

SCHOOL SHOP PLANNING *and* SPECIFICATIONS MANUAL



SOUTH BEND LATHE WORKS

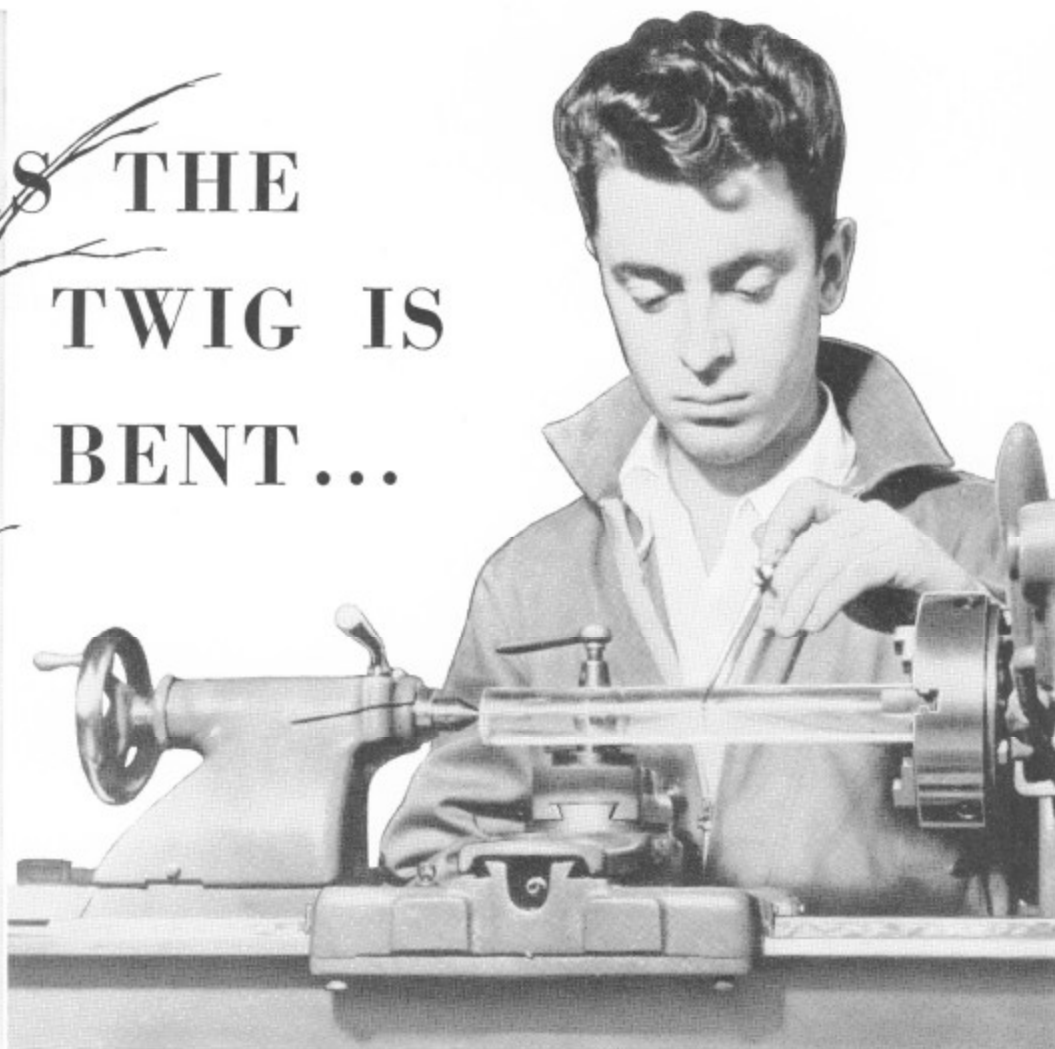
Building Better Tools Since 1906

425 E. MADISON ST., SOUTH BEND 22, INDIANA, U. S. A.

Printed in U. S. A.



AS THE TWIG IS BENT...



SCHOOL YEARS are the formative period which lays the foundation for each student's career. This training must fulfill the future needs of *every* student. Those destined to fill management positions in industry especially require the advantages of practical shop courses. A thorough knowledge of basic processes and methods will help them keep pace with rapidly changing technological sciences and will play an important part in their advancement.

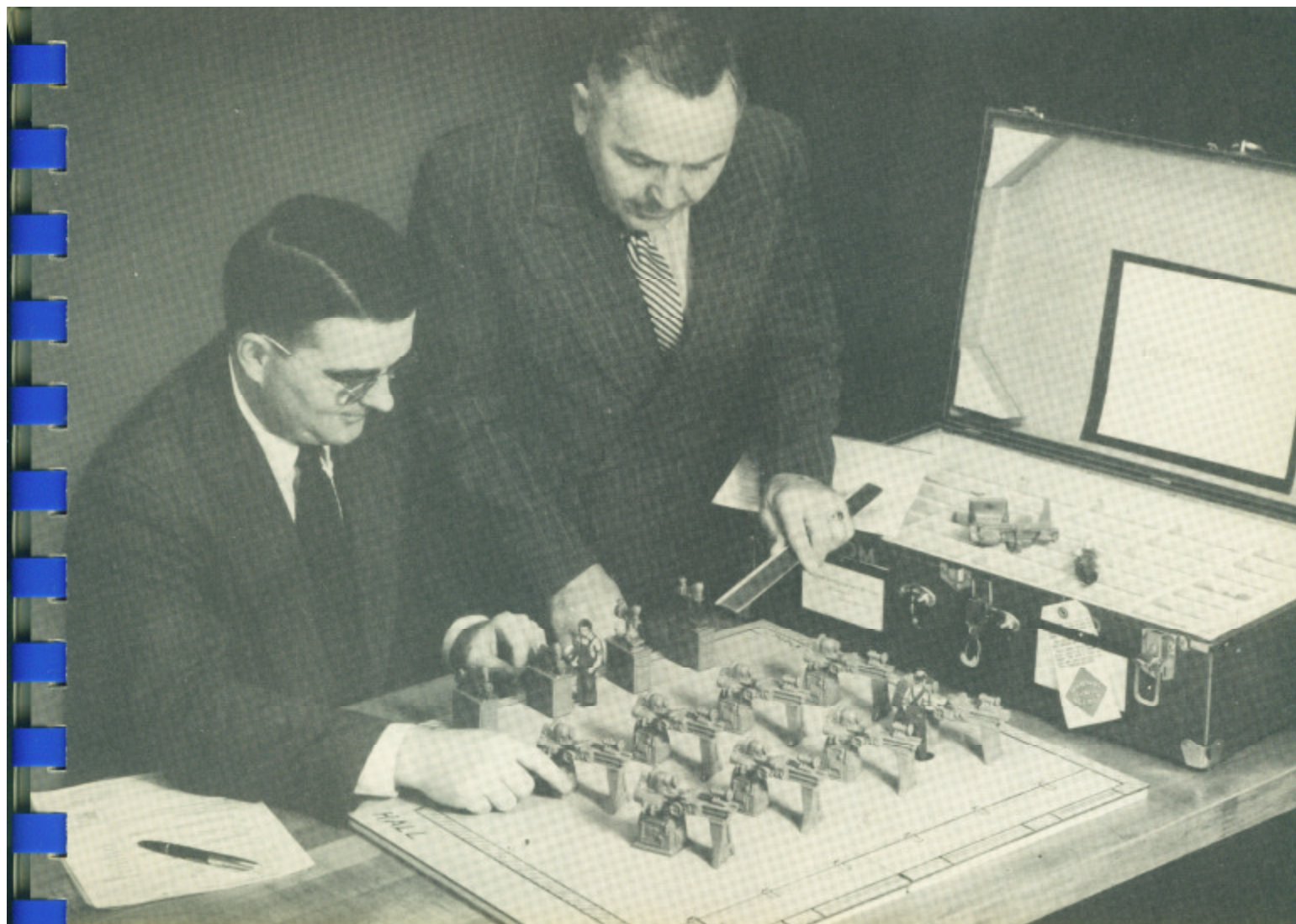
Highly essential in such training is the equipment used. It should be versatile, easy to operate, safe, ruggedly constructed, and accurate. All these features and more are available in South Bend Precision Lathes. That is why they have been selected for use in most of the better school shops in the United States and other countries.



S O U T H B E N D L A T H E

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B U I L D I N G B E T T E R T O O L S S I N C E 1 9 0 6



SCALE MODELS

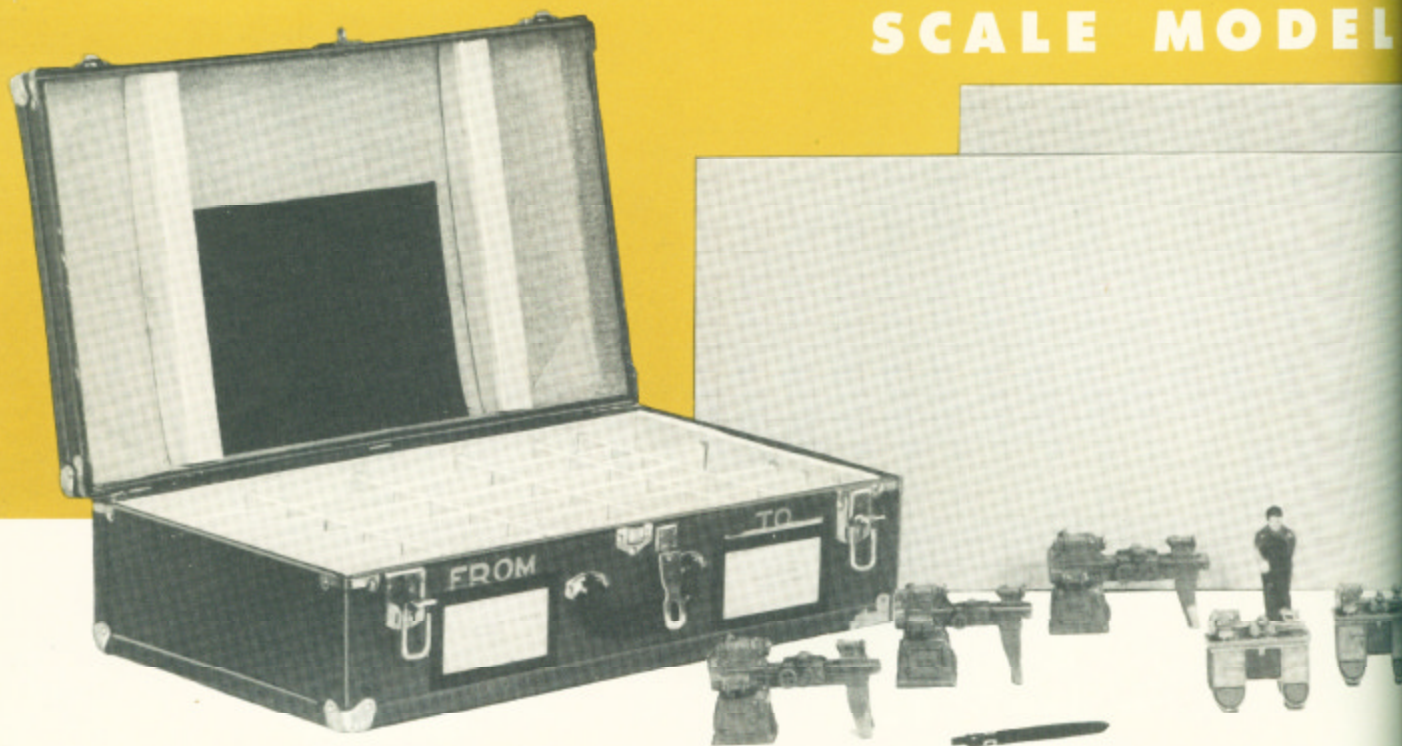
to help you plan your new shop

Use this three-dimensional scale model layout kit to simplify your problems when planning your new shop. We shall be glad to loan it to you without charge or obligation of any kind.

Accurately scaled $\frac{3}{4}$ inch to the foot, these realistic models reproduce our entire line of precision machine tools. When arranged on the floor panels, which are ruled to the same scale, they give a clear conception and accurate preview in miniature of your new shop.

Several models of each machine are included in this kit so that you can effectively plan a modern, efficient and attractive shop of the size you need. With study and simple rearrangement of the models you can easily work out the best possible use of available floor space and obtain the greatest convenience and safety for employees or students.

SCALE MODEL



USE THESE SCALE MODEL MACHINE TOOLS TO GET AN ACCURATE PREVIEW OF YOUR NEW SHOP

T HIS handy kit of scale model machine tools offers helpful assistance of a tangible nature in deciding on a definite plan for your new shop. It comes to you in the compact case shown above, as a loan, and may be kept a reasonable length of time.

Nine different scale models representing our line of machine tools have been produced as shown at the right. A number of models of each machine are included in the kit to aid in setting up a complete model of your proposed shop with the best possible arrangement of machines for their most efficient use.

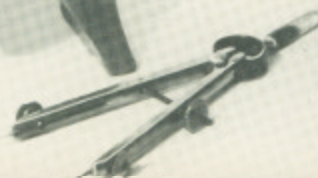
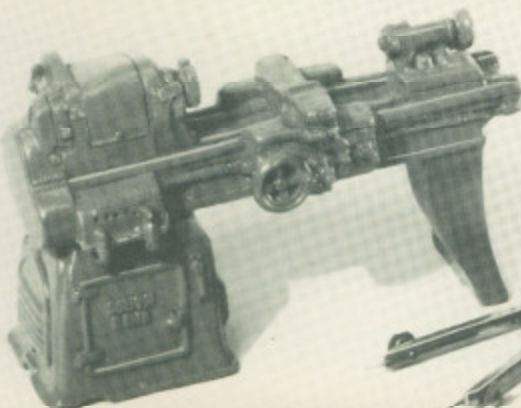
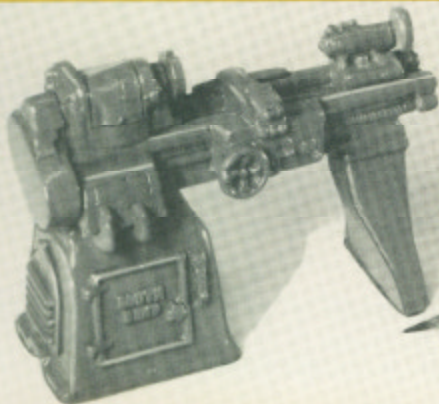
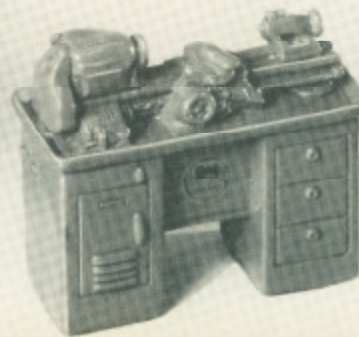
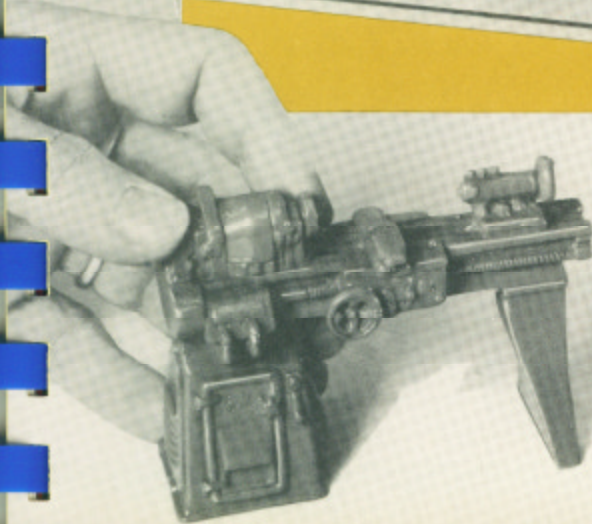
Put your shop layout on the planning boards furnished with the kit. Measure your floor space and draw its outlines to scale with the grease pencil supplied with the scale floor panels. Select the models of the machines you will need and arrange to their best advantage within the outlines of your floor plan. Easily laid out in this manner an accurate scale model of your entire shop may be set up on your desk top where it can be seen at a glance or carefully studied for the most efficient use of the floor space and best arrangement of the machines selected.

It is much quicker, easier and less costly to move these models around than it will be to shift machines after installation. Fill out the order form on the back page and let the scale model kit help get the plans for your new shop under way.

SHOP PLANNING KIT

sent to you in sturdy case

The shop planning kit, shown at the left, contains an assortment of scale models of South Bend machine tools and three planning boards accurately scaled $\frac{3}{4}$ inch to the foot. A grease pencil is included as an aid in drawing the floor plan of your shop accurately to scale on the planning boards, which are large enough for a room up to 31 ft. x 54 ft.



SOUTH BEND LATHE WORKS
435 East Madison Street
SOUTH BEND 22, INDIANA, U.S.A.

PLEASE NOTE: If you received more than one copy of this Bulletin, PLEASE tear off and return to us the address section. We shall appreciate your cooperation and you will be assured of receiving future copies of our Catalogue and Bulletin. THANK YOU.

POSTMASTER: Form 3547 requested.

BULLETIN 5301

3 DIMENSIONAL SHOP PLANNING



ORDER FORM

SOUTH BEND LATHE WORKS
SOUTH BEND 22, INDIANA

Date _____

Please ship your Shop Model Kit to address below, express collect. I wish to borrow the kit for approximately _____ days, and agree to return it to you, express prepaid, at the end of that time. Shop being planned is to be located at _____
I understand there is to be no charge for the loan of this kit, other than the transportation costs which I am to pay.

Name of organization _____

Street address _____

City _____ State _____

By _____ Position _____

Should you wish to keep one or more of the models you may for \$1.00 each.

Free Shop Layout Service

If you are planning a new shop or rearranging an old shop, use the space below to send us a sketch of your shop room. We will send you a blueprint of a similar shop laid out in accordance with modern shop practice. Requesting a shop layout does not obligate you in any way.

Sketch your shop in this space indicating the following:

Length of Room
Width of Room
Ceiling Height
Location of Pillars
Location of Radiators

Electrical Outlets
Doors
Windows
Present Equipment
Wood or Cement Floor

LEGEND

● Support Pillars
⊗ Electrical Outlets
▬ Windows
▬ Doors
▬ Skylights

Please tell us about your shop on the other side of this sheet.

Shop Layouts of Other Schools

Over 300 shop layouts are on file in our engineering department, prepared in response to requests from school officials. The shops were placed in use and have been successful under actual working conditions in various parts of the country. Some of these are small, providing only the necessities for handling a shop program at minimum expense; others are equipped for handling large classes.

12" x 18" Blue Prints from these drawings will be sent free to any instructor or supervisor.

Mail to Educational Department

South Bend Lathe Works, 425 E. Madison Street

South Bend, Ind., U.S.A.

Request for Information

You may use this form for requesting additional information or write us separately, just as you wish. This form has been prepared for your convenience. Fill in the blanks below telling us something about your requirements and our educational department will make recommendations and suggestions along lines best suited to your actual conditions. You do not obligate yourself or your school in any way in writing us for this or any other information.

Please Fill in Blanks Below

1. What kind of shop will your new lathe equipment be for?
Machine Shop _____ Auto Mechanics Shop _____
General Shop _____ Aeronautics Shop _____
Farm Mechanics Shop _____ Laboratory _____
Electric Shop _____
2. Is this a new shop you are planning on? _____
3. Which size lathe shall we send you quotation on? Swing _____
Bed Length _____
4. Do you wish Bench Lathes or Floor Leg Lathes? _____
5. What is your Electric Current for operating power equipment? _____
A. C. _____ phase _____ cycle _____ volts _____
D. C. _____ volts _____
6. What age boys will use the shop equipment? _____
7. Would you like to see layout blueprints of other shops? _____
8. Will your shop projects be Complex or Simple? _____
9. Is your community Industrial or Agricultural? _____
10. Would you like to have us send you instructive blueprints to hang up in the shop? _____
11. Will a shaper be required in your shop? _____
12. What type of drill press would be more satisfactory, Floor or Bench? _____
13. Which of the following books would you like to receive, post paid, no charge?
☐ "How to Run a Lathe" CE3450
☐ "How to Run a Drill Press" CE3455
☐ "How to Run a Metal Working Shaper" CE3456
☐ General Catalog
☐ Accessory Catalog
☐ Film Booking Blank
☐ Shop Model Kit Information
☐ Lubrication Chart 9" & Lt. 10
☐ Lubrication Chart 10"-1" Collet Capacity Lathes & Larger
☐ Principal Parts of a Lathe Quiz Sheet

REMARKS: _____

Mail to
Educational Department
**South Bend
Lathe Works**
425 East Madison St.
South Bend, Indiana, U. S. A.

Name _____
Address or School _____
City _____
State _____

(Over)

Instructions For Using Specifications

The specifications included in this manual are intended to aid you in selecting and identifying equipment for your shop.

The specifications for the 9" South Bend Lathes are listed in two parts. The first part covers horizontal drive lathes and the second part is for the underneath motor drive lathes. When using either of these specifications be sure to select the proper paragraphs as listed in the footnotes of each specification.

The specifications for Light Ten Inch South Bend Lathes are grouped in one unit and the selection of paragraphs is similar to that for the 9" Lathes. Be sure to refer to the footnotes for correct identifying data.

For your added convenience an illustrated brochure follows each group of specifications. If you find that additional copies of these catalogs are needed, please contact either us or your distributor of South Bend Machine Tools.

Table of Contents

<u>Specification Number</u>	<u>Description</u>
1 - 9 - ABC - H-5	9" AB&C Horizontal Drive Lathes
2 - 9 - ABC - U-5	9" AB&C Underneath Drive Lathes
3 - 900 - 5	900 Series Turret Lathes
4 - L10 - ABC - HU-5	Lt. 10 AB&C Horizontal and Underneath Drive Lathes
5 - 10L - 5	10" - 1" Collet Capacity Lathes
6 - 1000 - 5	1000 Series Turret Lathes
7 - 13 - 5	13" Lathes
8 - 145 - 5	14 $\frac{1}{2}$ " Lathes
9 - 16 - 5	16" Lathes
10 - 1624 - 5	16/24" Lathes
11 - 2H - 5	2H Turret Lathes
12 - DP - 5	14" Precision Model Drill Press
13 - S - 5	7" Bench Shaper
14 - PG - 5	8" & 10" Pedestal Grinder

SPECIFICATIONS FOR 9" SOUTH BEND
HORIZONTAL MOTOR DRIVE LATHES

1. GENERAL The lathe to be back geared, screw cutting lathe, with individual motor drive. The headstock spindle and drive unit countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 9-1/4"				
Swing over cross slide without taper att. - 5-1/2"				
Swing over cross slide with taper att. - 5"				
Length of Bed	3'	3 1/2'	4'	4 1/2'
Distance between centers	16"	22"	28"	34"
Approx. weight crated, lbs.	390	404	420	435
Approx. weight boxed, lbs.	500	515	530	545

2. HEADSTOCK Shall be rigid casting with integral spindle bearings, precision bored with provision for adjustment for wear. Lubrication of spindle bearings shall be obtained through oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The spindle to be made of alloy steel, turned, bored, carburized, heat treated to a hardness of 56-61 Rockwell "C" and ground all over. The journals shall be superfinished to a smoothness of 5 micro inches (.000005") rms. Bull gear shall have a quick acting plunger lock, The headstock shall be hand scraped to the bed.

Hole through headstock spindle - 3/4"
 Headstock spindle center size - No. 2MT
 Number of spindle speeds - 6 or 12
 Range of spindle speeds:
 6 speed drive - 1/4 to 1/2 hp motor
 Approx. 50 to 680 RPM
 12 speed drive - 1/2 hp motor
 Approx. 50 to 1270 RPM
 Collet capacity, max. - 1/2" dia., #3 collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways, and offset type to permit swiveling compound rest parallel with bed. Handwheel with machine handle shall be provided.

Tailstock spindle travel - 2-1/8"
 Set-over - 5/8"
 Spindle center size - No. 2MT
 Spindle graduations - 1/16"

4. BED Bed to have three prismatic V-ways and one flat way. Bed ways to be precision finished their entire length and arranged with one V-way at the extreme front and one at the extreme back to assure precision alignment of the carriage.

13. REGULAR EQUIPMENT Equipment to be included with the lathe shall consist of the following items:

- 1- Headstock spindle sleeve
- 2- 60-degree hardened centers
- 1- 5-1/8" diameter ground face plate
- 1- Tool post assembly
- 1- Set of wrenches
- Instructions
- Installation plan
- Parts List
- Lubrication chart
- "How to run a Lathe"
- Shop project book
- All necessary belts

Note: TOOLROOM LATHES Shall be equipped with the following accessories as regular equipment in addition to the items listed above:

- Precision lead screw
- Taper attachment, plain type
- Handwheel collet attachment, less collets
- Collet rack
- Thread dial indicator
- Thread cutting stop
- Micrometer carriage stop
- Large face plate, 7-3/8" dia. with ground face

14. OPTIONAL EQUIPMENT (See footnotes) Items listed below are items that are commonly used with this type lathe:

- Handwheel collet attachment, Cat No. CL4306N
- Set of 8 collets for round work, Cat. No. CE2047
- Collet rack, Cat. No. CE1770N
- Taper attachment, Cat. No. CL428NK
- Telescoping jaw center rest, Cat. No. CL2400N
- Telescoping jaw follower rest, Cat. No. CL2395N
- Thread dial indicator, Cat. No. CL810NK
- Micrometer carriage stop, Cat. No. CL968NK
- Ball bearing live center, Cat. No. CE3900
- 6" 4 jaw independent chuck, Cat. No. CL4006NK
- 5" 3 jaw universal chuck, Cat. No. CL3005NK
- Drill chuck, Cat. No. CE1201
- Drill Chuck arbor, #2MT, Cat. No. CE2302
- Set of 6 Safety dogs, Cat. No. CE2107
- Knockout bar, Cat. No. CE1475NK
- Turning toolholder, Straight, Cat. No. CE846S
- Cutting off tool holder, right hand, Cat. No. CE736R
- Boring tool, Style "B", Cat. No. CE423
- Knurling tool, Cat. No. CE665
- Threading tool, Cat. No. CE648
- Work Light, Cat. No. CE2815
- Waterproof service cover, Cat. No. CE2695 or CE2696
- 12" Precision level, Cat. No. CE2218
- Angular steel Bench, Cat. No. CE1780

FOOTNOTES: When specifying 9 inch MODEL A, QUICK CHANGE GEAR LATHE for bench mounting delete paragraphs 8, 9, 10 & 12

When specifying 9 inch MODEL B, STANDARD CHANGE GEAR LATHE for bench mounting delete paragraphs 7, 9, 10 & 12

When specifying 9 inch MODEL C, STANDARD CHANGE GEAR LATHE for bench mounting delete paragraphs 6, 7, 8 & 12

When specifying 9 inch MODEL A, QUICK CHANGE GEAR LATHE WITH FLOOR LEGS delete paragraphs 8, 9 & 10

When specifying 9 inch MODEL B, STANDARD CHANGE GEAR LATHE WITH FLOOR LEGS delete paragraphs 7, 9 & 10

When specifying 9 inch MODEL C, STANDARD CHANGE GEAR LATHE WITH FLOOR LEGS delete paragraphs 6, 7 & 8

SPECIFICATION 2-9-ABC-U-5

SPECIFICATIONS FOR 9" SOUTH BEND
UNDERNEATH MOTOR DRIVE LATHES

1. GENERAL The lathe to be back geared, screw cutting lathe, with individual motor drive. The headstock spindle and drive unit countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - $9\frac{1}{4}$ "
Swing over cross slide without taper att. - $5\frac{1}{2}$ "
Swing over cross slide with taper att. - 5"
Length of bed - $3\frac{1}{2}$ '
Distance between centers - 22"
Approx. weight crated, lbs. 700
Approx. weight boxed, lbs. 1030

2. HEADSTOCK The headstock shall be a rigid casting to support the spindle. Spindle bearings to be tapered wedge-lock expanded, one piece replaceable bronze sleeve type. Lubrication of spindle bearings shall be obtained through oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The spindle to be made of alloy steel, turned, bored, carburized, heat treated to a hardness of 56-61 Rockwell "C" and ground all over. The journals shall be superfinished to a smoothness of 5 micro inches (.000005") rms. Bull gear shall have a quick acting plunger lock. The headstock shall be hand scraped to the bed.

Hole through headstock spindle - $\frac{3}{4}$ "
Headstock spindle center size - No. 2MT
Number of spindle speeds - 12
Range of spindle speeds:
1/2 hp motor, Approx. 50 to 1365 RPM
Collet capacity, max. - $\frac{1}{2}$ " dia., #3 Collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways, and offset type to permit swiveling compound rest parallel with bed. Handwheel with machine handle shall be provided.

Tailstock spindle travel - $2\frac{1}{8}$ "
Set-over - $\frac{5}{8}$ "
Spindle center size - No. 2MT
Spindle graduations - $\frac{1}{16}$ "

4. BED Bed to have three prismatic V-ways and one flat way. Bed ways to be precision finished their entire length and arranged with one V-way at the extreme front and one at the extreme back to assure precision alignment of the carriage.

- 5.SADDLE Saddle shall have heavy bridge to support compound rest. Both cross slide and compound rest screw shall be fitted with micrometer graduated feed dials. The saddle ways, both front and back shall be of the inverted "V" type, hand scraped to match corresponding ways at the front and back of the lathe bed.

The saddle wings to be provided with felt wipers to lubricate the ways and to prevent chips and dirt from working between the saddle and the bed ways.

The cross slide and compound rest slide shall be dovetail construction, hand scraped and fitted with an adjustable gib to take up wear. The compound rest swivel shall be provided with two tapered plug locks for locking swivel in any position.

Cross slide travel without taper att. - $5-7/8"$

Cross slide travel with taper att. - $5-5/8"$

Compound rest angular travel - $2-1/4"$

Size of tool holder shank - $3/8" \times 13/16"$

Tool holder to take cutter bits - $1/4" \times 1/4"$

- 6.UNDERNEATH Drive unit shall consist of motor and countershaft mounted on a tilting cradle enclosed in a cabinet beneath the headstock.
 MOTOR Countershaft pulley and motor pulley to be connected by V-belt.
 DRIVE Cone pulleys of drive and headstock to be connected by flat leather belt. Individual adjustments shall be provided for proper tension on each belt. A belt tension release mechanism shall be provided between the drive and the lathe. All belts, gears and pulleys shall be fully enclosed. Provision shall be made so that neither end gear guard nor cone pulley cover can be opened while belt tension is on. Lathe shall be mounted on a steel column type bench, with rolled edge chip pan type top. (Column bench available with three drawers in right hand column, or without drawers)

- 7.APRON MODEL A & B LATHES ONLY, (See footnotes)
 Apron shall be one piece construction, having all steel spur gears. Gearing in the apron shall provide power longitudinal and cross feeds. The feeds shall be engaged by means of a friction clutch operated from the front of the apron. A selector shall be provided on the front of the apron for selecting cross and longitudinal feeds. Automatic interlock shall prevent engaging opposing feeds in the apron simultaneously. A lever shall be provided on the front of the apron for operating the split nut. Apron shall have oil reservoir to lubricate apron parts.

- 8.FEED MODEL A QUICK CHANGE GEAR LATHE ONLY, (See footnotes)
 MECHANISM Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears, sliding gears shall not be used in changing feeds. The gear box gears shall be of steel. Gear box shall be enclosed at top, front and sides. The index plate on the front of the quick change gear box shall indicate the settings for different rates of feeds and shall also indicate number of threads per inch that can be cut in each position of the tumblers.

A twin gear mechanism shall be included in the gearing between the headstock spindle and the gear box to provide for right and left hand feeds without reversing the direction of spindle.

Thread cutting range - 48 changes, R.H. or L.H.

4 to 224 Thd. per inch

Longitudinal friction feeds

per revolution of spindle - 48 feeds, R.H. or L.H.

.0015" to .0853"

Frictional cross feeds per

revolution of spindle - 48 feeds, .0004" to .0255"

9. FEED MODEL B STANDARD CHANGE GEAR LATHE ONLY, (See footnotes)

MECHANISM The headstock spindle and lead screw shall be directly connected by gearing through a reverse mechanism and loose change gear arrangement. A twin gear mechanism shall be included in the gearing between the headstock spindle and the lead screw to provide for right and left hand feeds without reversing the direction of spindle.

Thread cutting range - 45 changes, R.H. or L.H.

4 to 160 thd. per inch

Longitudinal friction feeds

per revolution of spindle - 26 feeds, R.H. or L.H.

.0021" to .0155"

Frictional cross feeds per

revolution of spindle - 23 feeds, .0009" to .0046"

10. APRON MODEL C LATHE ONLY, (See footnotes)

Apron shall be one piece construction, having all steel spur gears. A split nut shall be provided for obtaining power longitudinal feeds and for thread cutting. The split nut shall be engaged and disengaged by means of a lever on the front of the apron. Hand longitudinal feed shall be provided by means of a handwheel and pinion on the apron.

11. FEED MODEL C STANDARD CHANGE GEAR LATHE ONLY, (See footnotes)

MECHANISM The headstock spindle and lead screw shall be directly connected by gearing through a reverse mechanism and loose change gear arrangement. A twin gear mechanism shall be included in the gearing between the headstock spindle and the lead screw to provide for right and left hand feeds without reversing the direction of spindle.

Thread cutting range - 45 changes, R.H. or L.H.

4 to 160 thd. per inch

Longitudinal feeds per

revolution of spindle - 14 feeds through half nuts,

R.H. or L.H., .0021" to .0156"

12. REGULAR Equipment to be included with the lathe shall consist of the EQUIPMENT following items:

- 1 - Headstock spindle sleeve
- 2 - 60-degree hardened centers
- 1 - 5-1/8" diameter, ground face plate
- 1 - Tool post assembly
- 1 - Set of wrenches
- Instructions
- Installation plan
- Parts list
- Lubrication chart
- "How to Run a Lathe"
- Shop Project Book
- All necessary belts

Note: TOOLROOM LATHES shall be equipped with the following accessories as regular equipment in addition to the items listed above:

- Precision lead screw
- Taper attachment, Plain type
- Handwheel collet attachment, less collets
- Collet rack
- Thread dial indicator
- Thread cutting stop
- Micrometer carriage stop
- Large face plate, 7-3/8" with ground face

13. OPTIONAL Items listed below are items that are commonly EQUIPMENT used with this type lathe:

- Handwheel collet attachment, Cat. No. CL4306N
- Set of 8 collets for round work, Cat. No. CE2047
- Collet rack, Cat. No. CE1770N
- Taper attachment, Cat. No. CL428NK
- Telescoping jaw center rest, Cat. No. CL2400N
- Telescoping Jaw follower rest, Cat. No. CL2395N
- Thread dial indicator, Cat. No. CL810NK
- Micrometer carriage stop, Cat. No. CL968NK
- Ball bearing live center, Cat. No. CE3900
- 6" 4 jaw independent chuck, Cat. No. CL4006NK
- 5" 3 jaw universal chuck, Cat. No. CL3005NK
- Drill chuck, Cat. No. CE1201
- Drill chuck arbor, #2MT, Cat. No. CE2302
- Set of 6 safety dogs, Cat. No. CE2107
- Knockout bar, Cat. No. CE1475NK
- Turning tool holder, straight, Cat. No. CE846S
- Cutting off tool holder, right hand, Cat. No. CE736R
- Boring tool, style "B", Cat. No. CE423
- Knurling tool, Cat. No. CE665
- Threading tool, Cat. No. CE648
- Work light, Cat. No. CE2815
- Waterproof service cover, Cat. No. CE2695
- 12" Precision level, Cat. No. CE2218

FOOTNOTES: When specifying 9 inch MODEL A, QUICK CHANGE GEAR LATHE with underneath motor drive delete paragraphs 9,10 & 11

When specifying 9 inch MODEL B, STANDARD CHANGE GEAR LATHE with underneath motor drive delete paragraphs 8, 10 & 11

When specifying 9 inch MODEL C, STANDARD CHANGE GEAR LATHE with underneath motor drive delete paragraphs 7, 8 & 9

CATALOG 5432

SOUTH BEND

NINE INCH *Precision* LATHES



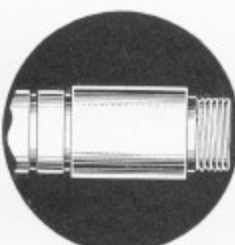
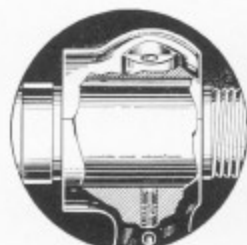
SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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



FEATURES of Model A 9" Precision Lathes

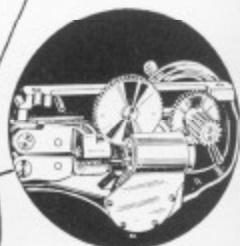
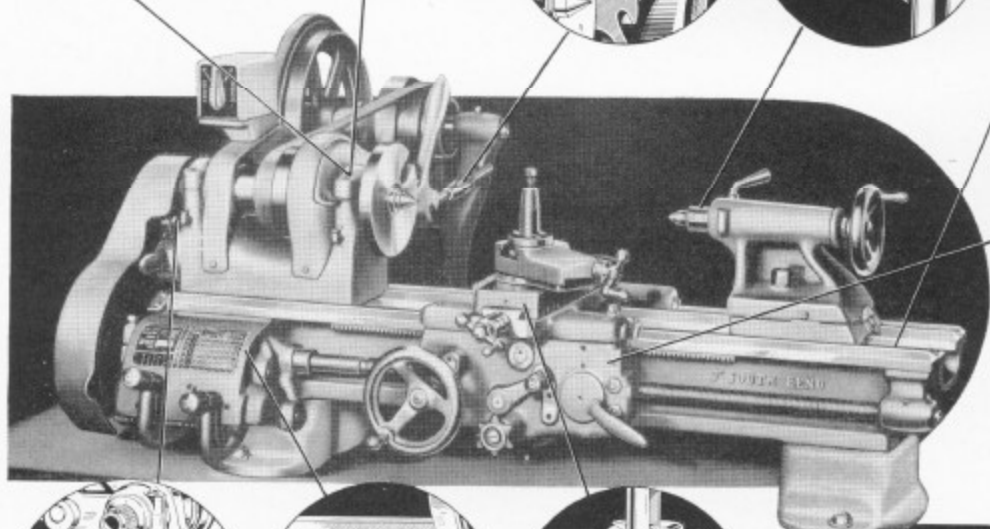
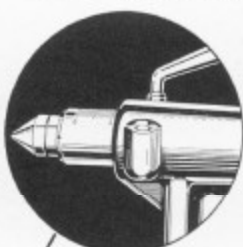


BELT RELEASE
Instant release of belt tension for speed changes. Proper tension of headstock spindle drive belt is easily adjusted.

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.

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.



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.

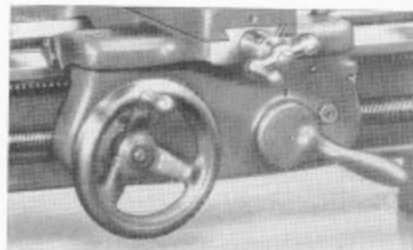


CARRIAGE
V-ways and dovetails hand-scraped. Engine divided micrometer collar on feed screws. Compound rest base graduated 180 degrees.

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	..... 1/2 inch



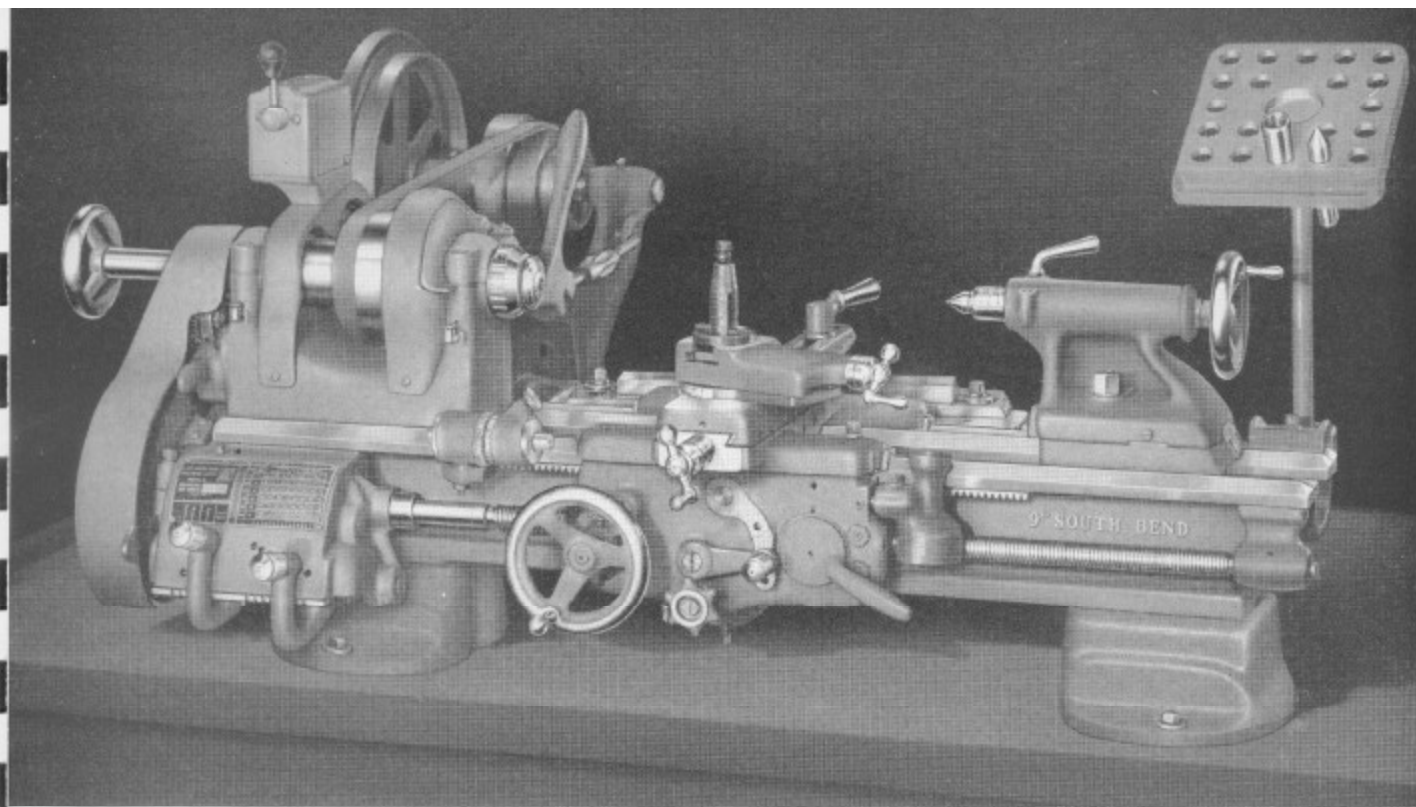
Apron Supplied on Model C 9-inch Lathe



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 45 screw threads 4 to 160 per inch, 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—Taper Attachment—12 Spindle Speeds

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 $\frac{1}{2}$ 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 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; plain 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; worm drive friction clutch 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. See attachment catalog. Also see pages 11 and 12.

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	Factory Price
CL8644Y	3	16	19	550	440	\$608.00
CL8644Z	3½	22	19	565	455	630.00
CL8644A	4	28	20	580	470	651.00

Specifications of 9-inch Toolroom Bench Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	8½"
Swing over saddle cross slide.....	3"

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

TAILSTOCK

Size of center, Morse taper.....	No. 2
Spindle travel.....	2½"
Each graduation on tailstock spindle.....	¼"
Tailstock top set-over for taper turning.....	¾"

HEADSTOCK

Hole through spindle.....	¾"
Maximum collet capacity.....	¾"
Spindle nose diameter and threads per inch.....	1½"-8
Size of center, Morse taper.....	No. 2
Width of cone pulley step for belt.....	1"
Large face plate diameter.....	7½"
Small face plate diameter.....	5½"
Front spindle bearing, diameter.....	1½"

COMPOUND REST

Cross slide travel.....	5½"
Angular hand feed of compound rest top slide.....	2¼"

South Bend is leading—others follow.

