threading Tool

Made of drop-forged steel. Cutter requires grinding on top edge only to sharpen. Price includes: threading tool holder with hardened steel set screw; wrench; and one high speed steel single point cutter. Choice of 60° cutter for U.S. Standard, V, or metric thread; or 55° cutter for Whitworth Standard thread. When ordering specify cutter wanted. The 60° cutter will be furnished unless otherwise specified.



| Cat. No. | Size of Lathe | Size of Shank | Ship. Wt. |
|----------|-----------------------------------|-------------------------------------|-----------|
| CE845 | 9", Lt. 10, & 10" | $\frac{3}{8}$ " x $\frac{3}{4}$ " | 2 lbs. |
| CE648 | 9", Lt. 10, & 10" | $\frac{1}{2}$ " x $\frac{3}{4}$ " | 2 lbs. |
| CE867 | 13" | $\frac{1}{2}$ " x 1 $\frac{1}{8}$ " | 3 lbs. |
| CE868 | 14 $\frac{1}{2}$ ", 16", & 16-24" | $\frac{5}{8}$ " x 1 $\frac{3}{8}$ " | 4 lbs. |

Extra Cutters for Threading Tool

For use with Threading Tool listed above. Made of high speed steel, thread angle ground to correct form and backed off for proper clearance. 60° cutters are for U.S. Standard, V, or metric threads. 55° cutters are for Whitworth Standard threads.

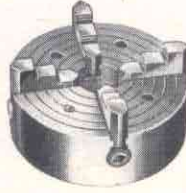


| Catalog Number | | Fits Thread Tools | Shipping Weight |
|----------------|-----------|-------------------|-----------------|
| 60° Angle | 55° Angle | | |
| CE3480 | CE3483 | CE845 & CE648 | 3 ozs. |
| CE3481 | CE3484 | | 4 ozs. |
| CE3482 | CE3485 | | 5 ozs. |

4-Jaw Independent Lathe Chucks

These chucks have four reversible jaws with individual screw adjustment. Chuck body is ground and chuck jaws are hardened and ground.

Price includes wrench, and chuck plate fitted to lathe spindle and chuck. Size chuck recommended for each size lathe is shown in **bold face type**.



| Catalog Number | Size of Chuck | Size of Lathe | Ship. Wt. |
|----------------|---------------|--------------------|-----------|
| CL4006NK | 6" | 9" and Light Ten | 13 lbs. |
| CL4206NK | 6" | 9" and Light Ten | 18 lbs. |
| CL4006R | 6" | 10"-11/16" Collet | 13 lbs. |
| CL4206R | 6" | 10"-11/16" Collet | 18 lbs. |
| CL4207R | 7 1/2" | 10"-11/16" Collet | 37 lbs. |
| CL4006L | 6" | 10"-1" Collet | 13 lbs. |
| CL4206LQ | 6" | 10"-1" Collet | 18 lbs. |
| CL4207LQ | 7 1/2" | 10"-1" Collet | 38 lbs. |
| CL4206LQ | 6" | 13"-1" Collet | 18 lbs. |
| CL4207LQ | 7 1/2" | 13"-1" Collet | 38 lbs. |
| CL4209Q | 9" | 13"-1" Collet | 46 lbs. |
| CL4207MH | 7 1/2" | 14 1/2"-1" Collet | 38 lbs. |
| CL4209MH | 9" | 14 1/2"-1" Collet | 46 lbs. |
| CL4210MH | 10" | 14 1/2"-1" Collet | 57 lbs. |
| CL4207MH | 7 1/2" | 16", 16-24", & 2-H | 38 lbs. |
| CL4209MH | 9" | 16", 16-24", & 2-H | 46 lbs. |
| CL4210MH | 10" | 16", 16-24", & 2-H | 57 lbs. |
| CL4212H | 12" | 16", 16-24", & 2-H | 96 lbs. |

3-Jaw Universal Lathe Chucks



Universal Chucks are supplied either with two sets of jaws or with one set of reversible jaws as indicated in table below. Chuck body is ground and jaws are hardened. Chuck jaws are moved simultaneously by a scroll, and work is automatically centered. Price includes wrench and threaded chuck

plate fitted to lathe spindle. Size of chuck recommended for each size lathe is shown in **bold face type**.

| Catalog Number | Size of Chuck | Size of Lathe | Ship. Wt. |
|----------------|---------------|---------------|-----------|
|----------------|---------------|---------------|-----------|

Universal Chucks With One Set of Reversible Jaws

| | | | |
|----------|----|-------------------|---------|
| CL6005NK | 5" | 9" and Light Ten | 12 lbs. |
| CL6506NK | 6" | 9" and Light Ten | 26 lbs. |
| CL6005R | 5" | 10"-11/16" Collet | 12 lbs. |
| CL6005LQ | 5" | 10"-1" Collet | 12 lbs. |
| CL6506R | 6" | 10"-11/16" Collet | 26 lbs. |
| CL6506LQ | 6" | 10"-1" Collet | 26 lbs. |
| CL6005LQ | 5" | 13"-1" Collet | 12 lbs. |
| CL6506LQ | 6" | 13"-1" Collet | 26 lbs. |

Universal Chucks With Two Sets of Jaws

| | | | |
|----------|--------|--------------------|---------|
| CL3005NK | 5" | 9" and Light Ten | 13 lbs. |
| CL3505NK | 5" | 9" and Light Ten | 19 lbs. |
| CL3506NK | 6" | 9" and Light Ten | 28 lbs. |
| CL3005R | 5" | 10"-11/16" Collet | 13 lbs. |
| CL3505R | 5" | 10"-11/16" Collet | 19 lbs. |
| CL3506R | 6" | 10"-11/16" Collet | 28 lbs. |
| CL3005L | 5" | 10"-1" Collet | 13 lbs. |
| CL3505LQ | 5" | 10"-1" Collet | 19 lbs. |
| CL3506LQ | 6" | 10"-1" Collet | 28 lbs. |
| CL3505LQ | 5" | 13"-1" Collet | 19 lbs. |
| CL3506LQ | 6" | 13"-1" Collet | 28 lbs. |
| CL3507Q | 7 1/2" | 13"-1" Collet | 47 lbs. |
| CL3505MH | 5" | 14 1/2"-1" Collet | 19 lbs. |
| CL3506MH | 6" | 14 1/2"-1" Collet | 28 lbs. |
| CL3507MH | 7 1/2" | 14 1/2"-1" Collet | 47 lbs. |
| CL3509MH | 9" | 14 1/2"-1" Collet | 59 lbs. |
| CL3505MH | 5" | 16", 16-24", & 2-H | 19 lbs. |
| CL3506MH | 6" | 16", 16-24", & 2-H | 28 lbs. |
| CL3507MH | 7 1/2" | 16", 16-24", & 2-H | 47 lbs. |
| CL3509MH | 9" | 16", 16-24", & 2-H | 59 lbs. |

Face Plate Chuck

This inexpensive Face Plate Chuck can be used for holding round, square, or irregular work. Maximum capacity for round work is 7 1/2" in diameter. Face plate is 8" in diameter, with angular lines to aid in centering.



| Catalog Number | Size of Lathe | Spindle Thread | Shipping Weight |
|----------------|-----------------|----------------|-----------------|
| CL2155NK | 9" and Lt. Ten | 1 1/8"-8 | 14 lbs. |
| CL2155R | 10"-11/16" Col. | 1 3/8"-8 | 16 lbs. |
| CL2155L | 10"-1" Collet | 2 1/4"-8 | 16 lbs. |

3-Jaw Drill Chucks

These drill chucks are so constructed that they will hold the drill securely and accurately. Jaws are tempered steel. Price includes pinion key, but does not include arbor.



| Cat. No. | Make of Chuck | Capacity of Chuck | Net Wt. Lbs. | Ship. Wt. Lbs. |
|----------|---------------|-------------------|--------------|----------------|
| CE1200 | Jacobs | 0 to 3/8 in. | 1 1/8 | 1 7/8 |
| CE1201 | Jacobs | 0 to 1/2 in. | 1 3/4 | 2 3/8 |
| CE1202 | Jacobs | 3/16 to 3/4 in. | 3 1/2 | 3 1/2 |
| CE1206 | Jacobs | 3/8 to 1 in. | 6 3/8 | 7 1/2 |
| CE219 | Almond | 0 to 3/8 in. | 1 3/8 | 1 7/8 |
| CE220 | Almond | 0 to 1/2 in. | 1 3/4 | 2 1/8 |
| CE327 | Almond | 1/8 to 3/4 in. | 3 1/2 | 3 3/4 |
| CE328 | Almond | 3/8 to 1 in. | 5 3/4 | 6 3/8 |

Taper Arbors for Drill Chucks

For fitting drill chuck to taper of lathe headstock spindle or tailstock spindle.



| For Drill Chuck | No. 2 Morse Taper | | No. 3 Morse Taper | |
|-----------------|-------------------|------------|-------------------|------------|
| | Cat. No. | Ship. Wt. | Cat. No. | Ship. Wt. |
| CE1200 | CE2300 | 3/8 lb. | CE2301 | 3/4 lb. |
| CE1201 | CE2302 | 1/2 lb. | CE2303 | 5/8 lb. |
| CE1202 | CE2304 | 3/4 lb. | CE2305 | 3/4 lb. |
| CE1206 | CE2306 | 1 1/2 lbs. | CE2307 | 1 1/2 lbs. |
| CE219 | CE2300 | 3/8 lb. | CE2301 | 3/4 lb. |
| CE220 | CE2302 | 1/2 lb. | CE2303 | 5/8 lb. |
| CE327 | CE2308 | 3/4 lb. | CE2309 | 1 1/2 lbs. |
| CE328 | CE2308 | 3/4 lb. | CE2309 | 1 1/2 lbs. |

Straight Arbors for Drill Chucks

For Fitting Drill Chuck to Hole in Turret Head

| For Drill Chucks | 5/8" Diameter | 3/4" Diameter | 1 1/2" Diameter |
|------------------|---------------|---------------|-----------------|
| | Cat. No. | Cat. No. | Cat. No. |
| CE1200 or CE219 | CE2360 | CE2361 | CE2377 |
| CE1201 or CE220 | CE2362 | CE2363 | CE2378 |
| CE1202 | CE2364 | CE2365 | CE2379 |
| CE1206 | CE2366 | CE2367 | CE2380 |
| CE327 or CE328 | CE2368 | CE2369 | CE2381 |

Semi-Machined Drill Chuck Arbors



For fitting drill chucks and other tools to lathe spindle or turret head. Must be machined to fit drill chuck or other tool.

| Cat. No. | Shank | Ship. Wt. |
|----------|------------------------|-----------|
| CE1500 | No. 2 Morse Taper | 1 lb. |
| CE1501 | No. 3 Morse Taper | 2 lbs. |
| CE2325 | 5/8" Diameter Straight | 1 lb. |
| CE2326 | 3/4" Diameter Straight | 1 lb. |

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CL2820L
CL2820Q
CL2820M
CL2820H

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CE1413H

SOUTH B



Chuck and Tool Assortments

The chucks and tools in the assortments listed are recommended for use with the various sizes of South Bend Lathes. They include the basic equipment required for the average shop for general machine work, such as turning, boring, drilling, cutting-off, chucking, etc.

11-Tool Assortment with Independent Lathe Chuck

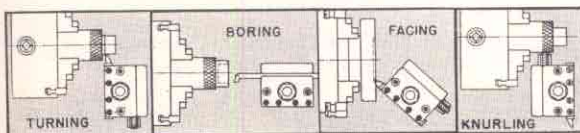
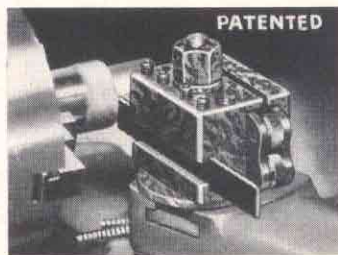
| Item | Description |
|------|--|
| 1 | 4-Jaw Independent Lathe Chuck fitted to lathe. Sizes: 6 in. on 9" and 10" Lathes; 7 1/2 in. on 13" Lathe; 9 in. on 14 1/2" Lathe; 10 in. on 16" and 16-24" Lathes. |
| 2 | Jacobs 3-Jaw Drill Chuck. Sizes: 1/2 in. on 9" and 10" Lathes; 3/4 in. on 13" and 14 1/2" Lathes; 1 in. on 16" and 16-24" Lathes. |
| 3 | Arbor Fitted to above Drill Chuck. |
| 4 | 10 in 1 Tool Holder with medium diamond knurls. |
| 5 | 4 Ground Cutter Bits for 10 in 1 Tool Holder. |
| 6 | Cut-off Blade for 10 in 1 Tool Holder. |
| 7 | Sleeve Boring Bar for 10 in 1 Tool Holder. |
| 8-11 | 4 Malleable Lathe Dogs. Sizes: 1/2", 3/4", 1", and 1 1/4" on 9" and 10" Lathes; 1/2", 3/4", 1", and 1 1/2" on all others. |

Complete Assortments as Listed Above

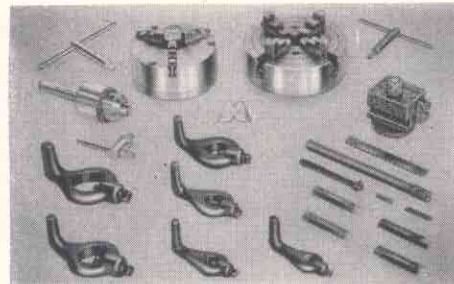
| Catalog Number | Size Lathe | Shipping Weight |
|----------------|--------------------|-----------------|
| CL2820NK | 9" & Lt. Ten | 25 lbs. |
| CL2820R | 10"-11 1/2" Collet | 30 lbs. |
| CL2820L | 10"-1" Collet | 31 lbs. |
| CL2820Q | 13"-1" Collet | 52 lbs. |
| CL2820M | 14 1/2"-1" Collet | 75 lbs. |
| CL2820H | 16" & 16-24" | 89 lbs. |

10 in 1 Tool Holder

The 10 in 1 Tool Holder replaces the conventional tool post and various tool holders ordinarily used for general lathe work. It provides rigid support for turning, boring, threading, and cut-off tool bits. In addition, it is equipped with a self-aligning knurling head having No. CE3151 medium diamond knurls. Screw adjustments for tool height are easily made, and they stay put. No readjustment is required when replacing tools. This tool block can be adapted to fit other makes of lathes.



| Catalog Number | Size Lathe Inches | Holds Cutter Bits Inch | Holds Boring Bars Inches | Holds Cut-off Blades Inch | Ship. Wt. Lbs. |
|----------------|-------------------|------------------------|--------------------------|---------------------------|----------------|
| CE1413NK | 9 & Lt. Ten | 3/8" x 3/8" | 3/8" to 3/4" | 1/2" x .595 | 5 |
| CE1413R | 10 | 3/8" x 3/8" | 3/8" to 3/4" | 3/8" x .595 | 5 |
| CE1413T | 13 | 1/2" x 1/2" | 1/2" to 1 1/4" | 1/2" x .735 | 7 |
| CE1413F | 14 1/2 | 1/2" x 1/2" | 1/2" to 1 1/4" | 1/2" x .870 | 10 |
| CE1413H | 16 & 16-24 | 5/8" x 5/8" | 1/2" to 1 1/4" | 1/2" x .870 | 10 |



15-Tool Assortment for 9" and Light Ten Lathes

This is a more complete assortment than those listed at left, and consists of the following equipment:

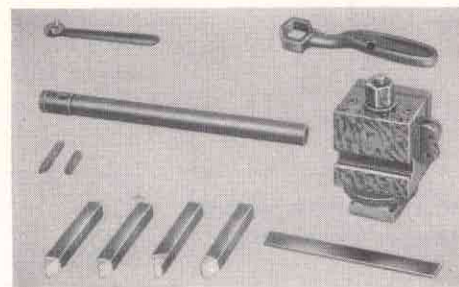
| Item | Cat. No. | Description |
|------|----------|--|
| 1 | CL4006NK | 6" Four-Jaw Independent Lathe Chuck, fitted |
| 2 | CL6005NK | 5" Three-Jaw Universal Lathe Chuck, fitted |
| 3 | CE1201 | Jacobs Three-Jaw Drill Chuck, 1/2" capacity |
| 4 | CE2302 | Taper Shank Arbor (No. 2 M.T.) fitted to Drill Chuck |
| 5 | CE1413NK | 10 in 1 Tool Holder equipped with self-aligning knurling head having medium diamond knurls |
| 6 | CE2776 | Set of 4 Ground Cutter Bits for 10 in 1 Tool Holder |
| 7 | CE876 | Cutting-off Blade for 10 in 1 Tool Holder |
| 8 | CE2419 | Sleeve Boring Bar for 10 in 1 Tool Holder. 1/2" x 7 3/8" Bar. |
| 9 | CE3837 | 3/8" Malleable Lathe Dog |
| 10 | CE3838 | 1/2" Malleable Lathe Dog |
| 11 | CE3839 | 3/4" Malleable Lathe Dog |
| 12 | CE3840 | 1" Malleable Lathe Dog |
| 13 | CE3841 | 1 1/4" Malleable Lathe Dog |
| 14 | CE3842 | 1 3/4" Malleable Lathe Dog |
| 15 | CE2189 | Cutter Bit Grinding Gauge |

CL2845NK. Fifteen Tool Assortment as listed above. Shipping weight 38 lbs.