THREADS AND FEEDS

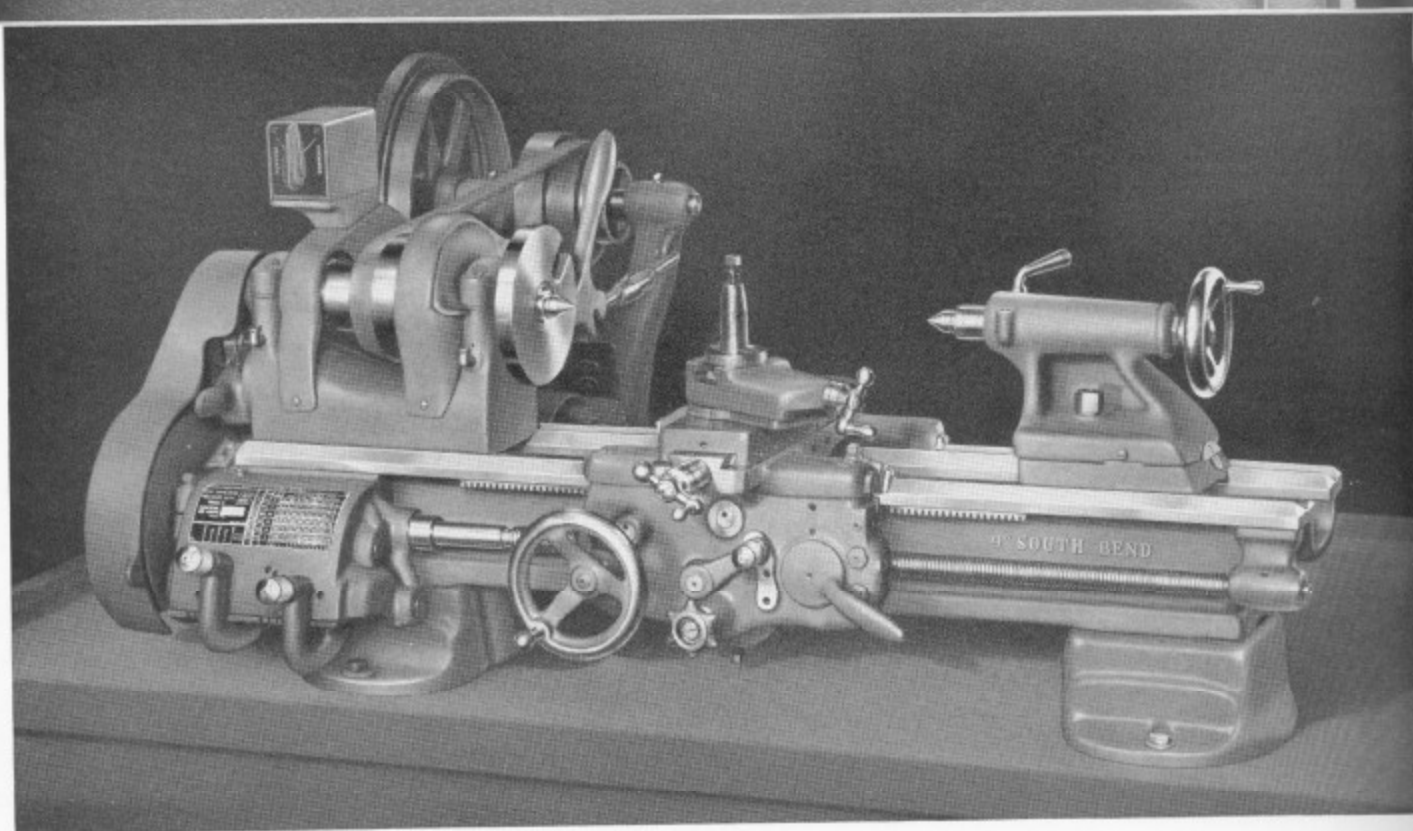
Thread cutting range—48 pitches R.H. or L.H.....	4 to 224 per inch
Longitudinal feeds through friction clutch—48 feeds R.H. or L.H.....	.0015" to .0853"
Cross-feeds through friction clutch—48 feeds.....	.0004" to .0255"
Lead screw, 29° Acme thread.....	¾" dia.—8 thds.

TOOL POST

Size of tool holder shank.....	¾" x 1½"
Size of cutter bit for tool holder.....	¾" sq.

MOTOR

Standard size of motor required.....	½ h.p.
--------------------------------------	--------



9-inch Model A *Precision* Bench Lathe

12-Speed 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 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; worm drive friction clutch 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. See attachment catalog. Also see pages 11 and 12.

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	Factory Price
CL644Y	3	16	17	500	390	\$385.00
CL644Z	3½	22	17	515	404	407.00
CL644A	4	28	19	530	420	428.00
CL644B	4½	34	22	648	435	459.00

Specifications of 9-inch Model A Bench Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	9½"
Swing over saddle cross slide.....	5½"

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

TAILSTOCK

Size of center, Morse taper.....	No. 2
Spindle travel.....	2½"
Each graduation on tailstock spindle.....	1/16"
Tailstock top set-over for taper turning.....	3/8"

HEADSTOCK

Hole through spindle.....	¾"
Maximum collet capacity.....	1½"
Spindle nose diameter and threads per inch.....	1½"-8
Size of center, Morse taper.....	No. 2
Width of cone pulley step for belt.....	1"
Small face plate diameter.....	5½"
Front spindle bearing, diameter.....	1½"

COMPOUND REST

Cross slide travel.....	5½"
Angular hand feed of compound rest top slide.....	2½"

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 .0053"
Cross-feeds through friction clutch—48 feeds.....	.0004" to .0255"
Lead screw, 29° Acme thread.....	¾" dia.—8 thds.

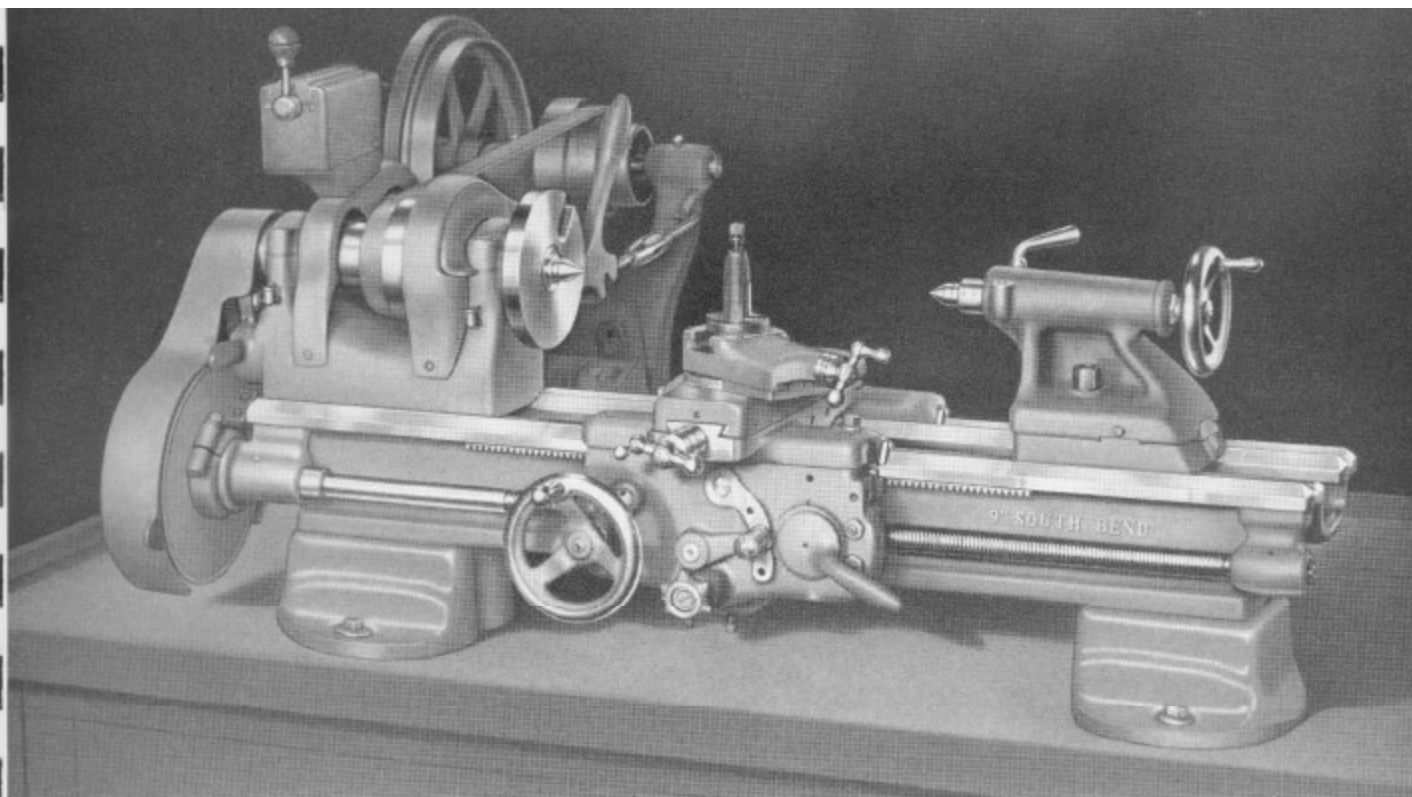
TOOL POST

Size of tool holder shank.....	3/8" x 1½"
Size of cutter bit for tool holder.....	¼" 96°

MOTOR

Standard size of motor required.....	½ h.p.
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Why can't copiers and imitators duplicate quality?



9-inch Model B *Precision* Bench Lathe

12-Speed Horizontal Motor Drive—Back-Geared—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; worm drive friction clutch 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. See attachment catalog. Also see pages 11 and 12.

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	Factory Price
CL677Y	3	16	17	485	375	\$309.00
CL677Z	3 $\frac{1}{2}$	22	17	500	390	330.00
CL677A	4	28	19	515	405	351.00
CL677R	4 $\frac{1}{2}$	34	22	530	420	381.00

Specifications of 9-inch Model B Bench Lathes

CAPACITY OF LATHE

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

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.....	$\frac{3}{8}$ "

HEADSTOCK

Hole through spindle.....	$\frac{3}{4}$ "
Maximum collet capacity.....	$\frac{1}{2}$ "
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"
Small face plate diameter.....	5 $\frac{1}{2}$ "
Front spindle bearing, diameter.....	1 $\frac{13}{16}$ "

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.....	$\frac{3}{4}$ " dia.—8 thds.

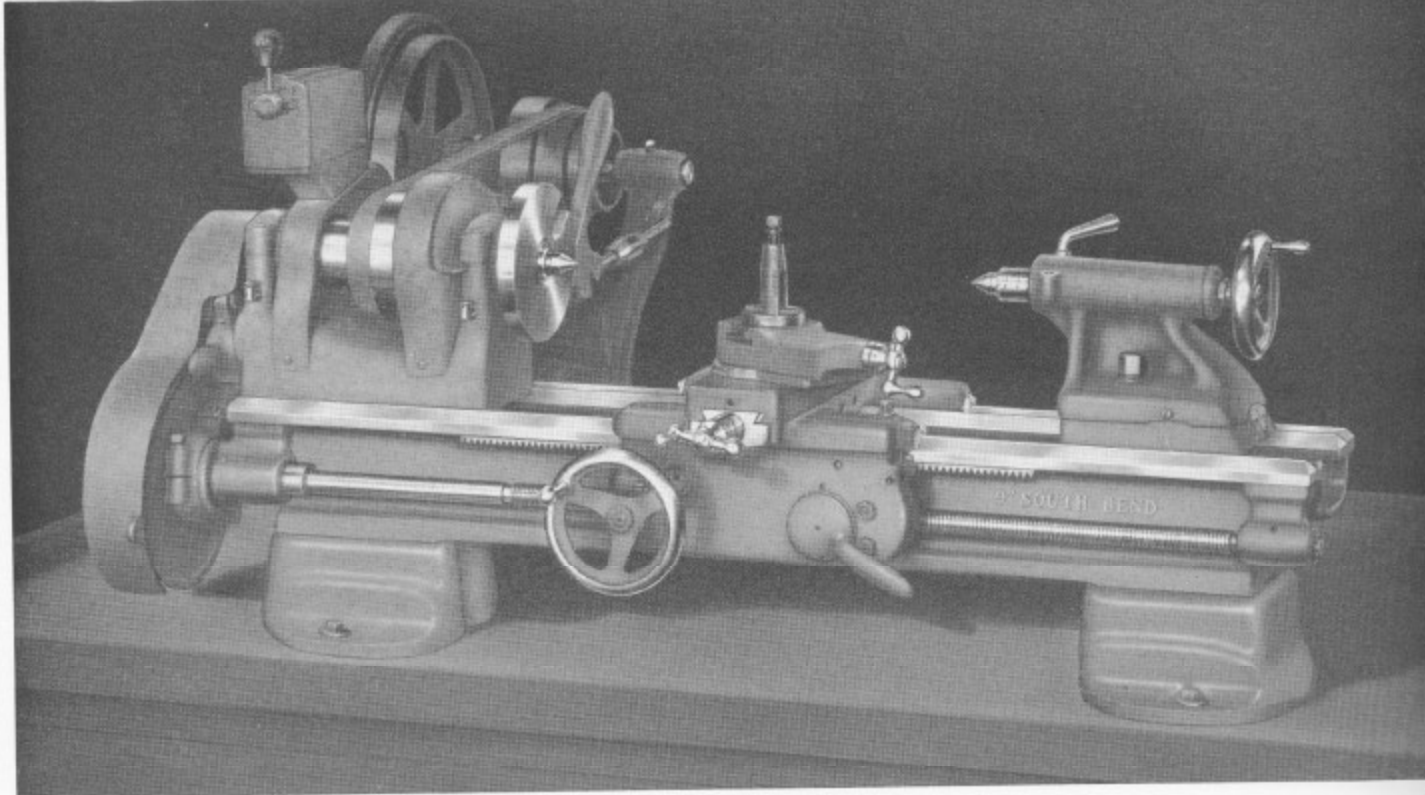
TOOL POST

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

MOTOR

Standard size of motor required.....	$\frac{1}{2}$ h.p.
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Your choice of accessories is the greatest in the world.



9-inch Model C *Precision* Bench Lathe

12-Speed 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 longitudinal 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; screw feed apron with half-nut power longitudinal feeds; 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. See attachment catalog. Also see pages 11 and 12.

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	Factory Price
CL615Y	3	16	17	475	365	\$238.00
CL615Z	3½	22	17	490	380	260.00
CL615A	4	28	19	505	395	281.00
CL615R	4½	34	22	520	410	311.00

Specifications of 9-inch Model C Bench Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	9½"
Swing over saddle cross slide.....	5½"

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

TAILSTOCK

Size of center, Morse taper.....	No. 2
Spindle travel.....	2½"
Each graduation on tailstock spindle.....	1/16"
Tailstock top set-over for taper turning.....	3/8"

HEADSTOCK

Hole through spindle.....	3/8"
Maximum collet capacity.....	1/2"
Spindle nose diameter and threads per inch.....	1½"-8
Size of center, Morse taper.....	No. 2
Width of cone pulley step for belt.....	1"
Small face plate diameter.....	5½"
Front spindle bearing, diameter.....	1½"

COMPOUND REST

Cross slide travel.....	5½"
Angular hand feed of compound rest top slide.....	2½"

For maximum value—insist on South Bend.

THREADS AND FEEDS

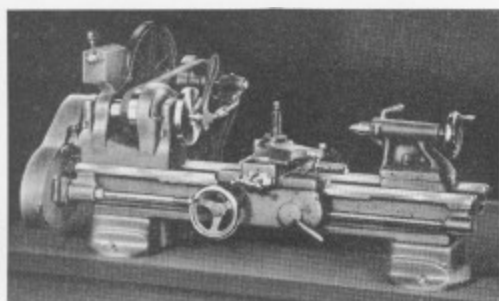
Thread cutting range—45 pitches	
R.H. or L.H.....	4 to 160 per inch
Longitudinal feeds through half-nuts and lead screw—14 feeds R.H. or L.H.....	.0021" to .0156"
Cross-feed.....	Hand-operated
Lead screw, 29° Acme thread.....	3/4" dia.—8 thds.

TOOL POST

Size of tool holder shank.....	3/4" x 1½"
Size of cutter bit for tool holder.....	3/4" sq.

MOTOR

Standard size of motor required.....	1/2 h.p.
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Six-Speed Drive 9-inch *Precision* Bench Lathes

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.

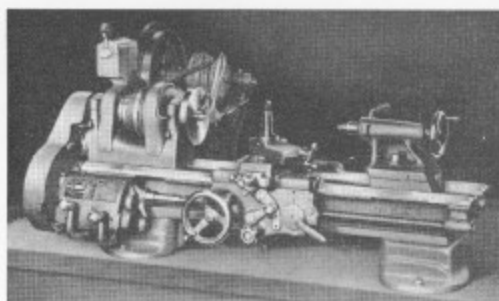
The six-speed drive provides a series of six spindle speeds ranging from 50 to 680 r.p.m., (approximately). This drive is recommended for those who do not need the higher spindle speeds provided by the twelve-speed drive. The drive unit is made in two sizes, to accommodate either a $\frac{1}{4}$ h.p. or a $\frac{1}{2}$ 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 $\frac{1}{4}$ h.p. or $\frac{1}{2}$ h.p. motor; motor pulley with $\frac{1}{2}$ " hole (for $\frac{1}{4}$ h.p. motor) or $\frac{3}{4}$ " hole (for $\frac{1}{2}$ 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. See attachment catalog, also see page 12.

Six-Speed Drive 9-inch Bench Lathes (Less Electrical Equipment and Bench)

Type Lathe	Catalog Number	Bed Length	Between Centers	Weight Crated	Factory Price
With Six-Speed Drive for $\frac{1}{2}$ h.p. Motor					
Model A	CL2444Y	3 ft.	16 in.	380 lbs.	\$376
	CL2444Z	3 $\frac{1}{2}$ ft.	22 in.	400 lbs.	397
	CL2444A	4 ft.	28 in.	420 lbs.	419
	CL2444R	4 $\frac{1}{2}$ ft.	34 in.	440 lbs.	449
Model B	CL2477Y	3 ft.	16 in.	370 lbs.	299
	CL2477Z	3 $\frac{1}{2}$ ft.	22 in.	390 lbs.	321
	CL2477A	4 ft.	28 in.	410 lbs.	341
	CL2477R	4 $\frac{1}{2}$ ft.	34 in.	430 lbs.	373
Model C	CL2415Y	3 ft.	16 in.	360 lbs.	230
	CL2415Z	3 $\frac{1}{2}$ ft.	22 in.	380 lbs.	280
	CL2415A	4 ft.	28 in.	400 lbs.	271
	CL2415R	4 $\frac{1}{2}$ ft.	34 in.	420 lbs.	303
With Six-Speed Drive for $\frac{1}{4}$ h.p. Motor					
Model A	CL444Y	3 ft.	16 in.	355 lbs.	367
	CL444Z	3 $\frac{1}{2}$ ft.	22 in.	375 lbs.	379
	CL444A	4 ft.	28 in.	395 lbs.	400
	CL444R	4 $\frac{1}{2}$ ft.	34 in.	415 lbs.	431
Model B	CL477Y	3 ft.	16 in.	345 lbs.	281
	CL477Z	3 $\frac{1}{2}$ ft.	22 in.	365 lbs.	303
	CL477A	4 ft.	28 in.	385 lbs.	323
	CL477R	4 $\frac{1}{2}$ ft.	34 in.	405 lbs.	354
Model C	CL415Y	3 ft.	16 in.	335 lbs.	211
	CL415Z	3 $\frac{1}{2}$ ft.	22 in.	355 lbs.	232
	CL415A	4 ft.	28 in.	375 lbs.	253
	CL415R	4 $\frac{1}{2}$ ft.	34 in.	395 lbs.	283



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

The 9-inch Model A Bench Lathe with V-belt horizontal motor drive is illustrated above. The 9-inch Model B and C Lathes are also made with this drive.

The V-Belt Drive Lathe has 4 step cone pulleys for V-belt drive, otherwise it is the same as the 9-inch Bench Lathes with flat belt drive. The headstock and countershaft of this lathe must be disassembled to replace the cone pulley V-belt.

The Sixteen-Speed Drive provides a series of sixteen spindle speeds ranging from 54 to 1200 r.p.m., approximately. With this drive, a $\frac{1}{2}$ h.p. motor is required.

The Eight-Speed Drive provides a series of eight spindle speeds ranging from 54 to 640 r.p.m., approximately. This drive is supplied in two styles, for mounting either a $\frac{1}{4}$ h.p. motor or a $\frac{1}{2}$ h.p. motor respectively.

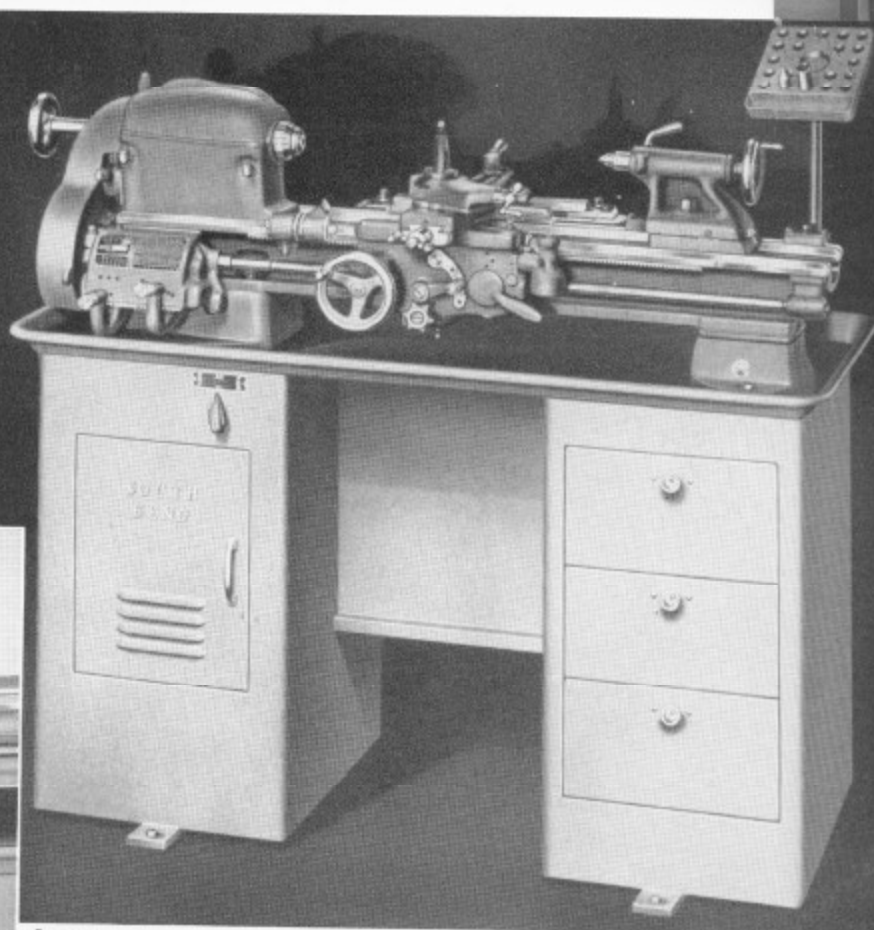
V-Belt Drive 9-inch Precision Bench Lathes (Less Electrical Equipment and Bench)

Type Lathe	Catalog Number	Bed Length	Between Centers	Weight Crated	Factory Price
With Sixteen-Speed Drive for $\frac{1}{2}$ h.p. Motor					
Toolroom	CL8744Y	3 ft.	16 in.	440 lbs.	\$623
	CL8744Z	3 $\frac{1}{2}$ ft.	22 in.	455 lbs.	645
	CL8744A	4 ft.	28 in.	470 lbs.	666
Model A	CL744Y	3 ft.	16 in.	390 lbs.	400
	CL744Z	3 $\frac{1}{2}$ ft.	22 in.	405 lbs.	422
	CL744A	4 ft.	28 in.	420 lbs.	443
	CL744R	4 $\frac{1}{2}$ ft.	34 in.	435 lbs.	474
Model B	CL777Y	3 ft.	16 in.	375 lbs.	324
	CL777Z	3 $\frac{1}{2}$ ft.	22 in.	390 lbs.	345
	CL777A	4 ft.	28 in.	405 lbs.	366
	CL777R	4 $\frac{1}{2}$ ft.	34 in.	420 lbs.	396
Model C	CL715Y	3 ft.	16 in.	365 lbs.	253
	CL715Z	3 $\frac{1}{2}$ ft.	22 in.	380 lbs.	275
	CL715A	4 ft.	28 in.	395 lbs.	296
	CL715R	4 $\frac{1}{2}$ ft.	34 in.	410 lbs.	326
With Eight-Speed Drive for $\frac{1}{2}$ h.p. Motor					
Model A	CL2844Y	3 ft.	16 in.	380 lbs.	391
	CL2844Z	3 $\frac{1}{2}$ ft.	22 in.	400 lbs.	412
	CL2844A	4 ft.	28 in.	420 lbs.	434
	CL2844R	4 $\frac{1}{2}$ ft.	34 in.	440 lbs.	464
Model B	CL2577Y	3 ft.	16 in.	370 lbs.	314
	CL2577Z	3 $\frac{1}{2}$ ft.	22 in.	390 lbs.	336
	CL2577A	4 ft.	28 in.	410 lbs.	356
	CL2577R	4 $\frac{1}{2}$ ft.	34 in.	430 lbs.	388
Model C	CL2515Y	3 ft.	16 in.	360 lbs.	245
	CL2515Z	3 $\frac{1}{2}$ ft.	22 in.	380 lbs.	265
	CL2515A	4 ft.	28 in.	400 lbs.	286
	CL2515R	4 $\frac{1}{2}$ ft.	34 in.	420 lbs.	318
With Eight-Speed Drive for $\frac{1}{4}$ h.p. Motor					
Model A	CL844Y	3 ft.	16 in.	355 lbs.	372
	CL844Z	3 $\frac{1}{2}$ ft.	22 in.	375 lbs.	394
	CL844A	4 ft.	28 in.	395 lbs.	415
	CL844R	4 $\frac{1}{2}$ ft.	34 in.	415 lbs.	446
Model B	CL877Y	3 ft.	16 in.	345 lbs.	296
	CL877Z	3 $\frac{1}{2}$ ft.	22 in.	365 lbs.	318
	CL877A	4 ft.	28 in.	385 lbs.	338
	CL877R	4 $\frac{1}{2}$ ft.	34 in.	405 lbs.	369
Model C	CL815Y	3 ft.	16 in.	335 lbs.	226
	CL815Z	3 $\frac{1}{2}$ ft.	22 in.	355 lbs.	247
	CL815A	4 ft.	28 in.	375 lbs.	268
	CL815R	4 $\frac{1}{2}$ ft.	34 in.	395 lbs.	298

9" Toolroom Floor Lathe

UNUSUAL SAFETY FEATURES

Nine inch Underneath Motor Driven Lathes have an automatic safety interlock which makes it impossible to open the end gear guard, "A", or the cone pulley cover, "B", until the belt tension lever, "L", is placed in position "R", disconnecting power.



Patented

Precision Lead Screw—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 above, or without the drawers. (See page 9.) 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 3/8" 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; plain 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; worm drive friction clutch 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. See attachment catalog. Also see pages 11 and 12.

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	Factory Price
On Metal Column Base with Three Drawers						
CL8344ZD	3 1/2	22	47	1090	820	\$865.00
On Metal Column Base Without Drawers						
CL8344Z	3 1/2	22	47	1060	810	\$831.00

Specifications of 9-inch Toolroom Floor Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....9 1/2"
Swing over saddle cross slide.....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

TAILSTOCK

Size of center, Morse taper.....No. 2
Spindle travel.....21"
Each graduation on tailstock spindle.....1/16"
Tailstock top set-over for taper turning.....3"

HEADSTOCK

Hole through center.....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 1/2"
Small face plate diameter.....5 1/2"
Front spindle bearing, diameter.....1 1/2"

COMPOUND REST

Cross slide travel.....5 1/2"
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 .0653"
Cross-feeds through friction clutch—48 feeds......0004" to .0255"
Lead screw, 29° Acme thread.....3/4" dia.—8 thds.

TOOL POST

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

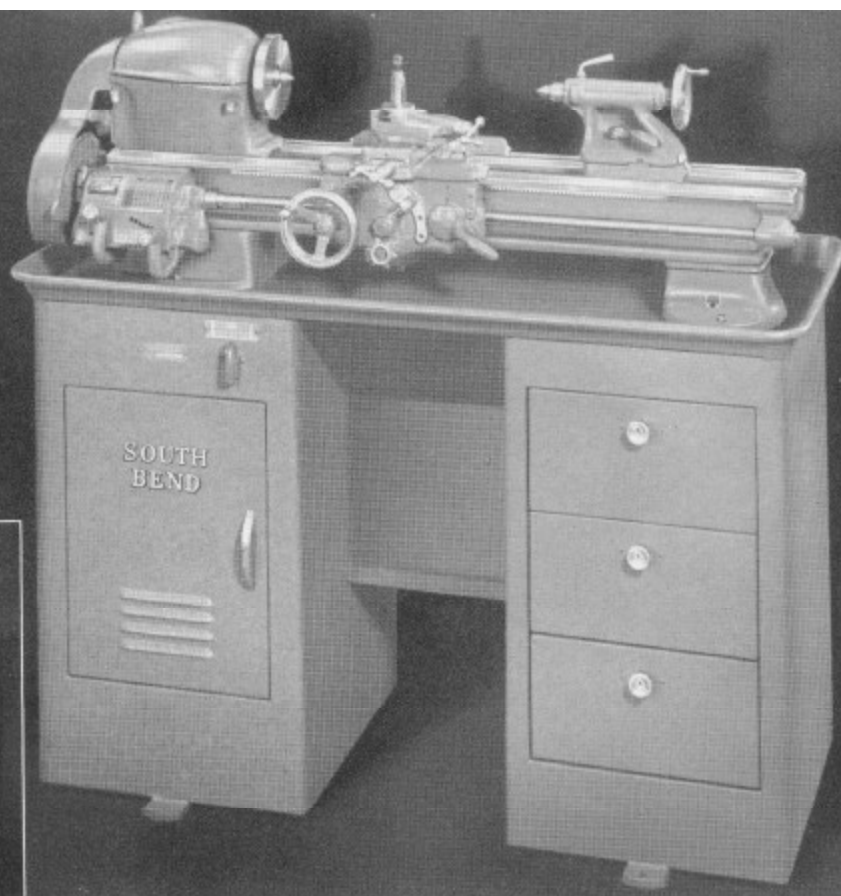
MOTOR

Standard size of motor required.....3/2 h.p.

9-inch Precision Floor Lathes

Models A, B, & C

See page 8 for safety features of the Underneath Motor Drive.



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. See attachment catalog. Also see pages 11 and 12.

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	Factory Price
Model A 9-inch Lathe						
CL344ZD	3 $\frac{1}{2}$	22	47	1030	700	\$642.00
Model B 9-inch Lathe						
CL377ZD	3 $\frac{1}{2}$	22	47	1020	685	\$566.00
Model C 9-inch Lathe						
CL315ZD	3 $\frac{1}{2}$	22	47	1010	675	\$495.00

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	Factory Price
Model A 9-inch Lathe						
CL344Z	3 $\frac{1}{2}$	22	47	1020	695	\$608.00
Model B 9-inch Lathe						
CL377Z	3 $\frac{1}{2}$	22	47	1010	680	\$532.00
Model C 9-inch Lathe						
CL315Z	3 $\frac{1}{2}$	22	47	1000	670	\$461.00

Specifications of 9-inch Underneath Motor Driven Lathes

CAPACITY OF LATHE

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
High speeds, r.p.m.....	1365, 790, 460	265, 155, 90
Low speeds, r.p.m.....	715, 410, 240	135, 78, 50

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.....	$\frac{5}{8}$ "

HEADSTOCK

Hole through spindle.....	5 $\frac{1}{8}$ "
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 $\frac{1}{8}$ "
Front spindle bearing, diameter.....	1 $\frac{1}{2}$ "

COMPOUND REST

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

TOOL POST

Size of tool holder shank.....	3 $\frac{1}{8}$ " x 1 $\frac{1}{2}$ "
Size of cutter bit for tool holder.....	$\frac{5}{16}$ " sq.

THREAD CUTTING RANGE

Model A—18 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.....	$\frac{3}{8}$ " dia.—8 thds.

POWER LONGITUDINAL FEEDS

Model A—48 feeds.....	.0015" to .0853"
Model B—26 feeds.....	.0021" to .0155"
Model C—14 feeds.....	.0021" to .0150"

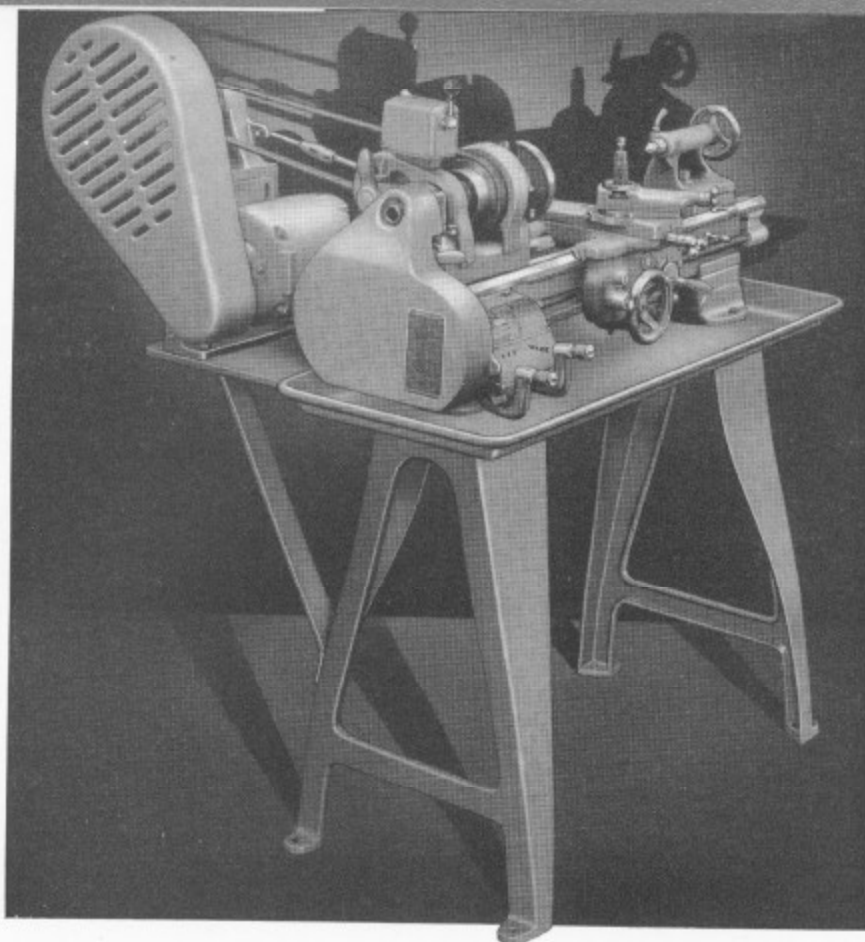
POWER CROSS-FEEDS

Model A—48 feeds.....	.0004" to .0255"
Model B—23 feeds.....	.0009" to .0046"

MOTOR

Standard size of motor required.....	1 $\frac{1}{2}$ h.p.
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Costly finishing operations can often be eliminated by precision turning and boring in the lathe.



NEW
9-inch
Self-Contained
Motor Drive
Precision
Floor
Lathes
Models A, B, & C

12 Spindle Speeds

Back-Geared

Belt-Drive

The 9-inch Model A Self-Contained Motor Driven Floor Lathe is illustrated above. The Model B and Model C Lathes are also made with this drive. Except for the self-contained drive equipment and floor legs, these lathes are the same as corresponding models described on the preceding pages.

The self-contained drive provides a series of twelve spindle speeds 50 to 1270 r.p.m., approximately. A quick acting belt tension release permits releasing the tension of the cone pulley belt for shifting to change spindle speeds.

Drive equipment is permanently mounted back of the lathe headstock and consists of the self-contained motor drive unit (patented) for $\frac{1}{2}$ h.p. motor; motor pulley with $\frac{3}{4}$ " hole; V-belt; belt guard for V-belt; and flat leather belt.

Regular equipment included in price consists of: chip pan; friction clutch power feed apron (patented) on models A and B or screw feed 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." Electrical equipment is not included in price of lathe. See attachment catalog. Also see pages 11 and 12.

9-inch Floor Lathes with Self-Contained Motor Drive

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
Model A Lathes						
CL944Y	3	16	30	775	600	\$467.00
CL944Z	3½	22	30	800	625	490.00
CL944A	4	28	32	825	650	513.00
CL944R	4½	34	34	850	675	545.00
Model B Lathes						
CL977Y	3	16	30	760	585	391.00
CL977Z	3½	22	30	785	615	413.00
CL977A	4	28	32	815	635	436.00
CL977R	4½	34	34	835	660	467.00
Model C Lathes						
CL915Y	3	16	30	740	575	320.00
CL915Z	3½	22	30	775	605	343.00
CL915A	4	28	32	805	625	366.00
CL915R	4½	34	34	825	659	397.00

Specifications of 9-inch Self-Contained Motor Drive Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	9½"
Swing over saddle cross slide.....	5½"

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

TAILSTOCK

Size of center, Morse taper.....	No. 2
Spindle travel.....	2½"
Each graduation on tailstock spindle.....	⅛"
Tailstock top set-over for taper turning.....	⅝"

HEADSTOCK

Hole through spindle.....	⅝"
Maximum collet capacity.....	1½"
Spindle nose diameter and threads per inch.....	1½"-8
Size of center, Morse taper.....	No. 2
Width of cone pulley stop for belt.....	1"
Small face plate diameter.....	5½"
Front spindle bearing, diameter.....	1½"

COMPOUND REST

Cross slide travel.....	5½"
Angular hand feed of compound rest top slide.....	2½"

TOOL POST

Size of tool holder shank.....	⅝" x 15½"
Size of cutter bit for tool holder.....	⅝" sq.

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.....	⅜" dia.—8 thds.

POWER LONGITUDINAL FEEDS

Model A—48 feeds.....	.0015" to .0052"
Model B—26 feeds.....	.0021" to .0152"
Model C—14 feeds.....	.0021" to .0156"

POWER CROSS-FEEDS

Model A—48 feeds.....	.0004" to .0255"
Model B—23 feeds.....	.0009" to .0046"

MOTOR

Standard size of motor required.....	½ h.p.
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Attachments and Accessories for 9-inch Lathes

These are some of the practical attachments which greatly increase the usefulness of South Bend 9" Lathes. Prices are net f.o.b. factory. Send for catalog listing the complete line of South Bend attachments and accessories.



CL4306N. Handwheel Collet Attachment. Collets not included. Ship. wt. 5 lbs. Price.....\$19.75



CL5206N. Handlever Collet Attachment. Collets not included. Ship. wt. 10 lbs. Price....\$78.50

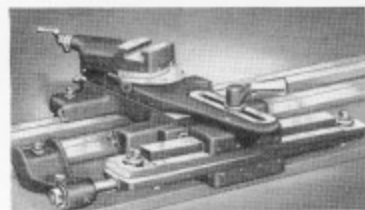


STEEL COLLETS FOR ROUND WORK

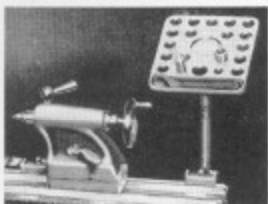
Maximum Capacity $\frac{1}{2}$ "
Ship. wt. approx. 6 ozs.

CE2830. Fractional sizes, each.....\$4.15

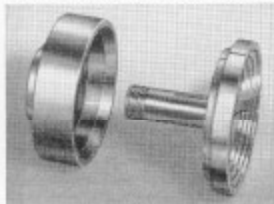
Decimal and metric sizes, each.....\$4.40



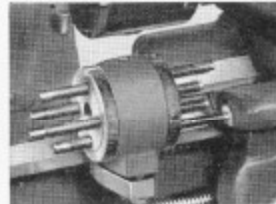
CL428NK. Taper Attachment. Turns up to $3\frac{1}{2}$ " per ft. Ship. wt. 35 lbs.\$105.50



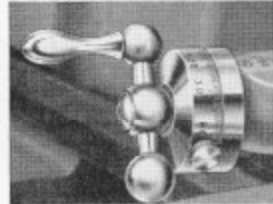
CE1770N. Collet Rack. Holds 19 Collets, centers, spindle sleeve, etc. Ship. wt. 9 lbs.\$17.25



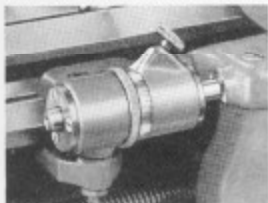
Step Chuck Equipment. Capacity 2" to 6" dia. Write for catalog and prices.



CL2105NK. Four Position Carriage Stop. Saves time. Ship. wt. 6 lbs. Price.....\$23.75



CL3530NK. Direct Reading Micrometer Collar for cross-feed screw. Price.....\$2.95



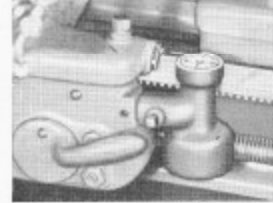
CL968NK. Micrometer Carriage Stop for accurate facing. Ship. wt. 2 lbs. Price.....\$20.95



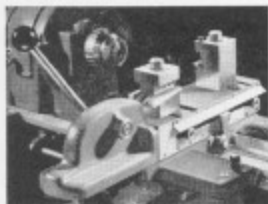
CL758NK. Plain Carriage Stop. locates carriage position. Ship. wt. 2 lbs. Price.....\$4.75



CL2250NK. Thread Cutting Stop for cross slide dovetail. Ship. wt. $\frac{1}{4}$ lb. Price.....\$5.25



CL810NK. Thread Dial Indicator for positioning carriage. Ship. wt. 2 lbs. Price.....\$11.75



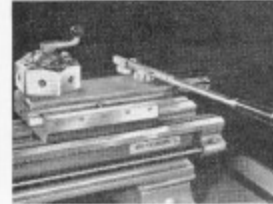
CL2030N. Handlever Cross Slide carries 3 cutting tools. Ship. wt. 36 lbs. Price.....\$104.00



CL3376NR. Turret Tool Block for H. L. Cross Slide. Ship. wt. 10 lbs. Price.....\$41.50



CL3375N. Turret Tool Block for Compound Rest. Ship. wt. 13 lbs. Price.....\$46.00



CL1611N. Handlever Bed Turret, indexes automatically. Ship. wt. 76 lbs. Price.....\$273.00



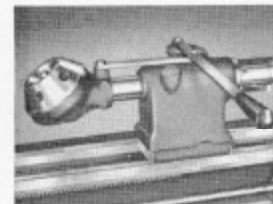
CL2396N. Telescoping Jaw Follower Rest. Max. capacity 2". Ship. wt. 7 lbs. Price.....\$9.25



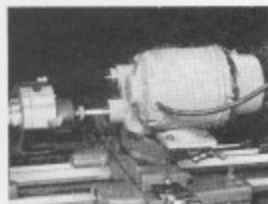
CL2400N. Telescoping Jaw Steady Rest. Max. capacity 3". Ship. wt. 11 lbs. Price....\$14.50



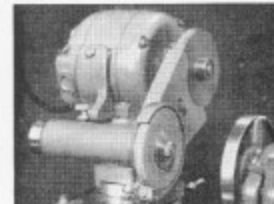
CL1197N. Handlever Tailstock for speedy drilling. Ship. wt. 25 lbs. Price.....\$80.00



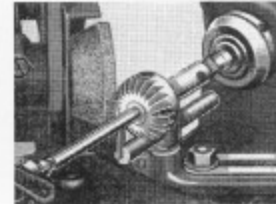
CL2045N. Tailstock Type Turret, six holes, manual indexing. Ship. wt. 80 lbs. Price....\$116.00



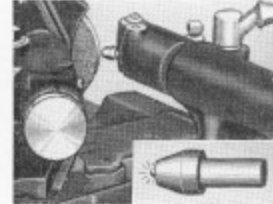
*CE601B. Internal Grinder with $\frac{1}{8}$ h.p., 1 ph., 60 cy., 115 v., A.C. Motor. Ship. wt. 43 lbs. Price.....\$167.50



*CE301B. External Grinder with $\frac{1}{4}$ h.p., 1 ph., 60 cy., 115 v., A.C. Motor. Ship. wt. 55 lbs. Price.....\$64.50

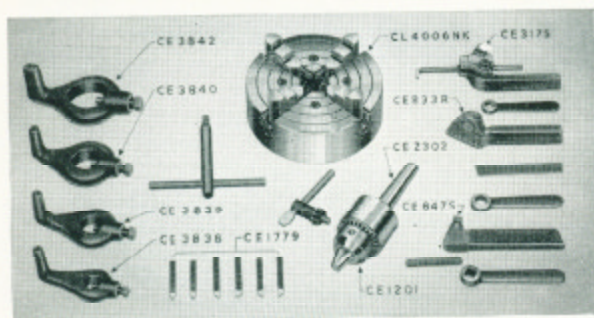


CE1512N. Reamer and Cutter Grinding Stop and Diamond Dresser Holder. Ship. wt. 7 lbs. Price.....\$20.75



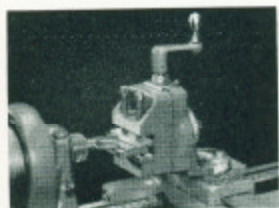
CE91NK. Tailstock mounting Diamond Dresser Holder and CE406 Diamond Dresser. Ship. wt. $3\frac{1}{2}$ lbs. Complete.....\$16.35

*Clamp Bolt Equipment required for mounting grinding attachment on lathe \$2.00

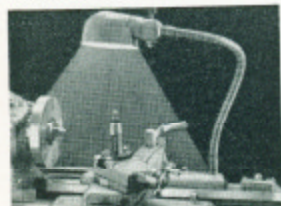


Chuck and Tool Assortment

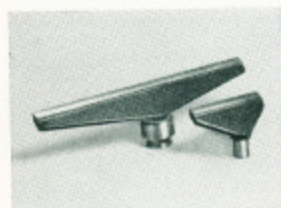
CL2890NK. Chuck and Tool Assortment for 9" lathe, consisting of No. CL4006NK, 6" 4-Jaw Independent Chuck fitted to lathe; No. CE1201, $\frac{1}{2}$ " Jacobs 3-Jaw Drill Chuck with No. CE2302 arbor; No. CE3175, Boring Tool Holder; No. CE833R, Right-Hand Cutting-off Tool Holder; No. CE8475, Straight Shank Tool Holder; No. CE1779, set of 6 Ground Cutter Bits; and set of 4 Malleable Lathe Dogs $\frac{1}{2}$ " to $1\frac{1}{2}$ " capacity, No's. CE3838, CE3839, CE3840, and CE3842. Shipping weight approximately 28 lbs. Price.....\$64.95



CL2680NK. Milling Attachment. Ship. wt. 13 lbs. Cutters not included. Price.....\$49.00



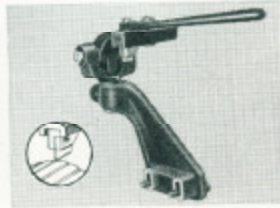
CE2815. Work Light for Lathe, clamp for attaching to bed. Ship. wt. 5 lbs. Price.....\$12.95



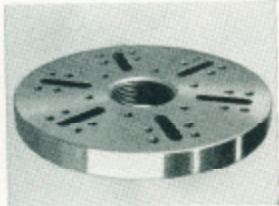
CL896N. Hand Rest for Wood Turning. Socket and two rests. Ship. wt. 6 lbs. Price.....\$13.25



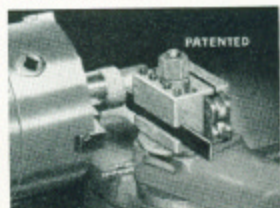
CE1780. Bench (for Lathe) with wood top but less drawer. Ship. wt. 84 lbs. Price.....\$42.50



CL675N. Mica Undercutting Attachment. Mounts on carriage. Ship. wt. 7 lbs. Price.....\$24.75



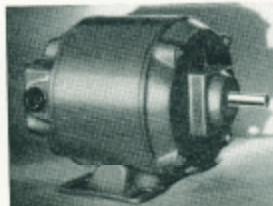
CL1483NK. Multi-tapped Face Plate $8\frac{1}{2}$ " O.D. Ship. wt. 13 lbs. Price.....\$12.50



CE1413NK. 10 in 1 Tool Holder, replaces tool post. Ship. wt. 5 lbs. Price.....\$13.50



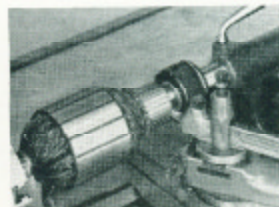
CE1829. Die Holder for 1" round dies. Shipping weight 2 lbs. Price.....\$5.10



Motors and Controls

A few of the most popular motors and controls for 9-inch South Bend Lathes are listed below. Prices of motors and controls for current ratings not listed will be quoted on request.

Catalog Number	Description	Ship. Wt. Lbs.	Cat. Price
CE3252	$\frac{1}{4}$ h.p. motor, 1 ph., 60 cy., 115 v. A.C., capacitor instant reversing.....	30	\$28.00
CE3290D	$\frac{1}{4}$ h.p. motor, 3 ph., 60 cy., 220 v. A.C., instant reversing.....	25	30.50
CE3256B	$\frac{1}{4}$ h.p. motor, 1 ph., 60 cy., 115 v. A.C., split-phase, start-stop reversing.....	28	16.50
CE3228	$\frac{1}{2}$ h.p. motor, 1 ph., 60 cy., 115 v. A.C., capacitor instant reversing.....	52	52.50
CE3227D	$\frac{1}{2}$ h.p. motor, 3 ph., 60 cy., 220 v. A.C., instant reversing.....	45	43.00
CE790	Heavy Duty Drum Reversing Control Switch for $\frac{1}{4}$ h.p. to $\frac{3}{4}$ h.p., 115 v. or 220 v. motors, any type of drive.....	4	9.00



CE1808NR. Centerless Armature Shaft Support with 3 Collets. Ship. wt. 3 lbs. Price.....\$12.25



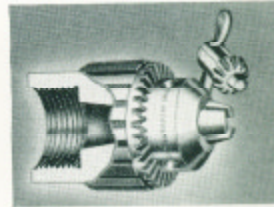
CL2180NK. Large Face Plate with slots. $7\frac{1}{2}$ " O.D. Ship. wt. 8 lbs. Price.....\$9.75



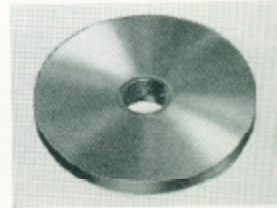
CE3900. Ball Bearing Live Center with 60° point. Ship. wt. 3 lbs. Price.....\$16.65



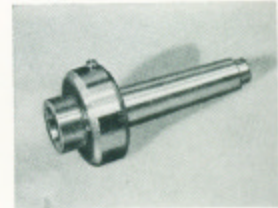
Waterproof Cover. Ship. wt. 3 lbs. CE2695 for 3' & $3\frac{1}{2}$ ' bed...\$2.95 CE2696 for 4' & $4\frac{1}{2}$ ' bed...\$3.25



CE907. Jacobs Valve Chuck for lathe spindle. Cap. $\frac{1}{8}$ " to $\frac{1}{2}$ ". Ship. wt. $3\frac{1}{4}$ lbs. Price.....\$17.65



CL46NK. Fixture Plate $7\frac{1}{2}$ " O.D. machined all over. Ship. wt. 9 lbs. Price.....\$4.95



CE3903. Ball Bearing Live Center with 60° hollow. Ship. wt. 3 lbs. Price.....\$16.65



CE2105. Set of six Standard Lathe Dogs $\frac{1}{2}$ " to $1\frac{1}{2}$ " capacity. Ship. wt. 6 lbs. Price.....\$7.75

When you have a lathe—you have the king of tools.

SPECIFICATIONS FOR 900 SERIES UNDERNEATH

MOTOR DRIVE TURRET LATHE

1. GENERAL The lathe to be back geared, screw cutting lathe, with individual motor drive. The headstock spindle and drive unit countershaft cone to be connected by a flat leather belt.

Capacity of lathe

Swing over bed - $9\frac{1}{4}$ "
Swing over cross slide - $5\frac{1}{2}$ "
Swing over double tool cross slide - $3\frac{9}{16}$ "
Length of bed - $3\frac{1}{2}$ "
Distance between centers - 22"

2. HEADSTOCK The headstock shall be a rigid casting to support the spindle. Spindle bearings to be tapered wedge-lock expanded, one piece replaceable bronze sleeve type. Lubrication of spindle bearings shall be obtained through oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The spindle to be made of alloy steel, turned, bored, carburized, heat treated to a hardness of 56-61 Rockwell "C" and ground all over. The journals shall be superfinished to a smoothness of 5 micro inches (.000005") rms. Bull gear shall have a quick acting plunger lock. The headstock shall be hand scraped to the bed.

Hole through headstock spindle - $\frac{3}{4}$ "
Headstock spindle center size - No. 2MT
Number of spindle speeds - 12
Range of spindle speeds:
1/2 hp motor, Approx. 50 to 1365
Collet capacity, max. - $\frac{1}{2}$ " dia., #3 collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways, and offset type to permit swiveling compound rest parallel with bed. Handwheel with machine handle shall be provided.

Tailstock spindle travel - $2\frac{1}{8}$ "
Set-over - $\frac{5}{8}$ "
Spindle centers size - No. 2MT
Spindle graduations - $\frac{1}{16}$ "

4. BED Bed to have three prismatic V-ways and one flat way. Bed ways to be precision finished their entire length and arranged with one V-way at the extreme front and one at the extreme back to assure precision alignment of the carriage.

5. TURRET Turret to be handlever operated, with hexagonal turret head. Turret to be mounted on the inside two ways of the bed. Turret head to index automatically when handlever is moved to the extreme right hand position and shall be equipped with individual stop screws for each of the six turret faces. Turret head shall be so constructed that it will index within plus or minus .0005", measured 4" from turret face. Index pin shall be hardened and ground and superfinished and shall be lapped into the index pin bushing. Turret head shall be so constructed that the turret head maybe back indexed or spun to skip tool positions. A binding lever shall be provided to assure secure locking of the turret head.

Diameter of holes in turret faces - $5/8"$ or $3/4"$
 Center of turret hole to top of turret ram - $1-1/2"$
 Effective feed of turret ram - $4"$
 Distance between opposite flats - $4-7/8"$
 Maximum distance between spindle nose and turret face at beginning of indexing movement - $20-5/8"$

6. SADDLE Saddle shall have heavy bridge to support compound rest. Both cross slide and compound rest screw shall be fitted with micrometer graduated feed dials. The saddle ways, both front and back shall be of the inverted "V" type, hand scraped to match corresponding ways at the front and back of the lathe bed.

The saddle wings to be provided with felt wipers to lubricate the ways and prevent chips and dirt from working between the saddle and bed ways.

The cross slide and compound rest slide shall be dovetail construction, hand scraped and fitted with an adjustable gib to take up wear. The compound rest swivel shall be provided with two tapered plug locks for locking swivel in any position.

Cross slide travel without taper att. - $5-7/8"$
 Cross slide travel with taper att. - $5-5/8"$
 Compound rest angular travel - $2-1/4"$
 Size of tool holder shank - $3/8" \times 13/16"$
 Tool holder to take cutter bits - $1/4" \times 1/4"$

7. DOUBLE TOOL CROSS SLIDE Lathes shall be equipped with handlever operated double tool cross slide, which may also be used with the regular cross feed screw of the lathe. Cross slide shall be equipped with front and rear tool blocks. The front tool block shall have two tool holding slots with tapered wedges for adjusting the tool height. The rear tool block shall have one tool holding slot and shall also be equipped with a tapered wedge for tool adjustment.

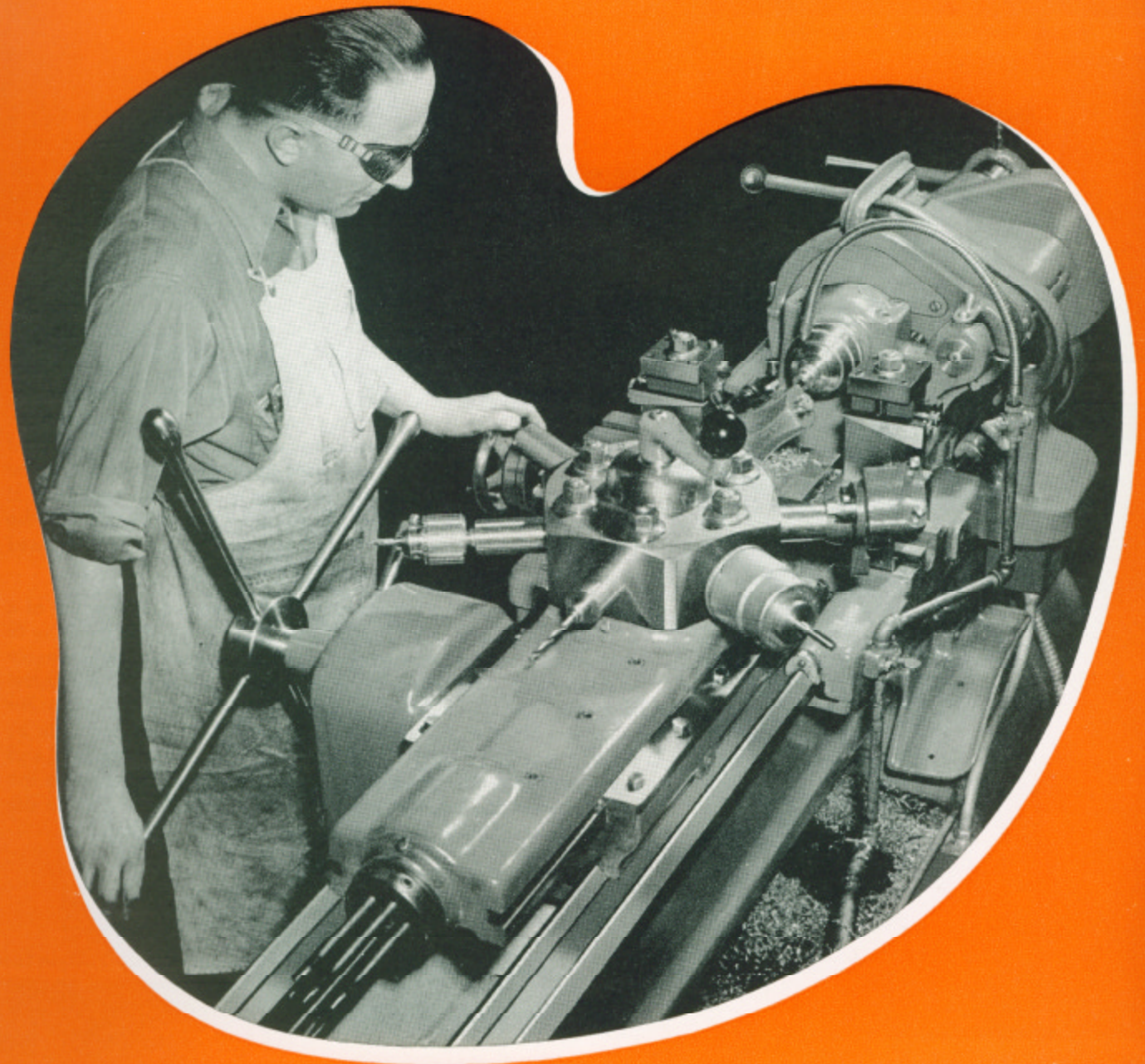
Cross slide travel - $3-5/8"$
 Max. size cutter bit for tool block - $7/16" \times 7/16"$

8. APRON Apron shall be one piece construction, having all steel spur gears. Gearing in the apron shall provide power longitudinal and cross feeds. The feeds shall be engaged by means of a friction clutch operated from the front of the apron. A selector shall be provided on the front of the apron for selecting cross and longitudinal feeds. Automatic interlock shall prevent engaging opposing feeds in the apron simultaneously. A lever shall be provided on the front of the apron for operating the split nut. Apron shall have oil reservoir to lubricate apron parts.
9. FEED MECHANISM Differant rates of power feeds shall be provided through a quick change gear box by means of tumbler gears, sliding gears shall not be used in changing feeds. The gear box gears shall be of steel. Gear box shall be enclosed at top, front and sides. The index plate on the front of the quick change gear box shall indicate the settings for different rates of feeds and shall also indicate number of threads per inch that can be cut in each position of the tumblers.
10. UNDER-NEATH MOTOR DRIVE Drive unit shall consist of motor and countershaft mounted on a tilting cradle enclosed in a cabinet beneath the headstock. Countershaft pulley and motor pulley to be connected by V-belt. Cone pulleys of drive and headstock to be connected by flat leather belt. Individual adjustments shall be provided for proper tension on each belt. A belt tension release mechanism shall be provided between the drive and the lathe. All belts, gears, and pulleys shall be fully enclosed. Provision shall be made so that neither end gear guard nor cone pulley cover can be opened while belt tension is on. Lathe shall be mounted on a steel column type bench, with rolled edge chip pan type top. (Column bench available with three drawers in right hand column or without drawers.)
11. REGULAR EQUIPMENT Equipment to be included with the lathe shall consist of the following items:
- 1- Headstock spindle sleeve
 - 2- 60-degree hardened centers
 - 1- 5-1/8" diameter, ground face plate
 - 1- Tool post assembly
 - 1- Set of wrenches
 - 1- Handlever bed turret
 - 1- Handlever double tool cross slide
 - Coolant return assembly
 - Instructions
 - Installation plan
 - Parts list
 - Lubrication chart
 - "How to Run a Lathe"
 - All necessary belts

12.OPTIONAL Items listed below are items that are commonly used with this
EQUIPMENT type lathe:

Handlever collet attachment, Cat. No. CL5206N
Square Turret tool block, Cat. No. CL3376NR
Collet rack, Cat. No. CE1770N
Set of 8 Collets for round work, Cat. No. CE2047
Collet splash guard, Cat. No. CL5223N
Step chuck blank, Cat. No. CE5926 (2")
Coolant pump, 1-60-115, Cat. No. CL501B
Four position carriage stop, Cat. No. CL2185NK
Thread dial indicator, Cat. No. CL810NK
Micrometer carriage stop, Cat. No. CL968NK
Knockout bar, Cat. No. CE1475NK
6" 4 jaw independent chuck, Cat. No. CL4006NK
5" 3 jaw universal chuck, Cat. No. CL3005NK
Drill Chuck, Cat. No. CE1201
Drill Chuck arbor, straight, Cat. No. CE2362

SOUTH BEND TURRET LATHES



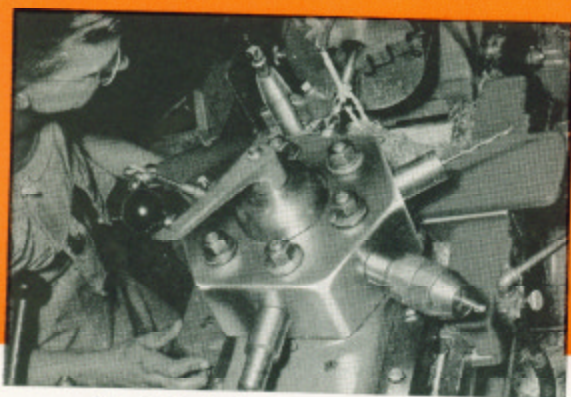
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SOUTH BEND LATHE WORKS

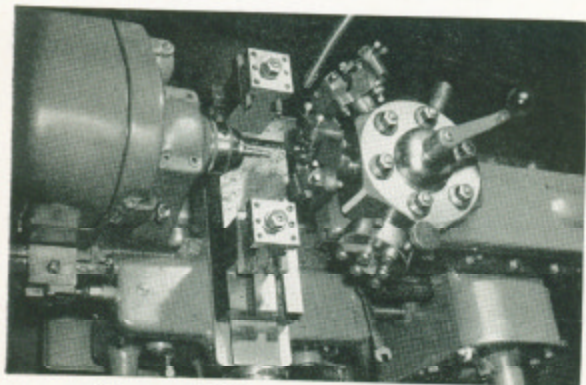
Building Better Tools Since 1906

425 E. MADISON ST., SOUTH BEND 22, IND., U.S.A.

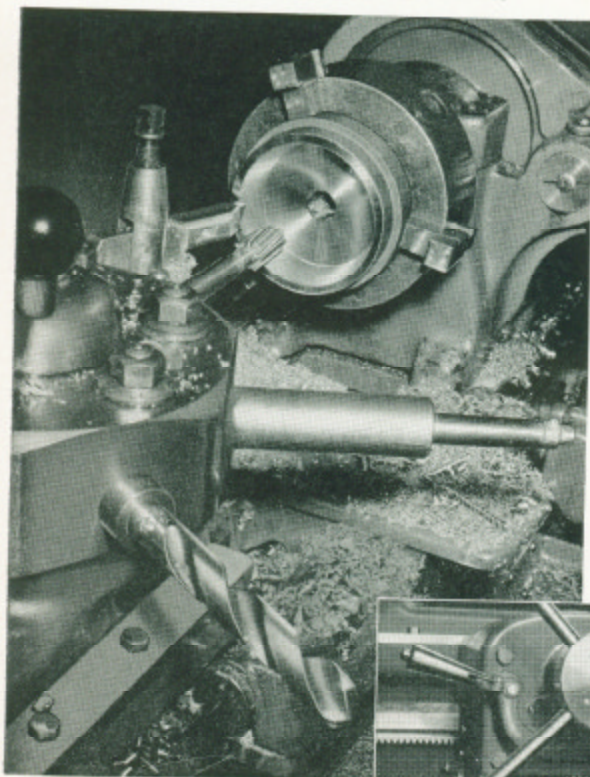




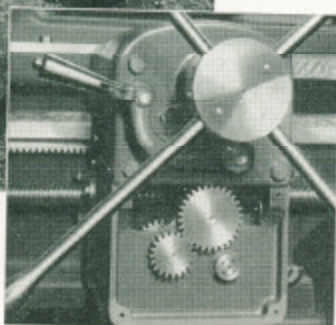
Manufacturing Small Parts from Bar Stock



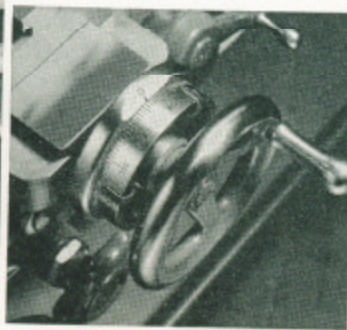
Close-up of Tooling on Turret and Cross Slide



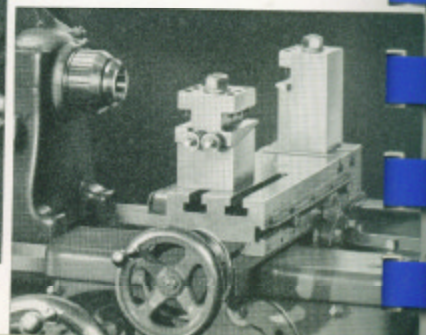
Machining a Bronze Clutch in the No. 2-H Turret Lathe. A Compound Cross Slide is Used to Finish the Inside taper.



Turret Apron Opened to Show Change Gears for Changing Direction and Speed of Power Feeds to Turret Slide



Close-up of Graduations on Cross Slide Micrometer Collar



Screw Feed Double Tool Cross Slide

HIGH PRODUCTION WITH *Precision* ACCURACY

No. 2-H Turret Lathe

The South Bend No. 2-H Turret Lathe is a dependable tool for the manufacture of duplicate parts. It has the stamina for exacting, close-tolerance work, ample power for smooth performance, and the rigidity for producing a fine finish. It meets the demand for fast, efficient production, yet it is easily adaptable to many classes of work.

The universal carriage slides on the outer V-ways of the lathe bed, providing an exceptionally rigid support for the cross slide. This construction also permits working close to the lathe spindle, preventing excessive overhang of the work or the turret tools.

Mounted on the inside bed ways, the hexagon turret base clears the saddle wings of the universal carriage which slides on the outer bed ways. This permits the turret to be placed close to the work and eliminates excessive overhang of the turret tools. The turret head indexes automatically when the turret slide is returned to the starting position. An individual feed trip and stop for each face of the turret accurately regulates the length of the cut, with either the power feed or the hand feed. The turret head may be back-indexed or spun when it is desired to skip tool positions.

Accurate indexing of the turret head is assured by the use of a hardened, ground, and superfinished index pin which operates in ground and lapped bushings. The indexing bushings are replaceable and the main central bearing is tapered for adjustment. The turret slide has tapered gibs on both sides which provide adjustment for wear and alignment. Power feeds for the turret slide are driven by a lever operated friction clutch, permitting instant engagement and disengagement. The power feed is reversible to permit feeding the turret toward the headstock regardless of direction of feed on the universal carriage. A large turnstile is provided for hand feed.

CL1005Z TURRET LATHE

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in our complete attachment catalog. Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the double tool 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 ample power for smooth performance and the rigidity for producing a fine finish. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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. See small inset illustration.

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. Factory Price.....\$1612

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. See attachment catalog.

Specifications of CL1005Z Turret Lathe

CAPACITY OF LATHE

Hole through spindle.....	13"
Swing over bed and saddle wings.....	10½"
Width of lathe bed.....	7½"
Spindle nose diameter and threads per inch.....	2¼"-8
Maximum collet capacity through handlever collet chuck.....	1"
Maximum capacity through universal lathe chuck.....	13½"

TURRET

Diameter of holes in turret faces*.....	5½"
Center of turret hole to top of turret slide.....	11½"
Effective feed of turret slide.....	4"
Distance between opposite flats.....	4½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	19½"

*Can be supplied to order with ¾" holes in turret head. No extra charge.

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	700, 440, 292	125, 80, 52
	370, 235, 152	65, 42, 27

UNIVERSAL CARRIAGE

Thread cutting range.....	.4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0835"
Maximum longitudinal travel of universal carriage, hand or power feed.....	15"

DOUBLE TOOL CROSS SLIDE

Swing over double tool cross slide.....	3½"
Cross travel of cross slide.....	3½"
Maximum size cutter bit tool block opening will take.....	¾" x 1½"
Power cross-feeds.....	.0006" to .0303"

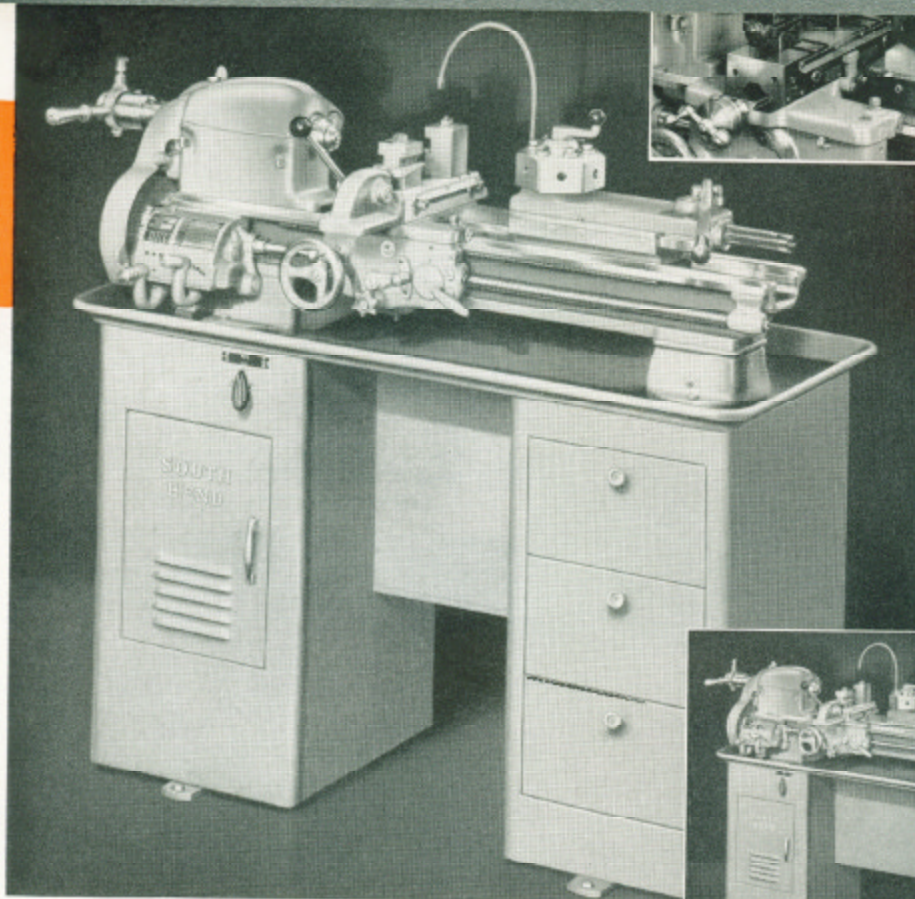
COMPOUND REST CROSS SLIDE

Swing over compound cross slide.....	5½"
Cross slide will travel.....	8½"
Angular hand feed of top slide.....	2"
Size of tool holder shank for tool post.....	¾" x 1½"
Size of cutter bits tool holder takes.....	¾" x 1½"
Power cross-feeds.....	.0006" to .0303"

MOTOR (Standard size)

One-speed.....	½ h.p.
Two-speed.....	1 h.p.

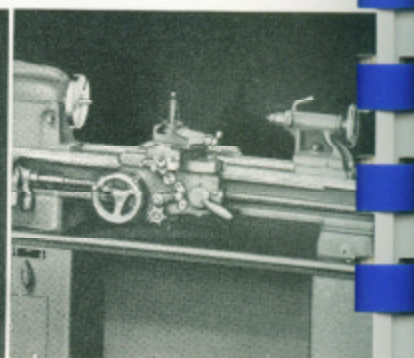
Total cost of work produced includes first cost of equipment, maintenance, and interest on investment.



SERIES 900 TURRET LATHES

CONVERT TO ENGINE LATHES

Compound rest cross slide and regular tailstock are included in equipment of these lathes. These units can be mounted in place of the double tool cross slide and bed turret as shown below to convert the turret lathe into an engine lathe for regular lathe work.



The handlever collet attachment, 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 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. See small inset illustration.

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 3½ ft. bed, mounted welded steel column base with drawers, built-in oil pan, underneath motor drive unit, power feed universal carriage, handlever bed turret, regular tailstock, double tool cross slide, compound rest cross slide, centers, spindle sleeve, small face plate, and coolant return assembly. Approx. wt. crated 800 lbs., boxed wt. 1130 lbs. Cubic feet boxed 47. Factory Price.....\$1009

CL930Z. Same as above but mounted on welded steel column base without drawers. Approx. wt. crated 795 lbs., boxed wt. 1120 lbs. Cubic feet boxed 47. Factory Price.....\$975

NOTE: Splash pan, draw-in collet chuck attachment, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathe. See attachment catalog.

Specifications of Series 900 Turret Lathes

CAPACITY OF LATHE

Hole through spindle.....	3½"
Swing over bed and saddle wings.....	9½"
Width of lathe bed.....	51½"
Spindle nose diameter and threads per inch.....	1½"-8
Maximum capacity through collet chuck.....	3½"
Maximum capacity through universal lathe chuck.....	3½"

TURRET

Diameter of holes in turret faces.....	3½"
Center of turret hole to top of turret slide.....	1½"
Effective feed of turret slide.....	4"
Distance between opposite flats.....	4½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	20½"

*Can be supplied to order with ¾" holes in turret head. No extra charge.

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

UNIVERSAL CARRIAGE

Thread cutting range.....	.4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0853"
Maximum longitudinal travel of universal carriage, hand or power feed.....	18"
Maximum size cutter bit tool block opening will take.....	7½" x 3½"
Power cross-feeds.....	.0004" to .0255"

DOUBLE TOOL CROSS SLIDE

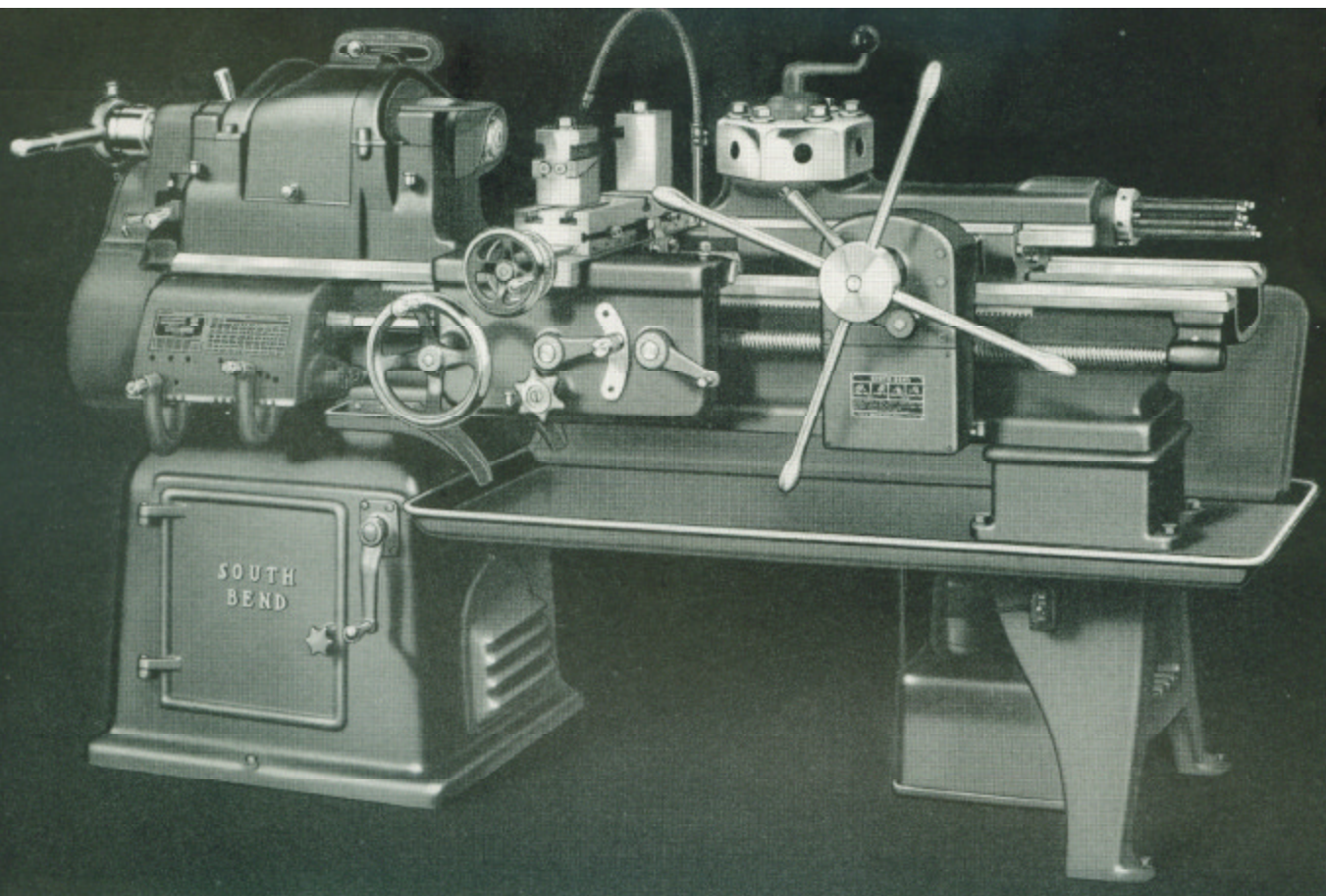
Swing over double tool cross slide.....	31½"
Cross travel of cross slide.....	3½"

COMPOUND REST CROSS SLIDE

Swing over compound rest cross slide.....	51½"
Cross slide will travel.....	5½"
Angular hand feed of top slide.....	2¼"
Size of tool holder shank for tool post.....	3½" x 1½"
Size cutter bits tool holder takes.....	1½" x 1½"
Power cross-feeds.....	.0004" to .0255"

MOTOR

Standard size of motor required.....	¾ h.p.
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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

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; wrenches; and installation plan. Electrical equipment, handlever collet attachment, collet splash guard, coolant reservoir, coolant pump, splash pan, and piping are not included in price of lathe. See attachment catalog.

No. 2-H Turret Lathes with Power Feed Carriage and Turret

Catalog Number	Bed Length Feet	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL2CT	6	112	3175	2810	\$3190
CL2DT	7	127	3300	2900	3250

Note—These lathes can be supplied with hand feed only for the turret, or the turret can be supplied as an accessory for lathes now in use. Write for information.

Specifications of No. 2-H Turret Lathes

CAPACITY OF LATHE

Hole through spindle.....	13/8"
Swing over double tool cross slide.....	6 3/8"
Swing over bed and saddle wings.....	10 1/2"
Width of lathe bed.....	11 1/2"
Spindle nose diameter and threads per inch.....	2 3/8"-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 1/8"
Center of turret hole to top of turret slide.....	2 1/2"
Effective feed of turret slide.....	5 3/8"
Distance between opposite flats.....	9 3/8"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	6 ft. bed 20 1/4", 7 ft. bed 40 1/4"

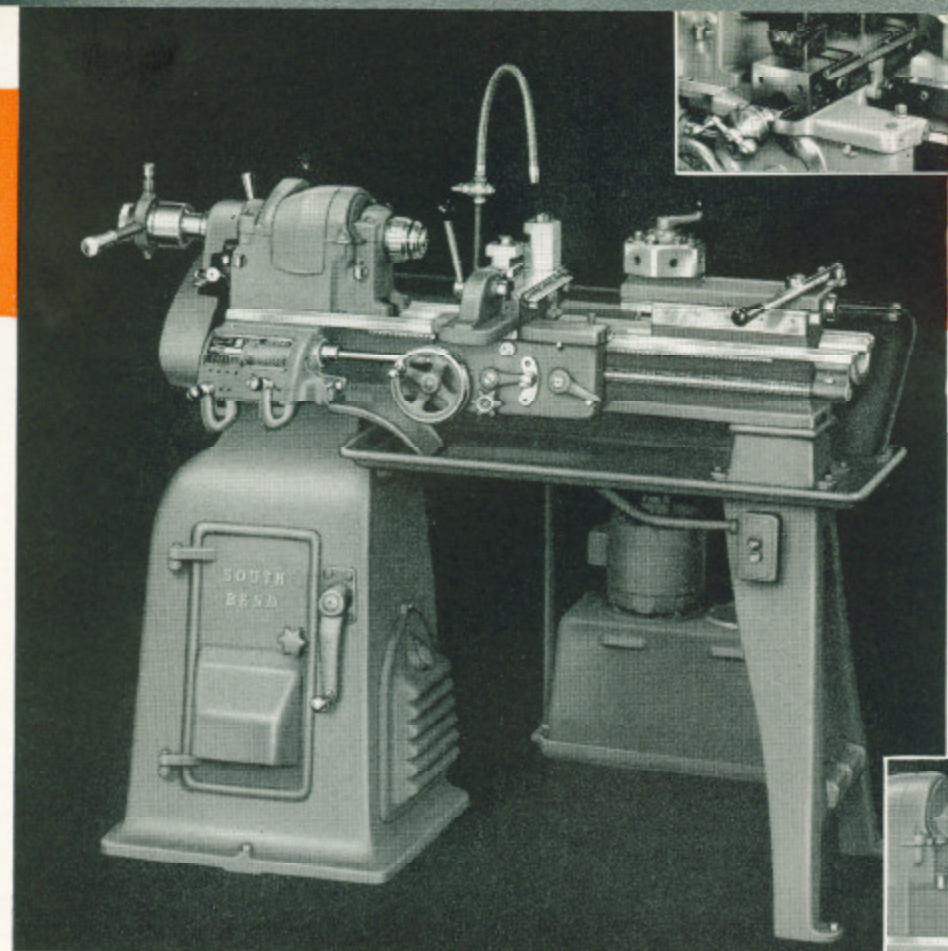
For a better buy—buy South Bend.

UNIVERSAL CARRIAGE

Thread cutting range.....	4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0041"
Maximum longitudinal travel.....	6 ft. bed 22 1/2"
	7 ft. bed 34 1/2"
Power cross-feeds, 48.....	.0006" to .0315"
Cross travel of cross slide.....	9 1/8"
Tool block openings for cutter bits.....	5/8" x 5/8"

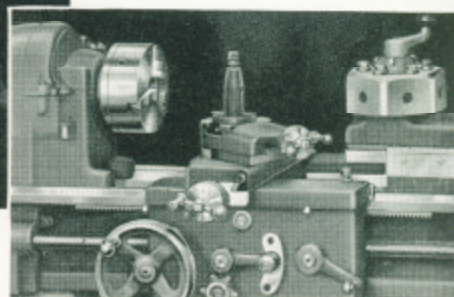
MOTOR

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.	



CL1006Z TURRET LATHE

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in our complete attachment catalog. Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the double tool 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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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. See small inset illustration.

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 3½ ft. bed, power feed universal carriage, handlever bed turret, double tool cross slide, compound rest cross slide, oil pan, and coolant return assembly. Approx. wt. crated, 1050 lbs. Boxed wt. 1350 lbs. Cubic feet boxed 45. Factory Price.....\$1574

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. See attachment catalog.

Specifications of CL1006Z Turret Lathe

CAPACITY OF LATHE

Hole through spindle.....	13½"
Swing over bed and saddle wings.....	10½"
Width of lathe bed.....	7½"
Spindle nose diameter and threads per inch.....	2½"-8
Maximum collet capacity through handlever collet chuck.....	1"
Maximum capacity through universal lathe chuck.....	1½"

TURRET

Diameter of holes in turret faces*.....	5/8"
Center of turret hole to top of turret slide.....	1½"
Effective feed of turret slide.....	4"
Distance between opposite flutes.....	4½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	19½"

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	700, 449, 292	125, 80, 52
	370, 235, 152	65, 42, 27

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.....	3½"
Cross travel of cross slide.....	3½"
Maximum size cutter bit tool block opening will take.....	7/8" x 1½"
Power cross-feeds.....	.0006" to .0303"

COMPOUND REST CROSS SLIDE

Swing over compound cross slide.....	5½"
Cross slide will travel.....	6½"
Angular hand feed of top slide.....	2"
Size of tool holder shank for tool post.....	3/8" x 1½"
Size of cutter bits tool holder takes.....	3/8" x 1½"
Power cross-feeds.....	.0006" to .0303"

MOTOR (Standard size)

One-speed.....	¾ h.p.
Two-speed.....	1½-1 h.p.

SPECIFICATIONS FOR LIGHT 10" SOUTH BEND
HORIZONTAL AND UNDERNEATH MOTOR DRIVE LATHES

1. GENERAL The lathe to be back geared, screw cutting lathe, with individual motor drive. The headstock spindle and drive unit countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 10"				
Swing over saddle - 9-15/16"				
Swing over crossslide without taper att. - 6-1/4"				
Swing over cross slide with taper att. - 5-7/8"				
Length of bed	3'	3 1/2'	4'	4 1/2'
Distance between centers	16-1/8"	22-1/8"	28-1/8"	34-1/8"
Approx. weight crated, lbs.	490	505	520	535
Approx. weight boxed, lbs.	600	615	640	670

2. HEADSTOCK The headstock shall be a rigid casting to support the spindle. Spindle bearings to be tapered wedge-lock expanded, one piece replaceable bronze sleeve type. Lubrication of spindle bearings shall be obtained through oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The spindle to be made of alloy steel, turned, bored, carburized, heat treated to a hardness of 56-61 Rockwell "C" and ground all over. The journals shall be superfinished to a smoothness of 5 micro inches (.000005") rms. Bull gear shall have a quick acting plunger lock. The headstock shall be hand scraped to the bed.

Hole through headstock spindle - 27/32"
 Headstock spindle center size - No. 2MT
 Number of spindle speeds - 12
 Range of spindle speeds:
 1/2 hp motor, horizontal drive
 Approx. 48 to 1435 RPM
 1/2 hp motor, underneath drive
 Approx. 50 to 1365 RPM
 Collet capacity. max. - 5/8" dia., 6K collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways, and offset to permit swiveling compound rest parallel with the bed. A double plug clamping arrangement shall be provided for clamping the spindle of the tailstock. The tailstock spindle screw shall be fitted with a graduated collar to provide for advancing or retracting the spindle in increments of .001"

Tailstock spindle travel - 2-1/8"
 Set-over - 5/8"
 Spindle center size - No. 2MT
 Spindle graduations - 1/10"

4. BED Bed to have three prismatic V-ways and one flat way. Bed ways to be precision finished their entire length and arranged with one V-way at the extreme front and one at the extreme back to assure precision alignment of the carriage.

5. SADDLE Saddle shall have heavy bridge to support compound rest. Both Cross slide and compound rest screws shall be fitted with micrometer graduated feed dials. The saddle ways, both front and back shall be of the inverted "V" type, hand scraped to match corresponding ways at the front and back of the lathe bed.

Saddle wings to be provided with felt wipers to lubricate the ways and to prevent chips and dirt from working between the saddle and the bed ways.

The cross slide and compound rest slide shall be of dovetail construction, hand scraped and fitted with an adjustable gib to take up wear. The compound rest swivel shall be provided with two taper plug locks for fastening in any position.