11-Tool Assortment With Universal Chuck For 9-inch and Light Ten Lathes Only

This assortment is exactly the same as the No. CL2820NK assortment listed at left, except that a No. CL6005NK, 5" 3-jaw Universal chuck is supplied in lieu of the 6" 4-jaw Independent chuck.

CL2840NK. Eleven Tool Assortment with Universal Chuck for 9-inch and Light Ten Lathes. Ship. wt. 20 lbs.



10 in 1 Tool Holder Kit

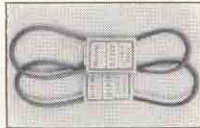
You can save money by purchasing this 10 in 1 Tool Holder Kit complete with boring bar, cut-off blade, and set of four ground high speed steel cutter bits. Price also includes knurling head, bolt clamp, and all other equipment regularly supplied with the 10 in 1 tool holder.

For specifications of tool holder see column at left. Descriptions and illustrations of cutter bits, boring bars, cut-off blades, and extra knurls, see pages 66 and 67.

| Catalog No. of Kit | Size of Lathe | Items Included in Kit | | | Ship. Weight |
|--------------------|----------------|-----------------------|------------|---------------|--------------|
| | | Cutter Bits | Boring Bar | Cut-off Blade | |
| CE2930NK | 9" & Light 10" | CE2776 | CE2419 | CE876 | 7 lbs. |
| CE2930R | 10" | CE2776 | CE2419 | CE876 | 7 lbs. |
| CE2930T | 13" | CE2777 | CE2420 | CE378 | 12 lbs. |
| CE2930F | 14 1/2" | CE2778 | CE2421 | CE379 | 18 lbs. |
| CE2930H | 16" & 16-24" | CE2778 | CE2421 | CE879 | 18 lbs. |

V-Belts

Rubber V-Belts for use with South Bend Lathes and other power driven machinery. Specify catalog number, maximum width, and outside circumference when ordering. Ship. wt. each, approximately 1/2 lb.



| Catalog Number | Maximum Width | Outside Circumference |
|----------------|---------------|-----------------------|
| CE4521A | 1 1/8 in. | 21 in. |
| CE4522A | 1 1/8 in. | 22 in. |
| CE4523A | 1 1/8 in. | 23 in. |
| CE4527A | 1 1/8 in. | 27 in. |
| CE4527B | 1 1/8 in. | 27 in. |
| CE4528B | 1 1/8 in. | 28 in. |
| CE4529B | 1 1/8 in. | 29 in. |
| CE4530B | 1 1/8 in. | 30 in. |
| CE4531B | 1 1/8 in. | 31 in. |
| CE4532B | 1 1/8 in. | 32 in. |
| CE4535C | 1 1/8 in. | 35 in. |
| CE4537C | 1 1/8 in. | 37 in. |
| CE4538C | 1 1/8 in. | 38 in. |
| CE4540C | 1 1/8 in. | 40 in. |
| CE4541C | 1 1/8 in. | 41 in. |
| CE4542C | 1 1/8 in. | 42 in. |
| CE4543C | 1 1/8 in. | 43 in. |
| CE4544B | 1 1/8 in. | 44 in. |
| CE4544C | 1 1/8 in. | 44 in. |
| CE4545B | 1 1/8 in. | 45 in. |
| CE4545C | 1 1/8 in. | 45 in. |
| CE4546B | 1 1/8 in. | 46 in. |
| CE4546C | 1 1/8 in. | 46 in. |
| CE4547B | 1 1/8 in. | 47 in. |
| CE4548B | 1 1/8 in. | 48 in. |
| CE4549B | 1 1/8 in. | 49 in. |
| CE4549C | 1 1/8 in. | 49 in. |
| CE4550C | 1 1/8 in. | 50 in. |
| CE4551C | 1 1/8 in. | 51 in. |
| CE4552C | 1 1/8 in. | 52 in. |
| CE4553B | 1 1/8 in. | 53 in. |
| CE4554B | 1 1/8 in. | 54 in. |
| CE4554C | 1 1/8 in. | 54 in. |
| CE4555C | 1 1/8 in. | 55 in. |
| CE4556B | 1 1/8 in. | 56 in. |
| CE4558B | 1 1/8 in. | 58 in. |
| CE4559C | 1 1/8 in. | 59 in. |
| CE4560B | 1 1/8 in. | 60 in. |
| CE4564B | 1 1/8 in. | 64 in. |
| CE4568B | 1 1/8 in. | 68 in. |
| CE4570B | 1 1/8 in. | 70 in. |
| CE4571B | 1 1/8 in. | 71 in. |
| CE4578B | 1 1/8 in. | 78 in. |
| CE4580B | 1 1/8 in. | 80 in. |
| CE4598B | 1 1/8 in. | 98 in. |

Motor Pulleys for V-Belts

These motor pulleys are machined all over and have accurately reamed holes so that they will fit standard sizes of motor shafts properly and will run true. They are made of cast iron or aluminum, depending on size. Pulleys having 1/2" bore have a set screw for locking to motor shaft, all others have standard keyways.



| Cat. No. | Dia. | Bore | Cat. No. | Dia. | Bore |
|---|----------|------|----------|----------|------|
| 1-Groove Pulleys for 1 1/8" V-Belts | | | | | |
| Approx. ship. wts., 2 3/4" and 2 1/2" pulleys 1/2 lb., 3" and 3 1/4" pulleys 1 1/4 lbs. | | | | | |
| CE6342 | 2 3/4" | 1/2" | CE6348 | 3" | 1/2" |
| CE6343 | 2 3/4" | 3/8" | CE6349 | 3" | 3/8" |
| CE6344 | 2 3/4" | 3/4" | CE6350 | 3" | 3/4" |
| CE6345 | 2 1/2" | 1/2" | CE6351 | 3 1/4" | 1/2" |
| CE6346 | 2 1/2" | 3/8" | CE6352 | 3 1/4" | 3/8" |
| CE6347 | 2 1/2" | 3/4" | CE6353 | 3 1/4" | 3/4" |
| 2-Groove Pulleys for 1 1/8" V-Belts | | | | | |
| Approx. ship. wts., 2 17/32" pulleys 1 1/2 lbs., 2 63/64" pulleys 2 lbs. | | | | | |
| CE6354 | 2 17/32" | 3/4" | CE6357 | 2 63/64" | 3/4" |
| CE6355 | 2 17/32" | 1" | CE6358 | 2 63/64" | 1" |
| CE6356 | 2 17/32" | 1" | CE6359 | 2 63/64" | 1" |
| 4-Groove Pulleys for 1 1/8" V-Belts | | | | | |
| Approx. ship. wts., 2 17/32" and 2 63/64" pulleys 2 lbs., 3 9/16" and 3 11/16" pulleys 4 lbs. | | | | | |
| CE6360 | 2 17/32" | 3/4" | CE6366 | 3 9/16" | 3/4" |
| CE6361 | 2 17/32" | 3/8" | CE6367 | 3 9/16" | 3/8" |
| CE6362 | 2 17/32" | 1" | CE6368 | 3 9/16" | 1" |
| CE6363 | 2 63/64" | 3/4" | CE6369 | 3 11/16" | 3/4" |
| CE6364 | 2 63/64" | 3/8" | CE6370 | 3 11/16" | 3/8" |
| CE6365 | 2 63/64" | 1" | CE6371 | 3 11/16" | 1" |

Flat Leather Belts

Price includes belt lace and lacing instructions. Belts are long enough to permit skiving and gluing if desired. Ship. wt. each, approx. 1/2 lb.



| Catalog Number | Flat Leather Belt For Use On | Size and Kind of Belting |
|----------------|--|-------------------------------------|
| CE2323N | 9" Horiz. M.D. Lathes with 1/2 h.p. motor | Single Ply—Oak Tan 1 1/8" x 58" |
| CE2312N | 9" Horiz. M.D. Lathes with 1/2 h.p. motor | Double Ply—Vim Oak 1 1/8" x 58" |
| CE2313K | Light Ten Horiz. M.D. Lathes with 1/2 h.p. motor | Double Ply—Vim Oak 1 1/8" x 51" |
| CE2315N | 9" UMD Lathes | Double Ply—Vim Oak 1 1/8" x 66 1/4" |
| CE2315K | Light 10 UMD Lathes | Double Ply—Vim Oak 1 1/8" x 67" |
| CE2315R | 10" UMD Bench Lathes | Double Ply—Vim Oak 1 1/8" x 64 3/4" |
| CE2316R | 10" UMD Floor Lathes | Double Ply—Vim Oak 1 1/8" x 67 3/4" |
| CE2316T | 13" UMD Lathes | Double Ply—Vim Oak 1 1/8" x 67 3/8" |
| CE2316F | 14 1/2" UMD Lathes | Double Ply—Vim Oak 1 1/8" x 70 7/8" |
| CE2316H | 16" UMD Lathes | Double Ply—Vim Oak 2 1/8" x 74 1/4" |
| CE2316V | 16-24" UMD Lathes | Double Ply—Vim Oak 2 3/8" x 82 1/2" |
| CE2317H | 16" UMD Lathes with 3 step cone pulley, or 2-H Turret Lathes | Double Ply—Vim Oak 2 3/8" x 74 1/2" |

Belt Splicing Cement

Waterproof belt splicing cement for gluing endless leather belts with lapped joint. Four ounce can. Cannot be shipped by parcel post. CE1433. Shipping weight 6 ozs.



Touch-Up Enamel

For touching up and refinishing South Bend Lathes, Drill Presses, Shapers, and other machine tools. Made in two shades, light gray for current models and dark gray to match older models of lathes. Cannot be shipped by parcel post.



| Catalog Number | | Size Can | Number of Cans | Ship. Wt. |
|----------------|--------|----------|----------------|-----------|
| CE2640 | CE2455 | Pint | 1 | 2 lbs. |
| CE2641 | CE2456 | Quart | 1 | 4 lbs. |
| CE2642 | CE2457 | Gallon | 1 | 12 lbs. |
| CE2643 | CE2470 | Pint | 6 | 10 lbs. |
| CE2644 | CE2471 | Pint | 12 | 19 lbs. |
| CE2645 | CE2472 | Quart | 6 | 19 lbs. |
| CE2646 | CE2473 | Quart | 12 | 39 lbs. |
| CE2647 | CE2474 | Gallon | 2 | 24 lbs. |
| CE2648 | CE2475 | Gallon | 4 | 50 lbs. |

Shop Aprons

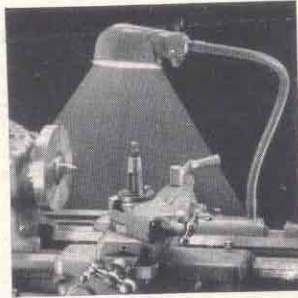
Made of good quality 8 oz. white duck. Short apron (illustrated) is 22" long, 18" wide, with two roomy pouch type side pockets and one small center pocket 6 3/4" deep suitable for carrying scale, calipers, micrometer, etc. Long apron (not illustrated) is 41" long, 28" wide, with one large pocket and two smaller pockets.



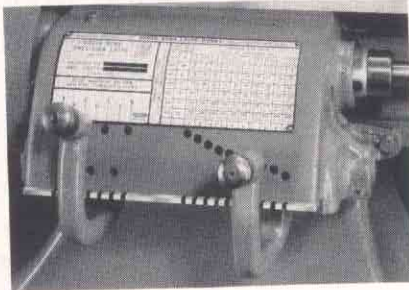
CE8520. Short Shop Apron. Ship. wt. 1 lb.
 CE8521. Lot of six Short Shop Aprons. Ship. wt. 3 lbs.
 CE8522. Long Shop Apron. Ship. wt. 1 lb.
 CE8523. Lot of six Long Shop Aprons. Ship. wt. 3 1/2 lbs.

Work Light for Lathe

For clear vision without eyestrain, equip all your lathes (and other machine tools) with this new South Bend Work Light. It has a clamp for attaching to the lathe bed, or may be permanently installed by drilling and tapping the saddle for the threaded end of the flexible support, as shown in illustration. When attached to the lathe carriage in this way it travels with the cutting tool. When ordered with the lathe, the saddle will be drilled and tapped for the work light at no extra charge.



CE2815. Work Light for lathe, including clamp for attaching to lathe bed. Shipping weight 5 lbs.



Wide Range Gear Box for 10"-1" Collet Lathe

This gear box provides 70 changes for threads and feeds instead of the 48 changes available with the regular gear box. It is made for the 10"-1" Collet Lathe only. Screw threads cut range from 4 to 480 per inch and include all pitches available with the regular gear box. In addition the following threads can be cut: $6\frac{3}{4}$, $7\frac{1}{2}$, $13\frac{1}{2}$, 15, 27, 30, 54, 60, 108, 120, 216, 240, 256, 288, 320, 352, 368, 384, 416, 432, 448, and 480 per inch. Power longitudinal feeds range from .0007" to .0836". Must be ordered with lathe and fitted at factory.

CL2635R. Wide Range Gear Box in lieu of regular gear box for 10"-1" Collet Lathe.

Wood Turning Rest



The Wood Turning Rest mounts on the compound rest base of the lathe to permit the use of hand tools for wood turning. Price of hand rest includes socket, one small rest 4" wide, and one large rest 12" wide. See page 64 for spur centers and cup centers for wood turning.



| Cat. No. | Size Lathe | Shipping Weight |
|----------|--------------|-----------------|
| CL896N | 9" | 6 lbs. |
| CL896K | Light Ten | 6 lbs. |
| CL896R | 10" | 7 lbs. |
| CL896T | 13" | 9 lbs. |
| CL896F | 14 1/2" | 12 lbs. |
| CL896H | 16" & 16-24" | 14 lbs. |

SOUTH BEND LATHE WORKS



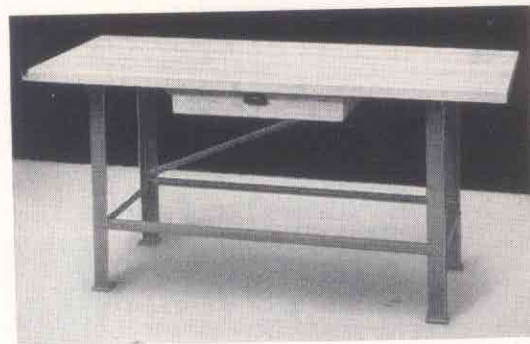
Patented Design

Tubular Steel Benches

Designed especially for our 9" and Light Ten Bench Lathes with horizontal motor drive, this sturdily constructed all steel bench will give your lathe the rigid support it needs for the most satisfactory operation. Bench is 32" high, 32" wide and 51 1/2" long, large enough for lathes having beds up to 3 1/2' long. May also be used for many other purposes.

Heavy gauge sheet metal panels are securely welded into the tubular frame. A built-in chip pan with 5/8" bead around the edge forms the top of the bench. This permits using a coolant if desired, and prevents chips from falling to the floor. Six drawers 10 1/2" wide, 15" long, 5 1/2" deep (inside dimensions) provide ample storage space for chucks, tools, lathe accessories, etc. Bench is nicely finished in gray wrinkle enamel.

CE1737. Tubular Steel Bench, 32" high, 32" wide, 51 1/2" long, for 9" and Light Ten Horizontal Motor Driven Bench Lathes with 3' or 3 1/2' bed lengths. Shipping weight 336 lbs.



Angle Steel Bench With Wood Top

Heavy angle steel construction, 29 3/16" high, with hardwood top 26" x 60" x 1 3/16" thick. For 9" and Light Ten Horizontal Motor Driven Bench Lathes, any bed length. This also makes an ideal work bench for general shop use. Bench top is edge glued and has oil finish. Price does not include drawer, which is listed separately below.

Bench is shipped knocked down with all necessary bolts for assembling. Metal parts are finished with gray enamel. The sturdy construction of this bench makes it ideal for mounting a vise, surface plate, drill press, grinder, shaper, or other substantial equipment as well as the lathe. It is a big value and has many uses. Order several.

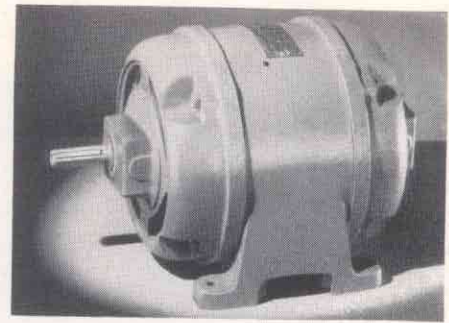
CE1780. Steel Bench with wood top (less drawer). Shipping weight, 84 lbs.

Drawer for Bench

CE1780D. Drawer for above bench, 20 1/8" wide, 14" long, 3 3/16" deep. Shipping weight 9 lbs.

Motors and Controls for Lathes

Reversing motors are recommended for South Bend Lathes because they permit reversing the lathe spindle for tapping, thread cutting, and similar operations. All motors listed below are of the instant reversing type with the exception of Cat. No. CE3256B, which is a start-stop reversing motor. Single phase A.C. motors are capacitor type, with the exception of CE3256B, which is a split-phase start-stop reversing type motor.



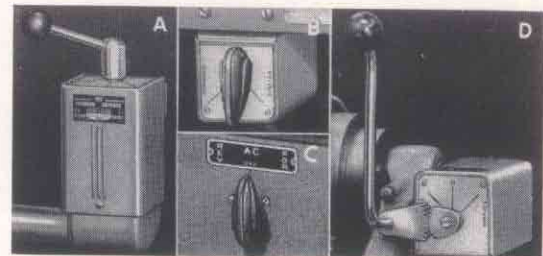
| Size of Lathe | Current Characteristics | | | | MOTORS | | | CONTROLS FOR MOTORS | | | |
|--|-------------------------|-------|-------|---------|----------------|-------|--------|--|--|------------------------------------|--|
| | | | | | Table 1 | | Speeds | Table 2 | Table 3 | Table 4 | |
| | Type of Current | Phase | Cycle | Voltage | Catalog Number | h.p. | | DRUM SWITCH CONTROLS Not required if equipment in Table No. 3 is ordered | PUSH-BUTTON LINE-STARTER CONTROLS Not used with No. 2-H Turret Lathe | CONTROLS FOR No. 2-H TURRET LATHES | |
| 16-inch 16-24-inch and 2-H | A.C. | 3 | 60 | 220 | CE2130 | 2-1 | ..... | CE2567 | CE1217 | | |
| | A.C. | 3 | 60 | 440 | CE2131 | 2-1 | ..... | CE2568 | CE1205 | | |
| | A.C. | 3 | 50 | 220 | CE2147 | 2-1 | ..... | CE2565 | CE1209 | | |
| | A.C. | 3 | 50 | 440 | CE2148 | 2-1 | ..... | CE2566 | CE1219 | | |
| | A.C. | 3 | 60 | 550 | CE3372 | 2-1 | ..... | CE2578 | CE1290 | | |
| 16-inch 16-24-inch 14 1/2-inch and 2-H | A.C. | 3 | 50 | 220 | CE2545C | 1 1/2 | ..... | CE2573 | CE1263 | | |
| | A.C. | 3 | 60 | 220 | CE2545D | 1 1/2 | ..... | CE2573 | CE1263 | | |
| | A.C. | 3 | 50 | 440 | CE2545E | 1 1/2 | ..... | CE2574 | CE1299 | | |
| | A.C. | 3 | 60 | 440 | CE2545F | 1 1/2 | ..... | CE2574 | CE1299 | | |
| | A.C. | 3 | 50 | 550 | CE2547G | 1 1/2 | ..... | CE2579 | CE1196 | | |
| | A.C. | 3 | 60 | 550 | CE2547H | 1 1/2 | ..... | CE2579 | CE1196 | | |
| | A.C. | 1 | 50 | 115 | CE2548A | 1 | ..... | CE2577 | CE1263 | | |
| | A.C. | 1 | 50 | 115 | CE2548B | 1 | ..... | CE2577 | CE1263 | | |
| | A.C. | 1 | 50 | 230 | CE2548C | 1 | ..... | CE2573 | CE1263 | | |
| | A.C. | 1 | 50 | 230 | CE2548D | 1 | ..... | CE2573 | CE1263 | | |
| | D.C. | 1 | 115 | 230 | CE2549 | 1 | ..... | CE2575 | CE1242 | | |
| | D.C. | 1 | 115 | 230 | CE2550 | 1 | ..... | CE2576 | CE1245 | | |
| 13-inch | A.C. | 3 | 50 | 220 | CE2625C | 1 | ..... | CE2569 | ..... |  |  |
| | A.C. | 3 | 60 | 220 | CE2625D | 1 | ..... | CE2569 | ..... |  |  |
| | A.C. | 3 | 50 | 440 | CE2625E | 1 | ..... | CE2570 | ..... |  |  |
| | A.C. | 3 | 60 | 440 | CE2625F | 1 | ..... | CE2570 | ..... |  |  |
| | A.C. | 3 | 50 | 550 | CE2627G | 1 | ..... | CE2580 | ..... |  |  |
| | A.C. | 3 | 60 | 550 | CE2627H | 1 | ..... | CE2580 | ..... |  |  |
| | A.C. | 1 | 50 | 115 | CE2628A | 1 | ..... | CE2573 | ..... |  |  |
| | A.C. | 1 | 50 | 115 | CE2628B | 1 | ..... | CE2573 | ..... |  |  |
| | A.C. | 1 | 50 | 230 | CE2628C | 1 | ..... | CE2573 | ..... |  |  |
| | A.C. | 1 | 50 | 230 | CE2628D | 1 | ..... | CE2573 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE2629 | 1 | ..... | CE2571 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE2630 | 1 | ..... | CE2572 | ..... |  |  |
| 10-inch and 1000 Series | A.C. | 3 | 50 | 220 | CE2801C | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 3 | 60 | 220 | CE2801D | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 3 | 50 | 440 | CE2801E | 1 1/2 | ..... | CE2570 | ..... |  |  |
| | A.C. | 3 | 60 | 440 | CE2801F | 1 1/2 | ..... | CE2570 | ..... |  |  |
| | A.C. | 3 | 50 | 550 | CE2803G | 1 1/2 | ..... | CE2580 | ..... |  |  |
| | A.C. | 3 | 60 | 550 | CE2803H | 1 1/2 | ..... | CE2580 | ..... |  |  |
| | A.C. | 1 | 60 | 115 | CE2804 | 1 1/2 | ..... | CE2573 | ..... |  |  |
| | A.C. | 1 | 60 | 230 | CE2805 | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 1 | 50 | 115 | CE2806A | 1 1/2 | ..... | CE2573 | ..... |  |  |
| | A.C. | 1 | 50 | 230 | CE2806B | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE2807 | 1 1/2 | ..... | CE2571 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE2808 | 1 1/2 | ..... | CE2572 | ..... |  |  |
| Light Ten, 9-inch and 900 Series with Under- neath Motor Drive | A.C. | 3 | 50 | 220 | CE3227C | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 3 | 60 | 220 | CE3227D | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 3 | 50 | 440 | CE3227E | 1 1/2 | ..... | CE2570 | ..... |  |  |
| | A.C. | 3 | 60 | 440 | CE3227F | 1 1/2 | ..... | CE2570 | ..... |  |  |
| | A.C. | 3 | 50 | 550 | CE4927G | 1 1/2 | ..... | CE2580 | ..... |  |  |
| | A.C. | 3 | 60 | 550 | CE4927H | 1 1/2 | ..... | CE2580 | ..... |  |  |
| | A.C. | 1 | 60 | 115 | CE3583B* | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 1 | 60 | 230 | CE3584D | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 1 | 50 | 230 | CE3582C | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | A.C. | 1 | 50 | 115 | CE3581A* | 1 1/2 | ..... | CE2569 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE4930 | 1 1/2 | ..... | CE2553 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE4931 | 1 1/2 | ..... | CE2553 | ..... |  |  |
| Light Ten and 9-inch with 16, 12, 8, or 6-Speed Horizontal Motor Drive | A.C. | 3 | 50 | 220 | CE3227C | 1 1/2 | ..... | CE2569NF | ..... |  |  |
| | A.C. | 3 | 60 | 220 | CE3227D | 1 1/2 | ..... | CE2569NF | ..... |  |  |
| | A.C. | 3 | 50 | 440 | CE3227E | 1 1/2 | ..... | CE2570NF | ..... |  |  |
| | A.C. | 3 | 60 | 440 | CE3227F | 1 1/2 | ..... | CE2570NF | ..... |  |  |
| | A.C. | 3 | 50 | 550 | CE4927G | 1 1/2 | ..... | CE2580NF | ..... |  |  |
| | A.C. | 3 | 60 | 550 | CE4927H | 1 1/2 | ..... | CE2580NF | ..... |  |  |
| | A.C. | 1 | 60 | 115 | CE3228* | 1 1/2 | ..... | CE2569NF | ..... |  |  |
| | A.C. | 1 | 60 | 230 | CE3229 | 1 1/2 | ..... | CE2569NF | ..... |  |  |
| | A.C. | 1 | 50 | 230 | CE3230 | 1 1/2 | ..... | CE2569NF | ..... |  |  |
| | A.C. | 1 | 50 | 115 | CE3240* | 1 1/2 | ..... | CE2569NF | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE4930 | 1 1/2 | ..... | CE2553NF | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE4931 | 1 1/2 | ..... | CE2553NF | ..... |  |  |
| 9-inch with 6-speed or 8-speed Horizontal Motor Drive | A.C. | 3 | 50 | 220 | CE3250C | 1 1/4 | ..... | CE790 | ..... |  |  |
| | A.C. | 3 | 60 | 220 | CE3250D | 1 1/4 | ..... | CE790 | ..... |  |  |
| | A.C. | 1 | 60 | 115 | CE3256B | 1 1/4 | ..... | CE789 | ..... |  |  |
| | A.C. | 1 | 60 | 115 | CE3252* | 1 1/4 | ..... | CE789 | ..... |  |  |
| | A.C. | 1 | 60 | 230 | CE3253 | 1 1/4 | ..... | CE790 | ..... |  |  |
| | A.C. | 1 | 50 | 115 | CE3242* | 1 1/4 | ..... | CE789 | ..... |  |  |
| | A.C. | 1 | 50 | 230 | CE3243 | 1 1/4 | ..... | CE790 | ..... |  |  |
| | D.C. | 1 | 115 | 230 | CE3254 | 1 1/4 | ..... | CE790 | ..... |  |  |
| D.C. | 1 | 115 | 230 | CE3369 | 1 1/4 | ..... | CE790 | ..... |  |  |  |

Motors are listed in tabulation No. 1. Controls are listed in tabulations Nos. 2, 3, and 4. The control equipment required for each size and type of motor is listed on the same line with the motor.

Two-speed motors are listed for No. 2-H Turret lathes, 16-inch lathes and 16-24 inch lathes only. These motors have two forward speeds and two reverse speeds which with the cone pulley and back gears of the lathe, provide twelve or sixteen spindle speeds, forward and reverse.

Drum switch controls listed in Table No. 2 are optional for 1/2 h.p. and larger motors operating on 230 volts or less, with the exception of the two speed motors which require the controls listed in Tables 3 and 4. Resistance panels are included in the prices of controls for D.C. motors 3/4 h.p. and larger.

Pushbutton operated linestarter controls listed in Table No. 3 are required for all two-speed motors, and for all motors operating on currents higher than 230 volts. These controls are optional for all other motors 3/4 h.p. and larger. Pushbutton controls provide overload and low voltage protection. Transformer reduces pushbutton current to 110 volts. Necessary resistance panels are supplied for D.C. motors 3/4 h.p. and larger.

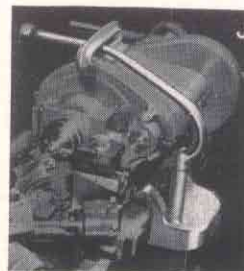


CE 790 Drum Control Switch

- A—As mounted on 10" and larger floor type lathes
- B—As mounted on 10"-1" Collet Bench Lathes
- C—As mounted on 9" and Light Ten Metal Column Base Lathes
- D—As mounted on Light Ten Bench Lathes

Other Controls

- E—Drum Control Switch CE789 as mounted on 9" Bench Lathe
- F—Drum Control Switch CE790 as mounted on 9" Bench Lathe
- G—Pushbutton Station for linestarter control used with one-speed motor
- H—Pushbutton Station for linestarter control used with two-speed motor
- I—Linestarter Control equipment for two-speed motor (mounted on back of lathe)
- J—Control Equipment for No. 2-H Turret Lathe (mounted on back of lathe)



*Equipped with 6-ft. extension cord and plug when ordered with lathe.

How to Run a Lathe

A Practical Handbook on Lathe Operation

"How to Run a Lathe" is a complete reference book and manual on the care and operation of the back-gear screw-cutting lathe. It is a practical handbook for the machinist, lathe operator, apprentice, or shop man. Clearly written in simple, non-technical language, the instruction material is easy for the beginner to understand. This authoritative text is illustrated with more than 360 photographs, diagrams, and sketches.

Now in its 51st edition, this book has been improved and perfected by suggestions, criticisms, and ideas that have been submitted by hundreds of practical shop men. The latest shop practices and methods used in modern industry are accurately described.



Partial List of Contents

History of the Lathe
Erecting and Leveling the Lathe
Operation of Lathe Controls
Lathe Tools and Their Application
How to Take Accurate Measurements

Machining Work Between Centers
Chuck Work
Taper Turning and Boring
Drilling, Reaming, and Tapping
Cutting Screw Threads
Special Classes of Work

How to Run a Lathe—Edition 51, 128 pages 5 1/8" x 7 7/8", more than 360 illustrations. Price postpaid to any address 25c in paper binding, \$1.00 in leatherette binding.

Note: "How to Run a Lathe" is printed in the English, Spanish, Portuguese, and French languages. State language wanted if other than English.



Motion Picture Films On Lathe Operation

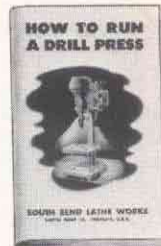
The South Bend motion pictures on lathe operation may be borrowed without charge by industrial organizations, industrial and vocational schools, colleges, universities, Army and Navy training schools, industrial apprentice schools, and other recognized organizations teaching machine shop practice. When films are supplied on a free loan basis, the borrower pays the shipping charges both ways. All films supplied on a free loan basis are 16 mm sound films in full color.

Those who desire to keep these films permanently may purchase them at prices listed below.

| Catalog Number | Subject | Factory Price |
|------------------------|--|---------------|
| English Language Films | | |
| CE1620C | Film No. I, "The Metal Working Lathe"..... | \$100.00 |
| CE1621C | Film No. II, "Plain Turning"..... | 110.00 |
| CE1663C | Film No. III, "Grinding Cutter Bits"..... | 115.00 |
| Spanish Language Films | | |
| CE2714C | Film No. I, "The Metal Working Lathe"..... | \$100.00 |
| CE2715C | Film No. II, "Plain Turning"..... | 110.00 |
| CE2716C | Film No. III, "Grinding Cutter Bits"..... | 115.00 |
| French Language Films | | |
| CE2717C | Film No. I, "The Metal Working Lathe"..... | \$100.00 |
| CE2718C | Film No. II, "Plain Turning"..... | 110.00 |
| CE2719C | Film No. III, "Grinding Cutter Bits"..... | 115.00 |

How to Run a Drill Press

This book tells how to lay out work, set up jobs, sharpen drills, and use drill press attachments and accessories. It identifies the various parts of the drill press, explains their functions and adjustment. Special classes of work such as drilling glass, buffing, mortising, etc., are included. Contains 32 pages 5 1/8" x 7 7/8" and more than 75 illustrations. Price postpaid \$0.25.



How to Run a Shaper

The care and operation of the small metal working bench shaper are fully covered in this manual. Clearly written text tells how to set up jobs and grind cutting tools. Various types of shaper operations are illustrated and described. Contains 32 pages 5 1/8" x 7 7/8", and 70 illustrations. Price postpaid \$0.25.



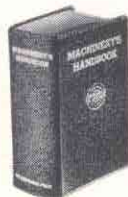
Machine Shop Book

The South Bend Machine Shop Course books are published in the English, French, Spanish, and Portuguese languages. They contain a series of projects ranging from simple articles beginners can make to useful tools requiring considerable skill and experience. Drawings show all dimensions clearly. Instruction sheets guide the student step by step through all operations for each project. These books are widely used by leading vocational schools.

Book No. 39-B. Printed in English, 32 pages, 8 1/2" x 11", twelve projects. Price postpaid, U. S. money.....\$0.50

Book No. 39-S. Printed in Spanish, 24 pages, 8 1/2" x 11", ten projects. Price postpaid, U. S. money.....\$0.25

Book No. 39-P. Printed in Portuguese, 24 pages, 8 1/2" x 11", ten projects. Price postpaid, U. S. money.....\$0.25



Machinery's Handbook

An engineering reference book for machinists, students, designers, engineers, and executives. It is a practical guide for use in conjunction with engineering and vocational courses. Has 1911 pages, 1310 illustrations.

Cat. No. CE700. Machinery's Handbook.

Wall Charts

These wall charts are printed on heavy paper, deep blue with white lines to simulate blue-prints. Suitable for framing.