Cross slide travel without taper att. - 5-7/8"

Cross slide travel with taper att. - 5-5/8"

Compound rest angular travel - 2-1/4"

Size of tool holder shank - 3/8" x 13/16"

Tool holder to take cutter bits - 1/4" x 1/4"

6. APRON MODEL A & B LATHES ONLY, (See footnotes)
Apron shall be one piece construction, having all steel spur gears. Gearing in the apron shall provide power longitudinal and cross feeds. The feeds shall be engaged by means of a friction clutch operated from the front of the apron. A selector shall be provided on the front of the apron for selecting cross and longitudinal feeds. Automatic interlock shall prevent engaging opposing feeds in the apron simultaneously. A lever shall be provided on the front of the apron for operating the split nut. Apron shall have oil reservoir to lubricate apron parts.

7. FEED MECHANISM MODEL A QUICK CHANGE GEAR LATHE ONLY, (See footnotes)
Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears, sliding gears shall not be used in changing feeds. The gear box gears shall be of steel. Gear box shall be enclosed at top, front and sides. The index plate on the front of the quick change gear box shall indicate the settings for different rates of feeds and shall also indicate number of threads per inch that can be cut in each position of the tumbler.

A twin gear mechanism shall be included in the gearing between the headstock spindle and the gear box to provide for right and left hand feeds without reversing the direction of spindle.

Thread cutting range - 48 changes, R.H. or L.H.
4 to 224 thd. per inch

Longitudinal friction feeds
per revolution of spindle - 48 feeds, R.H. or L.H.
.0015" to .0853"

Frictional cross feeds per
revolution of spindle - 48 feeds, .00042" to .0255"

8. FEED MECHANISM MODEL B STANDARD CHANGE GEAR LATHE ONLY. (See footnotes)
The headstock spindle and lead screw shall be directly connected by gearing through a reverse mechanism and loose change gear arrangement. A twin gear mechanism shall be included in the gearing between the headstock spindle and the lead screw to provide for right and left hand feeds without reversing the direction of the spindle.

Thread cutting range - 45 changes, R.H. or L.H.
4 to 160 thd. per inch

Longitudinal friction feeds
per revolution of spindle - 26 feeds, R.H. or L.H.
.0021" to .0155"

Frictional cross feeds per
revolution of spindle - 23 feeds, .0009" to .0046"

9. APRON MODEL C LATHE ONLY. (See footnotes)
Apron shall be one piece construction, having all steel spur gears. A split nut shall be provided for obtaining power longitudinal feeds and for thread cutting. The split nut shall be engaged and disengaged by means of a lever on the front of the apron. Hand longitudinal feed shall be provided by means of a handwheel and pinion on the apron.

10. FEED MECHANISM MODEL C STANDARD CHANGE GEAR LATHE ONLY. (See footnotes)
The headstock spindle and lead screw shall be directly connected by gearing through a reverse mechanism and loose change gear arrangement. A twin gear mechanism shall be included in the gearing between the headstock spindle and the lead screw to provide for right and left hand feeds without reversing the direction of the spindle.

Thread cutting range - 45 changes, R.H. or L.H.
4 to 160 thd. per inch

Longitudinal feeds per
revolution of spindle - 14 feeds through half nuts,
R.H. or L.H., .0021" to .0156"

11. HORIZONTAL (See footnotes) Drive unit shall be arranged on base for separate mounting back of lathe. Countershaft pulley and motor pulley to be connected by V-belt. Cone pulleys of drive and headstock to be connected by flat leather belt. Individual adjustments shall be provided for proper tension on each belt. A belt tension release mechanism shall be provided between the drive and the lathe.
12. UNDERNEATH (See footnote) Drive unit shall consist of motor and countershaft mounted on a tilting cradle enclosed in a cabinet beneath headstock. Countershaft pulley and motor pulley to be connected by V-belt. Cone pulleys of drive and headstock to be connected by flat leather belt. Individual adjustments shall be provided for proper tension on each belt. A belt tension release mechanism shall be provided between the drive and the lathe. All belts, gears and pulleys shall be fully enclosed. Provision shall be made so that neither end gear guard nor cone pulley cover can be opened while belt tension is on. Lathe shall be mounted on a steel column type bench, with rolled edge chip pan type top. (Column bench available with three drawers in right hand column, or without drawers.)
13. FLOOR LEGS (OPTIONAL, See footnotes) Lathe shall be equipped with cast iron floor legs and shall have chip pan with rolled edges and shall extend entire length of lathe. Drive unit shall be mounted on steel plate, which shall be attached to the floor leg at the headstock end of the lathe. Steel plate for mounting drive unit shall be braced to leg for rigidity.
14. REGULAR EQUIPMENT Equipment to be included with the lathe shall consist of the following items:
- 1- Headstock spindle sleeve
 - 2- 60-degree hardened centers
 - 1- 5-1/8" diameter, ground face plate
 - 1- Tool post assembly
 - 1- Set of wrenches
 - Instructions
 - Installation plans
 - Parts list
 - Lubrication chart
 - "How to Run a Lathe"
 - Shop Project Book
 - All necessary belts

Note: TOOLROOM LATHES shall be equipped with the following accessories as regular equipment in addition to the items listed above:

- Precision lead screw
- Taper attachment, Plain type
- Handwheel collet attachment, Less collets
- Collet rack
- Thread dial indicator
- Thread cutting stop
- Micrometer carriage stop
- Large face plate, 7-3/8" dia. with ground face

15.OPTIONAL (See footnotes) Items listed below are items that are commonly EQUIPMENT used with this type lathe:

Handwheel collet attachment, Cat. No. CL4306K
 Set of 10 collets for round work, Cat. No. CE2441
 Collet rack, Cat. No. CE1770K
 Taper attachment, Cat. No. CL428NK
 Telescoping jaw center rest, Cat. No. CL2400K
 Telescoping jaw follower rest, Cat. No. CL2395K
 Thread dial indicator, Cat. No. CL810NK
 Micrometer carriage stop, Cat. No. CL968NK
 Ball bearing live center, Cat. No. CE3900
 6" 4 jaw independent chuck, Cat. No. CL4006NK
 5" 3 jaw universal chuck, Cat. No. CL3005NK
 Drill chuck, Cat. No. CE1201
 Drill chuck arbor, "21.T, Cat. No. CE2302
 Set of 6 safety dogs, Cat. No. CE2107
 Knockout bar, Cat. No. CE1475NK
 Turning tool holder, Straight, Cat. No. CE846S
 Cutting off tool holder, right hand, Cat. No. CE736R
 Boring tool, style "B", Cat. No. CE423
 Knurling tool, Cat. No. CE665
 Threading tool, Cat. No. CE648
 Work light, Cat. No. CE2815
 Waterproof service cover, Cat. No. CE2695 or CE2696
 12" precision level, Cat. No. CE2318
 Angular steel bench, Cat. No. CE1780

FOOTNOTES: When specifying light Ten MODEL A QUICK CHANGE GEAR LATHE for bench mounting delete paragraphs 8, 9, 10, 12 & 13

When specifying Light Ten MODEL B STANDARD CHANGE GEAR LATHE for bench mounting delete paragraphs 7, 9, 10, 12 & 13

When specifying Light Ten MODEL C STANDARD CHANGE GEAR LATHE for bench mounting delete paragraphs 6, 7, 8, 12 & 13

When specifying Light Ten MODEL A QUICK CHANGE GEAR LATHE WITH FLOOR LEGS delete paragraphs 8, 9, 10 & 12

When specifying Light Ten MODEL B STANDARD CHANGE GEAR LATHE WITH FLOOR LEGS delete paragraphs 7, 9, 10 & 12

When specifying Light Ten MODEL C STANDARD CHANGE GEAR LATHE WITH FLOOR LEGS delete paragraphs 6, 7, 8 & 12

When specifying Light Ten MODEL A QUICK CHANGE GEAR LATHE with underneath motor drive delete paragraphs 8, 9, 10, 11 & 13

When specifying Light Ten MODEL B STANDARD CHANGE GEAR LATHE with underneath motor drive delete paragraphs 7, 9, 10, 11 & 13

When specifying Light Ten MODEL C STANDARD CHANGE GEAR LATHE with underneath motor drive delete paragraphs 6, 7, 8, 11 & 13

SOUTH BEND

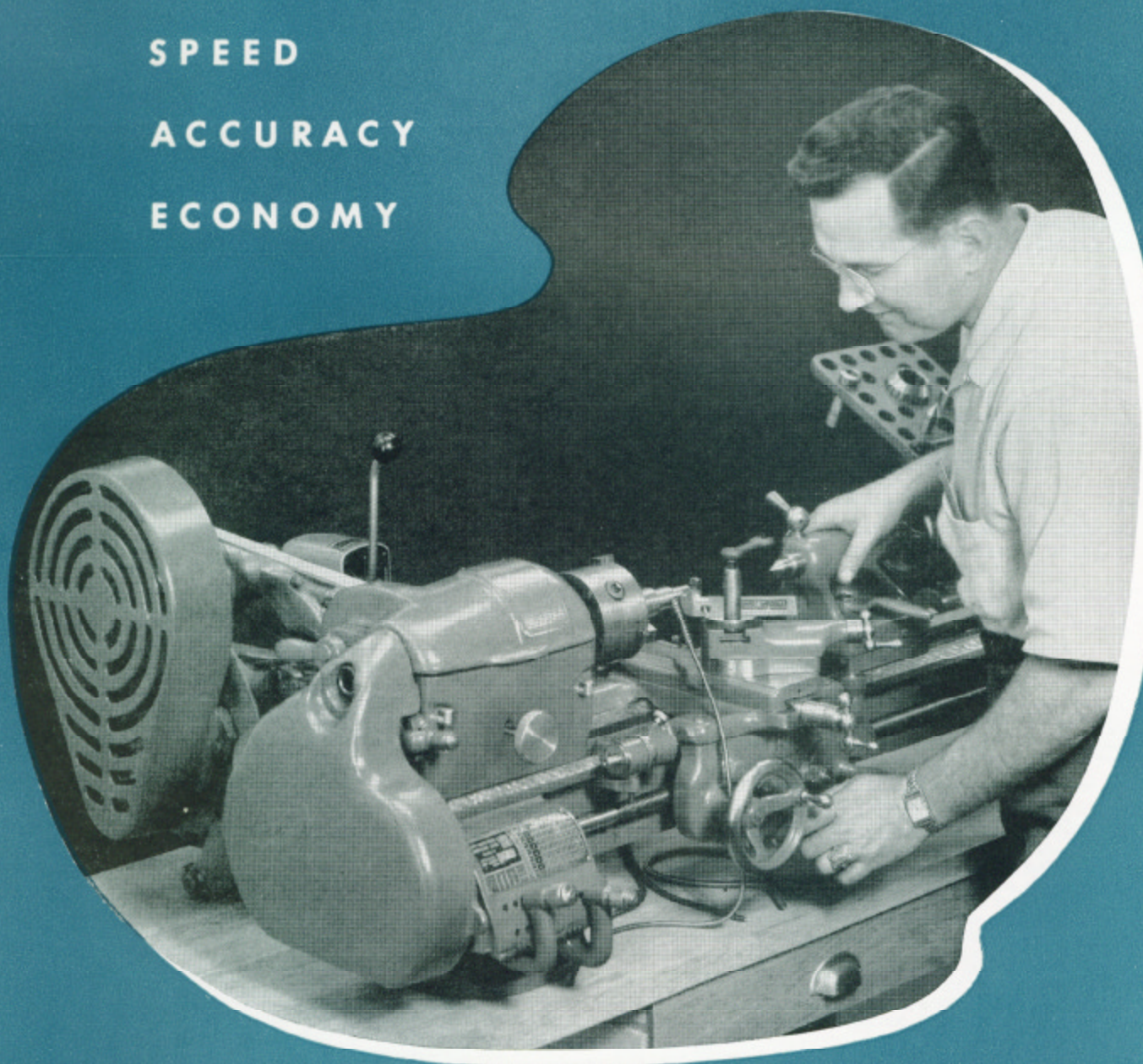
CATALOG 5433

LIGHT TEN *Precision* LATHES

SPEED

ACCURACY

ECONOMY

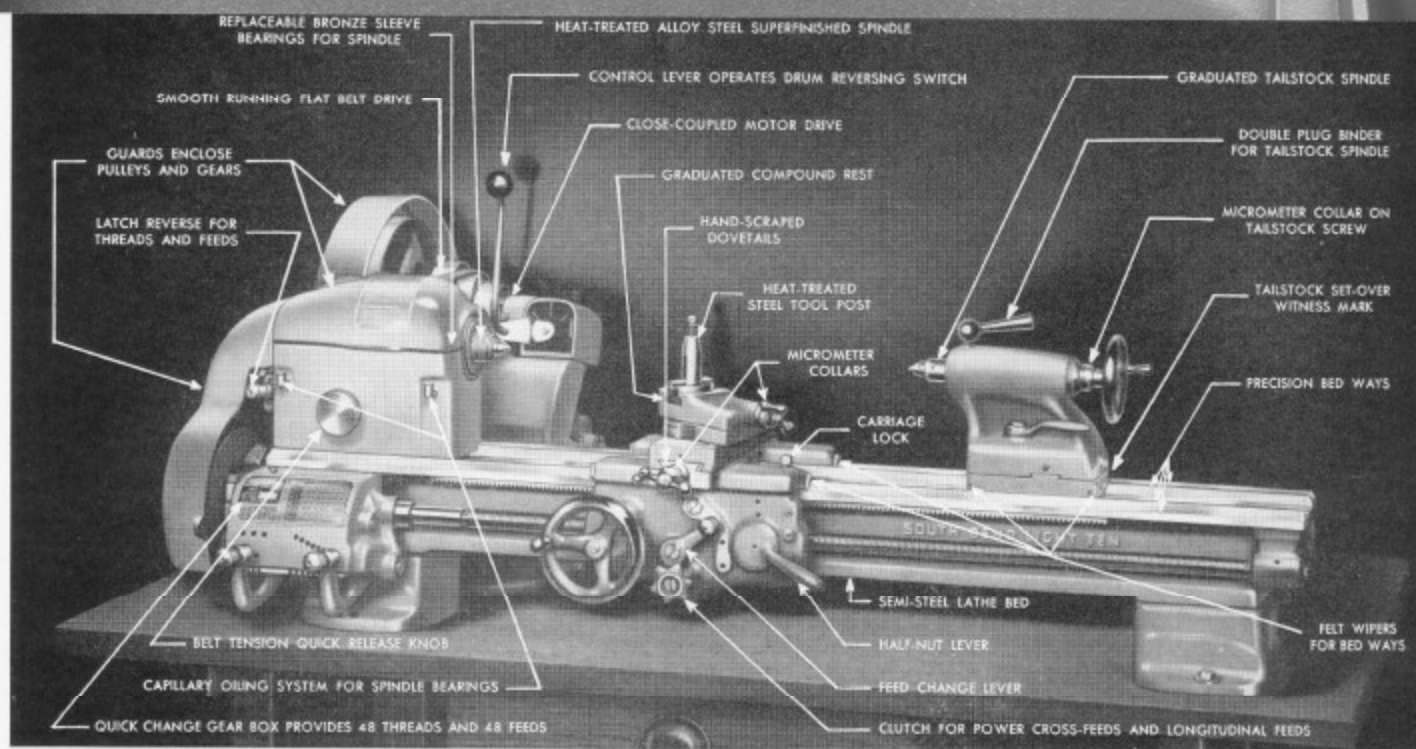


SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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





Features of South Bend Light Ten Lathes

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 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.



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 Toolroom 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.



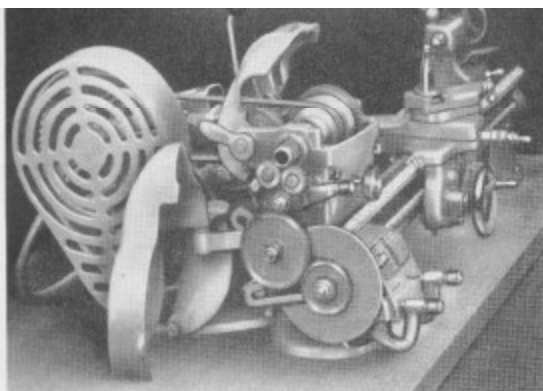
Carriage has long bearings (9 3/16 inches) on V-ways of lathe bed, providing a solid support for the cutting tool and reducing wear to a minimum. V-ways of saddle are hand-scraped to match V-ways of lathe bed perfectly and are fitted with felt wipers to clean and oil the bed. Carriage lock for facing operations is conveniently located on front wing of saddle.

Apron for Model A and Model B Lathes (patented) has worm drive and a friction clutch for operating the power cross-feeds and the power longitudinal feeds. The threads of the lead screw are reserved for cutting screw threads only. 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.

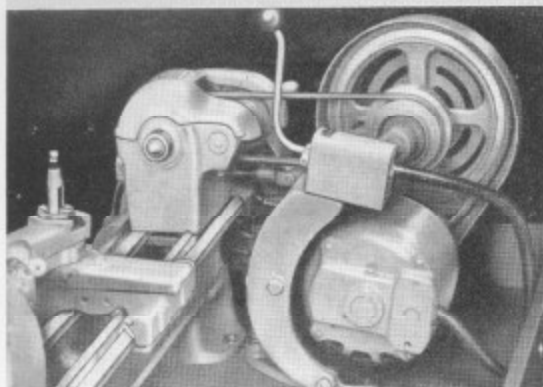


Compound Rest is graduated 180 degrees, swivels to any angle, and has improved locking device. Compound rest screw and cross-feed screw have micrometer collars graduated in thousandths of an inch. Dovetails are hand-scraped and have adjustable gibs. Tool post is made of heat-treated steel.

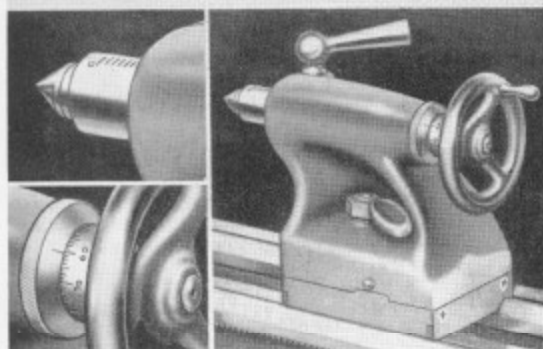
*Profilometer reading in microinches rms.



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.

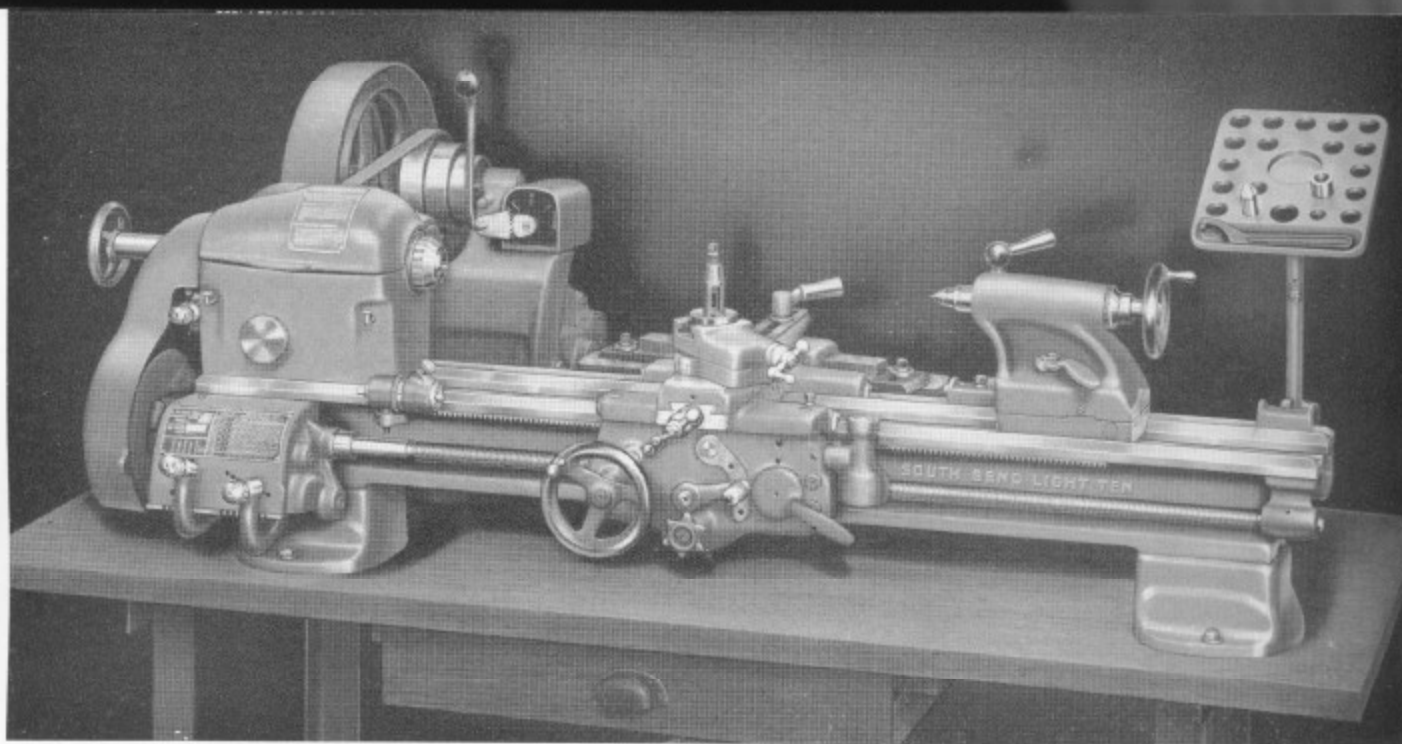


DURABILITY

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.



Recheck the leveling of your lathes occasionally.



Light Ten Toolroom *Precision* Bench Lathe

Precision Lead Screw—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; plain 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; worm drive friction clutch 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. See attachment catalog. Also see page 12.

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	Factory Price
CLB670Y	3	16 $\frac{1}{4}$	22	650	520	\$731.00
CLB670Z	3 $\frac{1}{2}$	22 $\frac{1}{4}$	22	665	535	753.00
CLB670A	4	28 $\frac{1}{4}$	22	690	550	774.00

Specifications of Light Ten Toolroom Bench Lathes

CAPACITY OF LATHE

Swing over bed, maximum	10"
Swing over saddle wings	9 $\frac{1}{2}$ "
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

COMPOUND REST

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

HEADSTOCK

Hole through spindle	7 $\frac{1}{2}$ "
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"
Large face plate diameter	7 $\frac{1}{2}$ "
Small face plate diameter	5 $\frac{1}{2}$ "
Front spindle bearing diameter	1 $\frac{1}{2}$ "

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	3"

Say good-bye to heavy maintenance costs.

THREADS AND FEEDS

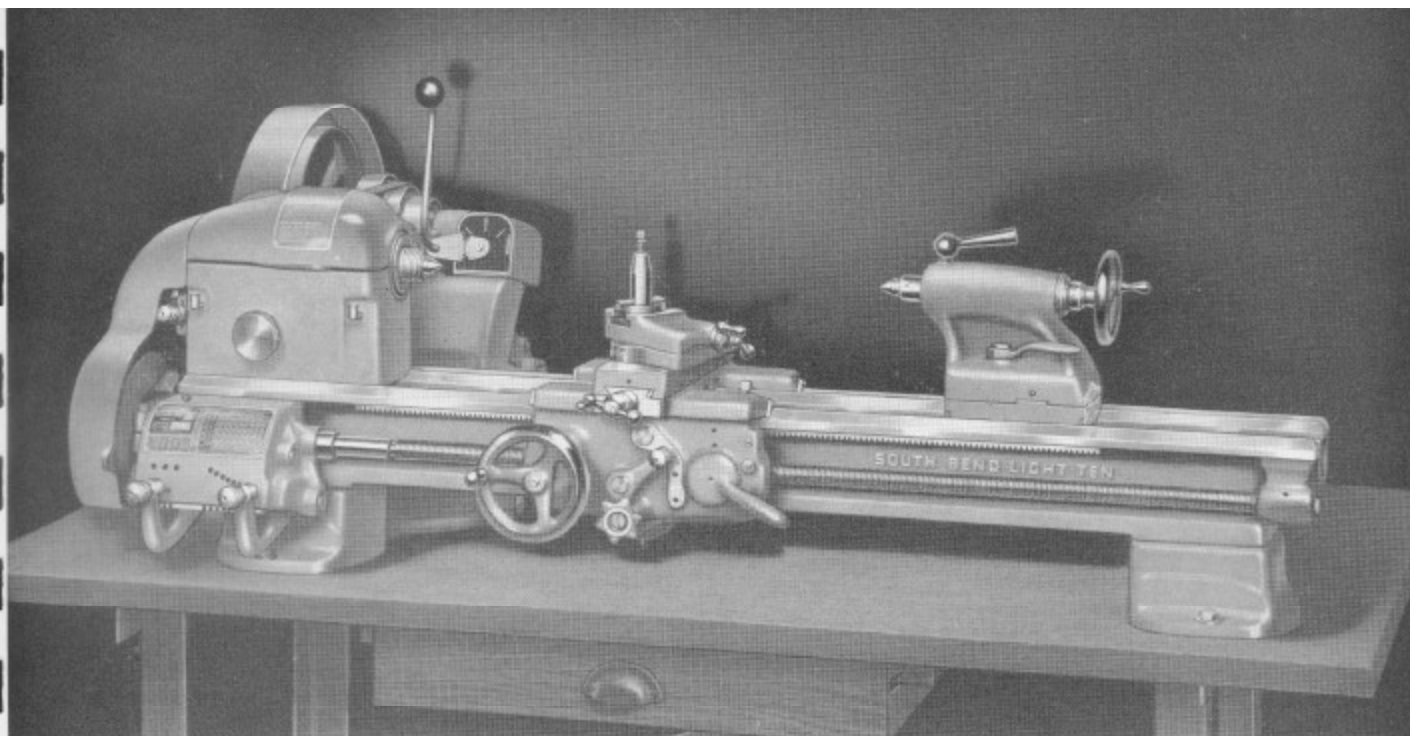
Thread cutting range—48 pitches	
R.H. or L.H.	4 to 224 per inch
Longitudinal feeds through friction clutch—48 feeds R.H. or L.H.	.0015" to .0853"
Cross-feeds through friction clutch—48 feeds R.H. or L.H.	.0004" to .0255"
Lead screw, 29° Acme thread	$\frac{3}{4}$ " dia.—8 thro.

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	$\frac{1}{2}$ h.p.
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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; worm drive friction clutch 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. See attachment catalog. Also see page 12.

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	Factory Price
CL670Y	3	16 $\frac{1}{4}$	21	600	490	\$900.00
CL670Z	3 $\frac{1}{2}$	22 $\frac{1}{4}$	21	615	505	922.00
CL670A	4	28 $\frac{1}{4}$	23	640	520	943.00
CL670R	4 $\frac{1}{2}$	34 $\frac{1}{4}$	26	670	535	974.00

Specifications of Light Ten Model A Bench Lathes

CAPACITY OF LATHE

Swing over bed, maximum	10"
Swing over saddle wings	8 $\frac{1}{2}$ "
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

COMPOUND REST

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

HEADSTOCK

Hole through spindle	35 $\frac{1}{8}$ "
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 $\frac{1}{2}$ "
Front spindle bearing diameter	1 $\frac{1}{2}$ "

TAILSTOCK

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

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 .0653"
Cross-feeds through friction clutch—48 feeds R.H. or L.H.	.0004" to .0255"
Lead screw, 29° Acme thread	3/4" dia.—8 thds.

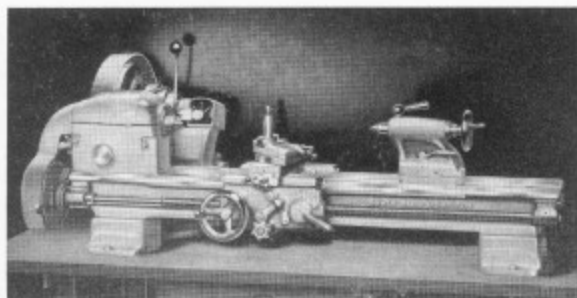
TOOL POST

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

MOTOR

Standard size of motor required	1/2 h.p.
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We are still supplying repairs for the lathes we built 40 years ago.



Light Ten Model B *Precision Bench Lathe*

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; worm drive friction clutch 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. See attachment catalog. Also see page 12.

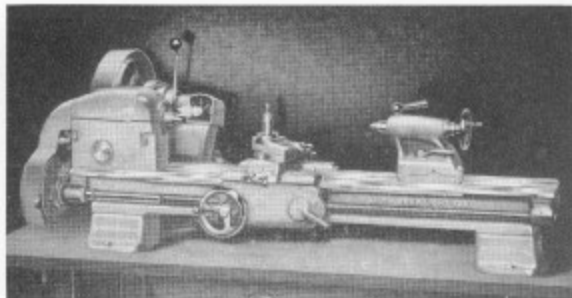
Specifications for Light Ten Model B Lathes are the same as for the Model A Lathes shown on the preceding page, except for threads and feeds which are as follows:

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 $\frac{3}{8}$ " dia.—8 thds.

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	Factory Price
CL667Y	3	16 $\frac{1}{2}$	21	585	475	\$624.00
CL667Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	21	600	490	446.00
CL667A	4	28 $\frac{1}{2}$	23	625	505	468.00
CL667R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	26	655	520	497.00



Light Ten Model C *Precision Bench Lathe*

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 Model B Lathe shown at left.

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 $\frac{3}{4}$ " hole; V-belt; flat leather belt and lacing; screw feed apron with half-nut power longitudinal feed; 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 not included. See attachment catalog. Also see page 12.

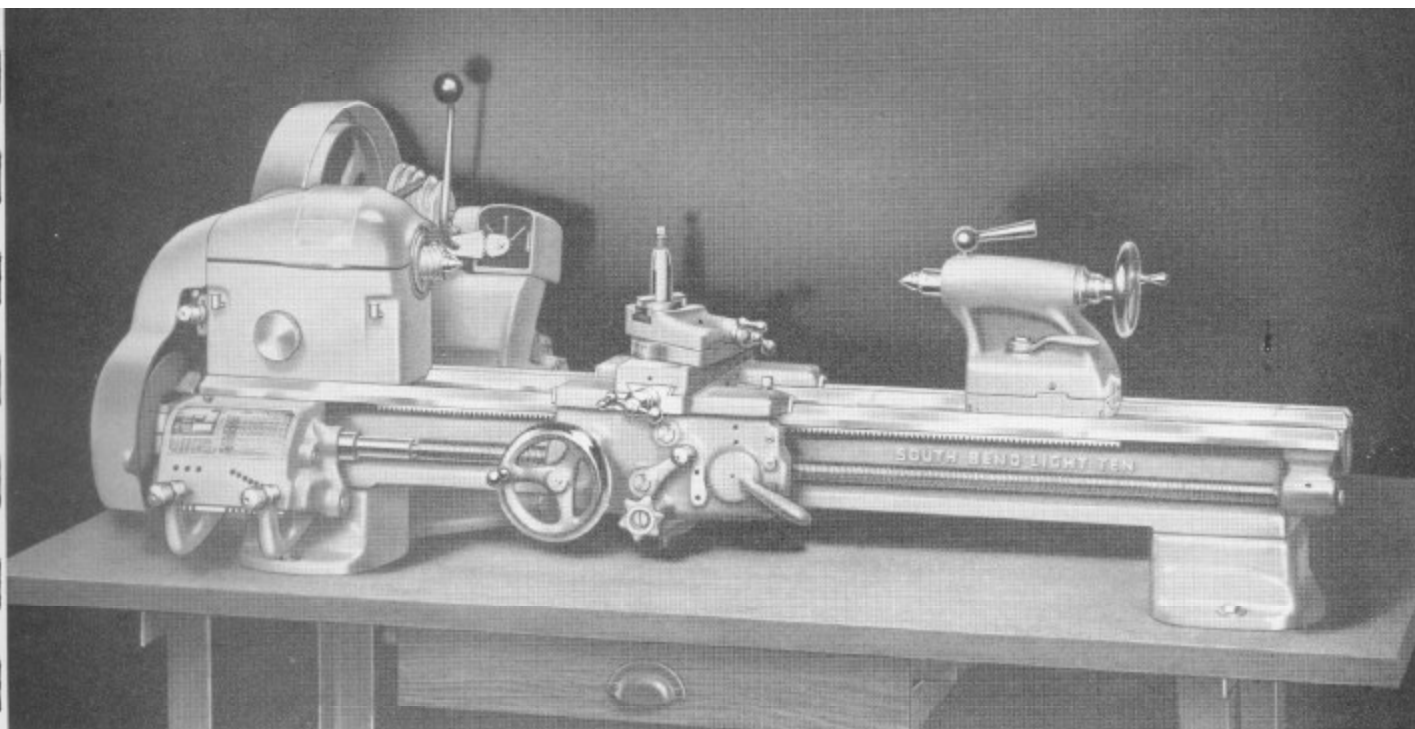
Specifications for Light Ten Model C Lathes are the same as for the Model A Lathes shown on the preceding page, except for threads and feeds which are as follows:

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 $\frac{3}{8}$ " dia.—8 thds.

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	Factory Price
CL653Y	3	16 $\frac{1}{2}$	21	575	465	\$334.00
CL653Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	21	590	480	375.00
CL653A	4	28 $\frac{1}{2}$	23	615	495	396.00
CL653R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	26	645	510	426.00



Light Ten V-Belt Drive *Precision* Bench Lathes

Sixteen Spindle Speeds—Models A, B, C, and Toolroom

The Light Ten Model A V-Belt Horizontal Motor Driven Bench Lathe is illustrated above. The Model B, Model C, and Toolroom 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 is the same as for corresponding models with flat belt horizontal motor drive. Bench and electrical equipment are not included in price. See attachment catalog. Also see page 12.

Light Ten V-Belt Drive Bench Lathes

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
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Toolroom Lathes with Sixteen-Speed V-Belt Drive

CL8770Y	3	16 $\frac{1}{2}$	22	650	520	\$746.00
CL8770Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	22	665	535	768.00
CL8770A	4	28 $\frac{1}{2}$	22	690	550	789.00

Model A Lathes with Sixteen-Speed V-Belt Drive

CL770Y	3	16 $\frac{1}{2}$	21	600	490	515.00
CL770Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	21	615	505	537.00
CL770A	4	28 $\frac{1}{2}$	23	640	520	558.00
CL770R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	26	670	535	589.00

Model B Lathes with Sixteen-Speed V-Belt Drive

CL767Y	3	16 $\frac{1}{2}$	21	585	475	439.00
CL767Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	21	600	490	461.00
CL767A	4	28 $\frac{1}{2}$	23	625	505	481.00
CL767R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	26	655	520	512.00

Model C Lathes with Sixteen-Speed V-Belt Drive

CL753Y	3	16 $\frac{1}{2}$	21	578	465	369.00
CL753Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	21	590	480	390.00
CL753A	4	28 $\frac{1}{2}$	23	615	495	411.00
CL753R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	26	645	510	441.00

Specifications of V-Belt Drive Light Ten Lathes

CAPACITY OF LATHE

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
High, r.p.m.....	1365, 1010, 760, 570	265, 195, 150, 112
Low, r.p.m.....	670, 495, 370, 285	130, 95, 75, 52

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.....	$\frac{5}{8}$ "

HEADSTOCK

Hole through spindle.....	2 $\frac{1}{2}$ "
Maximum collet capacity.....	$\frac{1}{2}$ "
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 $\frac{1}{2}$ "

COMPOUND REST

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

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.

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.....	$\frac{1}{4}$ " dia.—8 thds.

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 .0048"

MOTOR

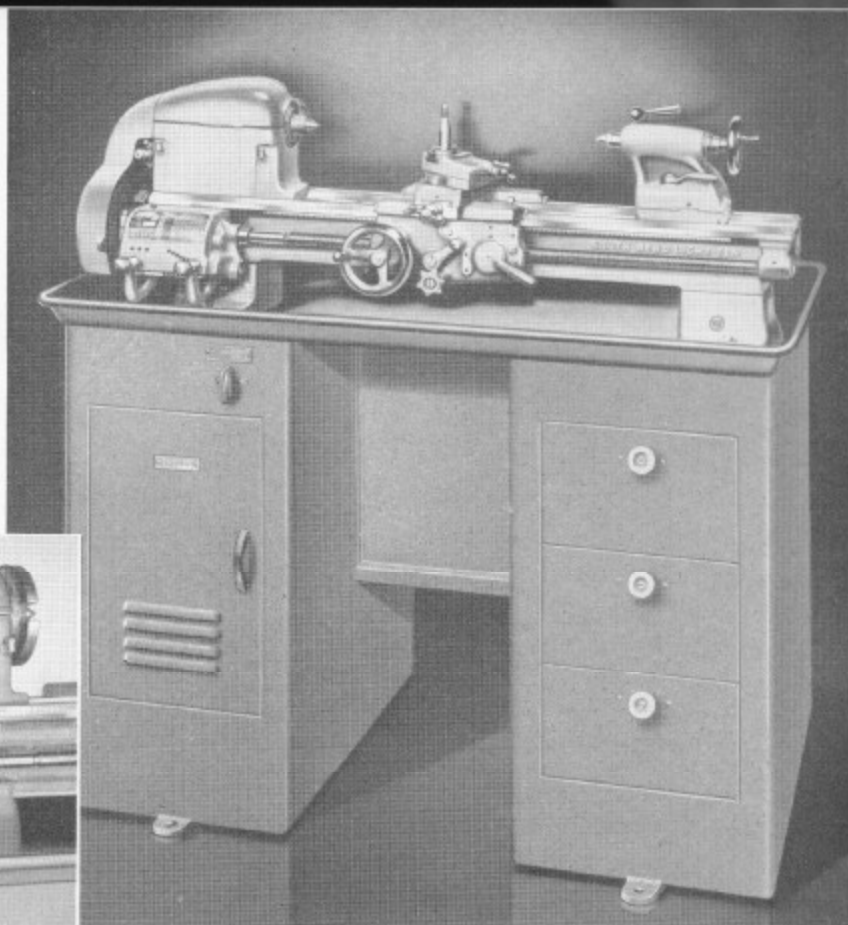
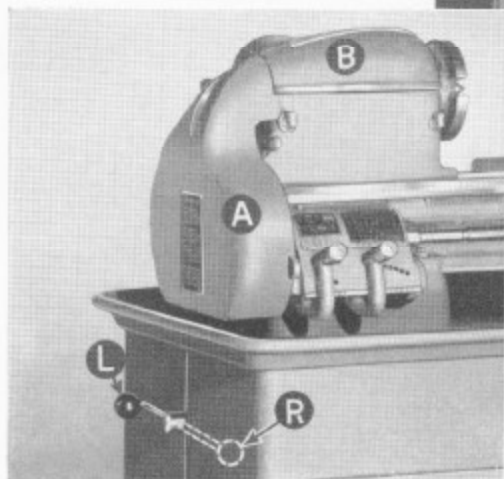
Standard size of motor required.....	$\frac{1}{2}$ h.p.
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More precision for your money than you can buy elsewhere.

Light Ten Floor Lathe

UNUSUAL SAFETY FEATURES

Light Ten Underneath Motor Driven Lathes have an automatic safety interlock which makes it impossible to open the end gear guard, "A", or the cone pulley cover, "B", until the belt tension lever, "L", is placed in position "R", disconnecting power.



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 3/4" x 5 1/2" x 14" as shown in large illustration, or

without drawers. A built-in chip pan with 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. See attachment catalog. Also see page 12.

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	Factory Price
Model A Light Ten Lathe						
CL370ZD	3 1/2	22 1/4	47	910	720	\$821.00
Model B Light Ten Lathe						
CL367ZD	3 1/2	22 1/4	47	895	708	744.00
Model C Light Ten Lathe						
CL353ZD	3 1/2	22 1/4	47	885	695	673.00

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	Factory Price
Model A Light Ten Lathe						
CL370Z	3 1/2	22 1/4	47	895	705	\$786.00
Model B Light Ten Lathe						
CL367Z	3 1/2	22 1/4	47	880	690	710.00
Model C Light Ten Lathe						
CL353Z	3 1/2	22 1/4	47	870	680	640.00

Specifications

CAPACITY OF LATHE

Swing over bed, maximum	10"
Swing over saddle wings	9 1/2"
Swing over saddle cross slide chip guard	6 1/4"

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
High speeds, r.p.m.	1365, 780, 480	265, 155, 90
Low speeds, r.p.m.	715, 410, 240	135, 78, 50

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"

HEADSTOCK

Hole through spindle	5/8"
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"
Small face plate diameter	6 1/2"
Front spindle bearing, diameter	1 1/2"

COMPOUND REST

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

POWER LONGITUDINAL FEEDS

Model A—48 feeds	.0015" to .0853"
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	.0009" to .0048"

TOOL POST

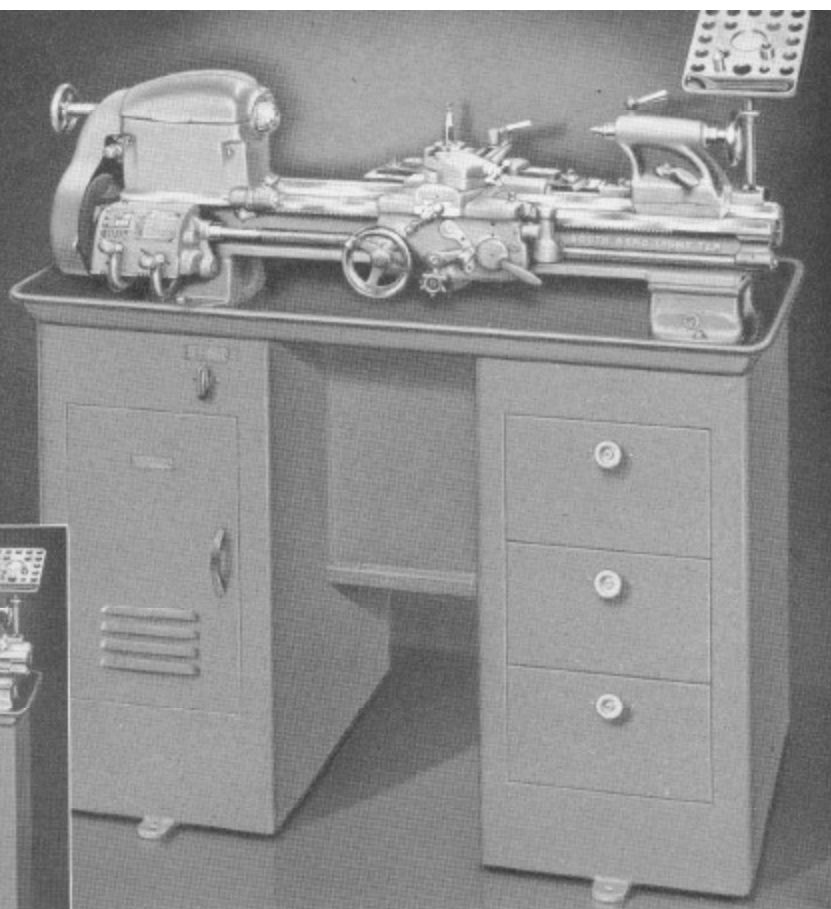
Size of tool holder shank	3/4" x 1 1/2"
Size of cutter bit for tool holder	3/4" sq.

MOTOR

Standard size of motor required	1/2 h.p.
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Light Ten Toolroom *Precision* Floor Lathe

See page 8 for safety features of the Underneath Motor Drive.



Patented

Precision Lead Screw—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 $\frac{3}{8}$ " 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 approximately 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; plain 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; worm drive friction clutch 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. See attachment catalog. Also see page 12.

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	Factory Price
On Metal Column Base with Three Drawers						
CL8370ZD	3 $\frac{1}{2}$	22 $\frac{1}{2}$	47	940	750	\$1052.00
On Metal Column Base without Drawers						
CL8370Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	47	925	735	1017.00

Specifications of Light Ten Toolroom Floor Lathes

CAPACITY OF LATHE

Swing over bed	10"
Swing over saddle wings	9 $\frac{1}{2}$ "
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

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	$\frac{3}{8}$ "

HEADSTOCK

Hole through spindle	2 $\frac{1}{2}$ "
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 $\frac{1}{8}$ "
Front spindle bearing, diameter	1 $\frac{1}{2}$ "

COMPOUND REST

Cross slide travel	5 $\frac{1}{8}$ "
Angular lead 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 thds.