Wall Chart CE250, "How to Become a Machinist." Size 13" wide by 22" high. Price each postpaid.....10c

Wall Chart CE777, "Decimal Equivalents." Size 13" wide by 19" high. Price each postpaid.....10c

Wall Chart CE890, "Principal Parts of a Lathe." Size 21 3/4" wide by 17 3/8" high. Price each postpaid.....10c

Wall Chart CE199, "Tap Drill Sizes." Size 13" wide by 19" high. Price each postpaid.....10c

Wall Chart CE891, "Partes Principales Del Torno." Size 22" wide by 17" high. Printed in Spanish. Price each postpaid.....10c

Wall Chart CE800, "Como Llegar A Ser Un Maquinista." Size 15 1/2" wide by 20" high. Printed in Spanish. Price each postpaid.....10c

| DECIMAL EQUIVALENTS | |
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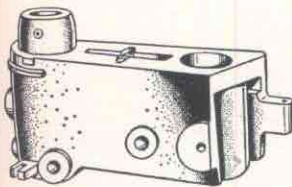
14-inch South Bend Precision Model Drill Press

The South Bend 14-inch Precision Model Drill Press is the result of several years of careful research and thorough testing. Designed by the same engineering staff and produced with the same excellent manufacturing facilities employed in the production of South Bend Precision Lathes, this drill press is a superior tool unsurpassed for accuracy, ease of operation, versatility, and dependable performance. It is ruggedly constructed, and will maintain its precision accuracy indefinitely under severe industrial service.

Being a completely new design, the Precision Model Drill Press introduces several original features which add to its convenience and ease of operation. A built-in light with independent switch provides shadowless illumination on the work area, eliminating the necessity of installing a separate lighting fixture. A quick-acting belt tension release lever simplifies speed changes and returns the vertical mounted motor to its original position after each change, thus maintaining the same belt tension for each of the four cone pulley steps.

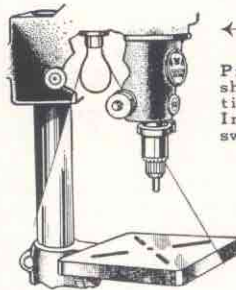
SPECIFICATIONS

| | |
|--|-----------------|
| Maximum drill size in iron or steel..... | 1/2" |
| Drills to center of..... | 14 1/4" circle |
| Net weight, bench type, less motor..... | 130 lbs. |
| Net weight, floor type, less motor..... | 165 lbs. |
| Chuck capacity..... | 0 to 1/2" |
| Spindle speeds, four, approx. r.p.m..... | 720 to 4325 |
| Spindle travel, maximum..... | 4" |
| Spindle run out, maximum..... | .001" |
| Spindle, square with table within..... | .002" in 5" |
| Chuck to base, maximum, bench type..... | .16" |
| Chuck to base, maximum, floor type..... | 45 1/4" |
| Chuck to table, maximum, bench type..... | 11 3/8" |
| Chuck to table, maximum, floor type..... | 40 3/4" |
| Base, work surface, bench type..... | 7" x 10" |
| Base, work surface, floor type..... | 8" x 12" |
| Table, work surface..... | 10" x 10" |
| Table tilt..... | Any angle |
| Column diameter..... | 2 3/4" |
| Motor, size recommended..... | 1/3 or 1/2 h.p. |
| Motor, speed recommended..... | 1725 r.p.m. |



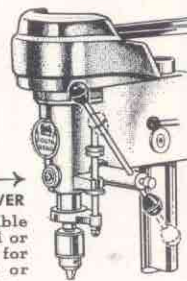
ONE-PIECE HEAD CASTING

Insures accurate alignment. Heavy, rigid construction. Internal clutch locks the head to column. Column bearing is NOT split.



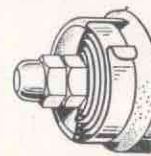
BUILT-IN LIGHT

Provides shielded, shadowless illumination on work area. Independent on-off switch is built-in.



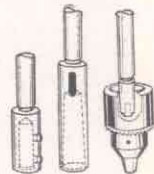
ADJUSTABLE FEED LEVER

Feed lever is adjustable and can be centered or extended as desired for increased leverage or for greater convenience.



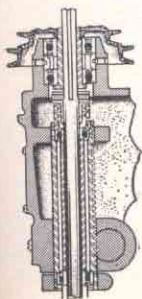
ADJUSTABLE QUILL RETURN SPRING

Retracts quill instantly upon release of feed lever. Tension of spring adjustable.



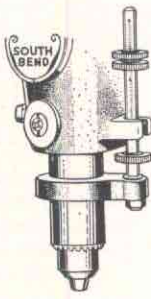
INTERCHANGEABLE SPINDLES

Spindles available to take No. 2 Morse taper shank tools, and for 1/2" straight shank tools, router bits, shaper cutters.



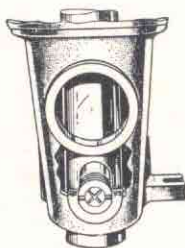
FOUR PRECISION BALL BEARINGS

Two on spindle, two on drive sleeve. Prelubricated and sealed precision type, no oiling required.



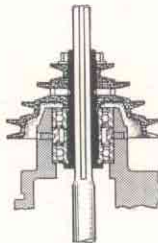
DEPTH GAUGE

Controls feed depth, length of return stroke, or locks spindle in any position. 16th graduations.



QUILL BEARING ADJUSTMENT

Shoe-type take-up provides feather-touch tension and secure locking. Quill bearing is NOT split.



FREE-FLOATING SPINDLE

Design prevents misalignment, side thrust and whip. Precision splines in spindle and sleeve.



BELT TENSION RELEASE

Flip of lever removes tension from belt for easy speed changes. Proper belt tension maintained.

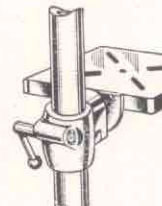


TABLE LOCK

Internal clutch securely locks table to column. Eliminates misalignment. Column bearing is NOT split.

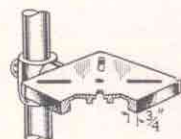
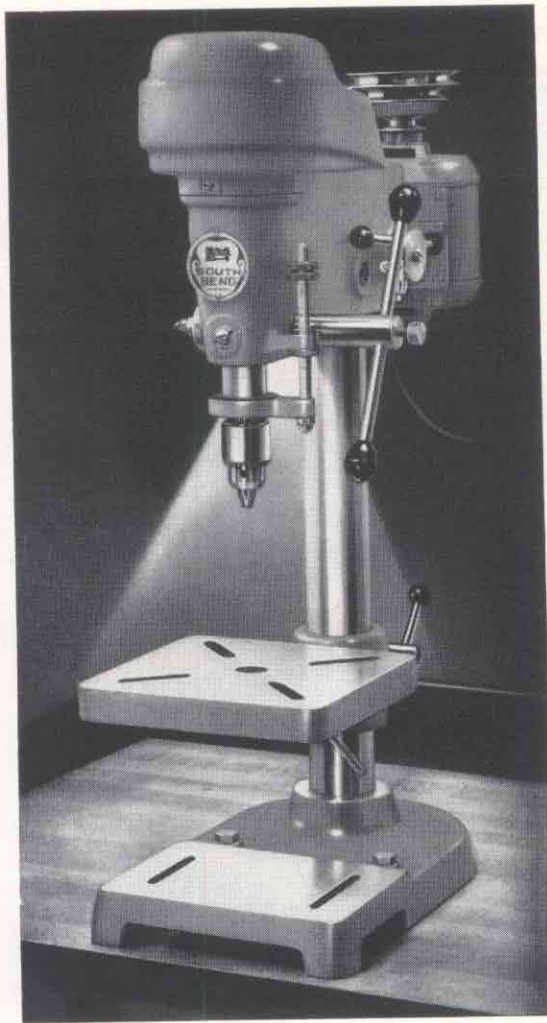


TABLE HAS WIDE CLAMPING RIB

Heavy rib 3/4" wide strengthens table and provides flat surface underneath for clamping work securely to table.

SOUTH BEND LATHE WORKS



Precision Model 14-inch Bench Drill Press

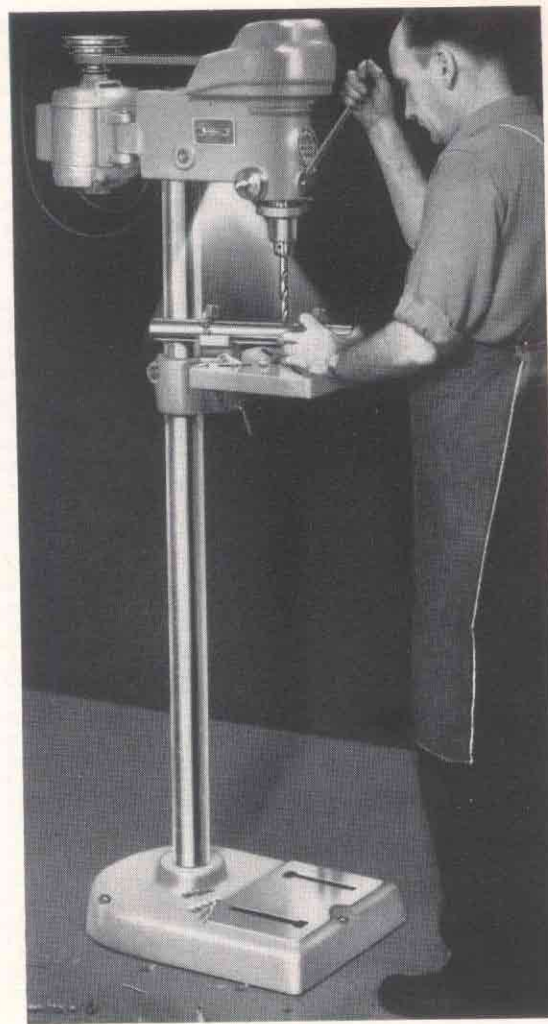
Perfectly proportioned for mounting on any substantial work bench, table, or machine stand, this is one of our most popular drill presses. Base has bolt holes for securing to bench, and precision ground work surface with two slots for clamping. Maximum distance between base and chuck is 16" and between table and chuck is 11 $\frac{3}{8}$ ". See preceding page for other specifications and features.

The free-floating spindle design prevents misalignment, side thrust, and whip. Two precision ball bearings carry the drive sleeve and two additional ball bearings carry the spindle, which is spline driven. All ball bearings, being pre-lubricated and sealed, require no oiling. Quill bearing adjustment provides feather-touch tension and secure locking.

Regular equipment supplied with each Precision Model Bench Drill Press includes motor base, balanced motor pulley, balanced spindle pulley, V-belt, built-in work light, wiring in drill press head, spindle equipment as indicated in table, and toggle switches for work light and motor, but does not include motor. See page 80 for drill press motors.

Precision Model Bench Drill Presses

| Catalog Number | Spindle Equipment | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|----------------------------------|------------------|---------------------|----------------------|
| CD400B | $\frac{1}{2}$ " Jacobs Key Chuck | 9 | 255 | 190 |
| CD414B | No. 2 Morse Taper Socket | 9 | 255 | 190 |



Precision Model 14-inch Floor Drill Press

Except for the tall column and large base for floor mounting, this is the same as the bench drill press shown at the left. Base is heavily constructed and of ample size to provide substantial support. Precision ground work surface on base has two slots for clamp bolts. Maximum distance between base and chuck is 45 $\frac{1}{4}$ " and between table and chuck is 40 $\frac{3}{4}$ ". For other specifications and features see preceding page.

The full tilt type table, with 10" x 10" precision ground top surface, has slots for clamping fixtures or work. An improved type of double plug binder is provided for locking the table quickly in any position on the column. The edge of the table has a heavy flange with a $\frac{3}{4}$ " flat underneath for clamping.

Regular equipment supplied with each Precision Model Floor Drill Press includes motor base, balanced motor pulley, balanced spindle pulley, V-belt, built-in work light, wiring in drill press head, spindle equipment as indicated in table, and switches for work light and motor, but does not include motor.

Precision Model Floor Drill Presses

| Catalog Number | Spindle Equipment | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|----------------------------------|------------------|---------------------|----------------------|
| CD400F | $\frac{1}{2}$ " Jacobs Key Chuck | 19 | 365 | 235 |
| CD414F | No. 2 Morse Taper Socket | 19 | 365 | 235 |

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SOUT

Precision Model Single and Multiple Spindle Drill Presses for Production Operations

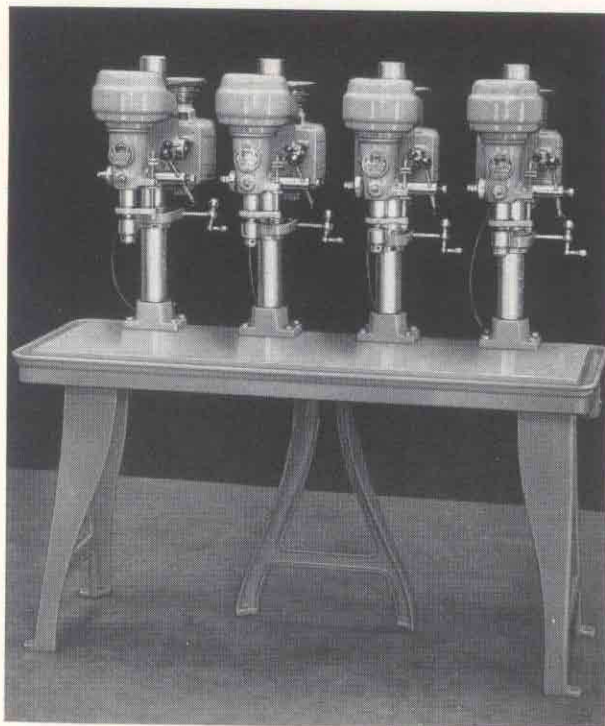
Much time can be saved on production drill press work by using one of these multiple spindle models so that two or more operations can be performed in rapid sequence. Each spindle can be adjusted independently to the correct position and speed for most convenient and efficient operation.

These drill presses consist of our standard 14" Precision Model drill press heads mounted on heavy, accurately machined work tables having large coolant return grooves. Either bench mounting (not illustrated) or heavy cast legs for floor installation as illustrated, can be supplied. The open leg construction facilitates cleaning and permits the operator to sit comfortably if desired.

Regular equipment supplied with each drill press head includes: head positioning mechanism, $\frac{1}{2}$ " drill chuck with key, motor base, motor pulley, V-belt, built-in work light, wiring and toggle switches. Motors and remote control equipment are not included. Drill presses can also be supplied less chucks or with spindles for No. 2 Morse taper shank tools. Information furnished on request.

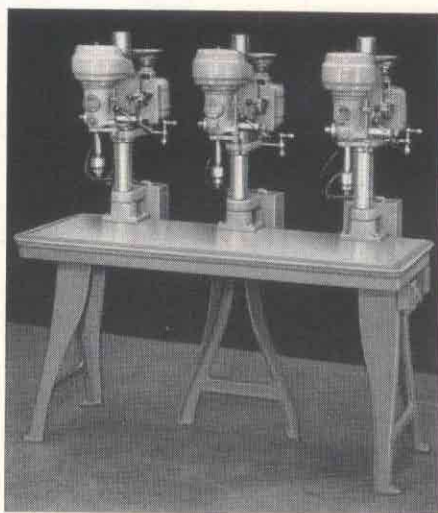
CD454F. South Bend Four Spindle Drill Press with floor legs and regular equipment. Table work surface 14" x 55". Over-all size of drill press 59 $\frac{1}{2}$ " wide, 33" deep, 70 $\frac{1}{16}$ " high. Approximate shipping weight crated 1200 lbs. Boxed weight 1320 lbs., cubic feet boxed 57.

CD454B. Four Spindle Bench Drill Press, same as above but without floor legs and with table for bench mounting. Over-all height 38 $\frac{11}{16}$ ", approximate shipping weight crated 1035 lbs. Boxed weight 1200 lbs., cubic feet boxed 57.



CD452F. South Bend Two Spindle Drill Press with floor legs and regular equipment. Table work surface 14" x 28 $\frac{3}{4}$ ". Over-all size of drill press 33 $\frac{1}{8}$ " wide, 33" deep, 69 $\frac{13}{16}$ " high. Approx. ship. wt. crated 628 lbs. Boxed weight 725 lbs., cubic feet boxed 34.

CD452B. Two Spindle Bench Drill Press same as above but without floor legs and with table for bench mounting. Over-all height 38 $\frac{7}{16}$ ", approx. ship. wt. crated 546 lbs. Boxed weight 645 lbs., cubic feet boxed 34.



CD453F. South Bend Three Spindle Drill Press with floor legs and regular equipment. Table work surface 14" x 55". Over-all size of drill press 59 $\frac{1}{2}$ " wide, 33" deep, 70 $\frac{1}{16}$ " high. Approximate shipping weight crated 1065 lbs. Boxed weight 1185 lbs., cubic feet boxed 57.

CD453B. Three Spindle Bench Drill press, same as above but without floor legs and with table for bench mounting. Over-all height 38 $\frac{11}{16}$ ", approx. ship. wt. crated 902 lbs. Boxed weight 1065 lbs., cubic feet boxed 57.



CD451F. South Bend Single Spindle Drill Press with floor legs and regular equipment. Table work surface 13 $\frac{7}{8}$ " x 15 $\frac{3}{4}$ ". Over-all size of drill press 20" wide, 33" deep, 68 $\frac{15}{16}$ " high. Approx. ship. wt. crated 375 lbs. Boxed weight 475 lbs., cubic feet boxed 22.