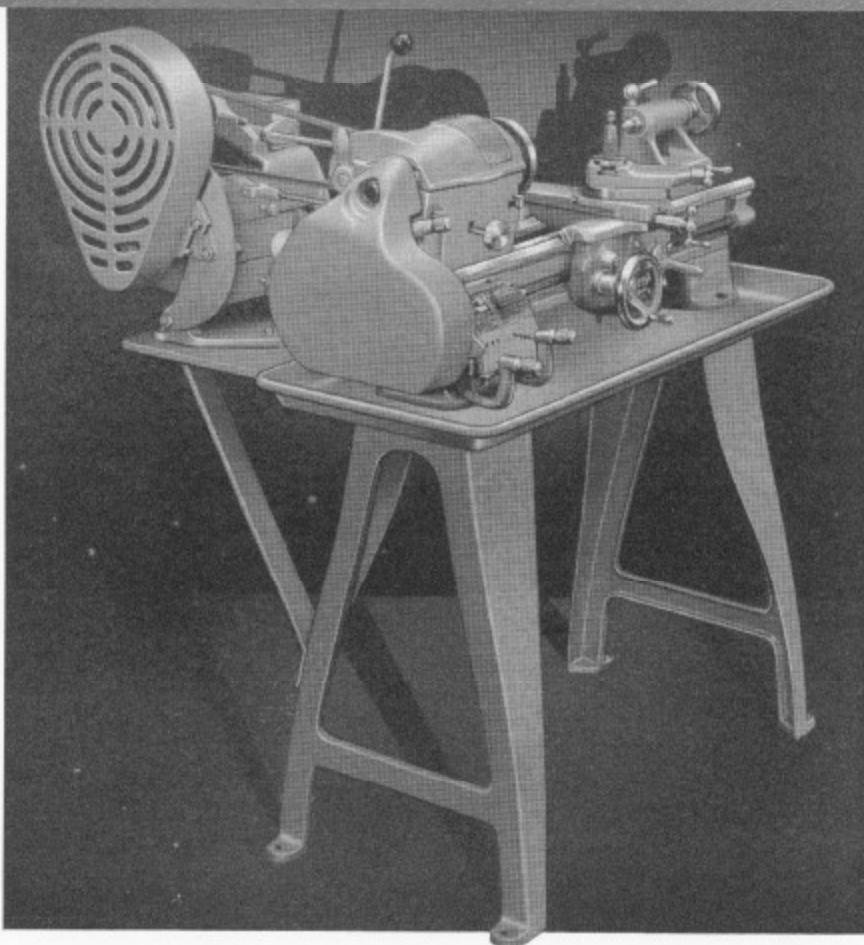
TOOL POST

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

MOTOR

Standard size of motor required	$\frac{3}{4}$ h.p.
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All important lead feed screws are single point chased.



NEW
Light Ten
Self-Contained
Motor Drive
Precision
Floor
Lathes
Models A, B, & C

12 Spindle Speeds

Back-Geared

Belt Drive

The Light Ten Model A Self-Contained Motor Driven Floor Lathe is illustrated above. The Model B and Model C Lathes are also made with this drive. Except for the self-contained drive equipment and floor legs, these lathes are the same as corresponding models described on the preceding pages.

The self-contained drive provides a series of twelve spindle speeds 48 to 1435 r.p.m., approximately. A quick acting belt tension release permits releasing the tension of the cone pulley belt for shifting to change spindle speeds.

Drive equipment is permanently mounted back of the lathe headstock and consists of the self-contained motor drive unit (patented) for $\frac{1}{2}$ h.p. motor; motor pulley with $\frac{3}{4}$ " hole; belt guard for V-belt; V-belt and flat leather belt.

Regular equipment included in price consists of: chip pan; worm drive apron (patented) on models A and B or screw feed 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." Electrical equipment is not included in price of lathe. See attachment catalog. Also see pages 11 and 12.

Light Ten Floor Lathes with Self-Contained Motor Drive

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
Model A Lathes						
CL970Y	3	16 $\frac{1}{2}$	32	825	650	\$693.00
CL970Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	32	850	675	630.00
CL970A	4	28 $\frac{1}{2}$	34	875	700	635.00
CL970R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	36	900	725	694.00
Model B Lathes						
CL967Y	3	16 $\frac{1}{2}$	32	805	630	\$627.00
CL967Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	32	830	655	554.00
CL967A	4	28 $\frac{1}{2}$	34	855	680	578.00
CL967R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	36	880	705	617.00
Model C Lathes						
CL953Y	3	16 $\frac{1}{2}$	32	795	620	\$457.00
CL953Z	3 $\frac{1}{2}$	22 $\frac{1}{2}$	32	820	645	483.00
CL953A	4	28 $\frac{1}{2}$	34	845	670	508.00
CL953R	4 $\frac{1}{2}$	34 $\frac{1}{2}$	36	870	695	546.00

Specifications of Light Ten Self-Contained Motor Drive 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)

	Direct Drive	Back-Geared
High speeds, r.p.m.....	1435, 844, 502	276, 165, 95
Low speeds, r.p.m.....	706, 415, 244	137, 80, 48

TAILSTOCK

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

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 $\frac{1}{4}$ "
Front spindle bearing, diameter.....	1 $\frac{1}{2}$ "

COMPOUND REST

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

TOOL POST

Size of tool holder shank.....	3 $\frac{1}{8}$ " x 1 $\frac{1}{2}$ "
Size of cutter bit for tool holder.....	5/16" sq.

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 thds.

POWER LONGITUDINAL FEEDS

Model A—48 feeds.....	.0015" to .0853"
Model B—25 feeds.....	.0021" to .0156"
Model C—14 feeds.....	.0021" to .0156"

POWER CROSS-FEEDS

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

MOTOR

Standard size of motor required.....	1/2 h.p.
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Attachments and Accessories for Light Ten Lathes

These are some of the practical attachments which greatly increase the usefulness of South Bend Light Ten Lathes. Prices are net f.o.b. factory. Send for catalog listing the complete line of South Bend attachments and accessories.



CL4306K. Handwheel Collet Attachment. Collets not included. Ship. wt. 5 lbs. Price.....\$22.50



CL5206K. Handlever Collet Attachment. Collets not included. Ship. wt. 10 lbs. Price....\$92.50

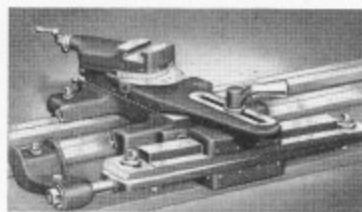


STEEL COLLETS FOR ROUND WORK

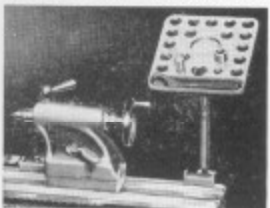
Maximum Capacity $\frac{1}{2}$ "
Ship. wt. approx. 8 ozs.

CE2831. Fractional sizes, each.....\$4.30

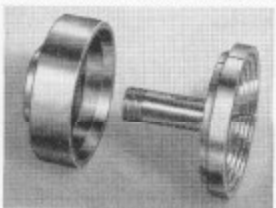
Decimal and metric sizes, each.....\$4.55



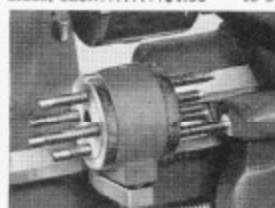
CL428NK. Taper Attachment. Turns up to $3\frac{1}{2}$ " per ft. Ship. wt. 35 lbs.....\$105.50



CE1770K. Collet Rack. Holds 18 Collets, centers, spindle sleeve, etc. Ship. wt. 10 lbs.....\$18.50



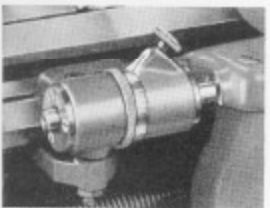
Step Chuck Equipment. Capacity 2" to 6" dia. Write for catalog and prices.



CL2185NK. Four Position Carriage Stop. Saves time. Ship. wt. 6 lbs. Price.....\$23.75



CL2520NK. Direct Reading Micrometer Collar for cross-feed screw. Price.....\$2.95



CL968NK. Micrometer Carriage Stop for accurate facing. Ship. wt. 2 lbs. Price.....\$20.95



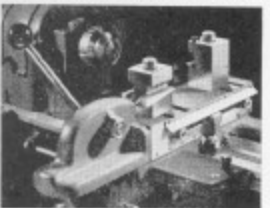
CL758NK. Plain Carriage Stop. locates carriage position. Ship. wt. 2 lbs. Price.....\$4.75



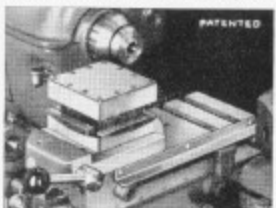
CL2250NK. Thread Cutting Stop for cross slide dovetail. Ship. wt. $\frac{1}{2}$ lb. Price.....\$5.25



CL810NK. Thread Dial Indicator for positioning carriage. Ship. wt. 2 lbs. Price.....\$11.75



CL2030K. Handlever Cross Slide carries 3 cutting tools. Ship. wt. 37 lbs. Price.....\$110.00



CL3376K. Turret Tool Block for H. L. Cross Slide. Ship. wt. 11 lbs. Price.....\$41.50



CL3375K. Turret Tool Block for Compound Rest. Ship. wt. 14 lbs. Price.....\$48.50



CL1611K. Handlever Bed Turret, indexes automatically. Ship. wt. 76 lbs. Price.....\$280.00



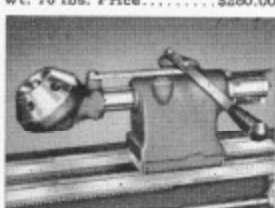
CL2395K. Telescoping Jaw Follower Rest. Max. capacity 2". Ship. wt. 7 lbs. Price....\$10.50



CL2400K. Telescoping Jaw Steady Rest. Max. capacity 3". Ship. wt. 11 lbs. Price....\$15.75



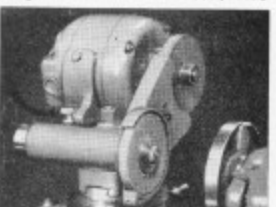
CL1197K. Handlever Tailstock for speedy drilling. Ship. wt. 25 lbs. Price.....\$90.00



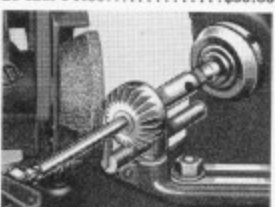
CL8045K. Tailstock Type Turret, six holes, manual indexing. Ship. wt. 50 lbs. Price....\$123.00



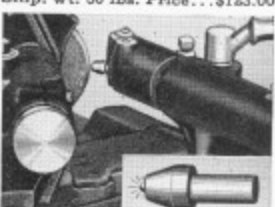
*CE601B. Internal Grinder with $\frac{1}{8}$ h.p., 1 ph., 60 cy., 115 v., A.C. Motor. Ship. wt. 43 lbs. Price.....\$167.50



*CE301B. External Grinder with $\frac{1}{4}$ h.p., 1 ph., 60 cy., 115 v., A.C. Motor. Ship. wt. 55 lbs. Price.....\$64.50

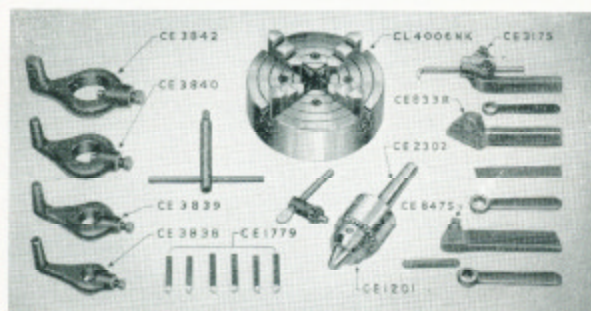


CE1512K. Reamer and Cutter Grinding Stop and Diamond Dresser Holder. Ship. wt. 8 lbs. Price.....\$21.25



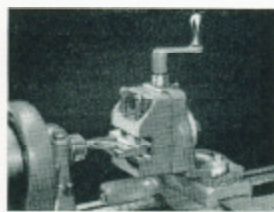
CE91NK. Tailstock mounting Diamond Dresser Holder and CE406 Diamond Dresser. Ship. wt. $3\frac{1}{2}$ lbs. Complete....\$16.35

*CE307NK Clamp Bolt Equipment required for mounting grinding attachment on lathe \$2.00



Chuck and Tool Assortment

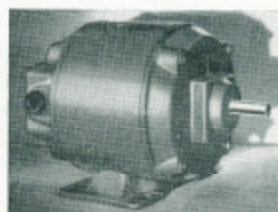
CL2890NK. Chuck and Tool Assortment consisting of No. CL4006NK, 6" 4-Jaw Independent Chuck fitted to lathe; No. CE1201, 1/2" Jacobs 3-Jaw Drill Chuck with No. CE2302 arbor; No. CE3175, Boring Tool Holder; No. CE833R, Right-Hand Cutting-off Tool Holder; No. CE847S, Straight Shank Tool Holder; No. CE1779, set of 6 Ground Cutter Bits; and set of 4 Malleable Lathe Dogs 1/2" to 1 1/2" capacity, No's. CE3838, CE3839, CE3840, and CE3842. Shipping weight approximately 28 lbs. Price.....\$64.95



CL2680NK. Milling Attachment Ship. wt. 13 lbs. Cutters not included. Price.....\$49.00



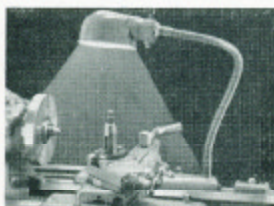
CL675KR. Mica Undercutting Attach. Mounts on carriage. Ship. wt. 10 lbs. Price....\$24.75



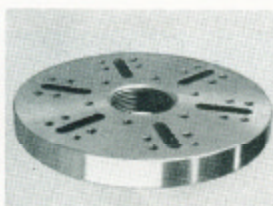
Motors and Controls

A few of the most popular motors and controls for Light Ten South Bend Lathes are listed below. Prices of motors and controls for current ratings not listed will be quoted on request.

Catalog Number	Description	Ship. Wt. Lbs.	Cat. Price
CE3583B	1/2 h.p. motor, 1 ph., 60 cy., 115 v., A.C. capacitor instant reversing for Underneath Motor Drive Lathe.....	52	\$54.50
CE3228	1/2 h.p. motor, 1 ph., 60 cy., 115 v., A.C. capacitor instant reversing for Horizontal M. D. Bench Lathe.....	52	52.50
CE3227D	1/2 h.p. motor, 3 ph., 60 cy., 220 v., A.C. instant reversing.....	45	43.00
CE789	Drum Reversing Control Switch for use with motor CE3228 only.....	3	5.75
CE790	Heavy Duty Drum Reversing Control Switch for motors CE3583B and CE3227D.....	4	9.00



CE281E. Work Light for Lathe, clamp for attaching to bed. Ship. wt. 5 lbs. Price.....\$12.95



CL1493NK. Multi-tapped Face Plate 8 1/2" O.D. Ship. wt. 13 lbs. Price.....\$12.50



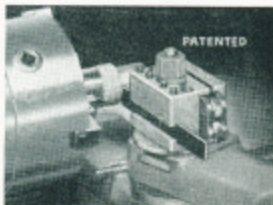
CL2180NK. Large Face Plate with slots, 7 3/4" O.D. Ship. wt. 8 lbs. Price.....\$9.75



CL460NK. Fixture Plate 7 1/2" O.D. machined all over. Ship. wt. 9 lbs. Price.....\$4.95



CL896K. Hand Rest for Wood Turning. Socket and two rests. Ship. wt. 6 lbs. Price.....\$14.90



CE1413NK. 10 in 1 Tool Holder, replaces tool post. Ship. wt. 5 lbs. Price.....\$13.50



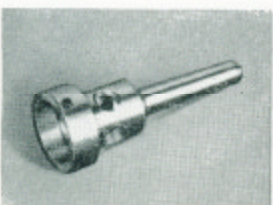
CE3900. Ball Bearing Live Center with 60° point. Ship. wt. 3 lbs. Price.....\$16.65



CE3903. Ball Bearing Live Center with 60° hollow. Ship. wt. 3 lbs. Price.....\$16.65



CL1780. Bench (for Lathe) with wood top but less drawer. Ship. wt. 84 lbs. Price.....\$42.50



CE1829. Die Holder for 1" round dies. Shipping weight 2 lbs. Price.....\$5.10



Waterproof Cover, Ship. wt. 3 lbs. CE2695 for 3' & 3 1/2' bed...\$2.95 CE2696 for 4' & 4 1/2' bed...\$3.25



CE2105. Set of six Standard Lathe Dogs 1/2" to 1 1/2" capacity. Ship. wt. 6 lbs. Price.....\$7.75

When you have a lathe—you have the king of tools.

SPECIFICATIONS FOR 10" SOUTH BEND BACK GEARED
SCREW CUTTING PRECISION LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be back geared, screw cutting floor leg model, (or bench model) with individual motor drive beneath the headstock. The headstock spindle and drive countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 10-1/8"				
Swing over cross slide without taper att. - 5-7/8"				
Swing over cross slide with taper att. - 5-3/4"				
Swing over cross slide with chip guard removed - 6-3/4"				
Length of bed	3'	3 3/8'	4'	4 1/2'
Distance between centers	14 1/4"	20 1/4"	26-7/8"	34 1/4"
Approx. weight, crated lbs.	930	950	970	990
Approx. weight boxed, lbs.	1230	1250	1270	1290

2. HEADSTOCK Back geared type. To be hand scraped to fit bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to Rockwell "C" hardness of 56-61 and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have a hole clear through, with spindle taper hardened and ground. Spindle nose thread to be milled. (Type "L" 00 Long taper key drive or 4" Type "D" 1 Cam lock spindle nose optional).

Spindle bearings shall be tapered wedge-locked expanded one piece replaceable bronze sleeve type fitted with removable caps and shims to provide adjustment for wear. Lubrication of spindle bearings shall be obtained through large oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"

Headstock spindle center size - No. 2MT

Number of spindle speeds - 12 or 24

Range of spindle speeds:

3/4 hp motor, 12 speeds Approx. 55 to 1400 RPM

1-1/2 hp motor, 24 speeds Approx. 27 to 1400 RPM

Collet capacity, max. - 1" dia., #5 collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways, and offset to permit swiveling compound rest parallel with bed. A double plug clamping arrangement shall be provided for clamping the spindle of the tailstock. Tailstock spindle screw shall be fitted with a graduated collar.

Tailstock spindle travel - 2-1/8"

Set-over - 11/16"

Spindle center size - No. 2MT

Spindle graduations - 1/10"

4. CARRIAGE Apron shall be one piece double wall construction having steel spur gears. Power longitudinal and cross feeds shall be provided and engaged by multiple disc friction clutch. Separate lever shall be provided for engaging the half nuts.

Saddle shall be one piece casting and of Brinell hardness of 5 to 15 points less than the bed ways. Both cross slide and compound rest slide screws shall be fitted with micrometer graduated dials. Cross feed screw shall have two ball thrust bearings. One to take the thrust at the front of the cross feed bushing and one at the rear. The saddle ways both in front and in back shall be of the inverted "V" type. Hand scraped to match with an adjustable gib at the rear. Saddle shall have oilers for lubricating the ways. The bearings of the cross slide and compound rest slide shall both be dovetail construction, hand scraped and provided with adjustable tapered gibs with one screw adjustment.

Cross slide travel without taper att. - 6-1/4"
 Cross slide travel with taper att. - 5-7/8"
 Compound rest angular travel - 2"
 Size of tool holder shank - 3/8" x 13/16"

5. FEED MECHANISM Quick change gear type. Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears. No sliding gears. The gear box gears shall be of steel and gear box enclosed at top, front and sides.

A twin gear reverse shall be provided for right and left hand feeds. The twin gear bracket shall have a quick acting plunger lock.

Thread cutting range - 70 changes to include 7 1/2 & 27
 thd. per in., R.H. or L.H.
 4 to 480 Thd. per inch

Longitudinal friction feeds
 per revolution of spindle - 70 changes, R.H. or L.H.
 .0007" to .0836"

Frictional cross feeds per
 revolution of spindle - 70 changes, .0003" to .0303"

6. BED Bed to have three prismatic V-ways and one flat way precision finished to align the headstock, tailstock and carriage.

7. DRIVE The motor drive unit and motor shall be mounted inside the cabinet leg underneath the headstock. Motor to be connected by V-belt to the countershaft. Countershaft cone to be connected to the headstock spindle cone by flat leather belt. Motor drive and belt to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides. (Floor leg lathe only) A tilting device operated by a convenient lever outside the cabinet leg shall be provided to lift the motor cradle for releasing the belt tension.

8. REGULAR Equipment shall include the following items as standard EQUIPMENT equipment:

- 1 - 8-3/8" dia. face plate, ground face
- 1 - 5-5/8" dia. face plate, ground face
- 1 - Tool post assembly
- 1 - Adjustable thread cutting stop
- 2 - 60 degree hardened centers
- 1 - Headstock spindle sleeve
- 1 - Set of wrenches
- Instructions
- Installation plan
- Lubrication chart
- Parts list
- "How to Run a Lathe"
- Shop project book
- All necessary belts

NOTE: Toolroom lathe shall be equipped with the following accessories as standard equipment in addition to the regular equipment listed above:

- Precision leadscrew
- Handwheel collet attachment, less collets
- Collet rack
- Telescopic type taper attachment
- Thread dial indicator
- Micrometer carriage stop
- Chip pan with rolled edges, (Floor leg lathe only)

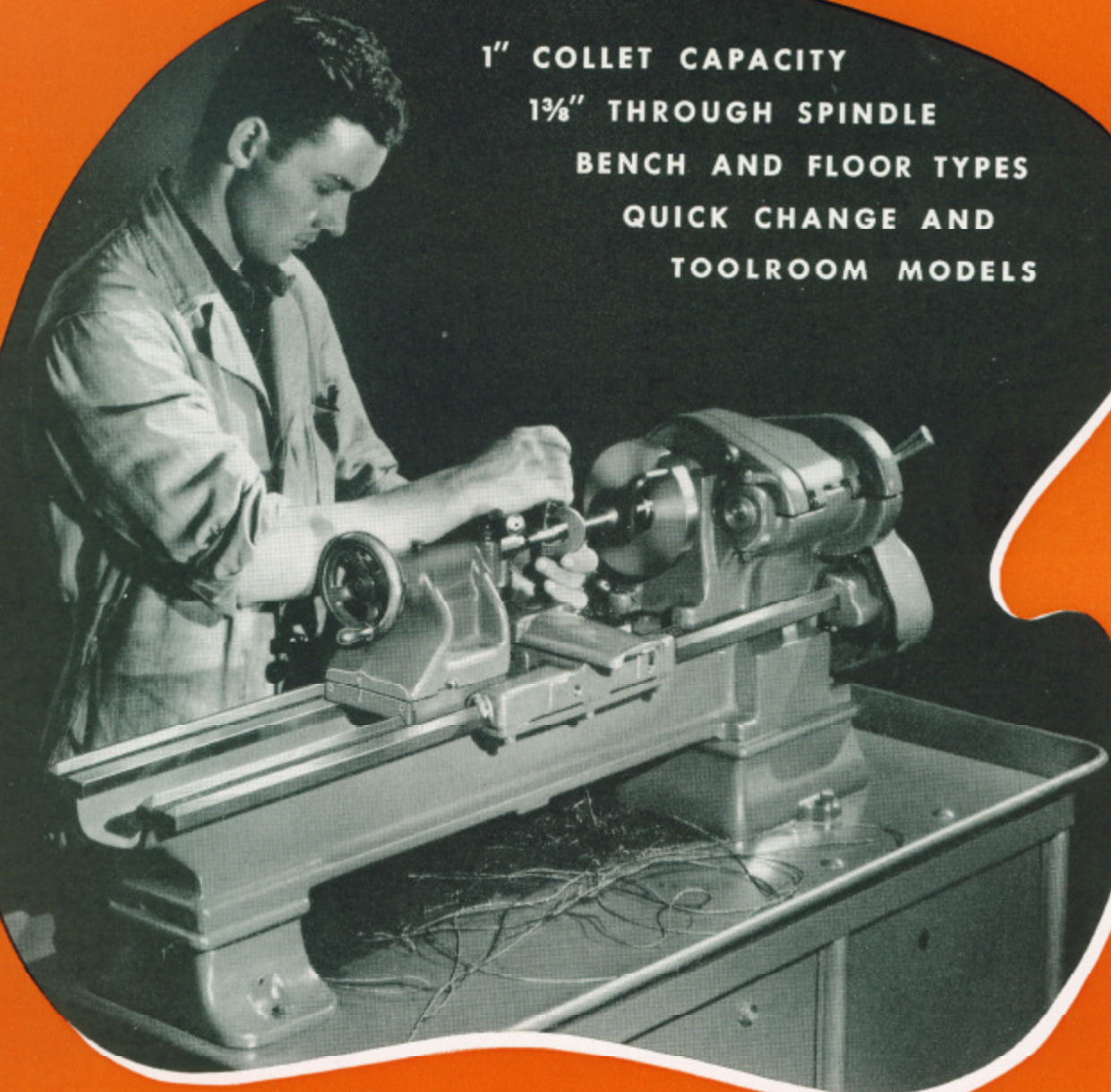
9. OPTIONAL Items listed below are items that are commonly used with this EQUIPMENT type lathe.

- Handwheel collet attachment, Cat. No. CL4306L
- Set of 16 collets for round work, Cat. No. CE2435
- Collet rack, Cat. No. CE1770L
- Taper attachment, Cat. No. CL1545R
- Telescoping jaw center rest, Cat. No. CL240CR
- Telescoping jaw follower rest, Cat. No. CL2395R
- Thread dial indicator, Cat. No. CL810R
- Micrometer carriage stop, Cat. No. CL968R
- Ball bearing live center, #2MT, Cat. No. CE3900
- 6" 4 jaw independent chuck, Cat. No. CL4206LQ
- 6" 3 jaw universal chuck, Cat. No. CL3506LQ
- Drill chuck, Cat. No. CE1201
- Drill chuck arbor, #2MT, Cat. No. CE2302
- Set of 6 safety lathe dogs, Cat. No. CE2107
- Knockout bar, Cat. No. CE1475L
- Turning tool holder, straight, Cat. No. CE846S
- Cutting off tool holder, right hand, Cat. No. CE736R
- Boring tool, Cat. No. CE423
- Knurling tool, Cat. No. CE665
- Threading tool, Cat. No. CE648
- Work light, Cat. No. CE2815
- Waterproof service cover, Cat. No. CE2695 or CE2696
- 12" Precision level, Cat. No. CE2218

SOUTH BEND

10" *Precision* LATHES

1" COLLET CAPACITY
1 $\frac{3}{8}$ " THROUGH SPINDLE
BENCH AND FLOOR TYPES
QUICK CHANGE AND
TOOLROOM MODELS



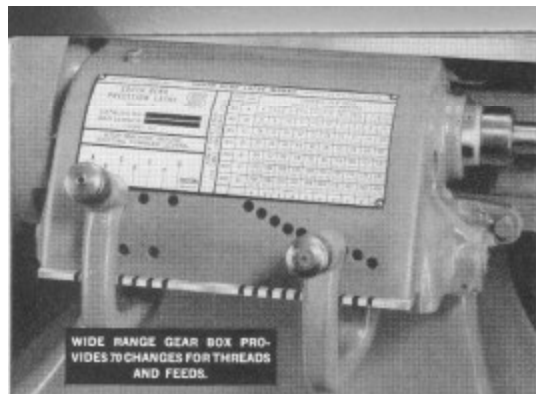
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SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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





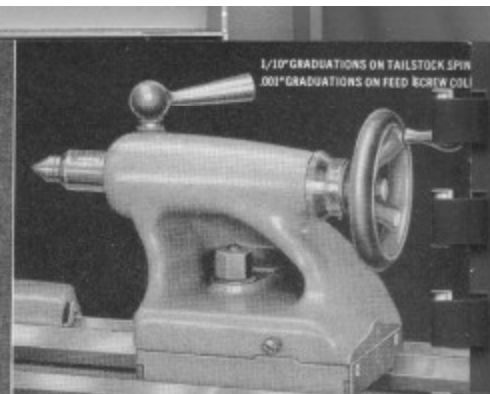
WIDE RANGE GEAR BOX PROVIDES 70 CHANGES FOR THREADS AND FEEDS.



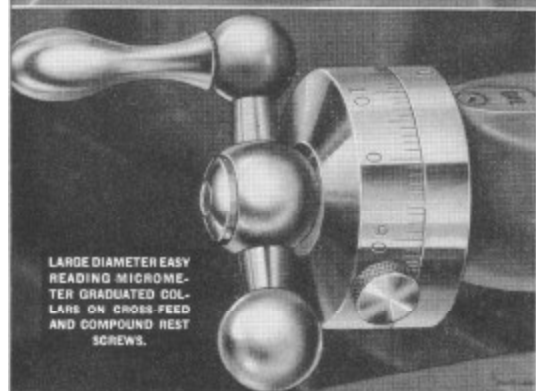
BRONZE

SUPERFINISHED

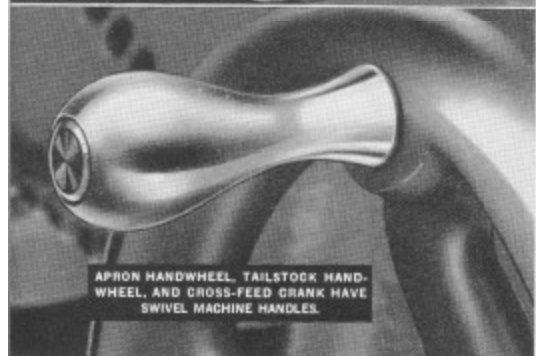
HEAT-TREATED ALLOY STEEL SPINDLE WITH REPLACEABLE BRONZE BEARINGS.



1/10" GRADUATIONS ON TAILSTOCK SPIN
.001" GRADUATIONS ON FEED SCREW COLLAR



LARGE DIAMETER EASY READING MICROMETER GRADUATED COLLAR ON CROSS-FEED AND COMPOUND REST SCREWS.



APRON HANDWHEEL, TAILSTOCK HANDWHEEL, AND CROSS-FEED CRANK HAVE SWIVEL MACHINE HANDLES.

South Bend 10" Lathes

Modern in design and built with extreme care, the South Bend 10" swing lathes are fast, accurate, and versatile. They have the high spindle speeds and rigidity required for efficient machining with carbide or diamond tipped tools, and plenty of power for heavy roughing cuts. They are capable of finish turning and boring with such precision that subsequent grinding, honing, or lapping operations can often be eliminated. We believe that they are unsurpassed for chasing screw threads to the exacting tolerances required for precision thread gauges, taps, dies, instruments, etc. Double tool cross slide, hexagon bed turret, square turret, handwheel and handle type collet attachments, and other practical attachments and accessories which simplify tooling for production and toolroom operations are available.

Features responsible for the excellent performance of these lathes include an alloy steel spindle with hardened and superfinished bearing surfaces running in replaceable bronze sleeve bearings; one piece double wall apron with steel gears running in oil; a powerful worm drive and multiple disc friction clutch for operating power carriage feeds, improved double tumbler quick change gear mechanism providing 70 pitches of screw threads, 70 power cross-feeds, and 70 power longitudinal feeds; direct belt drive to the spindle for smooth, quiet operation at high spindle speeds; and new design tailstock with 1/10" graduations on spindle and .001" graduations on feed screw collar.

Attachments and Accessories

Only part of the accessories and attachments for 10" South Bend Lathes are listed below. A catalog illustrating and describing all accessories and attachments will be supplied on request.

Cat. No.	Description	Price
CE1881	Bar Feed Attachment	\$285.00
CE3903	Center, Live 60° Hollow	16.65
CE3900	Center, Live 60° Point	16.65
CE1889	Center, Carbide Tipped	5.75
CE2422	Center, Cup, wood turning	2.60
CE2398	Center, Crotch	3.20
CE2396	Center, Drill Pad	3.20
CE2424	Center, Half	2.90
CE2401	Center, 60° Hard	2.90
CE1896	Center, 60° Hollow	3.20
CE2413	Center, Screw, wood turning	3.80
CE2416	Center, Spur, wood turning	3.80
CL4206LQ	Chuck, 6" 4-jaw Independent, fitted to lathe	72.00
CL3005L	Chuck, 5" 3-jaw Universal, fitted to lathe	60.00
CE2828	Collet, Brass, round	2.90
CE2833	Collet, Steel, round	5.25
CL4306L	Collet Att., Handwheel	55.00
CL6206L	Collet Att., Handlever	123.50
CL511B	Coolant Pump with 1/4 h.p., 1 ph., 60 cy., 115 v., A.C. motor fitted to bench lathe	164.00
CL2030R	Cross Slide, Double Tool	123.00
CE1838	Die Holder	8.10
CE2105	Dogs, Set of 6, 3/4" to 1 1/4"	7.75
CL1483LQ	Face Plate, Multi-tapped	19.25

Cat. No.	Description	Price
CL46L	Fixture Plate, 9" O.D.	\$ 12.00
CE301B	Grinding Att., External, 115 V., 1 ph., 60 cy., A.C.*	64.90
CE601B	Grinding Att., Internal, 115 V., 1 ph., 60 cy., A.C.*	167.90
CL1955R	Metric Transposing Att.	90.75
CL2680R	Milling and Keyway Cutting Attachment	61.00
CE2801D	Motor, 1/4 h.p., A.C., 3 ph., 60 cy., 220 v.	55.90
CE790	Motor Control, Drum Reversing Switch	9.00
CL1353R	Rest, Follower, Regular	9.75
CL2395R	Rest, Follower, Telesc. Jaw	11.50
CL1177R	Rest, Steady, Regular	14.25
CL2400R	Rest, Steady, Telesc. Jaw	18.00
CL896R	Rest, Wood Turning	16.95
CL2185RT	Stop, 4-position Carriage	25.75
CL968R	Stop, Micro, Carriage	22.00
CL1197R	Tailstock, Handlever	95.00
CL1545R	Taper Attachment	189.00
CL810R	Thread Dial Indicator	18.00
CE1413R	Tool Holder, 10 in 1	14.90
CL1611R	Turret, Handlever Bed	286.00
CL3375R	Turret Tool Block, Sq., Compound Cross Slide	52.00
CL3376NR	Turret Tool Block, Sq., Double Tool Cross Slide	41.50
		\$2.80

*No. CE307R. Clamp required for mounting on lathe.



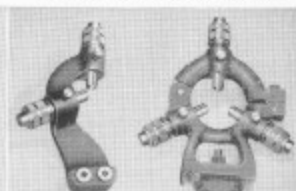
CL2890L. Chuck and Tool Assortment includes 6" 4-jaw independent chuck; 1/2" Jacobs drill chuck; arbor for drill chuck; set of four lathe dogs 1/2" to 1 1/4" capacity; straight shank tool holder; set of six ground cutter bits; style "B" boring tool; and right-hand cutting-off tool. Shipping weight approx. 31 lbs. Price.....\$107.00

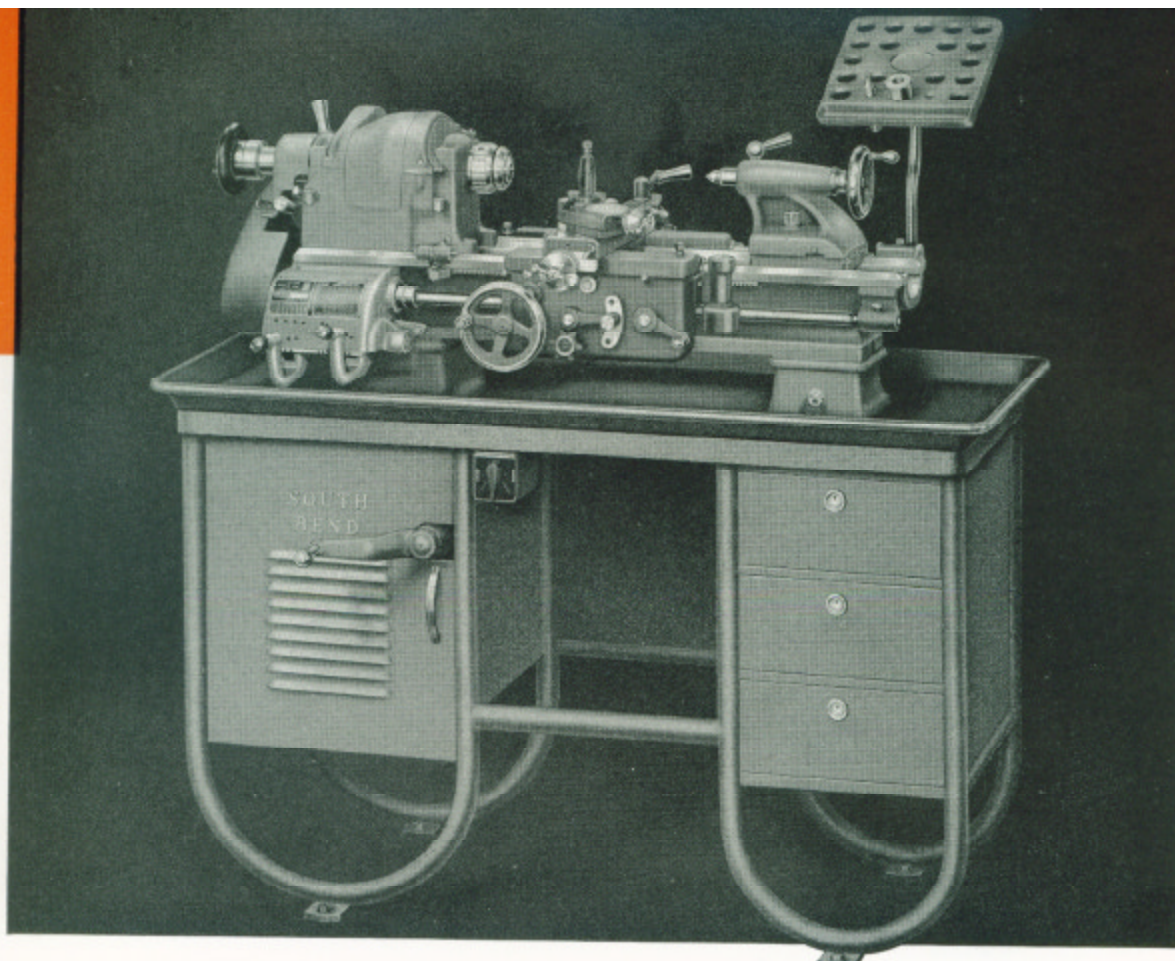
Centers and Drill Pads

Steady and Follower Rests

Handlever Collet Attachment

Bed Turret





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. This lathe can be equipped with one-speed or two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

New wide range two-lever gear box provides 70 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 the price. See attachment catalog.

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	Factory Price
CL8187YB	3	14 $\frac{1}{4}$	56	1310	960	\$1556
CL8187ZB	3 $\frac{1}{2}$	20 $\frac{1}{4}$	56	1360	990	1577
CL8187AB	4	26 $\frac{1}{4}$	65	1410	1060	1612

Specifications of 10-inch Toolroom Bench Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings	10 $\frac{1}{2}$ "
Swing over saddle cross slide	5 $\frac{3}{4}$ "

HEADSTOCK

Collet capacity, maximum	1"
Headstock spindle hole	1 $\frac{1}{2}$ "
Headstock spindle nose threads	2 $\frac{1}{2}$ "-8
Size of center, Morse taper	No. 2
Width of cone pulley step for belt	1 $\frac{1}{2}$ "
Large face plate diameter	8 $\frac{1}{2}$ "
Small face plate diameter	5 $\frac{1}{2}$ "
Front spindle bearing diameter	2 $\frac{1}{4}$ "

COMPOUND REST

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.	740, 470, 304	130, 85, 55
	370, 235, 152	65, 42, 27

TAILSTOCK

Size of center, Morse taper	No. 2
Spindle travel	2 $\frac{1}{2}$ "
Each graduation on tailstock spindle	1/10"
Tailstock top set-over for taper turning	11 $\frac{1}{2}$ "

THREADS AND FEEDS

Thread cutting range—70 pitches	
R.H. or L.H.	.4 to 480 per inch
Longitudinal feeds through friction clutch—70 feeds R.H. or L.H.	.0007" to .0836"
Cross-feeds through friction clutch—70 feeds	.0003" to .0303"
Lead screw 2 $\frac{1}{2}$ " Acme thread	3/4" dia.—8 thds.

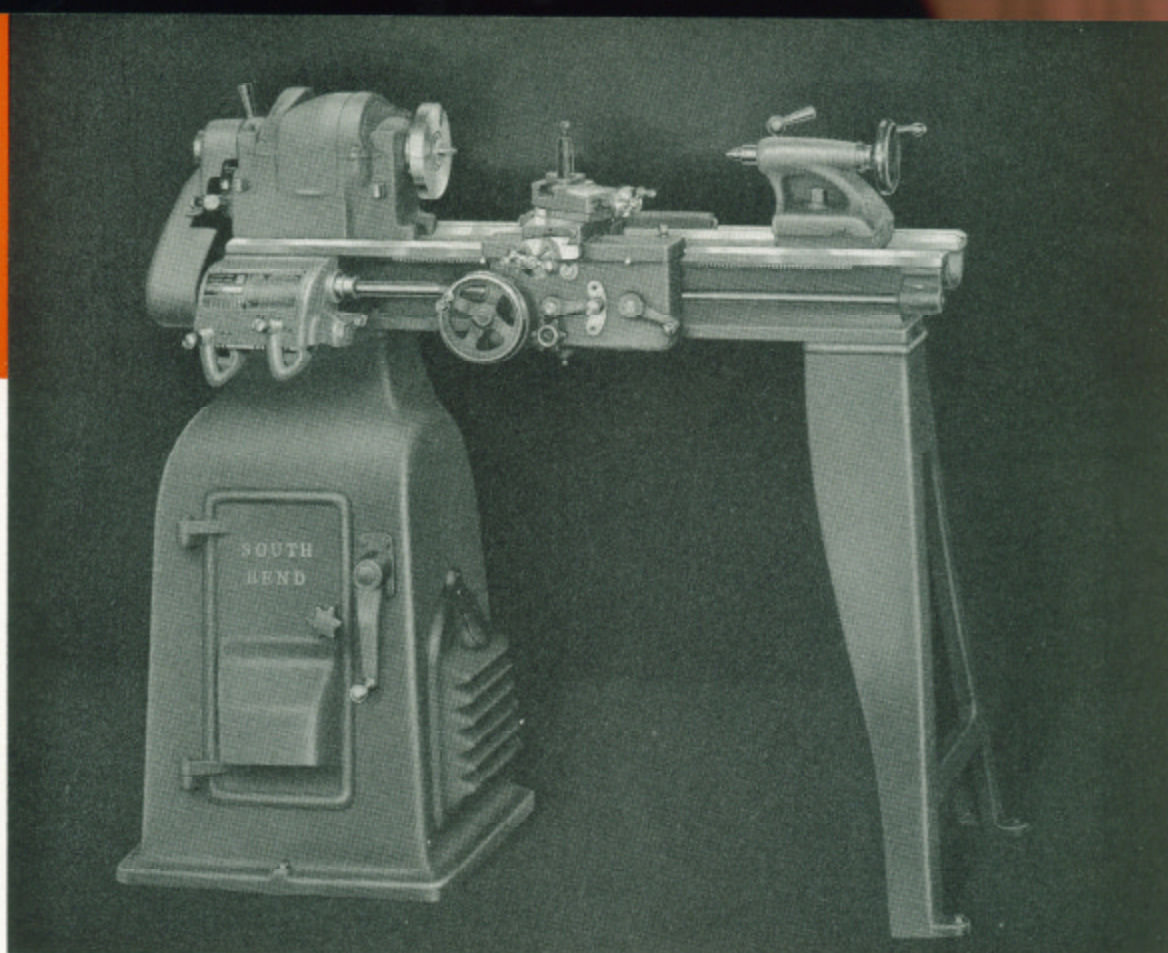
TOOL POST

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

MOTOR (Standard size)

One-speed	3/4 h.p.
Two-speed	1 $\frac{1}{2}$ h.p.

South Bend Lathes are easier to operate.



10-inch Quick Change Gear *Precision* Lathe

Underneath Motor Drive—Back-geared—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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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 wide range two-lever gear box provides 70 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. See attachment catalog.

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	Factory Price
CL187Y	3	14 1/4	42	1230	930	\$1118
CL187Z	3 1/2	20 1/4	45	1250	950	1139
CL187A	4	26 1/4	45	1270	970	1161
CL187B	4 1/2	34 1/4	48	1290	990	1192

Specifications of 10-inch Quick Change Gear Floor Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	101 1/2"
Swing over saddle cross slide.....	51 1/2"
Swing over cross slide without chip guard.....	61 1/2"

HEADSTOCK

Collet capacity, maximum.....	1"
Headstock spindle hole.....	1 1/2"
Headstock spindle nose threads.....	2 1/2"-6
Size of center, Morse taper.....	No. 2
Width of cone pulley step for belt.....	1 1/2"
Large face plate diameter.....	8 1/2"
Small face plate diameter.....	5 1/2"
Front spindle bearing diameter.....	2 1/4"

COMPOUND REST

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	370, 235, 152	65, 42, 27

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 1/2"

THREADS AND FEEDS

Thread cutting range—70 pitches	
R.H. or L.H.....	4 to 480 per inch
Longitudinal feeds through friction clutch—70 feeds R.H. or L.H.....	.0001" to .0036"
Cross-feeds through friction clutch—70 feeds.....	.0003" to .0303"
Lead screw, 29° Acme thread.....	3/4" dia.—8 thds.

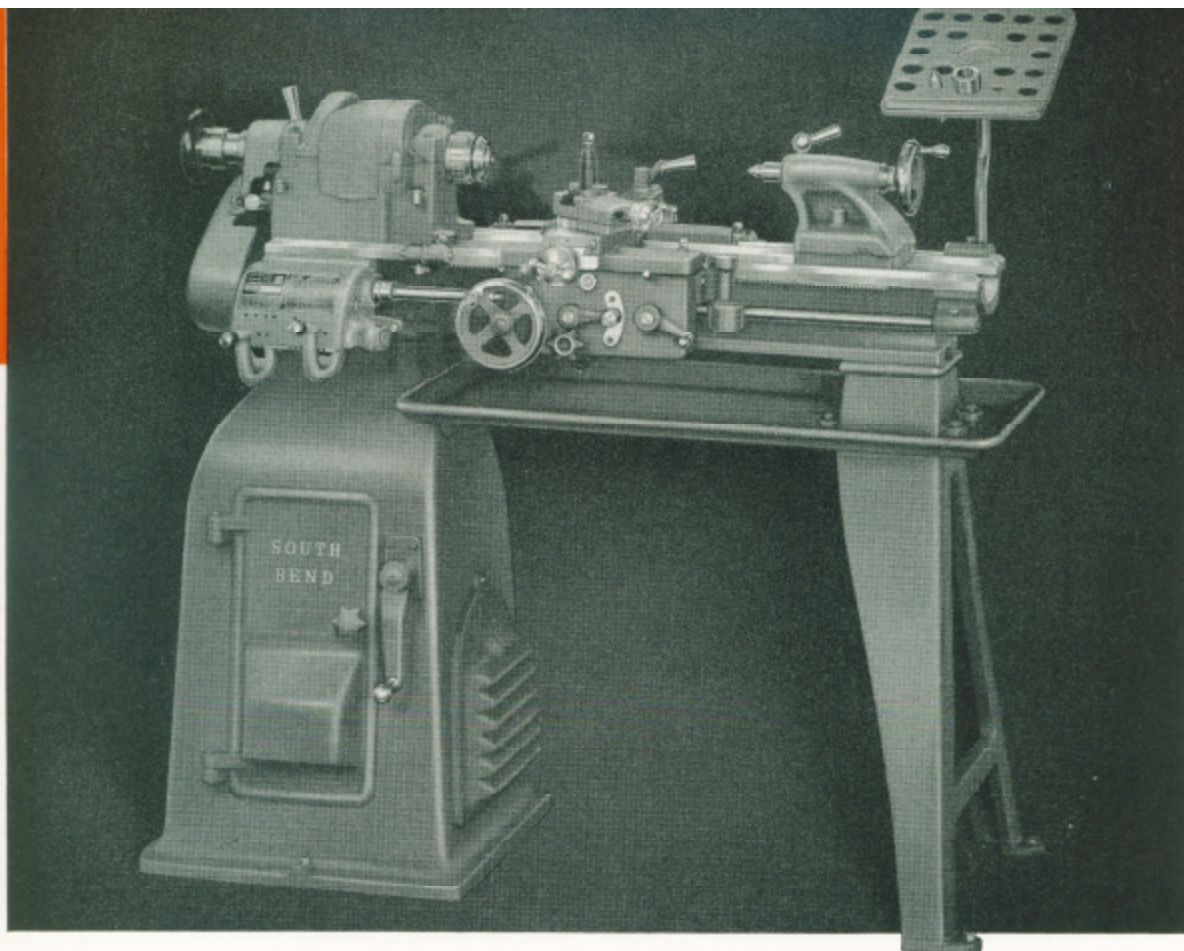
TOOL POST

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

MOTOR (Standard size)

One-speed.....	5/8 h.p.
Two-speed.....	1 1/2 h.p.

Collets used on the 10" Lathes shown above are interchangeable with those used on all larger sizes of South Bend Lathes.



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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds.

New wide range two-lever gear box provides 70 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 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: 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. See attachment catalog.

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	Factory Price
CL8187Y	3	14 1/4	45	1290	990	\$1503
CL8187Z	3 1/2	20 1/4	48	1310	1010	1526
CL8187A	4	26 1/8	48	1330	1030	1549

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 1/4"

HEADSTOCK

Collet capacity, maximum.....	1"
Headstock spindle hole.....	1 1/2"
Headstock spindle nose threads.....	2 1/4"-8
Size of center, Morse taper.....	No. 2
Width of cone pulley step for belt.....	1 1/2"
Large face plate diameter.....	8 3/4"
Small face plate diameter.....	5 3/4"
Front spindle bearing diameter.....	2 1/4"

COMPOUND REST

Cross slide travel.....	5 7/8"
Angular hand feed of compound rest top slide.....	2"

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
	740, 470, 304	130, 85, 55
Low speeds, r.p.m.....	700, 449, 292	125, 80, 52
	370, 235, 152	65, 42, 27

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 1/8"

THREADS AND FEEDS

Thread cutting range—70 pitches	
R.H. or L.H.....	.4 to 480 per inch
Longitudinal feeds through friction clutch—70 feeds R.H. or L.H.....	.0007" to .0836"
Cross-feeds through friction clutch—70 feeds.....	.0003" to .0303"
Lead screw 29" Acme thread.....	3/4" dia.—8 thds.

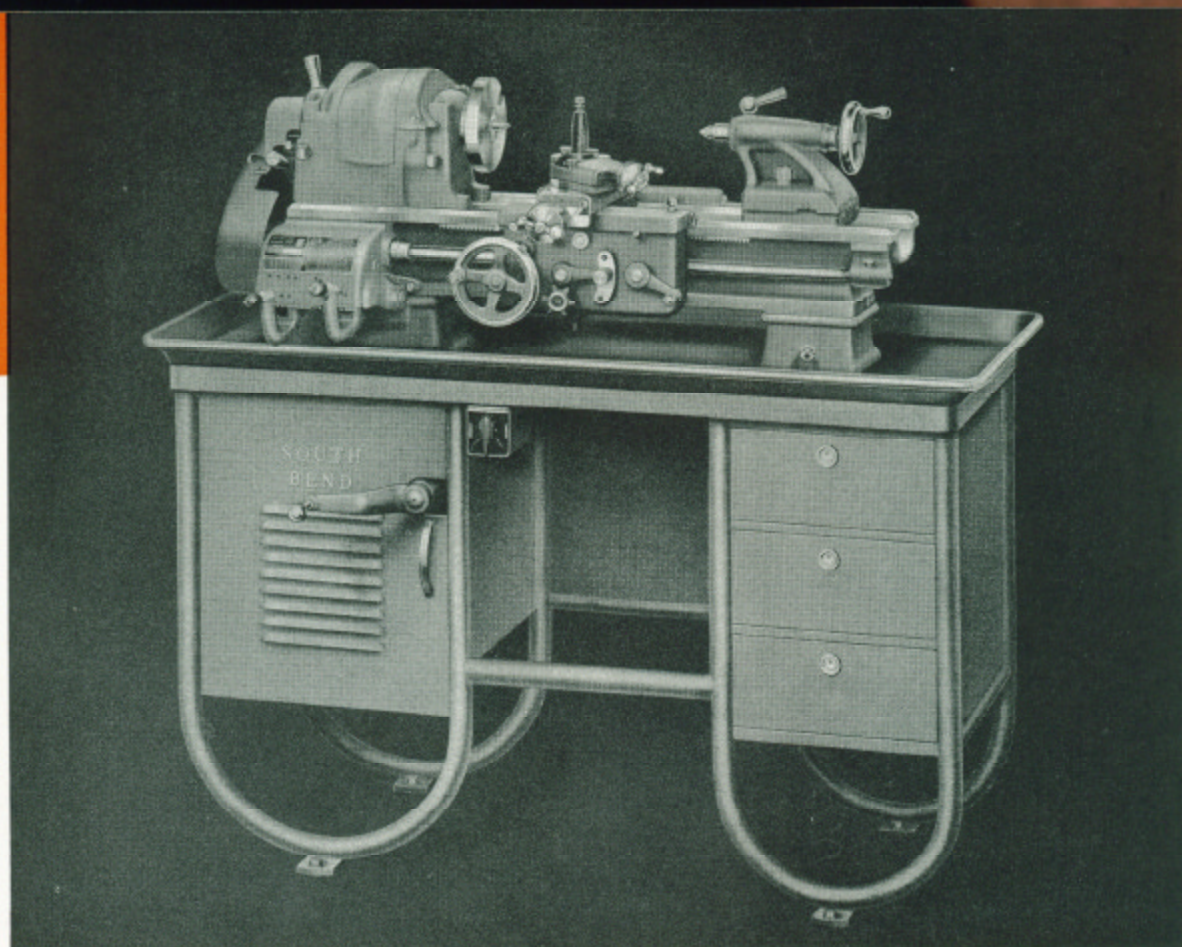
TOOL POST

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

MOTOR (Standard size)

One-speed.....	3/4 h.p.
Two-speed.....	1 1/2-1 h.p.

Imitation may be the sincerest form of flattery, but just because a machine tool looks like South Bend is no indication that it has comparable quality.



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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

New wide range two-lever gear box provides 70 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 equipment. 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 price. See attachment catalog.

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	Factory Price
CL187YB	3	14 1/4	56	1200	850	\$1208
CL187ZB	3 1/2	20 1/4	56	1250	890	1229
CL187AB	4	26 1/4	65	1300	950	1264
CL187RB	4 1/2	34 1/4	65	1350	980	1295

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 1/2"
Swing over cross slide without chip guard	6 1/2"

HEADSTOCK

Collet capacity, maximum	1"
Headstock spindle hole	1 1/2"
Headstock spindle nose threads	2 1/2" x 8
Size of center, Morse taper	No. 2
Width of cone pulley step for belt	1 1/2"
Large face plate diameter	8 1/2"
Small face plate diameter	5 1/2"
Front spindle bearing diameter	2 1/4"

COMPOUND REST

Cross slide travel	6 3/4"
Angular hand feed of compound rest top slide	2"

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.	1400, 890, 585	250, 160, 105
Low speeds, r.p.m.	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.	1400, 890, 585	250, 160, 105
Low speeds, r.p.m.	740, 470, 304	130, 85, 55
	700, 449, 292	125, 80, 52
	370, 235, 152	65, 42, 27

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 1/2"

THREADS AND FEEDS

Thread cutting range—70 pitches	
R.H. or L.H.	.4 to 480 per inch
Longitudinal feeds through friction clutch—70 feeds R.H. or L.H.	.0007" to .0836"
Cross-feeds through friction clutch—70 feeds	.0003" to .0303"
Lead screw 29° Acme thread	3/4" dia.—8 thds.

TOOL POST

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

MOTOR (Standard size)

One-speed	3/4 h.p.
Two-speed	3/4-1 h.p.

SPECIFICATIONS FOR 1000 SERIES SOUTH BEND BACK-GEARED
PRECISION TURRET LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be back geared, screw cutting floor leg model, (or bench model) with individual motor drive beneath the headstock. The headstock spindle and drive countershaft cones to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 10-1/8"
Swing over cross slide - 5-7/8"
Swing over double tool cross slide - 3-9/16"
Length of bed - 3-1/2'
Distance between centers when equipped with tailstock as optional equipment - 20-1/4"
Approx. weight crated, lbs. - 1050
Approx. weight boxed, lbs. - 1350

2. HEADSTOCK Back geared type. To be hand scraped to fit the bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to Rockwell "C" hardness of 56-61 and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have hole clear through with spindle taper hardened and ground. Spindle nose thread shall be milled. (Type "L" 00 Long taper key drive or 4" Type "D" 1 cam lock spindle nose optional).

Spindle bearings to be tapered wedge-locked expanded one piece replaceable bronze sleeve type fitted with removable caps and shims to provide adjustment for wear. Lubrication of the spindle bearings shall be obtained through large oil reservoir and a capillary oiling system providing a complete film of filtered oil which separates the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a quick acting plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"
Headstock spindle center size - No. 2MT
Number of spindle speeds - 12 or 24
Range of spindle speeds:
3/4 hp motor, 12 speeds Approx. 55 to 1400 RPM
1/2-1 hp motor, 24 speeds Approx. 26 to 1400 RPM
Collet capacity, max. - 1" dia., #5 collet

3. BED Bed to have three prismatic V-ways and one flat way precision finished to align the headstock, tailstock and the carriage.

Width of lathe bed - 7-1/16"

4. TURRET Turret to be handlever operated, with hexagonal turret head. Turret to be mounted on the inside two ways of the bed. Turret head to index automatically when handlever is moved to the extreme right hand position and shall be equipped with individual stop screws for each of the six turret faces. Turret head shall be so constructed that it will index within plus or minus .0005", measured 4" from turret face. Index pin shall be hardened and ground and superfinished and shall be lapped into the index pin bushing. Turret head shall be so constructed that the turret head may be back indexed or spun to skip tool positions. A binding lever shall be provided to assure secure locking of the turret head.

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

5. CARRIAGE Apron shall be one piece double wall construction having steel spur gears. Power longitudinal and cross feeds shall be provided and engaged by multiple disc friction clutch. Separate lever shall be provided for enegaging the half nuts.

Saddle shall be one piece casting and of Brinell hardness of 5 to 15 points less than the hardness of the bed ways. Both cross slide and compound rest slide screws shall be fitted with micrometer graduated dials. Cross feed screw shall have two ball thrust bearings. One to take the thrust at the front of the cross feed bushing and one at the rear. The saddle ways both in front and in back shall be of the inverted "V" type, hand scraped to match corresponding ways on the bed. The saddle shall be provided with an adjustable gib at the rear. Saddle oilers shall be provided to lubricate the ways. The bearings of the cross slide and compound rest slide shall both be dove-tail construction, hand scraped and provided with adjustable tapered gib with one screw adjustment.

Cross slide travel with taper att. - $5-7/8$ "
 Cross slide travel without taper att. - $6-1/4$ "
 Compound rest angular travel - 2"
 Size of tool holder shank - $3/8$ " x $13/16$ "

6. DOUBLE TOOL CROSS SLIDE Lathe shall be equipped with handlever operated double tool cross slide, which may also be used with the regular cross feed screw of the lathe. Cross slide shall be equipped with front and rear tool blocks. The front tool block shall have two holding slots with tapered wedges for adjusting the tool height. The rear tool block shall have one tool holding slot and shall also be equipped with a tapered wedge for tool adjustment.

Cross slide travel - $3-5/8$ "
 Max. size cutter bit for tool block - $7/16$ " x $7/16$ "

7. FEED MECHANISM Quick change gear type. Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears, no sliding gears. The gear box gears shall be of steel. Gear box to be enclosed at top, front and sides.

A twin gear reverse shall be provided for right and left hand feeds. The twin gear bracket shall have a quick acting plunger lock.

Thread cutting range - 70 changes to include $7\frac{1}{2}$ & 27
thd. per in., R.H. or L.H.
4 to 480 thd. per inch

Longitudinal friction feeds
per revolution of spindle - 70 changes, R.H. or L.H.
.0007" to .0836"

Frictional cross feeds per
revolution of spindle - 70 changes, .0003" to .0303"

8. DRIVE The motor drive unit and motor to be mounted in the enclosure underneath the headstock. Motor to be connected by V-belt to the countershaft. Countershaft cone to be connected to the headstock spindle cone by flat leather belt. Motor drive and belt to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides (Floor leg model only) A tilting device operated by a convenient lever located outside the headstock cabinet leg shall be provided to lift the motor drive cradle for releasing the belt tension.

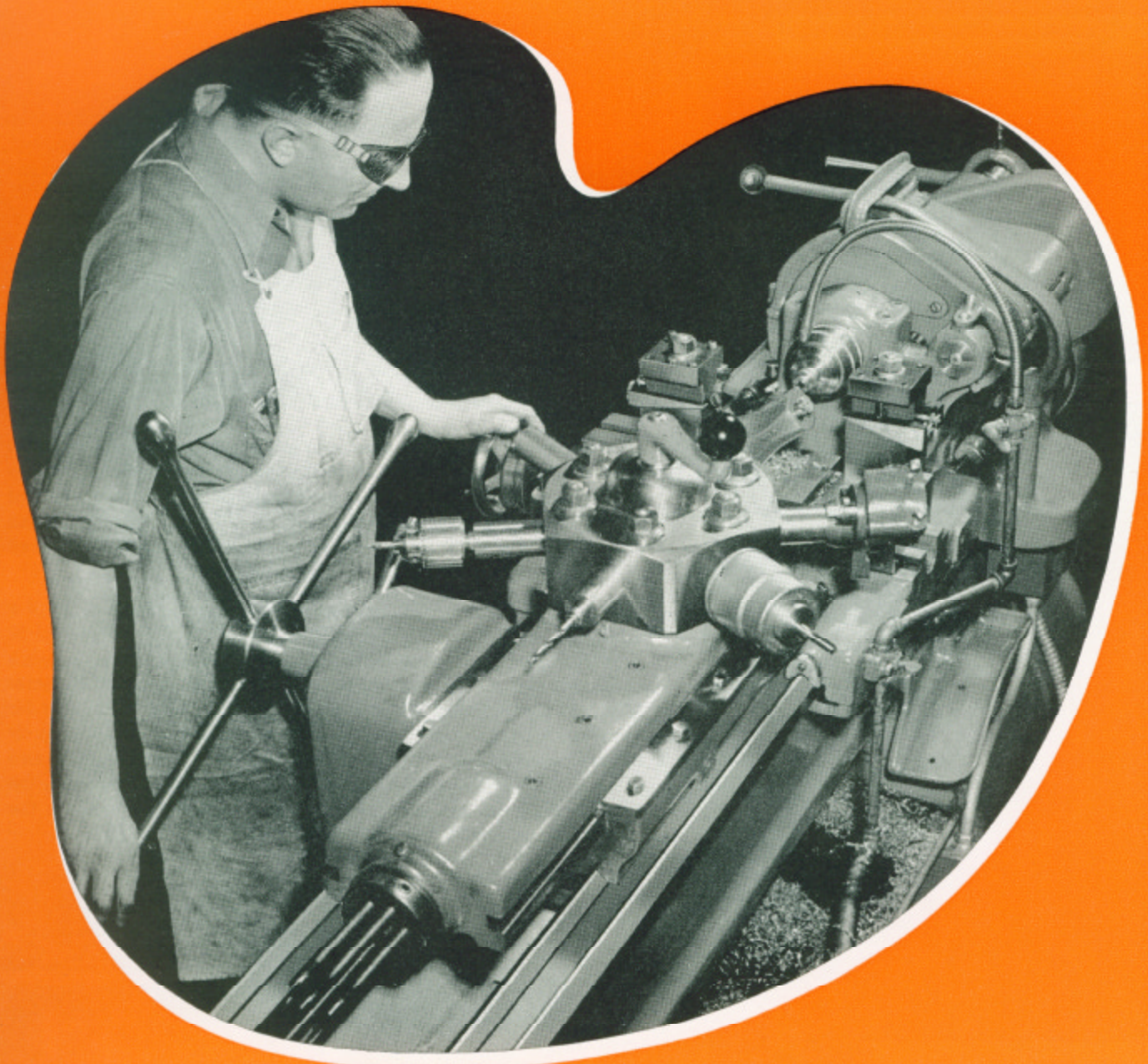
9. REGULAR EQUIPMENT Equipment shall include the following items as standard equipment:

Handlever bed turret
Handlever double tool cross slide
Compound rest cross slide and swivel
Oil pan
Coolant return assembly
All necessary belts
Set of wrenches
Instructions
Installation plan
Parts list
"How to Run a Lathe"
Lubrication chart

10. OPTIONAL Items listed below are items that are commonly used with this EQUIPMENT type lathe.

Handlever collet attachment, Cat. No. CL5206L
Square turret tool block, Cat. No. CL3376NR
Collet rack, Cat. No. CE1770L
Set of 16 collets for round work, Cat. No. CE2435
Collet splash guard, Cat. No. CL5223R
Step chuck blank, Cat. No. CE5926 (2")
Coolant pump, Cat. No. CL501B (1-60-115)
Four position carriage stop, Cat. No. CL2185R
Micrometer carriage stop, Cat. No. CL968R

SOUTH BEND TURRET LATHES



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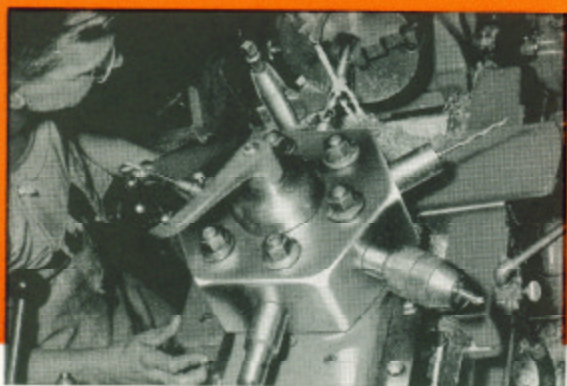
SOUTH BEND LATHE WORKS

Building Better Tools Since 1906

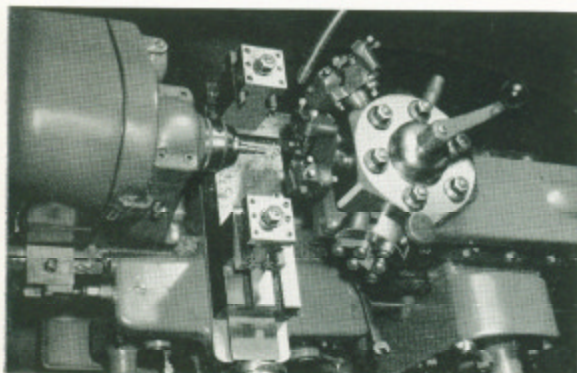
425 E. MADISON ST., SOUTH BEND 22, IND., U.S.A.



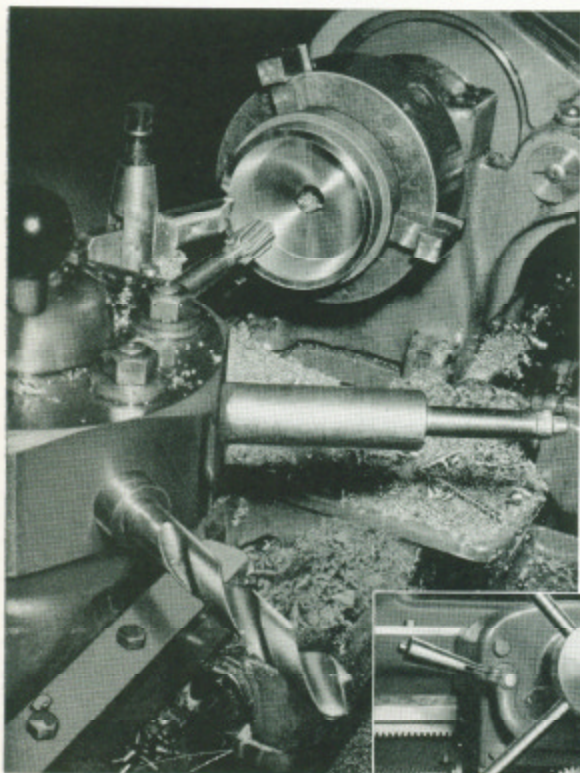
HIGH PRODUCTION WITH *Precision* ACCURACY



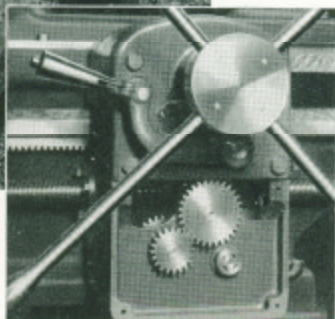
Manufacturing Small Parts from Bar Stock



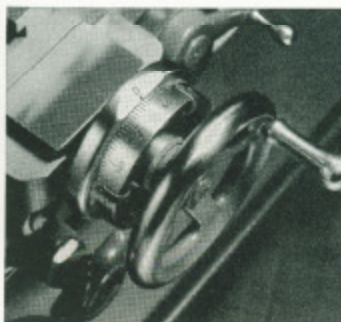
Close-up of Tooling on Turret and Cross Slide



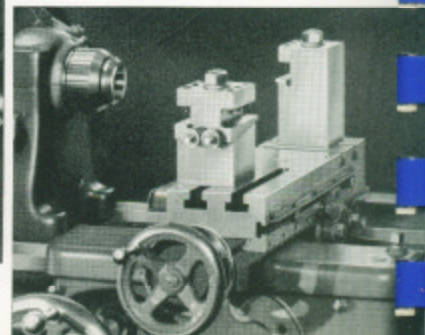
Machining a Bronze Clutch in the No. 2-H Turret Lathe. A Compound Cross Slide is Used to Finish the Inside taper.



Turret Apron Opened to Show Change Gears for Changing Direction and Speed of Power Feeds to Turret Slide



Close-up of Graduations on Cross Slide Micrometer Collar



Screw Feed Double Tool Cross Slide

No. 2-H Turret Lathe

The South Bend No. 2-H Turret Lathe is a dependable tool for the manufacture of duplicate parts. It has the stamina for exacting, close-tolerance work, ample power for smooth performance, and the rigidity for producing a fine finish. It meets the demand for fast, efficient production, yet it is easily adaptable to many classes of work.

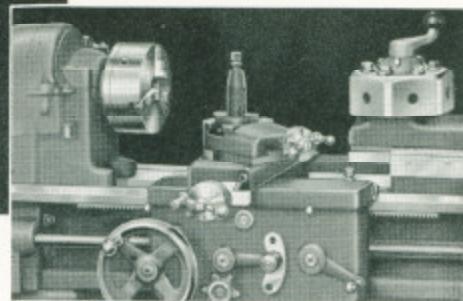
The universal carriage slides on the outer V-ways of the lathe bed, providing an exceptionally rigid support for the cross slide. This construction also permits working close to the lathe spindle, preventing excessive overhang of the work or the turret tools.

Mounted on the inside bed ways, the hexagon turret base clears the saddle wings of the universal carriage which slides on the outer bed ways. This permits the turret to be placed close to the work and eliminates excessive overhang of the turret tools. The turret head indexes automatically when the turret slide is returned to the starting position. An individual feed trip and stop for each face of the turret accurately regulates the length of the cut, with either the power feed or the hand feed. The turret head may be back-indexed or spun when it is desired to skip tool positions.

Accurate indexing of the turret head is assured by the use of a hardened, ground, and superfinished index pin which operates in ground and lapped bushings. The indexing bushings are replaceable and the main central bearing is tapered for adjustment. The turret slide has tapered gibs on both sides which provide adjustment for wear and alignment. Power feeds for the turret slide are driven by a lever operated friction clutch, permitting instant engagement and disengagement. The power feed is reversible to permit feeding the turret toward the headstock regardless of direction of feed on the universal carriage. A large turnstile is provided for hand feed.

CL1005Z TURRET LATHE

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in our complete attachment catalog. Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the double tool 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 ample power for smooth performance and the rigidity for producing a fine finish. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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. See small inset illustration.

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 3 1/4 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. Factory Price.....\$1612

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. See attachment catalog.

Specifications of CL1005Z Turret Lathe

CAPACITY OF LATHE

Hole through spindle.....	1 1/2"
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 1/2"

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 1/2"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	19 1/2"

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	700, 440, 292	126, 80, 52
	370, 235, 152	65, 42, 27

UNIVERSAL CARRIAGE

Thread cutting range.....	4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0036"
Maximum longitudinal travel of universal carriage, hand or power feed.....	16"

DOUBLE TOOL CROSS SLIDE

Swing over double tool cross slide.....	3 1/4"
Cross travel of cross slide.....	3 3/8"
Maximum size cutter bit tool block opening will take.....	1 1/2" x 1 1/2"
Power cross-feeds.....	.0006" to .0303"

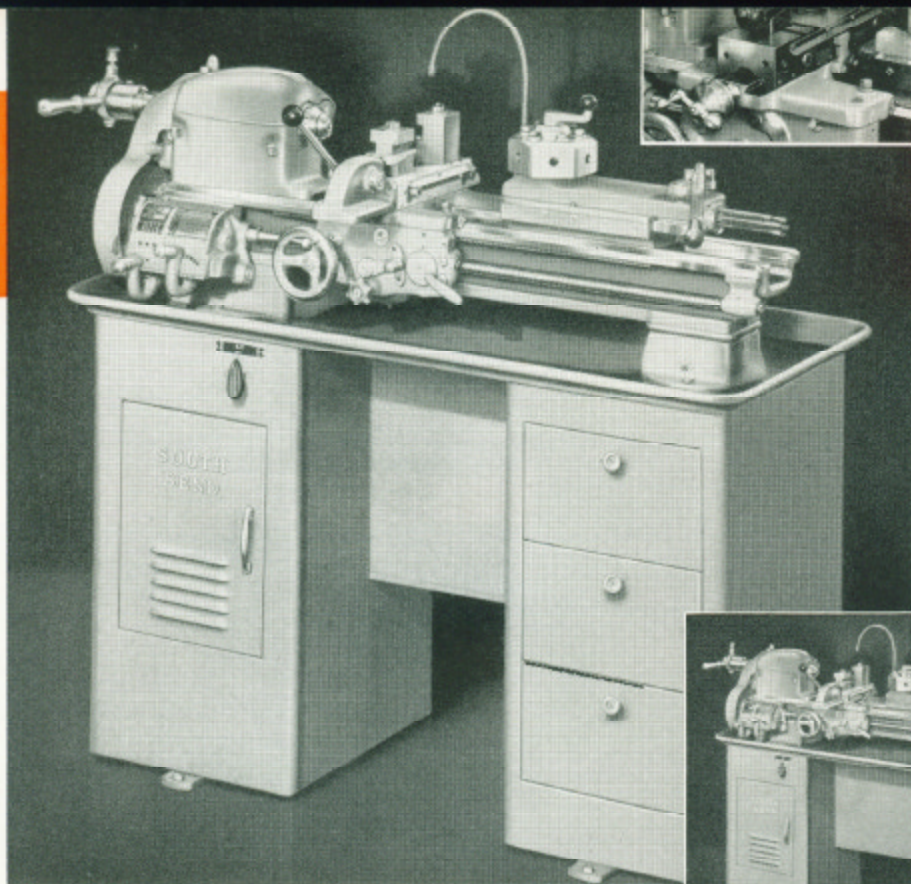
COMPOUND REST CROSS SLIDE

Swing over compound cross slide.....	5 1/2"
Cross slide will travel.....	6 1/2"
Angular hand feed of top slide.....	2"
Size of tool holder shank for tool post.....	3/4" x 1 1/2"
Size of cutter bits tool holder takes.....	3/8" x 1 1/2"
Power cross-feeds.....	.0006" to .0303"

MOTOR (Standard size)

One-speed.....	3/4 h.p.
Two-speed.....	1 1/2 h.p.

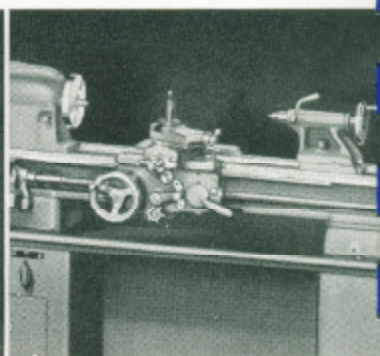
Total cost of work produced includes first cost of equipment, maintenance, and interest on investment.



SERIES 900 TURRET LATHES

CONVERT TO ENGINE LATHES

Compound rest cross slide and regular tailstock are included in equipment of these lathes. These units can be mounted in place of the double tool cross slide and bed turret as shown below to convert the turret lathe into an engine lathe for regular lathe work.



The handlever collet attachment, 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 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. See small inset illustration.

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 3½ ft. bed, mounted welded steel column base with drawers, built-in oil pan, underneath motor drive unit, power feed universal carriage, handlever bed turret, regular tailstock, double tool cross slide, compound rest cross slide, centers, spindle sleeve, small face plate, and coolant return assembly. Approx. wt. crated 800 lbs., boxed wt. 1130 lbs. Cubic feet boxed 47. Factory Price.....\$1009

CL930Z. Same as above but mounted on welded steel column base without drawers. Approx. wt. crated 795 lbs., boxed wt. 1120 lbs. Cubic feet boxed 47. Factory Price.....\$975

NOTE: Splash pan, draw-in collet chuck attachment, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathe. See attachment catalog.

Specifications of Series 900 Turret Lathes

CAPACITY OF LATHE

Hole through spindle.....	3½"
Swing over bed and saddle wings.....	9½"
Width of lathe bed.....	5½"
Spindle nose diameter and threads per inch.....	1½"-8
Maximum capacity through collet chuck.....	3½"
Maximum capacity through universal lathe chuck.....	3½"

TURRET

Diameter of holes in turret faces.....	5½"
Center of turret hole to top of turret slide.....	1½"
Effective feed of turret slide.....	4"
Distance between opposite flats.....	4½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	20½"

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
High speeds, r.p.m.....	1365, 760, 460	265, 155, 90
Low speeds, r.p.m.....	715, 410, 240	135, 78, 50

UNIVERSAL CARRIAGE

Thread cutting range.....	.4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0053"
Maximum longitudinal travel of universal carriage, hand or power feed.....	18"
Maximum size cutter bit tool block opening will take.....	3/8" x 1/4"
Power cross-feeds.....	.0004" to .0255"

DOUBLE TOOL CROSS SLIDE

Swing over double tool cross slide.....	3½"
Cross travel of cross slide.....	3½"

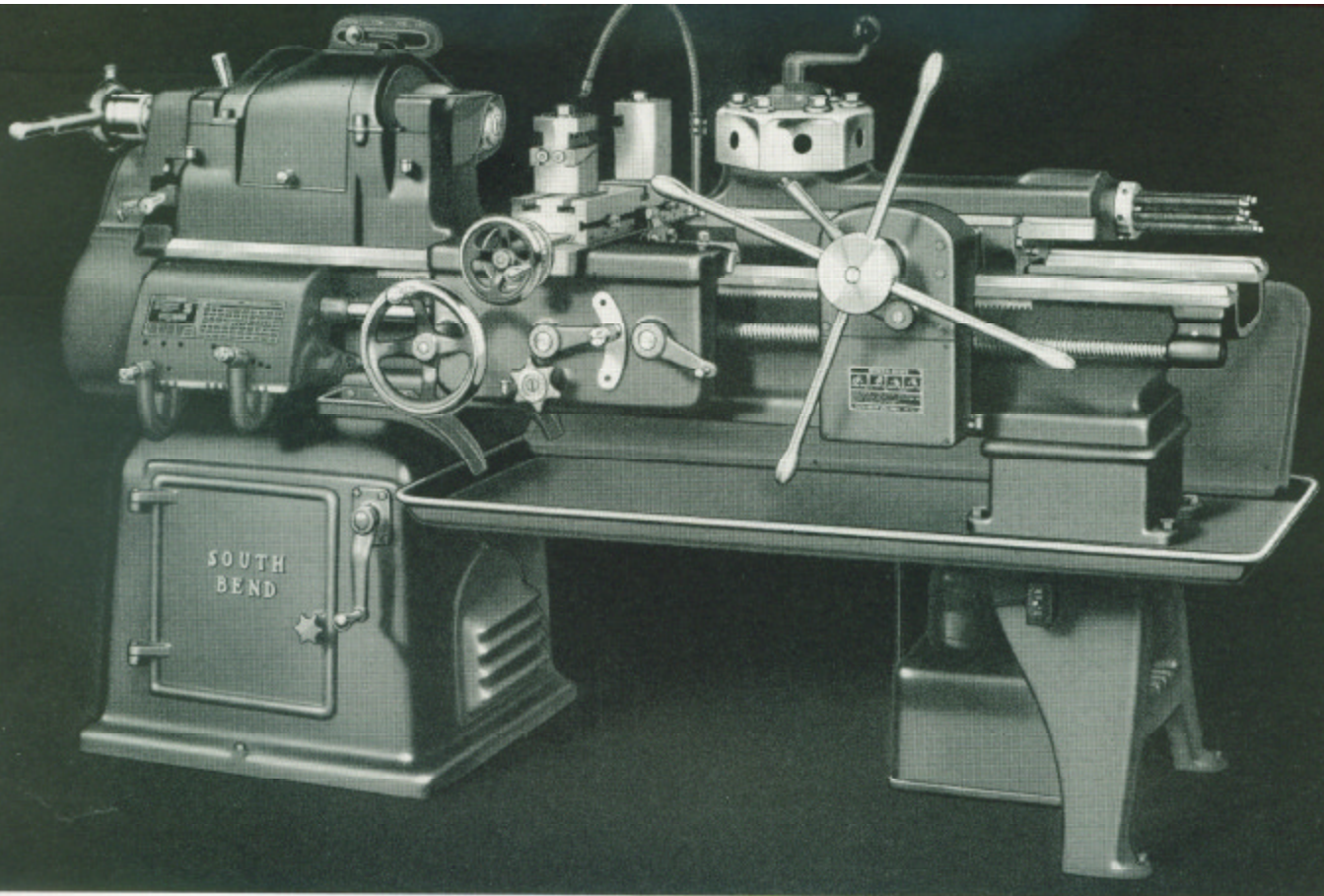
COMPOUND REST CROSS SLIDE

Swing over compound rest cross slide.....	5½"
Cross slide will travel.....	5½"
Angular hand feed of top slide.....	2½"
Size of tool holder shank for tool post.....	3/8" x 1/2"
Size cutter bits tool holder takes.....	3/8" x 1/4"
Power cross-feeds.....	.0004" to .0255"

MOTOR

Standard size of motor required.....	3/4 h.p.
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Lard oil is the best lubricant for cutting screw threads.



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

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; wrenches; and installation plan. Electrical equipment, handlever collet attachment, collet splash guard, coolant reservoir, coolant pump, splash pan, and piping are not included in price of lathe. See attachment catalog.

No. 2-H Turret Lathes with Power Feed Carriage and Turret

Catalog Number	Bed Length Feet	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL2CT	6	112	3175	2810	\$3190
CL2DT	7	127	3300	2900	3250

Note—These lathes can be supplied with hand feed only for the turret, or the turret can be supplied as an accessory for lathes now in use. Write for information.

Specifications of No. 2-H Turret Lathes

CAPACITY OF LATHE

Hole through spindle	1 1/2"
Swing over double tool cross slide	8 1/2"
Swing over bed and saddle wings	16 1/2"
Width of lathe bed	11 1/2"
Spindle nose diameter and threads per inch	2 1/2"-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 1/2"
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 1/4"

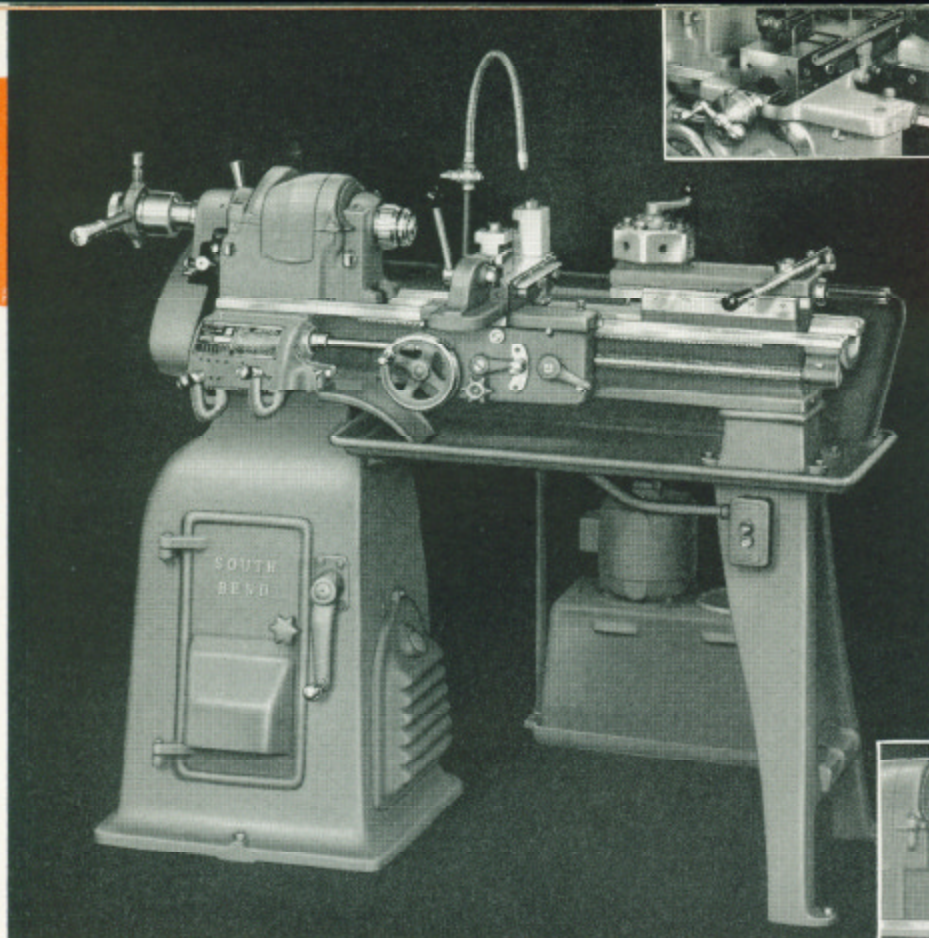
For a better buy—buy South Bend.

UNIVERSAL CARRIAGE

Thread cutting range	4 to 224 per inch
Power longitudinal feeds	.0015" to .0841"
Maximum longitudinal travel	6 ft. bed 22 1/2"
	7 ft. bed 34 1/2"
Power cross-feeds, 48	.0006" to .0315"
Cross travel of cross slide	.93"
Tool block openings for cutter bits	5/8" x 3/4"

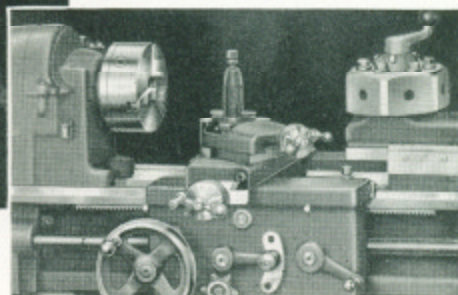
MOTOR

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.



CL1006Z TURRET LATHE

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in our complete attachment catalog. Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the double tool 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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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. See small inset illustration.

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 3½ ft. bed, power feed universal carriage, handlever bed turret, double tool cross slide, compound rest cross slide, oil pan, and coolant return assembly. Approx. wt. crated, 1050 lbs. Boxed wt. 1350 lbs. Cubic feet boxed 45. Factory Price.....\$1574

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. See attachment catalog.

Specifications of CL1006Z Turret Lathe

CAPACITY OF LATHE

Hole through spindle.....	15"
Swing over bed and saddle ways.....	10½"
Width of lathe bed.....	7½"
Spindle nose diameter and threads per inch.....	2½"-8
Maximum collet capacity through handlever collet chuck.....	1"
Maximum capacity through universal lathe chuck.....	15"

TURRET

Diameter of holes in turret faces*.....	5"
Center of turret hole to top of turret slide.....	1½"
Effective feed of turret slide.....	4"
Distance between opposite flats.....	4½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	19½"

*Can be supplied to order with 5/8" holes in turret head. No extra charge.

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	700, 449, 292	125, 80, 52
	370, 235, 152	65, 42, 27

UNIVERSAL CARRIAGE

Thread cutting range.....	.4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0036"
Maximum longitudinal travel of universal carriage, hand or power feed.....	16"

DOUBLE TOOL CROSS SLIDE

Swing over double tool cross slide.....	3½"
Cross travel of cross slide.....	35"
Maximum size cutter bit tool block opening will take.....	7/8" x 1½"
Power cross-feeds.....	.0005" to .0303"

COMPOUND REST CROSS SLIDE

Swing over compound cross slide.....	5½"
Cross slide with travel.....	6½"
Angular hand feed of top slide.....	2"
Size of tool holder shank for tool post.....	3/8" x 1½"
Size of cutter bits tool holder takes.....	5/8" x 1½"
Power cross-feeds.....	.0005" to .0303"

MOTOR (Standard size)

One-speed.....	¾ h.p.
Two-speed.....	1½ h.p.