CD451B. Single Spindle Drill Press same as above but without floor legs and with table for bench mounting. Over-all height 37 $\frac{9}{16}$ ", approx. ship. wt. crated 293 lbs. Boxed weight 393 lbs., cubic feet boxed for export 22.

14-inch South Bend *Economy* Model Drill Press

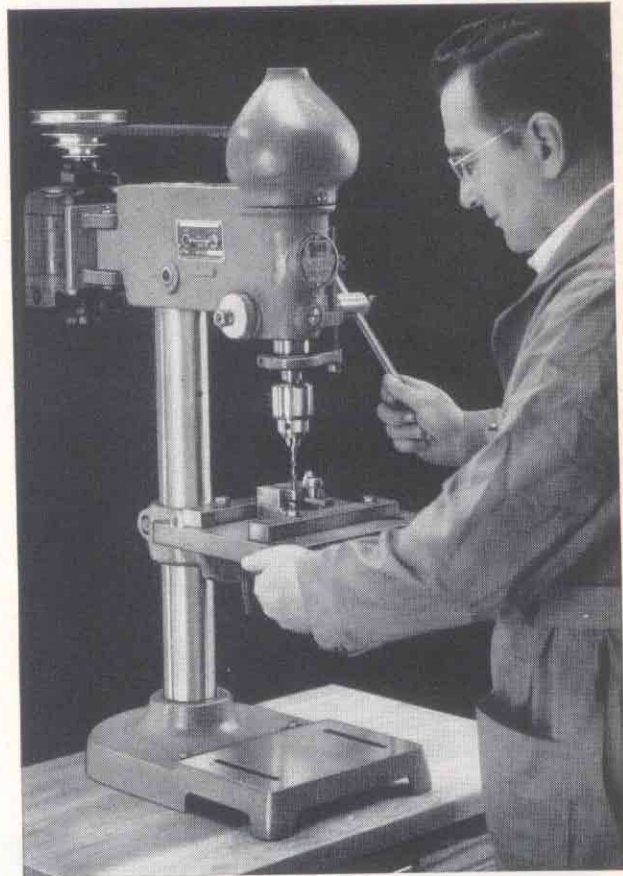
Ruggedly constructed for industrial service, the Economy Model Drill Press is one of our best values. Husky castings and quality bearings assure smooth operation and long, dependable service. All casting surfaces not machined are attractively finished with good quality enamel.

An automatic belt tension device keeps the belt at just the right tension for efficient power transmission. The rigid, one-piece head casting keeps the spindle permanently in alignment with the precision ground table. Four prelubricated precision ball bearings align the six-spline drive sleeve and spindle quill.

SPECIFICATIONS

| | |
|--|-----------------|
| Maximum drill size in iron or steel..... | 1/2" |
| Drills to center of..... | 14 1/4" circle |
| Net weight, bench type, less motor..... | 120 lbs. |
| Net weight, floor type, less motor..... | 150 lbs. |
| Chuck capacity..... | 0 to 1/2" |
| Spindle speeds, four, approx. r.p.m..... | 720 to 4325 |
| Spindle travel, maximum..... | 4" |
| Spindle run out, maximum..... | .003" |
| Spindle, square with table within..... | .0075" in 5" |
| Chuck to base, maximum, bench type..... | 16" |
| Chuck to base, maximum, floor type..... | 45 1/4" |
| Chuck to table, maximum, bench type..... | 11 3/8" |
| Chuck to table, maximum, floor type..... | 40 3/4" |
| Base work surface, bench type..... | 7" x 10" |
| Base work surface (not machined) floor type..... | 8" x 12" |
| Table, work surface..... | 10" x 10" |
| Table tilt..... | Any angle |
| Column diameter..... | 2 3/4" |
| Motor, size recommended..... | 1/3 or 1/2 h.p. |
| Motor, speed recommended..... | 1725 r.p.m. |

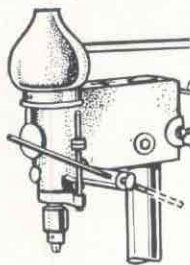
*For those who require greater accuracy we recommend our 14" Precision Model Drill Press. See page 75.



Features of *Economy* Model Drill Press

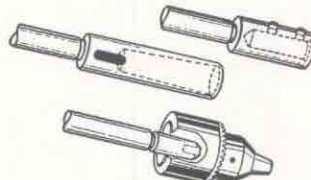
ADJUSTABLE FEED LEVER

Feed lever is adjustable and can be centered or extended as desired for increased leverage or for greater convenience.



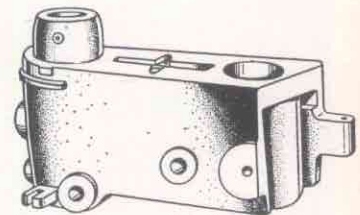
ADJUSTABLE QUILL RETURN SPRING

Retracts quill instantly upon release of feed lever. Tension of spring is adjustable.



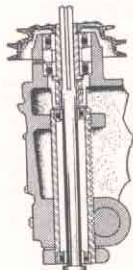
INTERCHANGEABLE SPINDLES

Spindles available to take No. 2 Morse taper shank tools, and for 1/2" straight shank tools, router bits, shaper cutters, and other tools having 1/2" shanks.



ONE-PIECE HEAD CASTING

Insures accurate alignment. Heavy rigid construction. Internal clutch locks the head to column. Column bearing is NOT split.



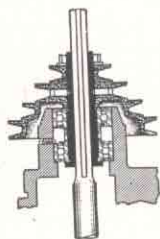
FOUR PRECISION BALL BEARINGS

Two on spindle, two on drive sleeve. Prelubricated and sealed precision type, no oiling required.



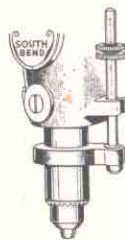
AUTOMATIC BELT TENSION

Coil spring permits releasing tension from belt for easy speed changes. Proper tension for belt is maintained automatically.



FREE-FLOATING SPINDLE

Design prevents misalignment, side thrust and whip. Six splines in spindle and drive sleeve.



DEPTH GAUGE

Controls feed depth, adjustable for any depth of feed up to 4". Graduations read in sixteenths.



QUILL BEARING ADJUSTMENT

Take-up screw provides tension adjustment and secure locking. Quill bearing is NOT split.

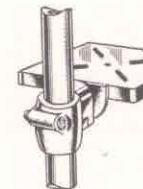


TABLE LOCK

Internal clutch securely locks table to column. Eliminates misalignment. Column bearing is NOT split.

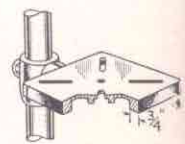
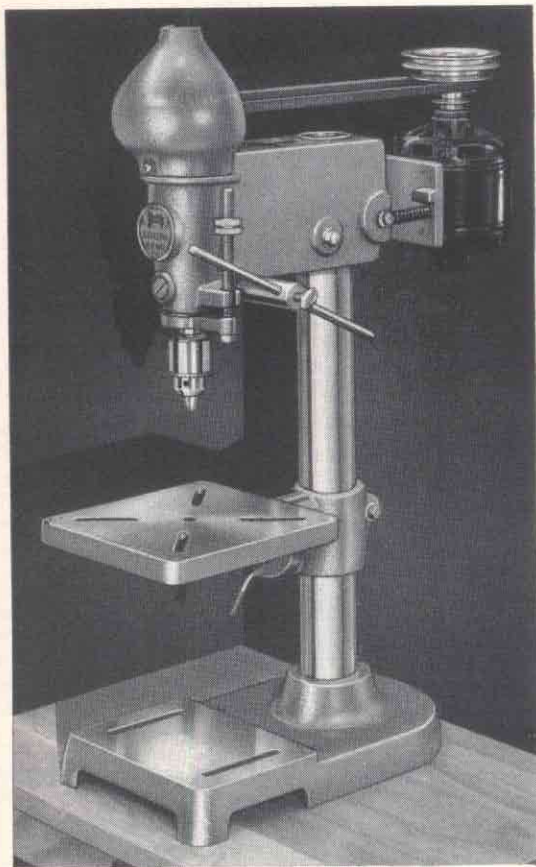


TABLE HAS WIDE CLAMPING RIB

Heavy rib 3/4" wide strengthens table and provides flat surface underneath for clamping work securely to table.



Economy Model 14-inch Bench Drill Presses

The substantial design and quality workmanship of the 14" Economy Model Bench Drill Press will appeal to the experienced shop man. Constructed throughout of sturdy, well proportioned parts, it is extremely rigid and will operate smoothly at all normal speeds.

The column is made of heavy seamless steel tubing which is precision ground the entire length. Both the table and base have accurately ground work surfaces with slots for clamp bolts. Table and head both swivel on column and can be placed in any desired position. Improved internal clutch binders lock head and table securely to column without disturbing alignment. See preceding page for specifications.

Regular equipment supplied with each Economy Model Bench Drill Press includes motor base, motor pulley, spindle pulley, and spindle equipment as indicated in table, but does not include motor or switches.

Economy Model Bench Drill Presses

| Catalog Number | Spindle Equipment | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|---|------------------|---------------------|----------------------|
| CD401B | With short taper for No. 34 Jacobs Chuck, without chuck. | 9 | 246 | 181 |
| CD402B | With No. 2 Morse taper socket. | 9 | 246 | 181 |
| CD403B | With No. 34, Jacobs key type $\frac{1}{2}$ " drill chuck. | 9 | 247 | 182 |



Economy Model 14-inch Floor Drill Presses

Except for the large base and tall pedestal, the floor type drill presses are the same as the bench type drill presses shown at the left. The heavy cast iron base provides a substantial support for the drill press, and is slotted for clamp bolts. Work surface on base is not machined. Maximum distance from work surface on base to chuck is $45\frac{1}{4}$ ".

The drill press head and table are securely locked to the precision ground seamless steel column by an improved internal clutch mechanism. Both table and head are adjustable and can be used in any position desired. The table has a precision ground work surface and tilts to any angle, with locating pin for vertical and horizontal positions. See preceding page for specifications.

Regular equipment supplied with each Economy Model Floor Drill Press includes motor base, motor pulley, spindle pulley, V-belt, and spindle equipment as listed in table, but does not include motor or switches.

Economy Model Floor Drill Presses

| Catalog Number | Spindle Equipment | Cubic Feet Boxed | Boxed Weight Pounds | Crated Weight Pounds |
|----------------|--|------------------|---------------------|----------------------|
| CD401F | With short taper for No. 34 Jacobs Chuck, without chuck. | 19 | 356 | 232 |
| CD402F | No. 2 Morse taper socket. | 19 | 356 | 232 |
| CD403F | With No. 34 Jacobs key type $\frac{1}{2}$ " drill chuck. | 19 | 357 | 233 |

Motors for South Bend Drill Presses

Motors listed below are recommended for use with South Bend 14" Drill Presses. These are all vertical mounting ball-bearing motors with the exception of No. CE3256B, which is a sleeve bearing motor. All single phase motors are capacitor type with the exception of No. CE3256B which is split-phase. Prices of 230 V. single phase and D.C. motors include 230 V. lamp in lieu of 115 V. lamp regularly supplied with drill press.



Motors operating on two or three phase A.C. require either remote control or across-the-line manual starter equipment described below the motor table. When motors are ordered for Economy Model Drill Presses it is recommended that a suitable drill press head wiring kit be selected from the column at the right, and ordered with the motor. Wiring and switches for single phase or D.C. motors are supplied with Precision Model Drill Presses, and need not be ordered as extras. Information on motors for current characteristics not listed will be supplied on request.

Motors for South Bend 14" Drill Presses

| Cat. No. | H.P. | Current | Volts | Phase | Cycle |
|----------|------|---------|-------|-------|-------|
| CE4910B | 1/2 | A.C. | 115 | 1 | 60 |
| CE3256B | 1/2 | A.C. | 115 | 1 | 60 |
| CE4910D | 1/2 | A.C. | 230 | 1 | 60 |
| CE4911A | 1/2 | A.C. | 115 | 1 | 50 |
| CE4911C | 1/2 | A.C. | 230 | 1 | 50 |
| CE4912D | 1/2 | A.C. | 220 | 3 | 60 |
| CE4912C | 1/2 | A.C. | 220 | 3 | 50 |
| CE4913S | 1/2 | A.C. | 380 | 3 | 50 |
| CE4913F | 1/2 | A.C. | 440 | 3 | 60 |
| CE4913E | 1/2 | A.C. | 440 | 3 | 50 |
| CE4920B | 1/2 | A.C. | 115 | 1 | 60 |
| CE4920D | 1/2 | A.C. | 230 | 1 | 60 |
| CE4921A | 1/2 | A.C. | 115 | 1 | 50 |
| CE4921C | 1/2 | A.C. | 230 | 1 | 50 |
| CE4916R | 1/2 | A.C. | 125 | 1 | 50 |
| CE4915Q | 1/2 | A.C. | 250 | 1 | 50 |
| CE4922Y | 1/2 | A.C. | 115 | 1 | 40 |
| CE4922Z | 1/2 | A.C. | 230 | 1 | 40 |
| CE4914D | 1/2 | A.C. | 220 | 2 | 60 |
| CE4914C | 1/2 | A.C. | 220 | 2 | 50 |
| CE4914F | 1/2 | A.C. | 440 | 2 | 60 |
| CE4914E | 1/2 | A.C. | 440 | 2 | 50 |
| CE4924D | 1/2 | A.C. | 220 | 3 | 60 |
| CE4924C | 1/2 | A.C. | 220 | 3 | 50 |
| CE4924S | 1/2 | A.C. | 380 | 3 | 50 |
| CE4924F | 1/2 | A.C. | 440 | 3 | 60 |
| CE4924E | 1/2 | A.C. | 440 | 3 | 50 |
| CE4930 | 1/2 | D.C. | 115 | ... | ... |
| CE4931 | 1/2 | D.C. | 230 | ... | ... |

Controls for Two and Three Phase Motors

All two and three phase motors for drill presses require either remote control or across-the-line manual starter equipment. Remote control equipment includes step-down transformers and relays which reduce current to operating switch to 110 volts.



CE4901. Across-the-line Manual Starter for two phase or three phase 220 to 440 v., 50 or 60 cycle A.C. motors. Shipping weight 5 lbs.

CE4909E. Remote Control for two phase or three phase, 220 v. or 440 v., 50 cycle A.C. motors. Shipping weight 23 lbs.

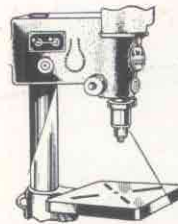
CE4909F. Remote Control for two phase or three phase, 220 v. or 440 v., 60 cycle A.C. motors. Shipping weight 23 lbs.

CE4909S. Remote Control for three phase 380 v. A.C. motors. Shipping weight 23 lbs.

SOUTH BEND LATHE WORKS

Drill Press Head Wiring Kits*

For Economy Model Drill Presses Only



All heads for South Bend Economy Model Drill Presses are cored and drilled to receive the wiring kits listed below.

CE9105. Toggle Switch Wiring Kit for single phase or D.C. motors up to 250 volts. Includes eight feet of Neoprene covered No. 16 two wire lead in cable, toggle switch and wire for motor, toggle switch

and wire for lamp, receptacle for standard base lamp bulb, clip, wiring instructions, and escutcheon plate with pins for mounting switches in Drill Press Head. Shipping weight 1 1/4 lbs.

CE9160. Across-the-line Manual Starter Wiring Kit for single phase or D.C. motors up to 250 volts. Includes eight feet of Neoprene covered No. 16 three wire lead in cable, across-the-line push button switch and wire for motor, toggle switch and wire for lamp, receptacle for standard base lamp bulb, clip, wiring instructions, and box for mounting switches in drill press head. Shipping weight 3 lbs.

CE9107. Toggle Switch Wiring Kit for use with remote controls CE4909E and CE4909F. Includes toggle switch and wire for operating motor through remote control, toggle switch and wire for 115 volt lamp, receptacle for standard base lamp bulb, clip, wiring instructions, and escutcheon plate with pins for mounting switches in drill press head.

CE3655. Feed-through Cord Switch for insertion in extension cord for 115 V. to 230 V. single phase or D.C. motors only. Shipping weight 1/4 lb.

CE3658. Extension Cord for motor. Neoprene covered No. 16 two wire cord with plug attached, length six feet. For single phase or D.C. motors only. Shipping weight 1/2 lb.

CE3659. Extension Cord for motor. Neoprene covered No. 16 two wire cord with plug attached, length eight feet. For single phase or D.C. motors only. Shipping weight 3/4 lb.

CE3660. Extension Cord. Neoprene covered No. 16 three wire cord (one wire used for grounding) with plug attached, length six feet. For single phase or D.C. motors only. Ship. wt. 1 lb.

CE3661. Extension Cord. Neoprene covered No. 16 three wire cord (one wire used for grounding) with plug attached, length eight feet. For single phase or D.C. motors only. Ship. wt. 1 lb.