SPECIFICATIONS FOR 13" SOUTH BEND BACK GEARED
SCREW CUTTING PRECISION LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be a bonafide 13" back geared, screw cutting floor leg model, with individual motor drive beneath the headstock. The headstock spindle and drive countershaft cones to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 13-1/8"				
Swing over cross slide with taper att. - 8"				
Swing over cross slide without taper att. - 7-3/4"				
Swing over cross slide with chip guard removed - 8-3/4"				
Bed width - 9-1/2"				
Length of bed	4'	5'	6'	7'
Distance between centers	16 1/4"	28 1/4"	40 1/4"	52 1/4"
Approx. weight crated, lbs.	1460	1510	1560	1615
Approx. weight boxed, lbs.	1835	1940	2045	2150

2. HEAD-STOCK Back geared type. To be hand scraped to fit bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to Rockwell "C" hardness of 56-61 and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have hole clear through, with spindle taper hardened and ground. Spindle nose thread to be milled. (Type "L" 00 Long Taper Key Drive or 4" Type "D" 1 Cam Lock Spindle nose Optional)

Spindle bearings shall be tapered wedge-lock expanded one piece replaceable bronze sleeve type fitted with removable caps and shims to provide adjustment for wear. Lubrication of spindle bearings shall be obtained through large oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"
Headstock spindle center size - No. 3MT
Number of spindle speeds - 8 or 16
Range of spindle speeds:
1 hp motor, 8 speeds Approx. 40 to 940 RPM
1 1/2-3/4 hp motor, 16 speeds Approx. 20 to 940 RPM
Collet capacity max., - 1" dia., #5 collet

3. TAIL-STOCK Shall be of solid construction, hand scraped to match bed ways and offset to permit swiveling compound rest parallel with bed. A double plug clamping arrangement shall be provided for clamping the spindle of the tailstock.

Tailstock spindle travel - 4-1/4"
Set-over - 15/16"
Spindle center size - No. #3MT
Spindle graduations - 1/16"

7. DRIVE The motor drive unit and motor shall be mounted inside the cabinet leg underneath the headstock. Motor to be connected by 2 V-belts to the countershaft. Countershaft cone pulley to be connected to the headstock spindle cone pulley by flat leather belt. Motor drive and belt to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides. A tilting device operated by a convenient lever outside the cabinet leg shall be provided to lift the motor drive cradle for releasing the belt tension.

8. REGULAR EQUIPMENT Equipment shall include the following items as standard equipment:

- 1 - 10-3/4" dia. face plate, ground face
- 1 - 6-5/8" dia. face plate, ground face
- 1 - Tool post assembly
- 1 - Adjustable thread cutting stop
- 2 - 60 degree hardened centers
- 1 - Headstock spindle sleeve
- 1 - Set of wrenches
- Instructions
- Installation plan
- Lubrication chart
- Parts lists
- "How to Run a Lathe"
- Shop project book
- All necessary belts

NOTE: Toolroom lathe shall be equipped with the following accessories as standard equipment in addition to the regular equipment listed above.

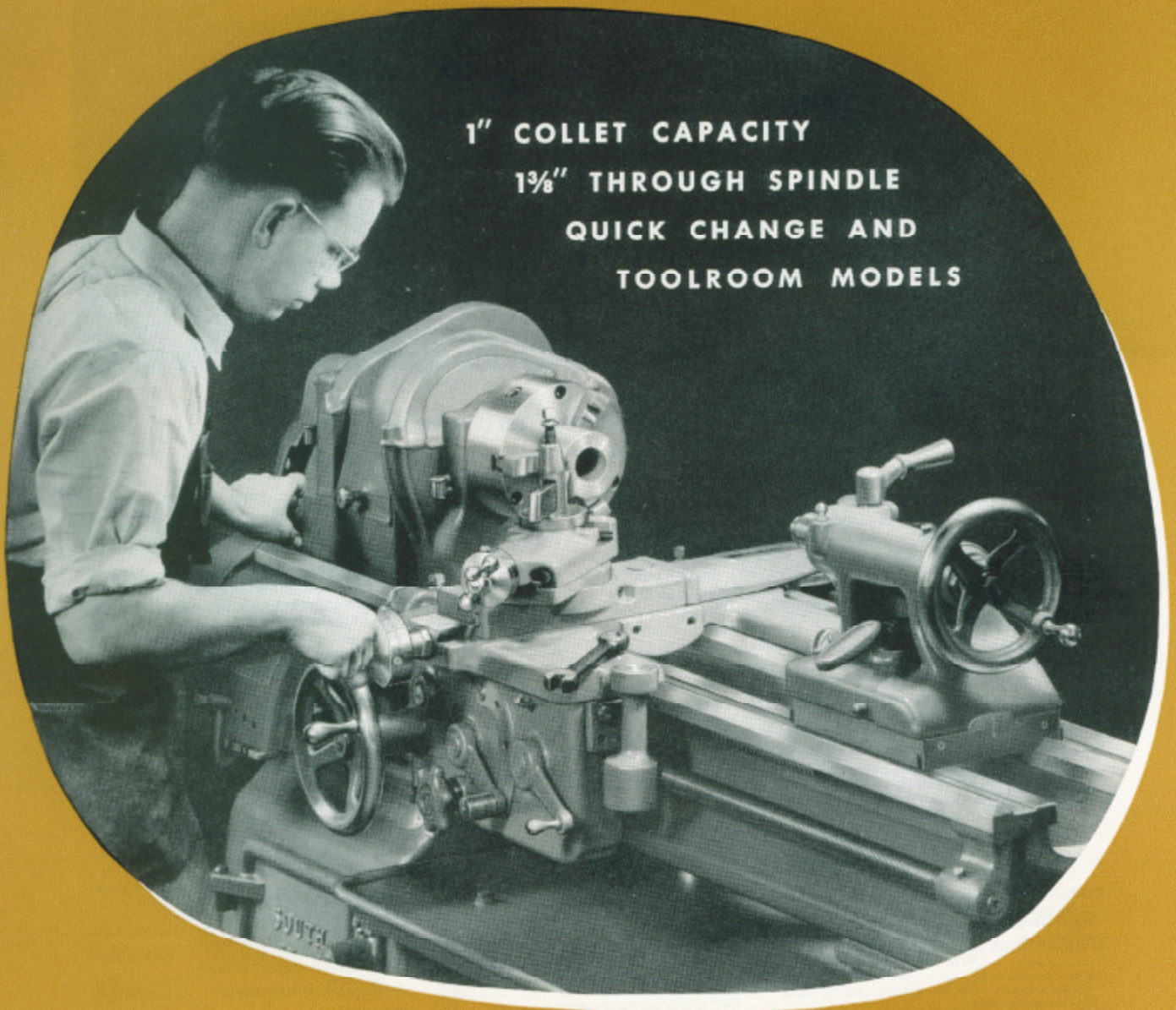
- Precision leadscrew
- Handwheel collet attachment, less collets
- Collet rack
- Telescopic type taper attachment
- Thread dial indicator
- Micrometer carriage stop
- Chip pan with rolled edges

9. OPTIONAL EQUIPMENT Items listed below are items that are commonly used with this type lathe.

- Handwheel collet attachment, Cat. No. CL4306T
- Set of 16 collets for round work, Cat. No. CE2435
- Collet rack, Cat. No. CE1770T
- Taper attachment, Cat. No. CL1545T
- Telescoping jaw center rest, Cat. No. CL2400T
- Telescoping jaw follower rest, Cat. No. CL2395T
- Thread dial indicator, Cat. No. CL810TH
- Micrometer carriage stop, Cat. No. CL968T
- Ball bearing live center, Cat. No. CE3901
- 7 1/2" 4 jaw independent chuck, Cat. No. CL4207LQ
- 6" 3 jaw universal chuck, Cat. No. CL3506LQ
- Drill chuck, Cat. No. CE1201
- Drill Chuck arbor, #3MT, Cat. No. CE2303
- Set of 11 safety lathe dogs, Cat. No. CE2103
- Knockout bar, Cat. No. CE1475QH
- Turning tool holder, straight, Cat. No. CE852S
- Cutting off tool holder, right hand, Cat. No. CE883R
- Boring tool, style "B", Cat., No. CE431
- Knurling tool, Cat., No. CE893
- Threading tool, Cat. No. CE867
- Work light, Cat. No. CE2815
- Waterproof service cover, Cat. No. CE2697 or CE2698
- 12" Precision level, Cat. No. CE2218

SOUTH BEND

13" *Precision* LATHES



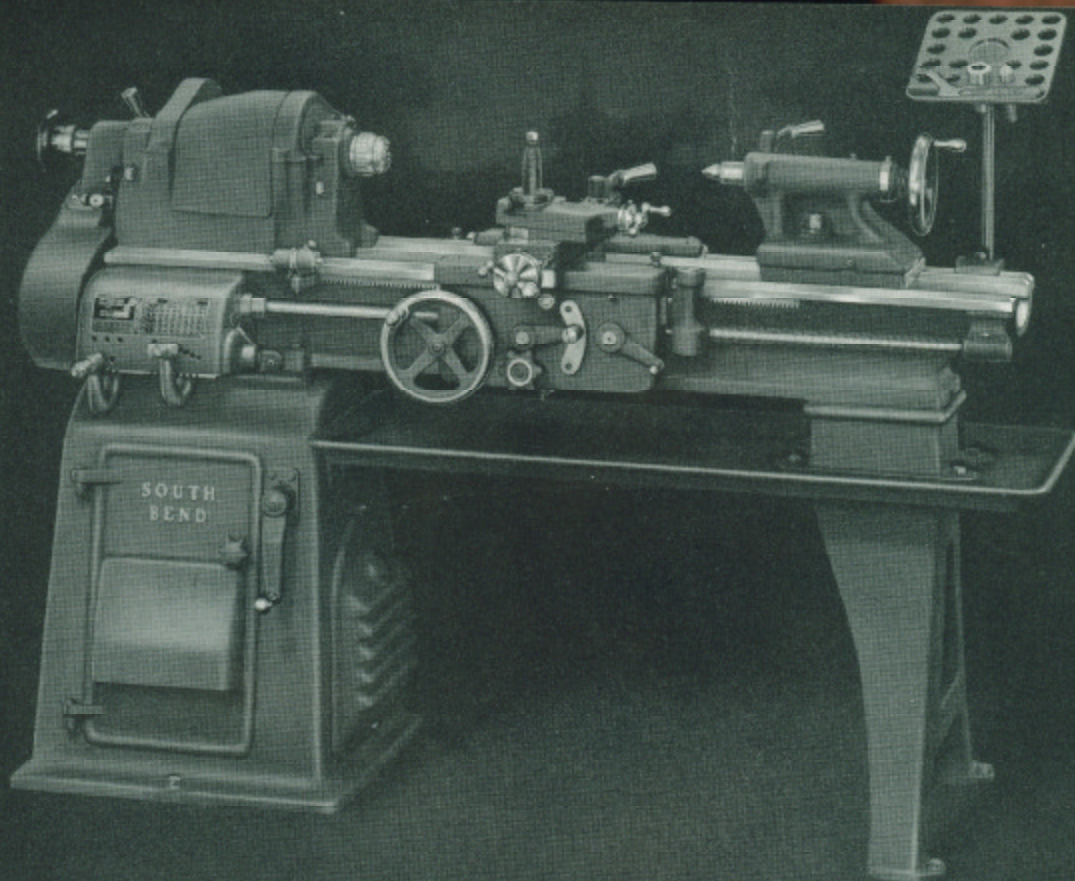
1" COLLET CAPACITY
1 $\frac{3}{8}$ " THROUGH SPINDLE
QUICK CHANGE AND
TOOLROOM MODELS

SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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





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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide eight or sixteen spindle speeds respectively as listed in the table of specifications below.

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. See attachment catalog.

13-inch Toolroom Lathes

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL8145B	5	28 1/4	81	1995	1665	\$1972
CL8145C	6	40 1/4	82	2180	1715	2024
CL8145D	7	52 1/4	90	2305	1770	2076

Specifications of 13-inch Toolroom Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	13 1/2"
Swing over saddle cross slide.....	8"

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
Standard, r.p.m.	940, 628, 418, 270	135, 90, 60, 40
With two-speed motor		
High, r.p.m.	940, 628, 418, 270	135, 90, 60, 40
Low, r.p.m.	470, 314, 209, 135	67, 45, 30, 20

COMPOUND REST

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

HEADSTOCK

Hole through spindle.....	1 1/2"
Maximum collet capacity.....	1"
Spindle nose diameter and threads.....	2 1/4"-8
Size of center, Morse taper.....	No. 3
Width of cone pulley step for belt.....	1 1/2"
Large face plate diameter.....	10 1/2"
Small face plate diameter.....	6 1/2"
Front spindle bearing, diameter.....	2 1/4"

TAILSTOCK

Size of center, Morse taper.....	No. 3
Spindle travel.....	4 1/2"
Each graduation on tailstock spindle.....	1/8"
Tailstock top set-over for taper turning.....	1 1/8"

THREADS AND FEEDS

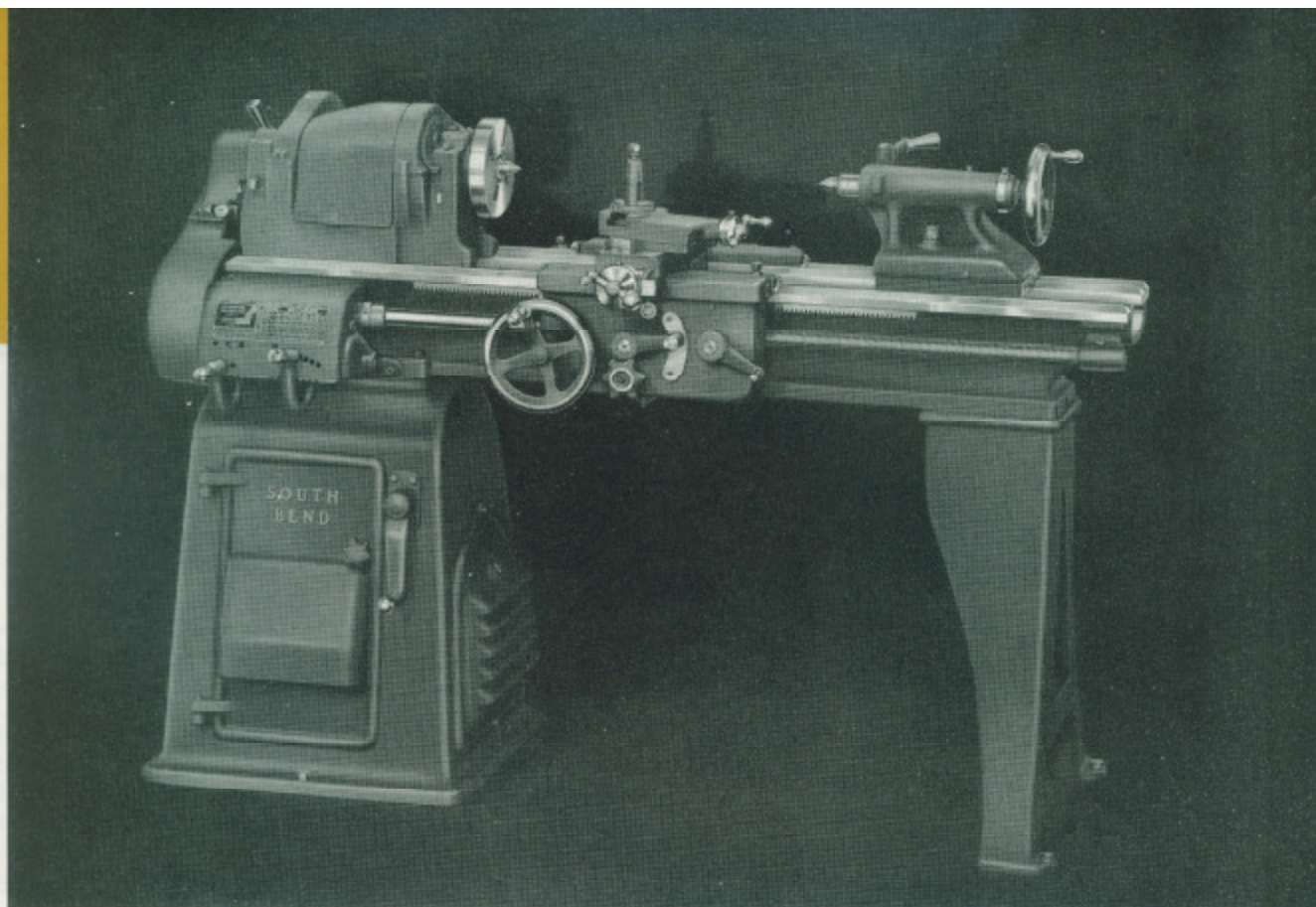
Thread cutting range—48 pitches R.H. or L.H.....	.4 to 224 per inch
Longitudinal feeds through friction clutch—48 feeds R.H. or L.H.....	.0015" to .0041"
Cross-feeds through friction clutch—48 feeds.....	.0006" to .0015"
Lead screw, 29° Acme thread.....	1" dia.—6 thds.

TOOL POST

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

MOTOR (Standard size)

One-speed.....	1 h.p.
Two-speed.....	1 1/2-1 3/4 h.p.



13-inch Quick Change Gear *Precision* Lathe

Underneath Motor Drive—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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide eight or sixteen spindle speeds as listed in the table of specifications below.

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 our attachment 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. See page 4.

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. See attachment catalog.

13-inch Quick Change Gear Lathes

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL145A	4	16 1/4	60	1835	1460	\$1460
CL145B	5	28 1/4	69	1940	1510	1510
CL145C	6	40 1/4	70	2045	1560	1559
CL145D	7	52 1/4	78	2190	1615	1609

Specifications for 13-inch Quick Change Gear Lathes

CAPACITY OF LATHE

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
Standard, r.p.m.	940, 628, 418, 270	135, 90, 60, 40
With two-speed motor		
High, r.p.m.	940, 628, 418, 270	135, 90, 60, 40
Low, r.p.m.	470, 314, 209, 135	67, 45, 30, 20

COMPOUND REST

Cross slide travel	8 1/4"
Angular hand feed of compound rest top slide	3 1/2"

HEADSTOCK

Hole through spindle	1 3/4"
Maximum collet capacity	1"
Spindle nose diameter and threads	2 1/2" x 8
Size of center, Morse taper	No. 3
Width of cone pulley step for belt	1 3/4"
Large face plate diameter	10 1/2"
Small face plate diameter	6 1/2"
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	7/8"

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 .0041"
Cross-feeds through friction clutch—48 feeds	.0006" to .0215"
Lead screw, 29° Acme thread	1" dia.—6 thds.

TOOL POST

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

MOTOR (Standard size)

One-speed	1 h.p.
Two-speed	1 1/2-1/2 h.p.

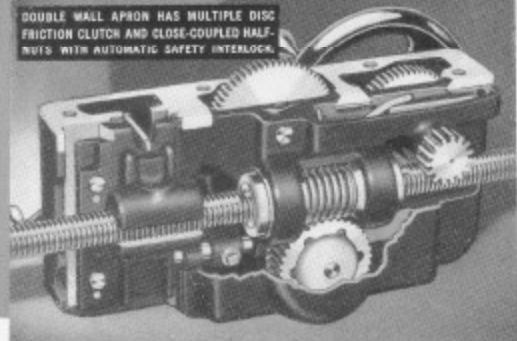
South Bend Lathes are easy to operate—simple to maintain.

H5421—ROXM—5-54

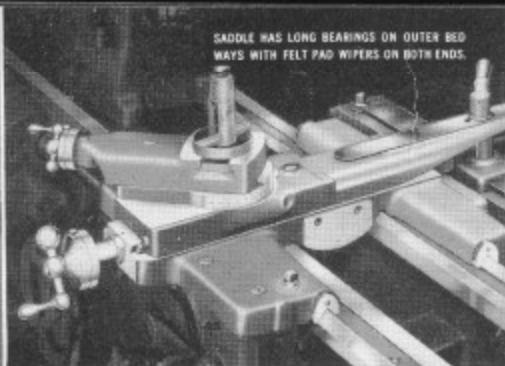
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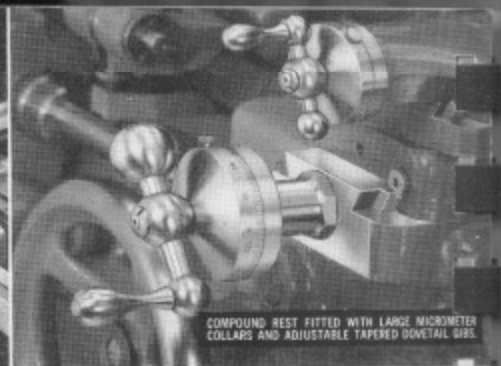
DOUBLE WALL APRON HAS MULTIPLE DISC FRICTION CLUTCH AND CLOSE-COUPLED HALF-NUITS WITH AUTOMATIC SAFETY INTERLOCK.



SADDLE HAS LONG BEARINGS ON OUTER BED WAYS WITH FELT PAD WIPERS ON BOTH ENDS.



COMPOUND REST FITTED WITH LARGE MICROMETER COLLARS AND ADJUSTABLE TAPERED DOVETAIL GIBS.

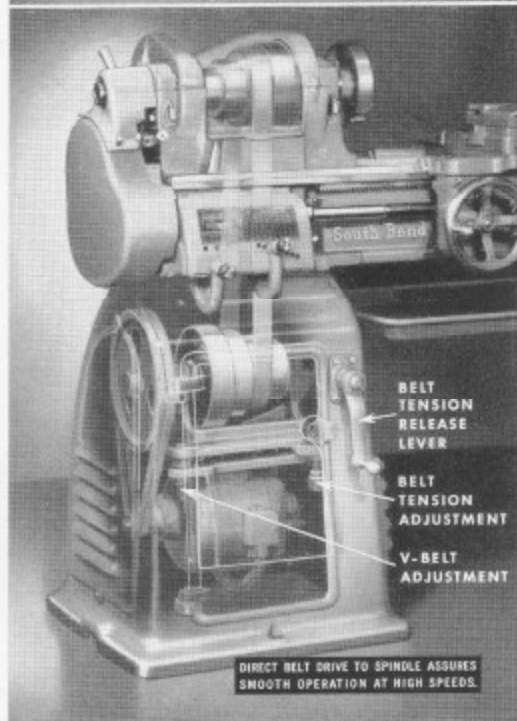


South Bend 13-inch Lathes

South Bend 13-inch Lathes are unsurpassed for producing a fine finish. Their dependable precision and ease of operation simplify difficult close-tolerance jobs. Their versatility, plus a complete line of practical attachments, make them equally popular for manufacturing, tool-room, and general maintenance work.

The underneath motor drive, enclosed in the cabinet leg under the lathe headstock, is unusually compact, silent in operation, powerful and economical. Direct belt drive to the headstock spindle for high speeds and large sleeve bearings carrying the radial load eliminate the possibility of chatter marks due to vibration set up by gear teeth or by ball or roller bearings. A belt tension release lever permits easy shifting of the cone pulley belt to change spindle speeds. The conveniently located control switch enables the operator to start, stop, or reverse the rotation of the lathe spindle from an easy working position.

The apron is one-piece box type double wall construction which provides rigid support for both ends of gear shafts. Multiple disc friction clutch for power cross-feeds and longitudinal feeds will engage or release instantly. Quick change gear mechanism is the improved two-lever type. Direct reading index chart shows arrangement of levers for all threads and feeds. No sliding primary gears or sliding clutches are required. Tumbler idler gears revolve on precision needle bearings.



BELT TENSION RELEASE LEVER
BELT TENSION ADJUSTMENT
V-BELT ADJUSTMENT

DIRECT BELT DRIVE TO SPINDLE ASSURES SMOOTH OPERATION AT HIGH SPEEDS.

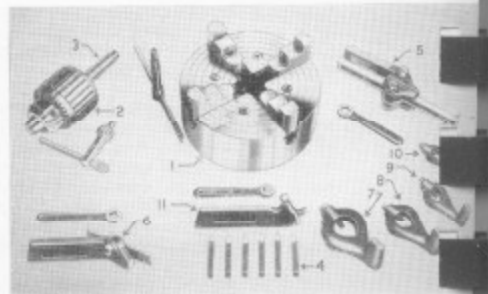
Attachments and Accessories

Only part of the accessories and attachments for 13" South Bend Lathes are listed below. A catalog illustrating and describing all accessories and attachments will be supplied on request.

Cat. No.	Description	Price
CE1882	Bar Feed Attachment	\$295.00
CE3904	Center, Live 60° Hollow	19.65
CE3901	Center, Live 60° Point	19.65
CE1890	Center, Carbide Tipped	10.25
CE2423	Center, Cup, wood turn	3.50
CE2399	Center, Crotch	4.20
CE2397	Center, Drill	3.50
CE2425	Center, Half	3.80
CE2402	Center, 60° Hard	3.80
CE1897	Center, 60° Hollow	4.10
CE2414	Center, Screw, wood turn	4.20
CE2417	Center, Spur, wood turn	4.20
CL1969A	Chuck, 7 1/2" 4-Jaw Independent, fitted to lathe	85.00
CL4207LQ	Chuck, 6" 3-Jaw Universal, fitted to lathe	107.00
CE2828	Collet, Brass, round	2.90
CE2833	Collet, Steel, round	5.25
CL4306Q	Collet Att., Handwheel	60.00
CL5206Q	Collet Att., Handlever	137.00
CL1770Q	Collet Rack	23.50
CL501B	Coolant Pump with 1/4 h.p., 1 ph., 60 cy., 115 v., A.C. motor	164.00
CE1839	Die Holder	5.75
CE2102	Dogs, Set of 11, 1/8" to 4"	28.50
CL1483LQ	Face Plate, Multi-tapped	19.25

*No. CE307T. Clamp required for mounting grinding attachment on lathe.

Cat. No.	Description	Price
CL46Q	Fixture Plate, 11 1/2" O.D.	\$13.00
CE301B	Grinding Att., Ext., 115 v., 1 ph., 60 cy., A.C.	64.80
CE801B	Grinding Att., Int., 115 v., 1 ph., 60 cy., A.C.	167.50
CL1955T	Metric Transposing Att.	56.75
CL2680T	Milling and Keyway Cutting Attachment	75.50
CE2625D	Motor, 1 1/2 h.p., A.C., 3 ph., 60 cy., 220 v.	72.50
CE790	Motor Control, Drum Reversing Switch	9.00
CL2022A	Oil Pan for 13" x 4" Lathe	100.00
CL2027T	Rest, Double Tool	157.00
CL1353T	Rest, Follower, Regular	11.00
CL2395T	Rest, Fol., Telesc. Jaw	13.00
CL1177T	Rest, Steady, Regular	18.00
CL2400T	Rest, Steady, Telesc. Jaw	22.00
CL896T	Rest, Wood Turning	19.25
CL2185RT	Stop, 4-position Carriage	25.75
CL968T	Stop, Micro, Carriage	24.75
CL1545T	Taper Attachment	214.00
CL810TH	Thread Dial Indicator	20.75
CE1413T	Tool Holder, 10 in. l.	17.25
CL3375T	Turret Tool Block, Sq. Compound Cross Slide	58.50
CL3376T	Turret Tool Block, Sq. Double Tool Cross Slide	57.00



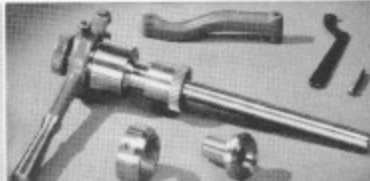
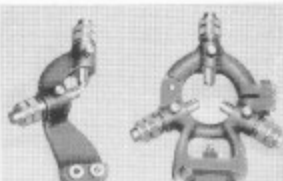
CL2890Q. Chuck and Tool Assortment: includes 7 1/2" 4-jaw independent chuck; 3/4" Jacobs drill chuck; arbor for drill chuck; set of four lathe dogs 1/8" to 1 1/2" capacity; cut-off tool; boring bar; turning tool and six ground cutter bits. Shipping weight approximately 52 lbs. Price \$131.00

Centers and Drill Pads

Steady and Follower Rests

Handlever Collet Attachment

Telescopic Taper Attachment



SPECIFICATIONS FOR 14-1/2" SOUTH BEND BACK GEARED
SCREW CUTTING PRECISION LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be back geared, screw cutting, floor leg model, with individual motor drive beneath the headstock. The headstock spindle cone and drive countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 14-5/8"				
Swing over cross slide with taper att. - 8-15/16"				
Swing over cross slide without taper att. - 8-3/4"				
Swing over cross slide with chip guard removed - 10-1/4"				
Length of Bed	5'	6'	7'	8'
Distance between centers	24-1/8"	36-1/8"	48-1/8"	60-1/8"
Approx. weight crated, lbs.	1995	2070	2145	2225
Approx. weight crated, lbs.	2500	2600	2750	2900

2. HEADSTOCK Back geared type. To be hand scraped to fit bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to Rockwell "C" hardness of 56-61 and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have a hole clear through, with spindle taper hardened and ground. Spindle nose thread to be milled. (Type "L" 00 Long taper key drive or 4" Type "D" 1 Cam lock spindle nose optional).

Spindle bearings shall be tapered wedge-locked expanded one piece replaceable bronze sleeve type fitted with removable caps and shims to provide adjustment for wear. Lubrication of spindle bearings shall be obtained through large oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"
Headstock spindle center size - No. 3MT
Number of spindle speeds - 8 or 16
Range of spindle speeds:
 1 1/2 hp motor, 8 speeds Approx. 30 to 875 RPM
 2-1 hp motor, 16 speeds Approx. 15 to 875 RPM
Collet capacity, max. - 1" dia., #5 collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways, and offset to permit swiveling compound rest parallel with bed. A double plug clamping arrangement shall be provided for clamping the spindle of the tailstock.

Tailstock spindle travel - 5-1/4"
Set-over - 15/16"
Spindle center size - No. 3MT
Spindle graduations - 1/16 "

4. CARRIAGE Apron shall be one piece double wall construction having steel spur gears. Power longitudinal and cross feeds shall be provided and engaged by multiple disc friction clutch. Separate lever shall be provided for engaging the half nuts.

Saddle shall be one piece casting and of Brinell hardness of 5 to 15 points less than the bed ways, Both cross slide and compound rest slide screws shall be fitted with micrometer graduated dials. Cross feed screw shall have two ball thrust bearings. One to take the thrust at the front of the cross feed bushing and one at the rear. The saddle ways both in front and in back shall be of the inverted "V" type, hand scraped to match corresponding ways on the bed. The saddle shall be provided with an adjustable gib at the rear. Saddle shall have oilers to lubricate the ways. The bearings of the cross slide and compound rest slide shall both be dovetail construction, hand scraped and provided with adjustable tapered gibs with one screw adjustment.

Cross slide travel without taper att. - 10"
Cross slide travel with taper att. - 9-1/2"
Compound rest angular travel - 3-1/8"
Size of tool holder shank - 5/8" x 1-3/8"

5. FEED MECHANISM Quick change gear type. Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears. No sliding gears. The gear box gear shall be of steel. Gear box shall be enclosed at top, front and sides.

A twin gear reverse mechanism shall be provided for right and left hand feeds. A twin gear bracket shall have a quick acting plunger lock.

Thread cutting range - 48 changes, R.H. or L.H.
4 to 224 thd. per inch
Longitudinal friction feeds
per revolution of spindle - 48 changes, R.H. or L.H.
.0015" to .0841"
Frictional cross feeds per
revolution of spindle - 48 changes, .0006" to .0315"

6. BED Bed to have three prismatic V-ways and one flat way precision finished to align the headstock, tailstock and carriage.

7. DRIVE The motor drive unit and motor shall be mounted inside the cabinet leg underneath the headstock. Motor to be connected by 4 V-belts to the countershaft. Countershaft cone pulley to be connected to the headstock spindle cone pulley by flat leather belt. Motor drive and belt to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides. A tilting device operated by a convenient lever outside the headstock leg shall be provided to lift the motor drive cradle for releasing the belt tension.

8. REGULAR Equipment shall include the following items as standard equipment:
EQUIPMENT

- 1 - 13-1/4" dia. face plate, ground face
- 1 - 8-1/16" dia. face plate, ground face
- 1 - Tool post assembly
- 1 - Adjustable thread cutting stop
- 2 - 60 degree hardened centers
- 1 - Headstock spindle sleeve
- 1 - Set of wrenches
- Instructions
- Installation plan
- Lubrication chart
- Parts list
- "How to Run a Lathe"
- Shop project book
- All necessary belts

NOTE: Toolroom lathe shall be equipped with the following accessories as standard equipment in addition to the regular equipment listed above.

- Precision leadscrew
- Handwheel collet attachment, less collets
- Collet rack
- Telescopic type taper attachment
- Thread dial indicator
- Micrometer carriage stop
- Chip pan with rolled edges

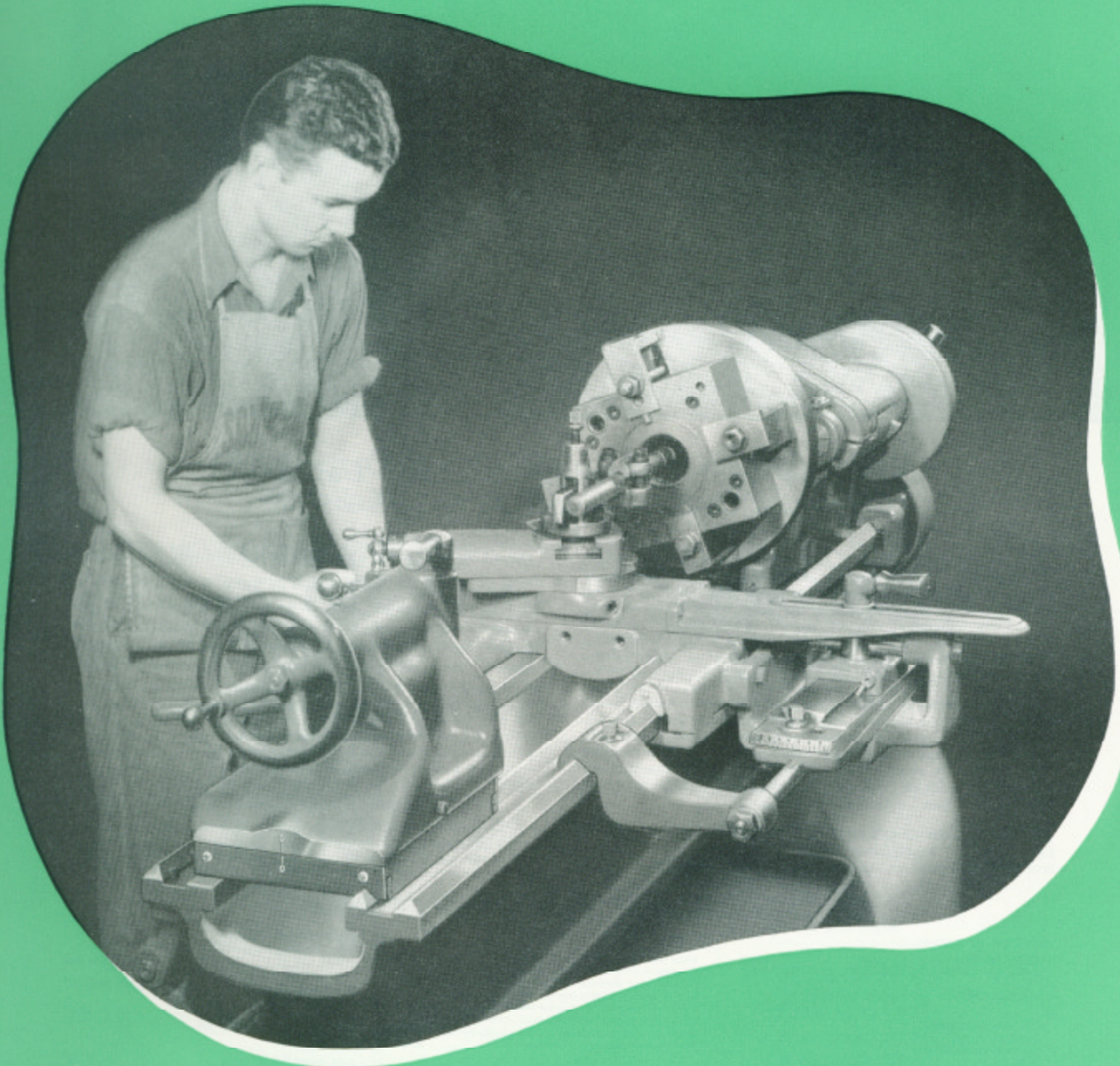
9. OPTIONAL Items listed below are items that are commonly used with this
EQUIPMENT type lathe.

- Handwheel collet attachment, Cat. No. CL4306M
- Set of 16 collets for round work, Cat. No. CE2435
- Collet rack, Cat. No. CE1770M
- Taper attachment, Cat. No. CL1545F
- Telescoping jaw center rest, Cat. No. CL2400F
- Telescoping jaw follower rest, Cat. No. CL2395F
- Thread dial indicator, Cat. No. CL810TH
- Micrometer carriage stop, Cat. No. CL968FH
- Ball bearing live center #3MT, Cat. No. CE3901
- 9" 4 jaw independent chuck, Cat. No. CL4209MH
- 7 1/2" 3 jaw universal chuck, Cat. No. CL3507MH
- Drill chuck, Cat. No. CE1201
- Drill chuck arbor, #3MT, Cat. No. CE2303
- Set of 11 safety lathe dogs, Cat. No. CE2103
- Knockout bar, Cat. No. CE1475QH
- Turning tool holder, straight, Cat. No. CE853S
- Cutting off tool holder, right hand, Cat. No. CE884R
- Boring tool, Style "B", Cat. No. CE432
- Knurling tool, Cat. No. CE894
- Threading tool Cat. No. CE868
- Work light, Cat. No. CE2815
- Waterproof service cover, Cat. No. CE2697 or CE2698

CATALOG 5422

SOUTH BEND

14 $\frac{1}{2}$ " *Precision* LATHES

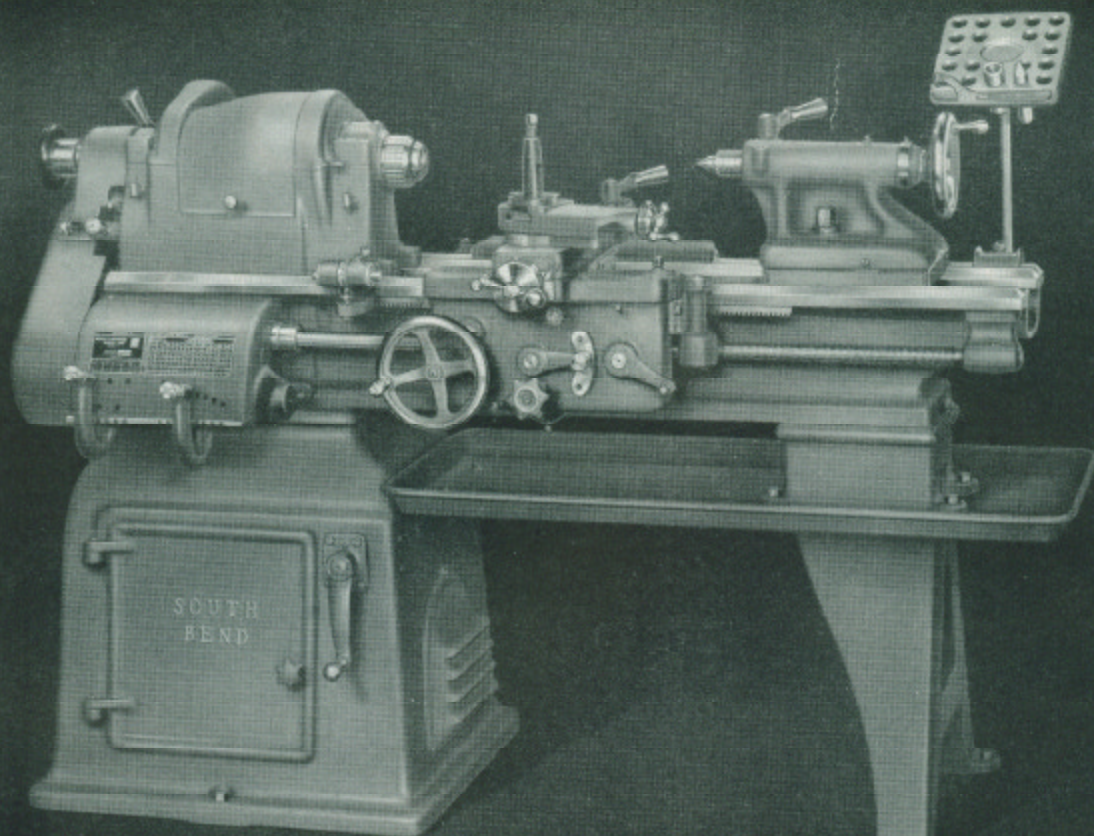


SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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





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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide eight or sixteen spindle speeds as listed in the specifications below. See attachment catalog for motors.

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. See attachment catalog.

14 1/2-inch Toolroom Lathes

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL8185B	5	24 1/8	90	2685	2180	\$2301
CL8185C	6	36 1/8	95	2785	2255	2359
CL8185D	7	48 1/8	101	2935	2330	2417
CL8185E	8	60 1/8	111	3085	2405	2477

Specifications of 14 1/2-inch Toolroom Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	14 1/2"
Swing over saddle cross slide.....	8 1/2"

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
Standard, r.p.m.	875, 545, 350, 215	130, 80, 50, 30
With two-speed motor		
High, r.p.m.	875, 545, 350, 215	130, 80, 50, 30
Low, r.p.m.	437, 272, 175, 107	65, 40, 25, 15

COMPOUND REST

Cross slide travel.....	9 1/4"
Angular hand feed of compound rest top slide.....	3 1/2"

HEADSTOCK

Hole through spindle.....	1 1/2"
Maximum collet capacity.....	1"
Spindle nose diameter and threads.....	2 1/2"-6
Size of center, Morse taper.....	No. 3
Width of cone pulley step for belt.....	2 1/4"
Large face plate diameter.....	13 1/4"
Small face plate diameter.....	8 1/4"
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 1/2"

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 .0841"
Cross-feeds through friction clutch—48 feeds.....	.0090" to .0315"
Lead screw, 29° Acme thread.....	1 1/2" dia.—6 thrs.

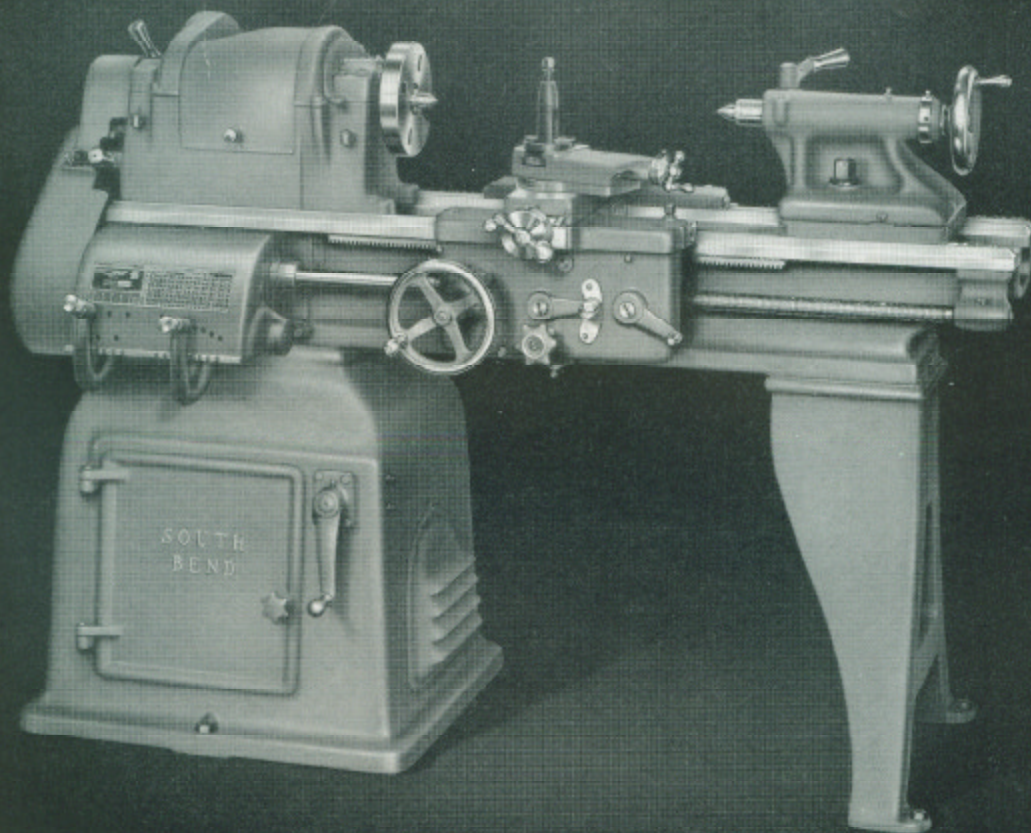
TOOL POST

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

MOTOR (Standard size)

One-speed.....	1 1/2 h.p.
Two-speed.....	2-1 h.p.