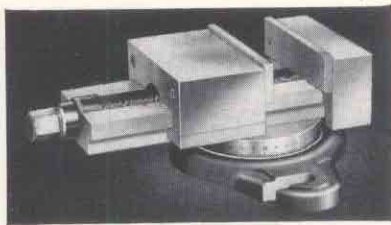
*No wiring is installed in South Bend Economy Model Drill Presses at the factory. For those who prefer to have wiring installed at the factory we recommend the South Bend Precision Model Drill Press.



Table Support Ring

Clamped on the column beneath the drill press table, this support ring permits releasing the table clamp and swinging the table around the column to any position without danger of the table dropping down. Very convenient for surface grinding with cup wheel mounted in drill press spindle, and similar surfacing operations on wood or metal parts. Can also be used under drill press head.

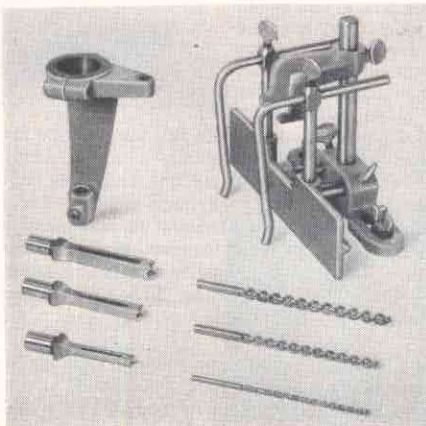
CE9140. Table Support Ring. Shipping weight 1 1/2 lbs.



Swivel Machine Vise

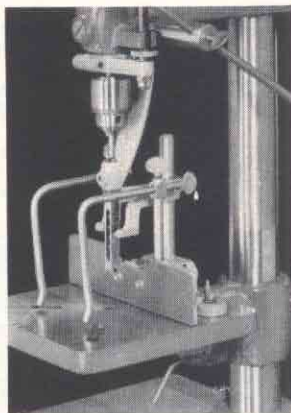
For holding work on drill press table, milling machine, shaper, etc. Swivel is graduated 180° to permit setting vise at any angle with slots in table. Jaws are hardened and are replaceable. Jaws are 4" wide and 1" deep. Maximum jaw opening is 4".

CE9100. Swivel Drill Press Vise. Shipping weight 18 pounds.



Mortising Attachment

This new South Bend Mortising Attachment converts any South Bend 14" Drill Press equipped with a 1/2" drill chuck into an efficient mortising machine. The improved fence assembly adjusts quickly and accurately for different thickness stock. The base clamps to the table and the fence adjusts on two steel posts. This design aids in eliminating alignment errors in the work. Two guide arms mount directly on the fence and are separately adjustable. A forked work hold down also adjusts on a vertical steel post mounted on the base. This fence assembly has many uses for guiding work other than mortising. It may be purchased separately.



The mortising chisel holder clamps on the drill press quill taking the place of the depth stop clamp.

Specifications

| | |
|--|---------|
| Capacity under work hold down, maximum..... | 5 1/16" |
| Capacity guide rods to fence, maximum..... | 4 7/16" |
| Distance fence adjusts without moving base on table..... | 1" |
| Working depth of chisels: | |
| 1/4"..... | 2 1/16" |
| 3/8"..... | 2 3/4" |
| 1/2"..... | 3 5/16" |

| Cat. No. | Description |
|----------|--|
| CE9151. | Mortising Attachment Fence Assembly. Ship. wt. 10 lbs. |
| CD9152. | Mortising Chisel Holder. Shipping weight 3 lbs. |
| CE9153. | 1/4" Mortising Chisel and Bit. Shipping weight 1/2 lb. |
| CE9154. | 3/8" Mortising Chisel and Bit. Shipping weight 3/4 lb. |
| CE9155. | 1/2" Mortising Chisel and Bit. Shipping weight 1 lb.. |

Wood Top Machine Stand

This is a heavily constructed angle steel stand 29 3/8" high for mounting the bench shaper, drill press, or for other small machines. The glued wood top is 20" x 32" and is 1 3/16" thick. Steel parts are finished in gray enamel. Shipping weight 52 lbs.



CE9141. Wood Top Machine Stand (less drawer).

Drawer for Machine Stand

Handy for keeping small tools, wrenches, etc. Finished to match stand CE9141. Drawer is 20 1/8" wide, 14" long, 3 3/16" deep. Price includes metal pull and wood slides. Shipping weight 9 lbs.

CE1780D. Drawer for use with Machine Stand.

Tapping Attachment

Jarvis Torqomatic Tapping Heads convert South Bend 14" Drill Presses into high speed, highly accurate tapping machines. Automatic reverse speed is twice forward speed. Quill mounting and No. 2 Morse taper spindle types shipped complete ready for use.



CE9145. Tapping head No. 0 to No. 10 tap capacity with No. 2 Morse taper arbor. Shipping weight 6 lbs.

CE9146. Tapping head No. 10 to 5/16" tap capacity with No. 2 Morse taper arbor. Shipping weight 7 1/2 lbs.

CD9147. Tapping head No. 0 to No. 10 tap capacity, quill mounting. Shipping weight 6 lbs.

CD9148. Tapping head No. 10 to 5/16" tap capacity, quill mounting. Shipping weight 7 1/2 lbs.

Protect Your Drill Press With This Waterproof Service Cover

Use this durable waterproof oil resistant plastic service cover to protect your drill press overnight or whenever it is not in use. Effectively prevents dust and dirt from accumulating. Attractive maroon color with South Bend emblem printed in metallic ink. Size 12" wide, 28" long, 28" high, large enough for any South Bend single spindle drill press. Folds compactly to small package for easy storing when not in use. Use two or more on multiple spindle drill presses. (For other sizes see pages 70 and 86.)



CE2693. Waterproof Service Cover for Drill Press, Shipping weight 2 lbs.

Multi-Speed Attachment

The Multi-Speed Attachment for South Bend 14" Precision Model and Economy Model Drill Presses provides twelve spindle speeds 380 to 8,010 r.p.m. when used with 1725 r.p.m. motor. The attachment consists of an eccentric spindle, which is mounted in the drill press column to support a 4-step auxiliary cone pulley with two V-belts.

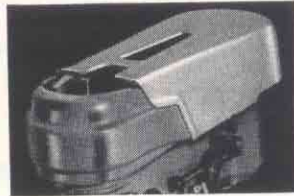


This attachment cannot be used with split phase motor No. CE3256B. Price includes eccentric spindle, 4-step cone pulley and two V-belts. Shipping weight 8 lbs.

CD9135A. For $\frac{1}{2}$ h.p. motor.
CD9135B. For $\frac{1}{4}$ h.p. motor.

Belt Guard

This belt guard provides complete enclosure for V-belt. Guard is hinged and may be raised for changing spindle speeds. May be used with or without Multi-Speed Attachment.



CD9136. Belt Guard for use with Precision Model Drill Press only. Shipping weight 16 lbs.
CD9137. Belt Guard for use with Economy Model Drill Press only, when supplied with drill press in lieu of regular guard.
CD9138. Belt Guard for use with Economy Model Drill Press only, when supplied separate from drill press. Shipping weight 50 lbs.

Balanced Pulleys for Economy Model Drill Press

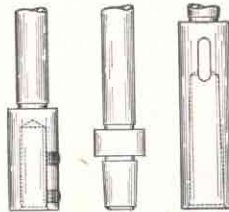
Accurately machined and balanced spindle and motor pulleys for smooth operation at high speeds. Recommended for use with Multi-Speed Attachment on Economy Model Drill Presses. (Supplied as standard equipment on Precision Model Drill Presses.) Specify diameter of motor shaft when ordering. Shipping weight $8\frac{1}{2}$ lbs.



CE9133. Pair of pulleys with drill press in lieu of regular pulleys.
CE9160. Balanced Spindle Pulley only. Shipping weight 3 lbs.
CE9161. Balanced Motor Pulley with $\frac{1}{2}$ " hole. Ship. wt. 3 lbs.
CE9162. Balanced Motor Pulley with $\frac{3}{8}$ " hole. Ship. wt. 3 lbs.
CE9163. Balanced Motor Pulley with $\frac{3}{4}$ " hole. Ship. wt. 3 lbs.

Extra Spindles for Drill Presses

Extra spindles are interchangeable with regular drill press spindles supplied with either the Economy Model or Precision Model Drill Presses.



CD9125. Spindle with No. 2 Morse taper hole for holding taper shank tools. Drift included. Shipping weight 3 lbs.
CD9126. Utility spindle with $\frac{1}{8}$ " x $1\frac{3}{8}$ " deep straight hole for holding routing tools, etc. Shipping weight 3 lbs.
CD9127. Spindle with short taper for $\frac{1}{2}$ " Drill Chuck No. CE1201 (Jacobs No. 34). Shipping weight 2 lbs.

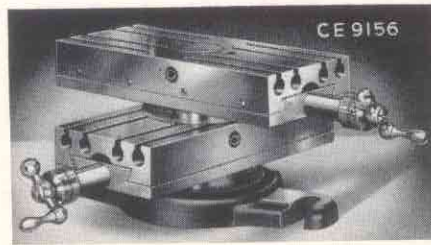
Chuck and Arbor for Drill Press

This drill chuck and arbor are recommended for use with drill presses having spindles with No. 2 Morse taper.



CE1201. Jacobs 3-jaw smooth body drill chuck, 0 to $\frac{1}{2}$ " capacity with pinion key. Shipping weight $2\frac{3}{8}$ pounds.
CE9110. No. 2 Morse taper shank arbor with tang, for fitting above chuck to drill press spindle No. CD9125. Shipping weight $\frac{3}{4}$ lb.

SOUTH BEND LATHE WORKS



Universal Table

Both upper and lower slides have graduated swivels and may be turned through full 360°. Slides can be used without graduated swivels to reduce height if desired. They can be positioned at any angle with each other and may be turned individually or together. Each slide has feed screw with micrometer collar reading in thousandths of an inch. Dovetails are equipped with full length gibs for take-up. The precision ground work surface is 4" x $8\frac{1}{8}$ " and maximum travel is 4" for either slide. Table has four slots for clamping work. Clamp bolts fit snugly into round slots in such a way that there is little danger of breaking out or otherwise damaging the slots. Supplied with base for use on drill press, milling machines, etc., also with a specially designed base for mounting on the South Bend 7" Shaper. Slides and bases may be purchased separately if desired.



CE9156. Universal Table complete with base for South Bend Drill Press or other machine tool, two slides, two graduated swivels, and eight clamp bolts with nuts. Ship. weight 43 lbs.

CE9150. Universal Table complete with base for South Bend 7" Shaper, two slides, two graduated swivels, and eight clamp bolts with nuts. Shipping weight 37 lbs.

CE9157. Single Table with one graduated swivel and four clamp bolts with nuts. Shipping weight 19 lbs.

CE9158. Base only for adapting single table to South Bend 7" Shaper. Shipping weight 3 lbs.

CE9159. Base only for adapting single table to South Bend Drill Press or other machine tool. Shipping weight 8 lbs.

Tap and Die Sets

This is a Henry L. Hanson lightweight tap and die set packed in a compact tough composition case that will withstand hard usage. Set consists of one each No. 25 Die Stock,

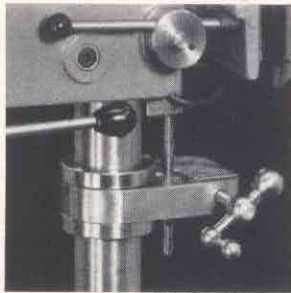


No. 88 Tap and Reamer Wrench, No. 1E Tap wrench, No. 514 Screw Pitch Gauge, Screw Driver, and one each carbon steel Tap and Die in following sizes: 4 x 36, 6 x 32, 8 x 32, 10 x 24, 10 x 32, and 12 x 24 machine screw standard; $\frac{1}{4}$ x 20, $\frac{5}{16}$ x 18, $\frac{3}{8}$ x 16, $\frac{7}{16}$ x 14, and $\frac{1}{2}$ x 13 NC (U.S. Standard); $\frac{1}{4}$ x 28, $\frac{5}{16}$ x 24, $\frac{3}{8}$ x 24, $\frac{1}{2}$ x 20, and $\frac{1}{2}$ x 20NF (SAE Standard, and $\frac{1}{8}$ " pipe thread. Dies are 1" outside diameter. Dies are supplied in adjustable type as listed. Shipping weight 6 lbs.

CE2187. Tap and Die Set with Adjustable Dies.

Head Positioning Attachment

The Head Positioning Attachment provides a quick and convenient means for adjusting the position of the drill press head on the column. The attachment can be used at any point on the column, and provides four inches of vertical adjustment at one setting. Enclosed worm gearing operated by a steel ball crank assures smooth, easy operation. The head positioning attachment swivels around the column with the head to any desired angle. Designed for use with South Bend 14" Drill Presses, but can be fitted to any drill press having 2 3/4" column.

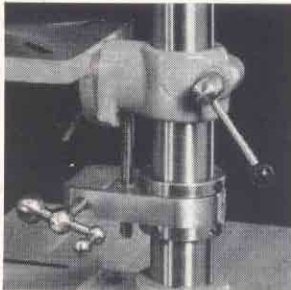


PATENT APPLIED FOR

CE9131. Head Positioning Attachment. Ship. wt. 10 lbs.

Table Positioning Attachment

This Table Positioning Attachment raises or lowers the drill press table. It provides precision adjustment and can be fitted to any drill press having a 2 3/4" diameter column. The attachment consists of a vertical screw operated by a steel ball crank through worm gearing. It is positioned on column by adjusting two lock rings and provides 4" of adjustment without resetting when the table is in the normal horizontal position. The adjustment is reduced to 3 1/2" when the table is set at 45°, which is the maximum angle for the table when the positioning adjustment is used. Swivels around column with table.

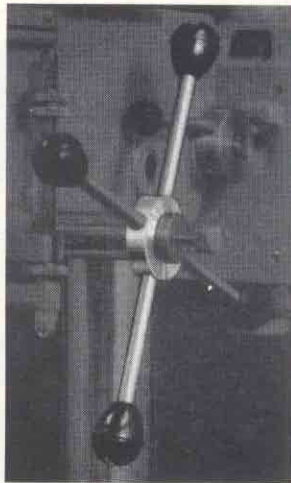


PATENT APPLIED FOR

CE9130. Table Positioning Attachment. Ship. wt. 10 lbs.

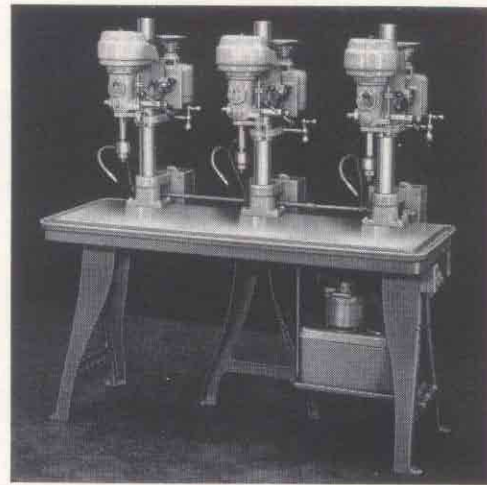
Turnstile Feed Lever Attachment

This attachment adds two spokes to the regular feed lever to provide a four spoke turnstile feed for the drill press spindle. It consists of two levers of equal length mounted in a collar which slips over the quill feed shaft. The regular feed lever passes through the collar and locks it in position. The use of this attachment does not interfere with the adjustable feature of the regular feed lever, which can be set in central position or extended for additional leverage or convenience as desired. Made with knobs to match Precision Model Drill Press, but can also be used with Economy Model Drill Press.



CD9155. Turnstile Feed Lever Attachment. Ship. wt. 3 lbs.

SOUTH BEND LATHE WORKS



Coolant Pump Equipment for Production Type Drill Presses

This coolant pump equipment is designed for use with the production type drill presses described on page 77. It includes a self priming coolant pump driven by a 1/4 h.p. motor, toggle switch, coolant reservoir, necessary piping, and individual nozzle with shut off valve for each spindle of the drill press. Price includes fitting coolant equipment to drill press at factory. Shipping weight approximately 154 lbs.

| CURRENT | | | | CATALOG NUMBERS FOR COOLANT EQUIPMENT | | | |
|---------|-------|-------|-------|---------------------------------------|-------------------------|---------------------------|--------------------------|
| Type | Phase | Cycle | Volts | One Spindle Drill Press | Two Spindle Drill Press | Three Spindle Drill Press | Four Spindle Drill Press |
| A.C. | 3 | 50 | 220 | CD9103C | CD9203C | CD9303C | CD9403C |
| A.C. | 3 | 60 | 220 | CD9103D | CD9203D | CD9303D | CD9403D |
| A.C. | 3 | 50 | 440 | CD9103E | CD9203E | CD9303E | CD9403E |
| A.C. | 3 | 60 | 440 | CD9103F | CD9203F | CD9303F | CD9403F |
| A.C. | 3 | 50 | 550 | CD9103G | CD9203G | CD9303G | CD9403G |
| A.C. | 3 | 60 | 550 | CD9103H | CD9203H | CD9303H | CD9403H |
| A.C. | 2 | 50 | 220 | CD9102C | CD9202C | CD9302C | CD9402C |
| A.C. | 2 | 60 | 220 | CD9102D | CD9202D | CD9302D | CD9402D |
| A.C. | 1 | 50 | 115 | CD9101A | CD9201A | CD9301A | CD9401A |
| A.C. | 1 | 60 | 115 | CD9101B | CD9201B | CD9301B | CD9401B |
| A.C. | 1 | 50 | 230 | CD9101C | CD9201C | CD9301C | CD9401C |
| A.C. | 1 | 60 | 230 | CD9101D | CD9201D | CD9301D | CD9401D |
| D.C. | ... | .. | 115 | CD9100K | CD9200K | CD9300K | CD9400K |
| D.C. | ... | .. | 230 | CD9100L | CD9200L | CD9300L | CD9400L |

Universal Coolant Pump Equipment

This coolant equipment may be ordered for drill presses, or other machine tools for which specially designed coolant equipment is not available. Reservoir may be set on floor or attached to machine. Equipment consists of: coolant pump, tubing, reservoir, tray, 1/4 h.p. motor, switch, and wire for connecting motor and switch. Shipping weight approximately 110 lbs.



| Cat. No. | Current | Phase | Cycle | Voltage |
|----------|---------|-------|-------|---------|
| CE2003C | A.C. | 3 | 50 | 220 |
| CE2003D | A.C. | 3 | 60 | 220 |
| CE2003E | A.C. | 3 | 50 | 440 |
| CE2003F | A.C. | 3 | 60 | 440 |
| CE2003G | A.C. | 3 | 50 | 550 |
| CE2003H | A.C. | 3 | 60 | 550 |
| CE2002C | A.C. | 2 | 50 | 220 |
| CE2002D | A.C. | 2 | 60 | 220 |
| CE2001A | A.C. | 1 | 50 | 115 |
| CE2001B | A.C. | 1 | 60 | 115 |
| CE2001C | A.C. | 1 | 50 | 230 |
| CE2001D | A.C. | 1 | 60 | 230 |
| CE2000K | D.C. | ... | .... | 115 |
| CE2000L | D.C. | ... | .... | 230 |

South Bend 7-inch Precision Bench Shaper

The South Bend 7" Shaper has been developed to meet tool-room and industrial demands for an accurate, compact bench shaper that is precision engineered and sturdily constructed. It has the built-in accuracy and versatility for rapid machining on small parts. The stroke rate per minute is higher than on larger shapers, permitting greater production on work within its capacity. The ease of setting up work in the bench shaper, its high operating speeds, and the low power consumption of the fractional h.p. motor, keep costs to a minimum. Built to the same high standards that have made South Bend Lathes famous for their precision and durability, this shaper is capable of the most exacting work on parts within its capacity.

Ram has long dovetail bearings which provide rigid support for the cutting tool, even in the extreme forward position. Gib adjustment is provided, and dovetail ways are fitted with felt wipers on both ends of column. Length of stroke is regulated by crank gear eccentric adjustment, and rocker arm is graduated to indicate length of stroke in inches. A large handwheel is provided for adjusting the ram which is locked in position by a conveniently located binding lever. The crank gear is precision made for quiet operation. Oil impregnated bearings are used for both the crank gear and the countershaft.

Tool head swivels to any angle, and has $3\frac{1}{2}$ " diameter mounting with accurately cut graduations 0 to 90° right and left. The tool slide screw has a clear cut graduated collar reading in thousandths of an inch. The clapper box swivels on the tool slide and may be adjusted for clearance, regardless of the

tool slide angle. A tool slide lock is provided so that extreme accuracy and flatness can be maintained.

Table has holes and slots on top and on each side for clamping work. A V-groove is also provided on one side of the table. The cross-feed screw has a clear cut graduated collar reading in thousandths of an inch. The cross rail on which table slides is substantially constructed with large widely spaced bearing ways. Gib adjustment is provided for take-up. Provision is made for locking the vertical adjustment. For safety, the cross-feed screw is so constructed that the nut will run off the thread when it has traveled the maximum distance in either direction. An adjustable front end support assures rigidity.

Vise swivels to any angle, with base graduated 0 to 90° right and left, and can be mounted on the top or right side of the table. Vise jaw inserts are made of heat-treated steel.

Motor required is $\frac{1}{8}$ or $\frac{1}{2}$ h.p., 1725 r.p.m., and is mounted on a cradle at the back of the shaper. Power is transmitted by V-belts. A quick acting belt tension release is provided for easy shifting of the belt to change speeds. All V-belts and pulleys are enclosed in substantial metal guards.

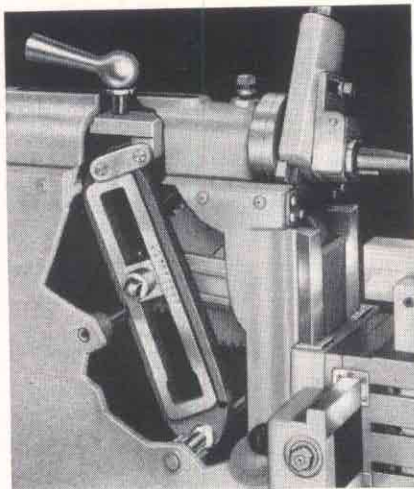
CS100. South Bend 7" Precision Bench Shaper with vise, drive unit for $\frac{1}{8}$ h.p. motor, motor pulley, V-belts, guards, work light, and switches, but without motor, steel stand, or tool holder. Shipping weight crated 330 lbs. Boxed weight 400 lbs., cubic feet boxed 12.

Specifications of South Bend 7" Precision Shaper

| | |
|--|-------------------------------------|
| Ram | |
| Length of Ram Stroke..... | 0 to 7" |
| Strokes Per Minute, approximate..... | 42-75-120-195 |
| Cutting Speeds..... | 3 to 114 feet per minute |
| Tool | |
| Length of Feed..... | 3" |
| Head | |
| Tool Post Takes Tool Holder Shank..... | $\frac{3}{8}$ " x $1\frac{3}{16}$ " |
| Swivels..... | 360° |
| Vise | |
| Width of Jaws..... | 4" |
| Depth of Jaws..... | 1" |
| Maximum Opening..... | 4" |

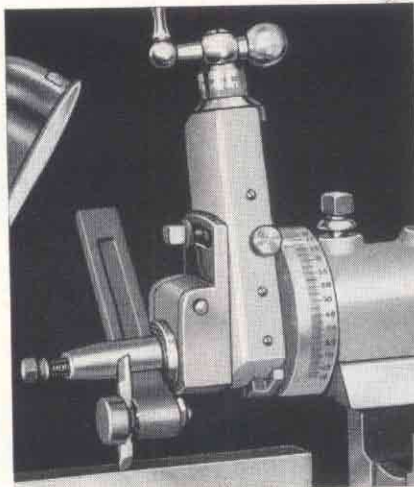
| | |
|-------------------------------------|--------------------------------------|
| Table | |
| Length of Top..... | 6 $\frac{5}{16}$ " |
| Width of Top..... | 5" |
| Depth of Table..... | 5 $\frac{3}{8}$ " |
| Horizontal Travel..... | 9 $\frac{1}{2}$ " |
| Vertical Travel..... | 5" |
| Distance from Ram..... | $\frac{1}{2}$ " to 5 $\frac{1}{2}$ " |
| Power Cross-Feeds (reversible)..... | .002" to .012" |
| Width of Slots..... | $\frac{5}{16}$ " |
| Holes for Clamp Bolts..... | $\frac{9}{32}$ " |

| | |
|-----------------------|-------------------------------------|
| Motor | |
| Size Recommended..... | $\frac{1}{8}$ or $\frac{1}{2}$ h.p. |



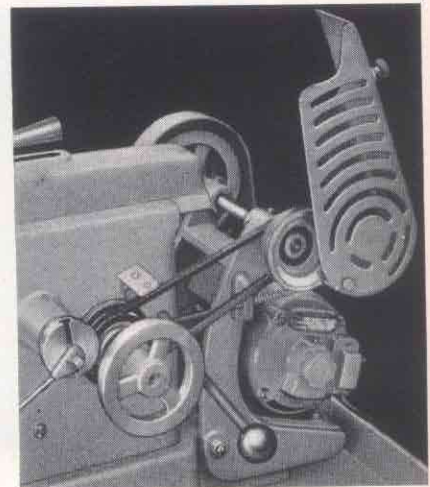
Rocker and crank with graduated eccentric adjustment for stroke

SOUTH BEND LATHE WORKS



Tool head locks in any position. Rugged clapper box also adjustable

84



Guards on all belts and pulleys. Quick-acting belt tension release

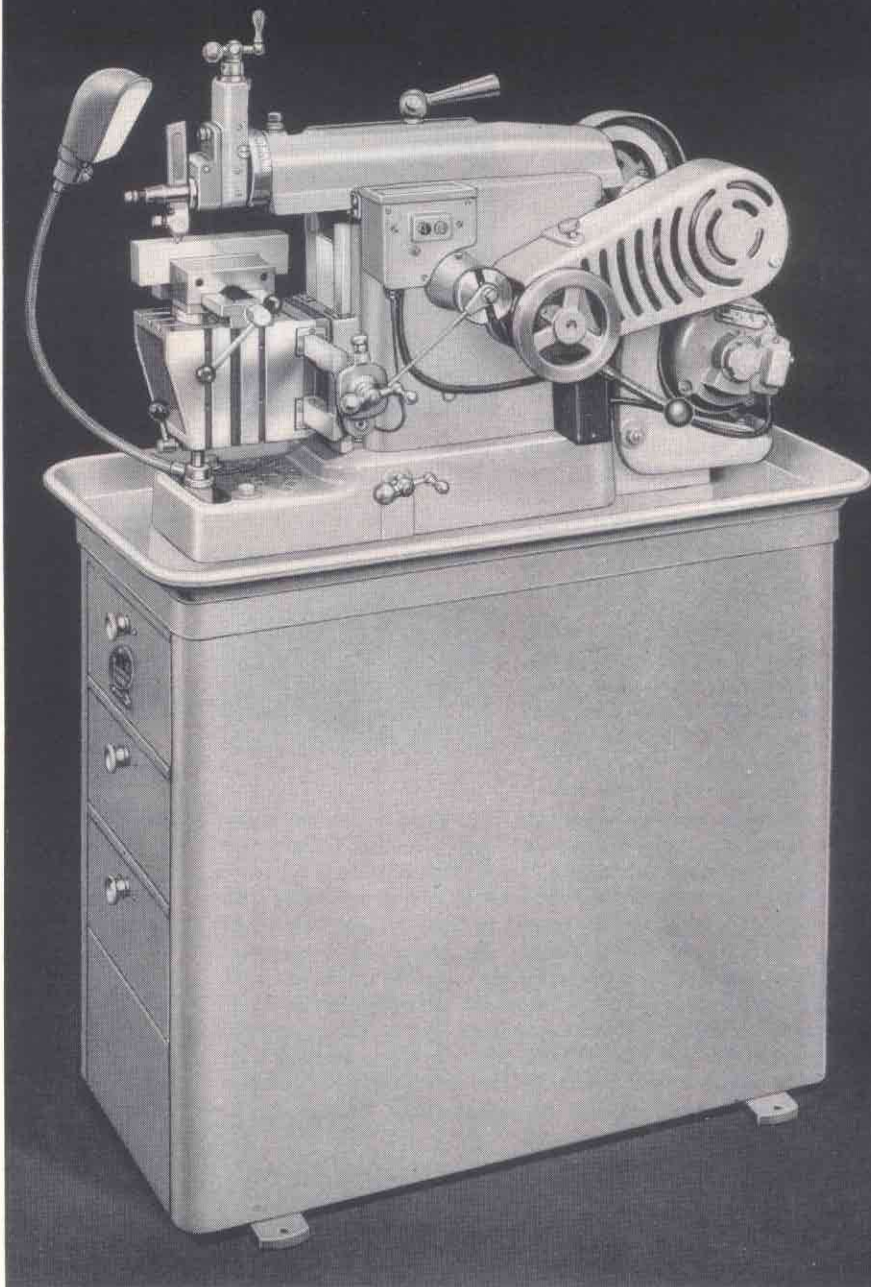
SOUTH BEND 22, INDIANA, U.S.A.

FEATURES

- Built-in work light prevents eye strain.
- Reversible power cross-feeds .002" to .012".
- Built-in motor drive with quick acting belt tension release for changing speeds.
- Swivel vise graduated in degrees.
- Swivel tool head graduated in degrees.
- Convenient stroke adjustment 0 to 7".



Note: Motor, tool holder, and steel stand shown in illustration are not included in regular equipment of shaper. See page 86.



Swiveling Machine Handles

Swiveling machine handles for the shaper can be supplied in lieu of the solid machine handles furnished as regular equipment, provided they are specified when the shaper is ordered.

CS9636. Swiveling Machine Handles for tool head feed screw, table cross-feed screw, and table vertical feed screw, in lieu of solid machine handles if ordered with shaper.



Angle Plate

A heavy cast iron angle plate for clamping work on shaper, drill press, milling machine, face plate of lathe, etc. Size 4½" x 3" x 2".

CE9640. Ship. wt. 4 lbs.



Shaper Tool Holder

An extremely rigid forged steel tool holder for ¼" square cutter bits. Adjustable to work at all angles. Head can be swiveled and locked at eight different positions for machining many odd shapes and for cutting various angles without shifting the work. Shipping weight 1 lb.

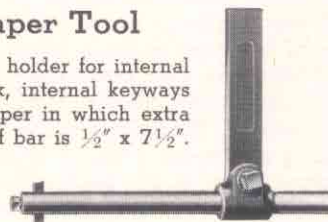
CS9630. Adjustable Shaper Tool Holder.



Extension Shaper Tool

A rigid forged steel tool holder for internal work. Adapted for die work, internal keyways or for any work on the shaper in which extra clearance is needed. Size of bar is ½" x 7½". Takes cutter bit ⅜" x ⅜". Shipping weight 2 pounds.

CS9631. Extension Shaper Tool.



Steel Machine Stand

This sturdy, welded steel stand provides rigid support for a bench shaper, drill press, vise, jig saw, or other machine. Top has bolt holes punched for mounting shaper. A built-in chip pan forms the top of the stand permitting the use of coolant if desired. Three drawers 10½" x 5½" x 15¾" inside, with key locks provide plenty of storage space for work, tools and accessories. Nicely finished with gray wrinkle enamel. Width 19", depth 36", height 28¾". Shipping weight 150 pounds.

CS9600. Steel Stand for Shaper.



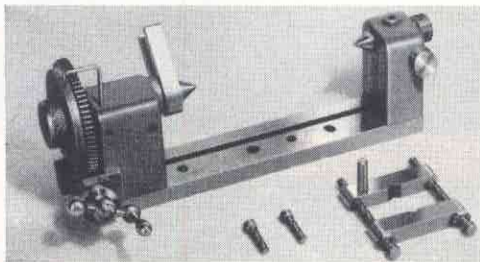
Indexing Table

You will find this rotary indexing table a great convenience for mounting small work on the milling machine, drill press, or shaper. Used for accurately spacing bolt holes, indexing clutch teeth, machining square, hexagonal or octagonal shapes, milling circular grooves or T-slots, etc. Table is 4½" in diameter and has three T-slots for clamping work. Edge of table is graduated 360°. Table is turned by worm gearing having graduated collar and ball crank. Thumb screw on front of ball crank locks graduated collar in any position. Each graduation indicates a table movement of 3 minutes. One complete revolution of the ball crank turns the table 5 degrees. Clamping device is provided for locking table in any position. Top of table is precision ground. Base has two bolt holes for clamping to machine table. Price includes eight clamping bolts with nuts and washers.

CE9144. Indexing Table. Shipping weight 14 lbs.



PATENT APPLIED FOR



PATENT APPLIED FOR

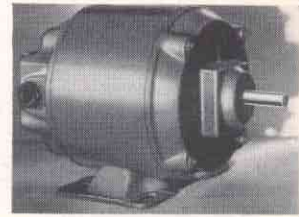
Indexing Centers

This is an indispensable device for cutting splines or flutes in shafts, laying out work, accurate cross drilling, gear cutting, milling or shaping hexagons, squares, etc. Base has bolt holes for clamping on table of drill press, milling machine or shaper. Takes work between centers up to 5" in diameter, 6" long. Revolving center has large dial graduated 360°. Center is turned by worm gearing having graduated collar and ball crank. Each graduation indicates a center movement of 3 minutes. One complete revolution of the ball crank turns the center 5°. Worm gear can be disengaged for quick positioning of indexing center. Clamping device is provided for locking center in any position. Base has two bolt holes for clamping to machine table. Price includes two clamping bolts.

CE9635. Indexing Centers. Shipping weight 12 lbs.

Motors for South Bend Shapers

Motors listed below are recommended for use with South Bend 7" Shapers. These are all ball-bearing motors with the exception of No. CS3256B, which is a sleeve bearing motor. All single phase motors are capacitor type with the exception of the No. CS3256B, which is split-phase. Prices of ½ h.p. motors include special mounting base. Prices of 230 V., single phase and D.C. motors include 230 V. lamp in lieu of 115 V. lamp which is regularly supplied with shaper.



Remote control equipment described below the motor table is optional for motors operating on two phase or three phase alternating current. Information on motors for current characteristics not listed will be supplied on request. Approximate ship. wts.: ⅓ h.p. motors 40 lbs., ½ h.p. motors 50 lbs.

Motors for South Bend 7" Bench Shapers

| Cat. No. | H.P. | Current | Volts | Phase | Cycle |
|----------|------|---------|-------|-------|-------|
| CS4910B | ½ | A.C. | 115 | 1 | 60 |
| CS3256B | ½ | A.C. | 115 | 1 | 60 |
| CS4910D | ½ | A.C. | 230 | 1 | 60 |
| CS4911A | ½ | A.C. | 115 | 1 | 50 |
| CS4911C | ½ | A.C. | 230 | 1 | 50 |
| CS4912D | ½ | A.C. | 220 | 3 | 60 |
| CS4912C | ½ | A.C. | 220 | 3 | 50 |
| CS4913S | ½ | A.C. | 380 | 3 | 50 |
| CS4913F | ½ | A.C. | 440 | 3 | 60 |
| CS4913E | ½ | A.C. | 440 | 3 | 50 |
| CS4920B | ½ | A.C. | 115 | 1 | 60 |
| CS4920D | ½ | A.C. | 230 | 1 | 60 |
| CS4921A | ½ | A.C. | 115 | 1 | 50 |
| CS4921C | ½ | A.C. | 230 | 1 | 50 |
| CS4916R | ½ | A.C. | 125 | 1 | 50 |
| CS4915Q | ½ | A.C. | 250 | 1 | 50 |
| CS4922Y | ½ | A.C. | 115 | 1 | 40 |
| CS4922Z | ½ | A.C. | 230 | 1 | 40 |
| CS4914D | ½ | A.C. | 220 | 2 | 60 |
| CS4914C | ½ | A.C. | 220 | 2 | 50 |
| CS4914F | ½ | A.C. | 440 | 2 | 60 |
| CS4914E | ½ | A.C. | 440 | 2 | 50 |
| CS4924D | ½ | A.C. | 220 | 3 | 60 |
| CS4924C | ½ | A.C. | 220 | 3 | 50 |
| CS4924S | ½ | A.C. | 380 | 3 | 50 |
| CS4924F | ½ | A.C. | 440 | 3 | 60 |
| CS4924E | ½ | A.C. | 440 | 3 | 50 |
| CS4930 | ½ | D.C. | 115 | ... | ... |
| CS4931 | ½ | D.C. | 230 | ... | ... |

Controls for Two and Three Phase Motors

Remote control equipment includes step-down transformers and relays which reduce the current to the operating switch to 110 volts. This equipment is optional for motors operating on two phase or three phase alternating current.

CE9609E. Remote Control for two phase or three phase, 220 v. or 440 v., 50 cycle A.C. motors. Shipping weight 14 lbs.

CE9609F. Remote control for two phase or three phase, 220 v. or 440 v., 60 cycle A.C. motors. Shipping weight 14 lbs.

CE9609S. Remote control for three phase 380 v. A.C. motors. Shipping weight 14 lbs.

Plastic Cover for Shaper

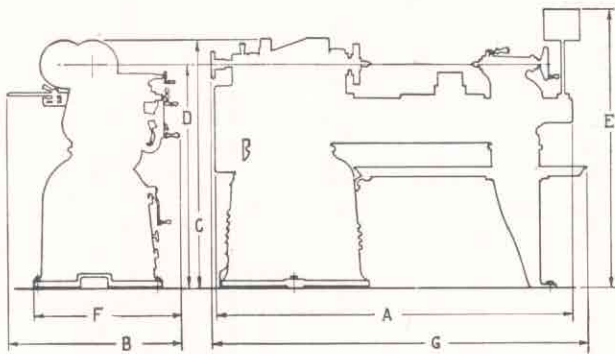
Keep your shaper clean and in good condition by protecting it overnight and whenever not in use with this waterproof oil resistant service cover. Attractive maroon color. Size 21" wide, 37" long, 24" high, large enough to cover the entire shaper. (For other sizes see pages 70 and 81.)

CE2694. Waterproof Service Cover for Shaper, shipping weight 2 lbs.



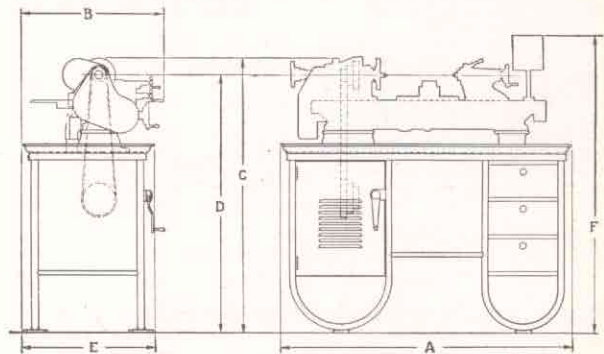
Floor Space Required for South Bend Machine Tools

Dimensions A to G given in tables below are in inches



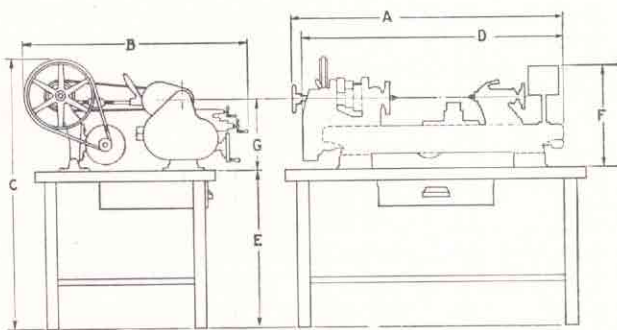
Underneath Motor Driven Floor Lathes

| Size Lathe | Bed Length | A | B | C | D | E | F | G |
|------------|------------|---------|--------|----------|----------|----------|---------|---------|
| 10" | 3' | 44 | 27 3/4 | 44 23/32 | 41 13/32 | 50 21/32 | 24 | 46 |
| 13" | 5' | 65 5/16 | 34 3/4 | 45 1/2 | 41 1/2 | 52 11/32 | 26 3/16 | 70 |
| 14 1/2" | 6' | 78 1/2 | 36 3/4 | 46 1/2 | 41 1/16 | 50 11/16 | 27 1/2 | 84 |
| 16" | 8' | 102 1/2 | 41 3/8 | 46 3/4 | 42 1/2 | 54 1/32 | 28 3/8 | 106 7/8 |
| 16-24" | 10' | 126 1/2 | 51 1/2 | 46 3/4 | 46 3/4 | 54 1/32 | 28 3/8 | |



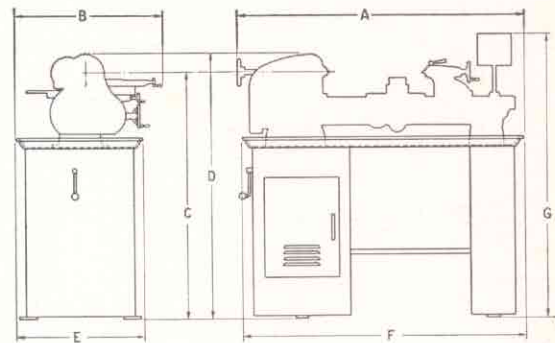
Underneath Motor Driven Bench Lathes

| Size Lathe | Bed Length | A | B | C | D | E | F |
|------------|------------|--------|--------|----------|---------|----|----------|
| 10" | 3 1/2' | 51 1/2 | 26 1/2 | 47 15/32 | 44 3/32 | 22 | 52 13/32 |



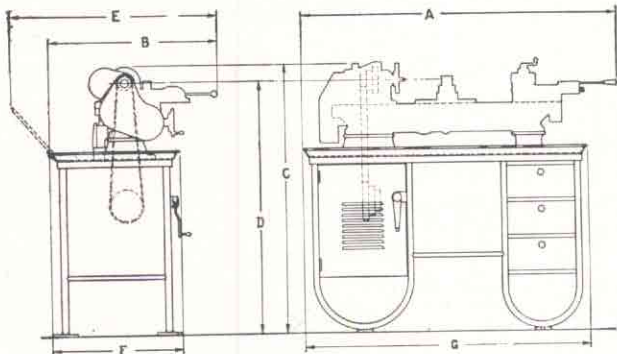
Horizontal Motor Driven Bench Lathes

| Size Lathe | Bed Length | A | B | C | D | E | F | G |
|------------|------------|--------|--------|----------|--------|---------|--------|----------|
| 9" | 3' | 41 1/2 | 37 | 49 15/16 | 39 3/8 | 29 3/16 | 19 1/2 | 12 11/32 |
| Lt. Ten | 3' | 41 1/2 | 32 3/4 | 49 1/4 | 39 3/8 | 29 3/16 | 19 7/8 | 12 11/32 |



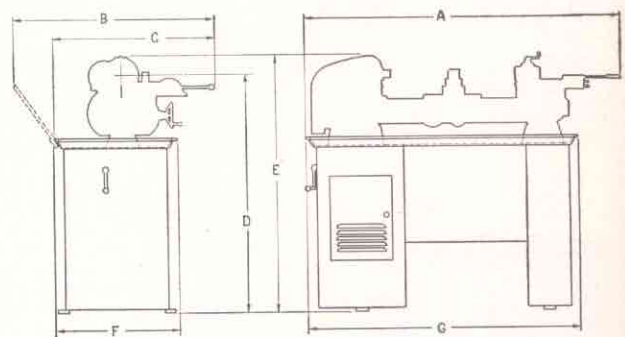
Underneath Motor Driven Metal Column Base Lathes

| Size Lathe | Bed Length | A | B | C | D | E | F |
|------------|------------|---------|--------|----------|----------|--------|--------|
| 9" | 3 1/2' | 49 3/32 | 25 1/4 | 41 23/32 | 44 23/32 | 21 1/2 | 48 1/4 |
| Lt. Ten | 3 1/2' | 49 3/32 | 25 1/4 | 42 1/2 | 45 3/16 | 21 1/2 | 48 1/4 |



Series 1000 Bench Turret Lathe

| Size Lathe | Bed Length | A | B | C | D | E | F | G |
|------------|------------|--------|---------|----------|---------|--------|----|--------|
| 1000 | 3 1/2' | 63 1/4 | 30 3/16 | 47 13/32 | 44 3/32 | 40 3/8 | 22 | 51 1/2 |

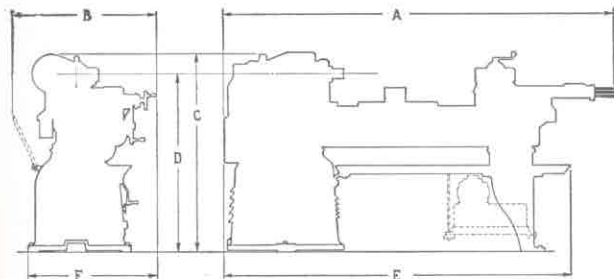


Series 900 Metal Column Base Turret Lathes

| Size Lathe | Bed Length | A | B | C | D | E | F | G |
|------------|------------|----|--------|--------|----------|----------|--------|--------|
| 900 | 3 1/2' | 60 | 36 1/4 | 28 1/4 | 41 23/32 | 44 23/32 | 21 1/2 | 48 1/4 |

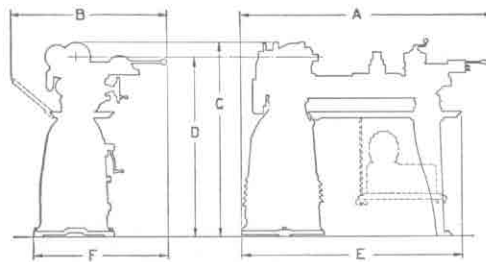
Floor Space Required for South Bend Machine Tools

Dimensions A to H in tables below are in inches



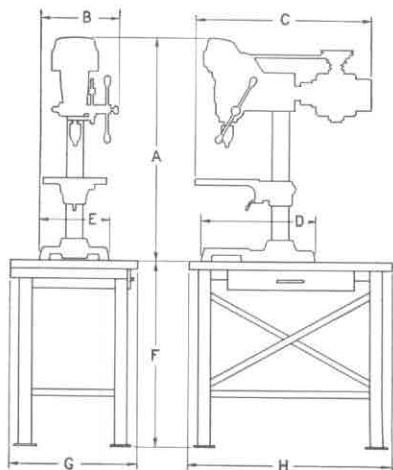
No. 2-H Turret Lathe

| Size Lathe | Bed Length | A | B | C | D | E | F |
|------------|------------|--------|----|--------|--------|--------|--------|
| 2-H | 6' | 93 1/2 | 37 | 46 3/4 | 42 1/2 | 81 1/2 | 28 3/4 |



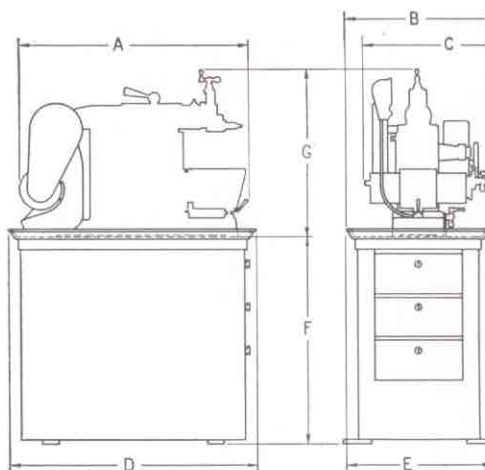
Series 1000 Turret Lathe

| Size Lathe | Bed Length | A | B | C | D | E | F |
|------------|------------|--------|--------|--------|--------|----|--------|
| 1000 | 3 1/2' | 62 1/4 | 35 1/4 | 44 3/8 | 41 1/8 | 51 | 29 1/4 |



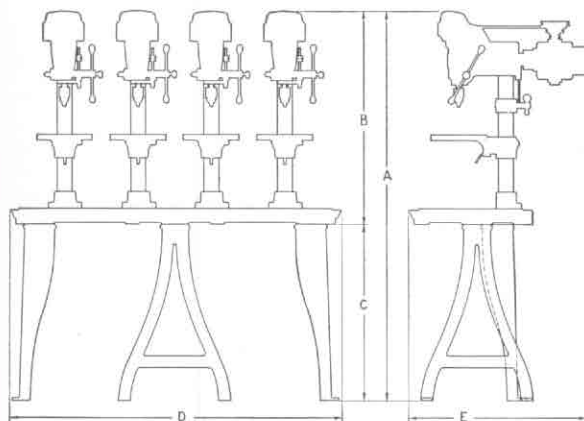
14" Bench Drill Presses and Stand

| Model | A | B | C | | D | E | F | G | H |
|-----------|----------|--------|----------|----------|--------|--------|--------|----|----|
| | | | 1/8 h.p. | 1/2 h.p. | | | | | |
| Economy | 35 15/16 | 12 1/4 | 27 3/4 | 29 | 17 3/4 | 10 3/4 | 29 3/8 | 20 | 32 |
| Precision | 35 9/16 | 12 1/4 | 27 3/4 | 29 | 17 3/4 | 10 3/4 | 29 3/8 | 20 | 32 |



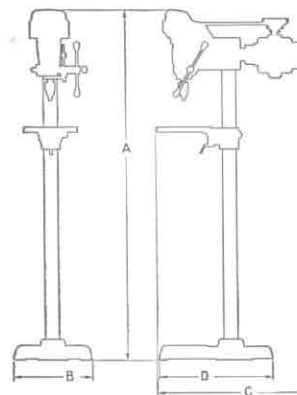
7" Shaper and Stand

| Machine | A | | B | C | D | E | F | G |
|---------|----------|----------|--------|----|----|----|--------|----|
| | 1/4 h.p. | 1/2 h.p. | | | | | | |
| 7" | 31 3/4 | 35 1/4 | 20 1/2 | 19 | 36 | 19 | 28 3/4 | 26 |



Drill Presses for Production Operations

| Spindles | A | B | C | D | E | |
|----------|----------|----------|--------|----------|----------|----------|
| | | | | | 1/8 h.p. | 1/2 h.p. |
| 1 | 68 15/16 | 37 7/16 | 31 3/8 | 19 15/16 | 31 21/32 | 32 29/32 |
| 2 | 69 13/16 | 38 7/16 | 31 3/8 | 32 15/16 | 31 21/32 | 32 29/32 |
| 3 | 70 1/16 | 38 11/16 | 31 3/8 | 58 15/16 | 31 21/32 | 32 29/32 |
| 4 | 70 1/16 | 38 11/16 | 31 3/8 | 58 15/16 | 31 21/32 | 32 29/32 |



Floor Type Drill Presses

| Machine | A | B | C | | D |
|---------------|----------|----|----------|----------|----|
| | | | 1/8 h.p. | 1/2 h.p. | |
| 14" Economy | 65 15/16 | 15 | 27 3/4 | 29 | 21 |
| 14" Precision | 65 9/16 | 15 | 27 3/4 | 29 | 21 |