Turn, bore, face, chase threads—the four basic operations.



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

Underneath Motor Drive—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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide eight or sixteen spindle speeds respectively as listed in the specifications below.

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 which is entirely 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. See attachment catalog.

14 1/2-inch Quick Change Gear Lathes

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL185B	5	24 1/4	81	2500	1995	\$1809
CL185C	6	36 1/4	85	2600	2070	1880
CL185D	7	48 1/4	91	2750	2145	1912
CL185E	8	60 1/4	100	2900	2225	1965

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

CAPACITY OF LATHE

Swing over bed and saddle wings.....	14 1/2"
Swing over saddle cross slide.....	8 1/2"
Swing over cross slide without chip guard.....	10 1/4"

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
Standard, r.p.m.....	875, 545, 350, 215	130, 80, 50, 30
With two-speed motor		
High, r.p.m.....	875, 545, 350, 215	130, 80, 50, 30
Low, r.p.m.....	437, 272, 175, 107	65, 40, 25, 15

COMPOUND REST

Cross slide travel.....	10"
Angular hand feed of compound rest top slide.....	3 1/8"

HEADSTOCK

Hole through spindle.....	1 1/2"
Maximum collet capacity.....	1"
Spindle nose diameter and threads.....	2 1/8"-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 1/4"
Front spindle bearing, diameter.....	2 1/8"

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.....	3/16"

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 1/8" dia.-6 thds.

TOOL POST

Size of tool holder shank.....	5/8" x 1 1/2"
Size of cutter bit for tool holder.....	3/8" 80°

MOTOR (Standard size)

One-speed.....	1 1/2 h.p.
Two-speed.....	2-1 h.p.

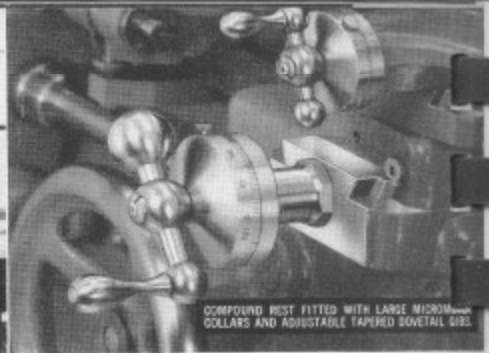
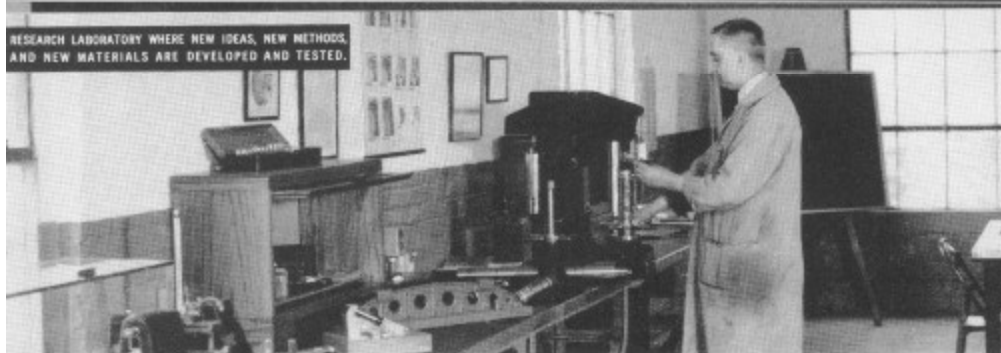
Infinite are the variations of the four basic operations.

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RESEARCH LABORATORY WHERE NEW IDEAS, NEW METHODS, AND NEW MATERIALS ARE DEVELOPED AND TESTED.



COMPOUND REST FITTED WITH LARGE MICROMETER COLLARS AND ADJUSTABLE TAPERED DOVETAIL SLIDES



CHECKING A FIXTURE WITH PRECISION SURFACE PLATE AND GAUGE BLOCKS



INSPECTING A SCREW THREAD WITH AN OPTICAL COMPARATOR

South Bend 14½" Lathes

Careful design and conscientious workmanship are combined in South Bend 14½" 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 shown above. 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 blocks.

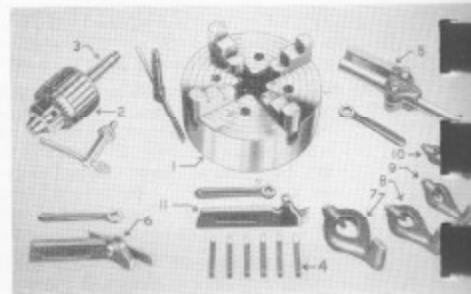
Because of their rugged construction, lifetime accuracy and dependability—plus unusual versatility—you will find it to your advantage to specify South Bend 14½" Lathes for your next installations.

Attachments and Accessories

Only part of the accessories and attachments for 14½" South Bend Lathes are listed below. A catalog illustrating and describing all accessories and attachments will be supplied on request.

Cat. No.	Description	Price	Cat. No.	Description	Price
CE1882	Bar Feed Attachment	\$295.00	CE2102	Dogs, Set of 11, 1/2" to 4"	\$26.50
CE3904	Center, Live 60° Hollow	19.65	CL46MH	Fixture Plate, 11 1/2" O.D.	14.00
CE3901	Center, Live 60° Point	19.65	CE301B	Grinding Att., Ext., 115 v.	
CE1890	Center, Carbide Tipped	10.25		1 ph., 60 cy., A.C.*	64.50
CE2433	Center, Cup, wood turn	3.50	CE601R	Grinding Att., Int., 115 v.	
CE2399	Center, Crotch	4.20		1 ph., 60 cy., A.C.*	167.50
CE2397	Center, Drill Pad	3.50	CL1988F	Metric Transposing Att.	61.00
CE2425	Center, Half	3.80	CL2680F	Milling Attachment	88.50
CE2402	Center, 60° Point, hard	3.80	CE2545D	Motor, 1 1/2 h.p., A.C.	
CE1897	Center, 60° Hollow	4.10		3 ph., 60 cy., 220 v.	85.30
CE2414	Center, Screw, wood turn	4.20	CE790	Motor Control, Drum Re-	
CE2417	Center, Spur, wood turn	4.20		versing Switch	9.00
CL1990B	Chip Pan for 14 1/2" x 5" Lathe	53.25	CL2023B	Oil Pan for 14 1/2" x 5" Lathe	109.25
CL4209MH	Chuck, 9" 4-Jaw Independent, fitted to lathe	99.00	CL1353F	Rest, Follower, Regular	13.00
			CL2395F	Rest, Fol., Telesc. Jaw	15.50
CL3507MH	Chuck, 7 1/2" 3-Jaw Universal, fitted to lathe	122.00	CL1177F	Rest, Steady, Regular	23.00
			CL2400F	Rest, Steady, Telesc. Jaw	23.75
CE2826	Collet, Brass, round	2.90	CL896F	Rest, Wood Turning	24.75
CE2833	Collet, Steel, round	5.25	CL2185FH	Stop, 4-position Carriage	28.50
CL4306M	Collet Att., Handwheel	64.00	CL968FH	Stop, Micro, Carriage	25.75
CL5206M	Collet Att., Handlever	190.00	CL1545F	Taper Attachment	230.00
CL1770M	Collet Rack	23.50	CL810TH	Thread Dial Indicator	20.75
CL501B	Coolant Pump with 1/2 h.p., 1 ph., 60 cy., 115 v. A.C. motor	164.00	CE1413F	Tool Holder, 10 in l.	20.00
CE1839	Die Holder	5.75	CL3375F	Turret Tool Block, Sq. Compound Cross Slide	84.00
					\$3.50

*No. CE307F. Clamp required for mounting on lathe.

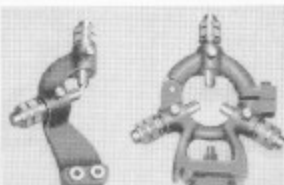


CL2890M. Chuck and Tool Assortment includes: 9" 4-Jaw Independent chuck; ¾" Jacobs drill chuck; arbor for drill chuck; set of four lathe dogs ½" to 1 ½" capacity; cut-off tool; boring bar; turning tool; and six ground cutter bits. Ship. wt. approximately 75 lbs. Price.....\$151.00

Centers and Drill Pads



Steady and Follower Rests



Handlever Collet Attachment



Telescopic Taper Attachment



SPECIFICATIONS FOR 16" SOUTH BEND BACK GEARED
SCREW CUTTING PRECISION LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be back geared, screw cutting floor leg model, with individual motor drive beneath the headstock. The headstock spindle cone and drive countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 16-1/4"					
Swing over cross slide with taper att. - 9-3/8"					
Swing over cross slide without taper att. - 9-5/8"					
Swing over cross slide with chip guard removed - 11-1/8"					
Length of bed	6'	7'	8'	10'	12'
Distance between centers	33 1/4"	45 1/4"	57 1/4"	81 1/4"	105 1/4"
Approx. Weight crated, lbs.	2300	2380	2460	2800	2975
Approx. Weight boxed, lbs.	2700	2950	3150	3550	3900

2. HEADSTOCK Back geared type. To be hand scraped to fit bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to Rockwell "C" hardness of 56-61 and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have a hole clear through, with spindle taper hardened and ground. Spindle nose thread to be milled. (Type "L" 00 long taper key drive or 4" Type "D" 1 cam lock spindle nose optional)

Spindle bearings shall be tapered wedge-locked expanded one piece replaceable bronze sleeve type, fitted with removable caps and shims to provide adjustment for wear. Lubrication of spindle bearings shall be obtained through large oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"
Headstock spindle center size - No. 3 MT
Number of spindle speeds - 6, 8 or 12
Range of spindle speeds:
2 hp motor, 6 speeds Approx. 32 to 945 RPM
1 1/2 hp motor, 8 speeds Approx. 30 to 980 RPM
2-1 hp motor, 12 speeds Approx. 20 to 945 RPM
Collet capacity, max. - 1" dia., #5 collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways and offset to permit swiveling compound rest parallel with bed. A double plug clamping arrangement shall be provided for clamping the spindle of the tailstock.

Tailstock spindle travel - 5-3/4"
Set-over - 1"
Spindle center size - No. 3 MT
Spindle graduations - 1/16"

4. CARRIAGE Apron shall be one piece double wall construction having steel spur gears. Power longitudinal and cross feeds shall be provided and engaged by multiple disc friction clutch. Separate lever shall be provided for engaging the half nuts.

Saddle shall be one piece casting and of Brinell hardness of 5 to 15 points less than the bed ways. Both cross slide and compound rest slide screws shall be fitted with micrometer graduated dials. Cross feed screw shall have two ball thrust bearings. One to take the thrust at the front of the cross feed bushing and one at the rear. The saddle ways both in front and in back shall be of the inverted "V" type, hand scraped to match corresponding ways of the bed. The saddle shall have oilers for lubricating ways. The saddle shall be provided with an adjustable gib at the rear. The bearings of the cross slide and compound rest slide shall both be dovetail construction, hand scraped and provided with adjustable tapered gibs with one screw adjustment.

Cross slide travel without taper att. - 10-1/2"

Cross slide travel with taper att. - 10-1/16"

Compound rest angular travel - 3-3/4"

Size of tool holder shank - 5/8" x 1-3/8"

5. FEED MECHANISM Quick change gear type. Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears. No sliding gears. The gear box gears shall be of steel and gear box enclosed at top, front and sides.

A twin gear reverse shall be provided for right and left hand feeds. The twin gear bracket shall have a quick acting plunger lock.

Thread cutting range - 48 changes, R.H. or L.H.

4 to 224 thd. per inch

Longitudinal friction feeds

per revolution of spindle - 48 changes, R.H. or L.H.

.0015" to .0841"

Frictional cross feeds per

revolution of spindle - 48 changes, .0006" to .0315"

6. BED Bed to have three prismatic V-ways and one flat way precision finished to align the headstock, tailstock and carriage.

7. DRIVE The motor drive unit and motor shall be mounted inside the cabinet leg underneath the headstock. Motor to be connected by 4 V-belts to the countershaft. Countershaft cone pulley to be connected to the headstock spindle cone by flat leather belt. Motor drive and belts to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides. A tilting device operated by a convenient lever outside the cabinet leg shall be provided to lift the motor drive cradle for releasing the belt tension.

8. REGULAR Equipment shall include the following items as standard equipment
EQUIPMENT

- 1 - 8-1/16" dia. face plate, ground face
- 1 - 13-1/4" dia. face plate, ground face
- 1 - Tool post assembly
- 1 - Adjustable thread cutting stop
- 1 - Headstock spindle sleeve
- 2 - 60 degree hardened centers
- 1 - Set of wrenches
- Instructions
- Installation plan
- Lubrication chart
- Parts list
- "How to Run a Lathe"
- Shop project book
- All necessary belts

NOTE: Toolroom lathe shall be equipped with the following accessories as standard equipment in addition to the regular equipment listed above.

- Collet rack
- Precision leadscrew
- Handwheel collet attachment, less collets
- Telescopic type taper attachment
- Thread dial indicator
- Micrometer carriage stop
- Chip pan with rolled edges

9. OPTIONAL Items listed below are items that are commonly used with this
EQUIPMENT type lathe.

- Handwheel collet attachment, Cat. No. CL4306H
- Set of 16 collets for round work, Cat. No. CE2435
- Collet rack, Cat. No. CE1770H
- Taper attachment, Cat. No. CL1545H
- Telescoping jaw center rest, Cat. No. CL2400H
- Telescoping jaw follower rest, Cat. No. CL2395H
- Thread dial indicator, Cat. No. CL810TH
- Micrometer carriage stop, Cat. No. CL968FH
- 10" 4 jaw independent chuck, Cat. No. CL4210MH
- 7 1/2" 3 jaw universal chuck, Cat. No. CL3507MH
- Drill chuck, Cat. No. CE1201
- Drill chuck arbor, #3MT, Cat. No. CE2303
- Set of 11 safety lathe dogs, Cat. No. CE2103
- Knockout bar, Cat. No. CE1475QH
- Turning tool holder, straight, Cat. No. CE853S
- Cutting off tool holder, Right hand, Cat. No. CE884R
- Boring tool, Style "B", Cat. No. CE432
- Knurling tool, Cat. No. CE894
- Threading tool, Cat. No. CE868
- Work light, Cat. No. CE2815
- Waterproof service cover, Cat. No. CE2698
- 12" Precision level, Cat. No. CE2218

SPECIFICATIONS FOR 16/24" SOUTH BEND BACK-GEARED
SCREW CUTTING PRECISION LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be back geared, screw cutting, floor leg model, with individual motor drive beneath the headstock. The headstock spindle cone and drive countershaft cone to be connected by a flat leather belt.

Capacity of Lathe

Swing over bed - 25-1/8"					
Swing over saddle wings - 24-3/8"					
Swing over cross slide with taper att. - 18-7/8"					
Swing over cross slide without taper att. - 18-3/4"					
Swing over cross slide with chip guard removed - 19-1/4"					
Length of bed	6'	7'	8'	10'	12'
Distance between centers	30"	42"	54"	78"	102"
Approx. weight crated, lbs.	2480	2560	2640	2980	3155
Approx. weight boxed, lbs.	3100	3200	3300	3700	3900

2. HEADSTOCK Back geared type. To be hand scraped to fit bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to Rockwell "C" hardness of 56-61 and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have hole clear through, with spindle taper hardened and ground. Spindle nose thread to be milled. (Type "L" 00Long taper key drive or 4" Type "D" 1 Cam lock spindle nose optional).

Spindle bearings shall be tapered wedge-lock expanded one piece replaceable bronze sleeve type fitted with removable caps and shims to provide adjustment for wear. Lubrication of spindle bearings shall be obtained through large oil reservoir and a capillary oiling system providing a complete film of filtered oil to separate the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"
Headstock spindle center size - No. 3MT
Number of spindle speeds - 6, 8, 12 or 16
Range of spindle speeds:

2 hp motor, 6 speeds Approx.	14 7, 405	92 to 945 RPM
1 1/2 hp motor, 8 speeds Approx.		15 to 470 RPM
2-1 hp motor, 12 speed		20 to 945 RPM
2-1 hp motor, 16 speed		15 to 900 RPM

Collet capacity, max. - 1" dia., #5 collet

3. TAILSTOCK Shall be of solid construction, hand scraped to match bed ways and offset to permit swiveling compound rest parallel with bed. A double plug clamping arrangement shall be provided for clamping the spindle of the tailstock.

Tailstock spindle travel - 5-3/4"
Set-over - 1"
Spindle center size - No. 3MT
Spindle graduations - 1/16"

4. CARRIAGE Apron shall be one piece double wall construction having steel spur gears. Power longitudinal and cross feeds shall be provided and engaged by multiple disc friction clutch. Separate lever shall be provided for engaging the half nuts.

Saddle shall be one piece casting and of Brinell hardness of 5 to 15 points less than the bed ways. Both cross slide and compound rest slide screws shall be fitted with micrometer graduated dials. Cross feed screw shall have two ball thrust bearings. One to take the thrust at the front of the cross feed bushing and one at the rear. The saddle ways both in front and in back shall be of the inverted "V" type, hand scraped to match corresponding ways on the bed. The saddle shall be provided with an adjustable gib at the rear. Saddle shall have oilers for lubricating ways. The bearings of the cross slide and compound rest slide shall both be dovetail construction, hand scraped and provided with adjustable tapered gibs with one screw adjustment.

Cross slide travel without taper att. - 10-1/2"
Cross slide travel with taper att. - 10-1/16"
Compound rest angular travel - 3-3/4"
Size of tool holder shank - 5/8" x 1-3/8"

5. FEED MECHANISM Quick change gear type. Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears. No sliding gears. The gear box gears shall be of steel and gear box enclosed at top, front and sides.

A twin gear reverse shall be provided for right and left hand feeds. The twin gear bracket shall have a quick acting plunger lock.

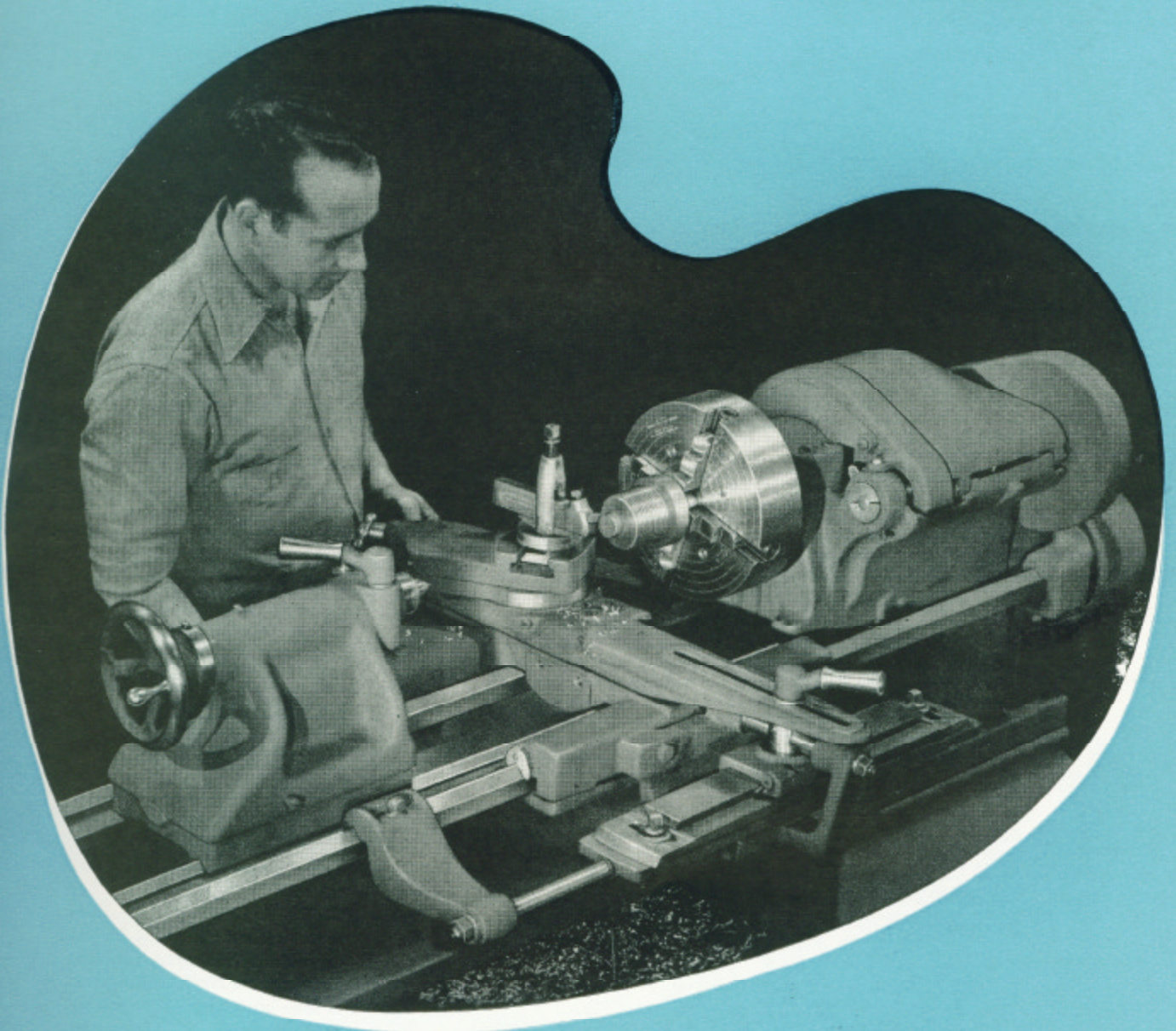
Thread cutting range - 48 changes, R.H. or L.H.
4 to 224thd. per inch
Longitudinal friction feeds
per revolution of spindle - 48 changes, R.H. or L.H.
.0015" to .0841"
Frictional cross feeds per
revolution of spindle - 48 changes, .0006" to .0315"

6. BED Bed to have three prismatic V-ways and one flat way precision finished to align the headstock, tailstock and carriage.
7. DRIVE The motor drive unit and motor shall be mounted inside the cabinet leg underneath the headstock. Motor to be connected by 4 V-belts to the countershaft. Countershaft cone pulley to be connected to the headstock spindle cone pulley by flat leather belt. Motor drive and belt to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides. A tilting device operated by a convenient lever outside the cabinet leg shall be provided to lift the motor drive cradle for releasing the belt tension.
8. REGULAR EQUIPMENT Equipment shall include the following items as standard equipment:
- 1 - 13-1/4" dia. face plate, ground face
 - 1 - 8-1/16" dia. face plate, ground face
 - 1 - Tool post assembly
 - 1 - Adjustable thread cutting stop
 - 2 - 60 degree hardened centers
 - 1 - Headstock spindle sleeve
 - 1 - Set of wrenches
 - Instructions
 - Installation plan
 - Lubrication chart
 - Parts list
 - "How to Run a Lathe"
 - Shop project book
 - All necessary belts
9. OPTIONAL EQUIPMENT Items listed below are items that are commonly used with this type lathe.
- Handwheel collet attachment, Cat. No. CL4306H
 - Set of 16 collets for round work, Cat. No. CE2435
 - Collet rack, Cat. No. CE1770H
 - Taper attachment, Cat. No. CL1545H
 - Telescoping jaw center rest, Cat. No. CL2400V
 - Telescoping jaw follower rest, Cat. No. CL2395V
 - Thread dial indicator, Cat. No. CL810TH
 - Micrometer carriage stop, Cat. No. CL968FH
 - Ball bearing live center, Cat. No. CE3901
 - 10" 4 jaw independent chuck, Cat. No. CL4210MH
 - 7 1/2" 3 jaw universal chuck, Cat. No. CL3507MH
 - Drill chuck, Cat. No. CE1201
 - Drill chuck arbor, #3MT, Cat. No. CE2303
 - Set of 11 safety lathe dogs, Cat. No. CE2103
 - Knockout bar, Cat. No. CE1475QH
 - Turning tool holder, straight, Cat. No. CE853S
 - Cutting off tool holder, right hand, Cat. No. CE884R
 - Boring tool, Style "B", Cat. No. CE432
 - Knurling tool, Cat. No. CE894
 - Threading tool, Cat. No. CE868
 - Work light, Cat. No. CE2815
 - Waterproof service cover, Cat. No. CE2698
 - 12" Precision level, Cat. No. CE2218

SOUTH BEND

CATALOG 5423

16" *Precision* LATHES



SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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

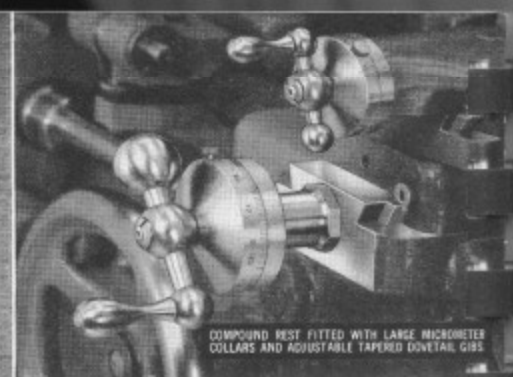




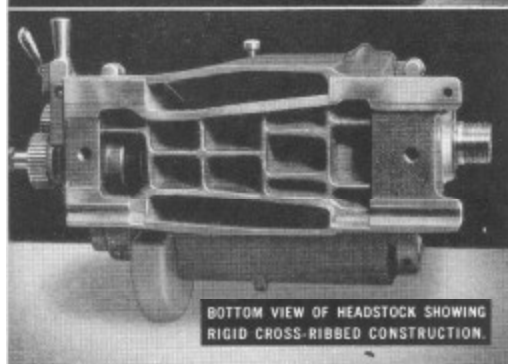
HEADSTOCK HAS LARGE OIL RESERVOIRS AND CIRCULATING CAPILLARY OILING SYSTEM FOR SPINDLE BEARINGS.



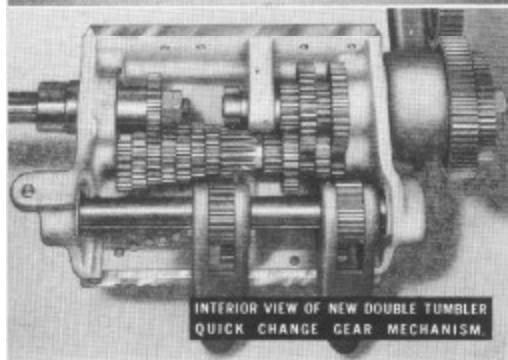
HEAT-TREATED ALLOY STEEL SPINDLE WITH REPLACEABLE BRONZE BEARINGS.



COMPOUND REST FITTED WITH LARGE MICROMETER COLLARS AND ADJUSTABLE TAPERED DOVETAIL GIBS.



BOTTOM VIEW OF HEADSTOCK SHOWING RIGID CROSS-RIBBED CONSTRUCTION.



INTERIOR VIEW OF NEW DOUBLE TUMBLER QUICK CHANGE GEAR MECHANISM.

South Bend 16" Lathes

Substantial design, expert workmanship, rugged construction, and quality materials give South Bend 16" Lathes extreme accuracy for precision tool and gauge work, smooth power and speed for efficient production, and time-saving versatility for quick change-overs. Large bearing surfaces assure permanent precision and long service. Automatic safety devices reduce to a minimum the possibility of accidental damage to the lathe. From the planing of the bed to the final inspection tests, precision is built into South Bend 16" Lathes. Back of every manufacturing process are rigid inspection controls that prevent any deviation from established standards.

Some of the features responsible for the excellent performances of these lathes include an alloy steel spindle with hardened, ground, and superfinished bearing surfaces running in replaceable bronze sleeve bearings; one-piece double wall apron with steel gears running in oil; a powerful worm drive and multiple disc clutch for operating power carriage feeds; and improved double tumbler quick change gear box.

Large diameter handwheels with swivel machine handles, extra large clear-cut easy reading micrometer graduated collars and conveniently arranged controls reduce operator fatigue and assure maximum production. Built to meet the demands of modern industry, these lathes have long been first choice among expert toolmakers and experienced production men everywhere.

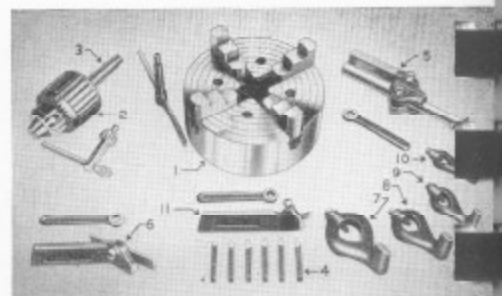
Attachments and Accessories

Only part of the accessories and attachments for 16" South Bend Lathes are listed below. A catalog illustrating and describing all accessories and attachments will be supplied on request.

Cat. No.	Description	Price
CE1882	Bar Feed Attachment	\$295.00
CE3904	Center, Live 60° Hollow	19.65
CE3901	Center, Live 60° Point	19.65
CE1890	Center, Carbide Tipped	10.25
CE2423	Center Cup, wood turn	3.50
CE2399	Center, Crotch	4.20
CE2397	Center, Drill Pad	3.50
CE2425	Center, Half	3.80
CE2402	Center, 60° Point, hard	3.80
CE1897	Center, 60° Hollow	4.10
CE2414	Center, Screw, wood turn	4.20
CE2417	Center, Spur, wood turn	4.20
CL1991C	Chip Pan for 16" x 6" Lathe	61.00
CL4210MH	Chuck, 10" 4-Jaw Independent fitted to lathe	107.00
CL3507MH	Chuck, 7 1/2" 3-Jaw Universal, fitted to lathe	122.00
CE2828	Collet, Brass, round	2.90
CE2833	Collet, Steel, round	5.25
CL4306H	Collet Att., Handwheel	67.00
CL5206H	Collet Att., Handlever	163.00
CL501B	Coolant Pump with 1/2 h.p. 1 ph. 60 cy., 115 v., A.C. motor	164.00
CE1770H	Collet Block	23.50
CL2027H	Cross Slide, Double Tool	170.00
CE1839	Die Holder	5.75
CE2102	Dogs, Set of 11, 1/2" to 4"	26.50

Cat. No.	Description	Price
CL46MH	Fixture Plate, 11 1/4" O.D.	\$14.00
CE301B	Grinding Att. Ext., 115 v., 1 ph., 60 cy., A.C.	64.50
CL601B	Grinding Att. Int., 115 v., 1 ph., 60 cy., A.C.	167.50
CL1955H	Metric Transposing Att.	69.50
CL2680H	Milling Attachment	102.50
CE2545D	Motor, 1 1/2 h.p., A.C., 3 ph. 60 cy., 220 v.	85.50
CE790	Motor Control, Drum Reversing Switch	9.00
CL2024C	Oil Pan for 16" x 6" Lathe	117.00
CL1353H	Rest Follower, Regular	14.25
CL2395H	Rest, Fol. Telescoping Jaw	17.00
CL1177H	Rest, Steady, Regular	24.75
CL2400H	Rest, Steady, Telesc. Jaw	28.50
CL896H	Rest, Wood Turning	24.75
CL2185FH	Stop, 4-position Carriage	28.50
CL968FH	Stop, Micro, Carriage	25.75
CL1845H	Taper Attachment	257.00
CL810TH	Thread Dial Indicator	20.75
CE1413H	Tool Holder, 10 in 1	20.75
CL1917H	Turret Tool Block, Sq.	683.00
CL3375H	Compound Cross Slide	91.00
CL3376H	Turret Tool Block, Sq. Double Tool Cross Slide	88.00

*No. CE307H. Clamp required for mounting on lathe.....\$3.50



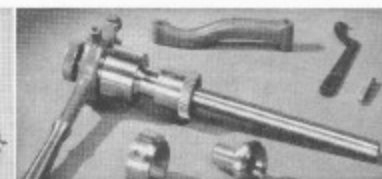
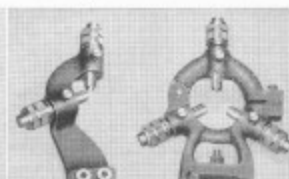
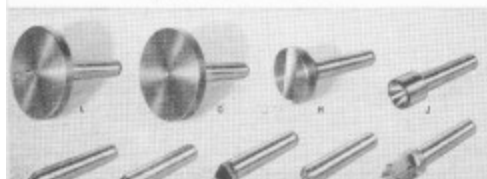
CL2890H. Chuck and Tool Assortment includes: 10" 4-jaw independent chuck; 1" Jacobs drill chuck; arbor for drill chuck; set of four lathe dogs 1/2" to 1 1/2" capacity; cut-off tool, boring bar, turning tool; and six ground cutter bits. Ship. wt. approximately 89 lbs. Price.....\$173.00

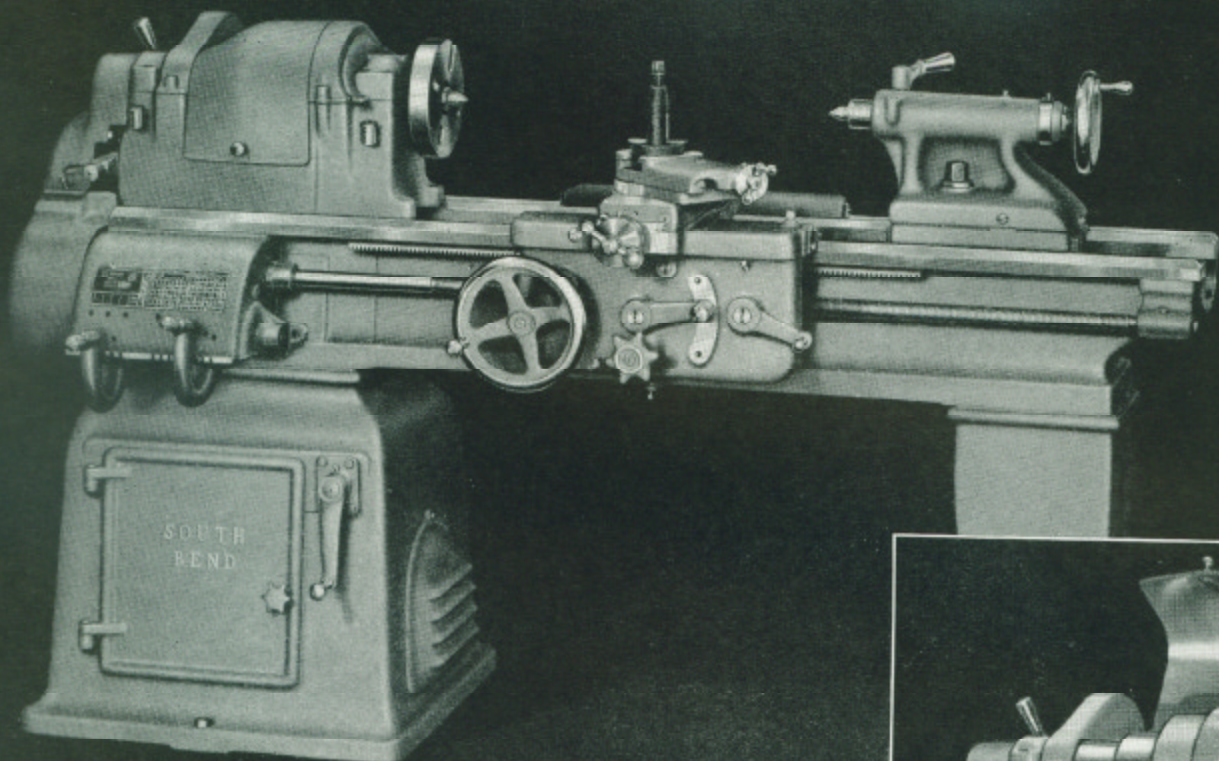
Centers and Drill Pads

Steady and Follower Rests

Handlever Collet Attachment

Telescopic Taper Attachment





Twelve-Speed 16-inch Lathes Six-Speed 16-inch Lathes

The new Twelve-Speed and Six-Speed 16-inch Lathes are important additions to the South Bend line. In the production shop, toolroom, or wherever maximum power or an extra wide range of spindle speeds are needed, these lathes will save time, labor, and money. A three-step cone pulley permits using an extra wide (2 7/8") endless belt which efficiently and smoothly transmits power to the lathe spindle. See inset illustration.

A two-speed three-phase A.C. reversing motor mounted in the base of the Twelve-Speed Lathe develops two horsepower at high speed and one horsepower at low speed. Pushbutton control permits starting, stopping, or reversing the motor instantly, either at high speed or low speed. Instantaneous changes between corresponding high and low speeds permit multiple operations requiring frequent speed changes such as drilling and tapping, boring and reaming or turning and facing to be performed with utmost efficiency. The low spindle speeds are approximately one-half the corresponding high speeds.

A single-speed two horsepower instant reversing motor is supplied for the Six-Speed Lathe. Control equipment may be either drum switch or pushbutton operated line starter.

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 as the Eight-Speed 16-inch Lathes.

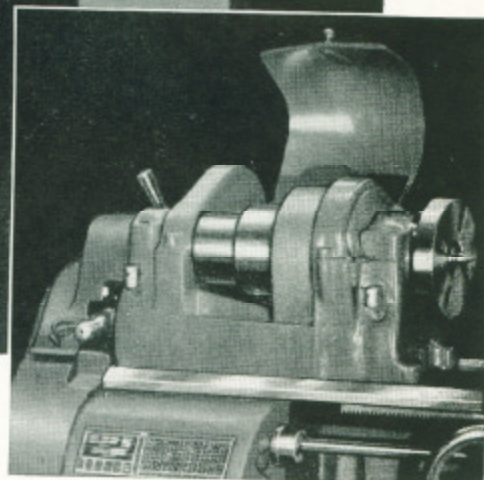
Specifications of Twelve-Speed Lathes

Standard size of motor required (two-speed).....	2-1 h.p.
Width cone pulley step, 12-speed drive.....	3"
SPINDLE SPEEDS (approximate, not exact)	Direct Drive Back-Geared
High speeds, r.p.m.....	845, 550, 300 118, 70, 32
Low speeds, r.p.m.....	475, 278, 150 60, 33, 20

Note—All other specifications for 16-inch Twelve-Speed and Six-Speed Lathes are the same as for 16-inch Lathes with Eight-Speed Drive. See pages 3 and 4.

5

Only your imagination limits you in your use of South Bend.

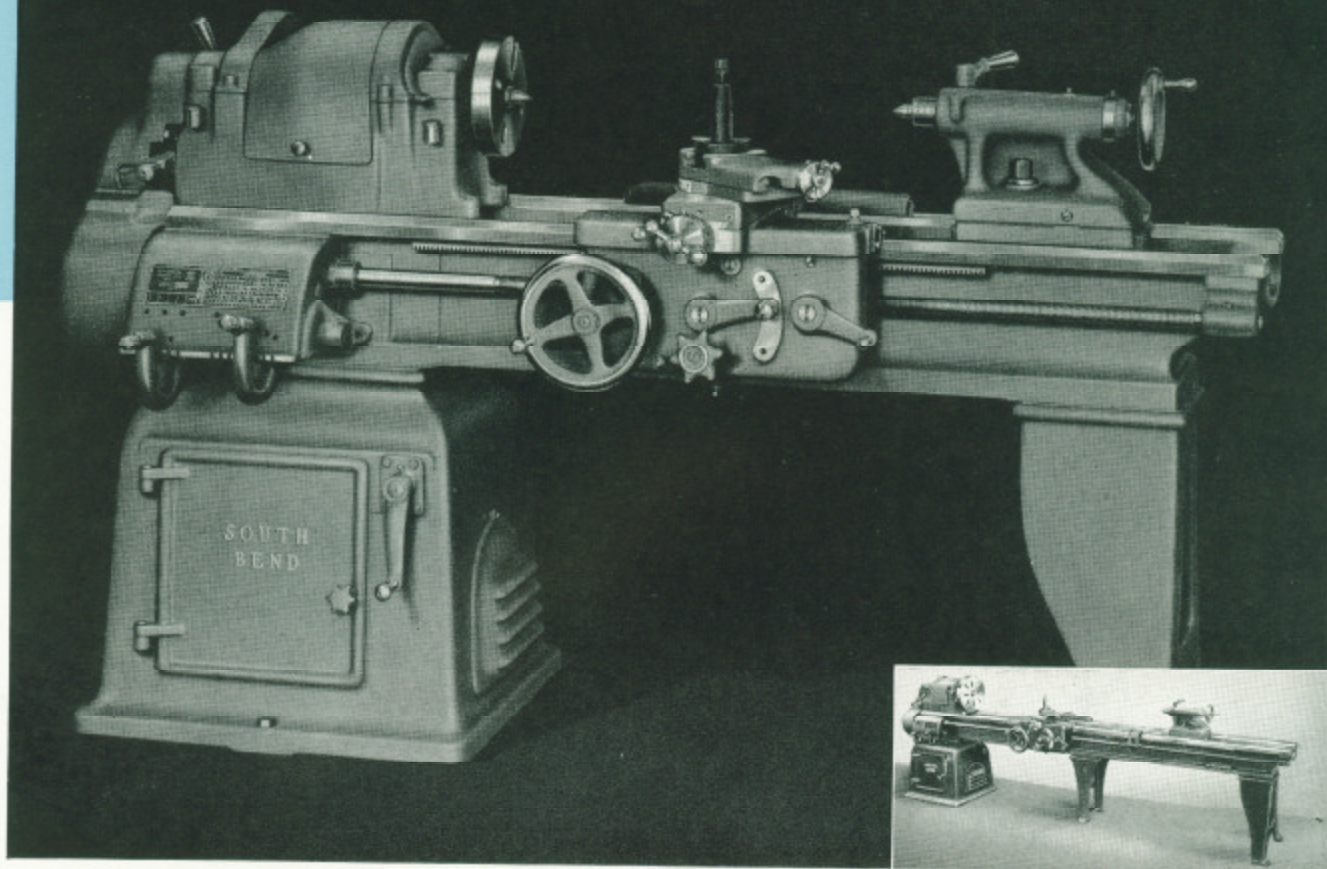


Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
Twelve-Speed 16-inch Quick Change Gear Lathes						
CL155C	6	33 1/4	85	2775	2375	\$2151
CL155D	7	45 1/4	91	3025	2455	2203
CL155E	8	57 1/4	101	3225	2535	2255
CL155G	10*	81 1/4	117	3625	2875	2405
CL155H	12*	105 1/4	134	3975	3050	2555
Twelve-Speed 16-inch Toolroom Lathes						
CL8155C	6	33 1/4	95	3000	2600	2690
CL8155D	7	45 1/4	101	3250	2680	2750
CL8155E	8	57 1/4	111	3450	2760	2810
Six-Speed 16-inch Quick Change Gear Lathes						
CL140C	6	33 1/4	85	2775	2375	2151
CL140D	7	45 1/4	91	3025	2455	2203
CL140E	8	57 1/4	101	3225	2535	2255
CL140G	10*	81 1/4	117	3625	2875	2405
CL140H	12*	105 1/4	134	3975	3050	2555
Six-Speed 16-inch Toolroom Lathes						
CL8140C	6	33 1/4	95	3000	2600	2690
CL8140D	7	45 1/4	101	3250	2680	2750
CL8140E	8	57 1/4	111	3450	2760	2810

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

Specifications of Six-Speed Lathes

Standard size of motor required (one-speed).....	2 h.p.
Width cone pulley step, 6-speed drive.....	3"
SPINDLE SPEEDS (approximate, not exact)	
r.p.m. of spindle, direct belt drive.....	845, 550, 300
r.p.m. of spindle, back-gear drive.....	118, 70, 32



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 our large attachment and accessory catalog which will be mailed on request.

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. See attachment catalog.

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	Factory Price
CL117C	6	33 1/4	85	2700	2300	\$2151
CL117D	7	45 1/4	91	2950	2380	2203
CL117E	8	57 1/4	101	3150	2460	2255
CL117G	10*	81 1/4	117	3550	2800	2405
CL117H	12*	105 1/4	134	3900	2975	2555

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

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 3/4"
Swing over cross slide without chip guard	11 1/4"

HEADSTOCK

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

SPINDLE SPEEDS

Standard spindle speeds (approximate, not exact)	
r.p.m. of spindle, direct belt drive	580, 610, 390, 240
r.p.m. of spindle, back-gear drive	125, 80, 50, 30

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 1/8"
Angular hand feed of compound rest top slide	.354"

THREADS AND FEEDS

Thread cutting range—48 pitches	
R.H. or L.H.	.04 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.-8 thds.

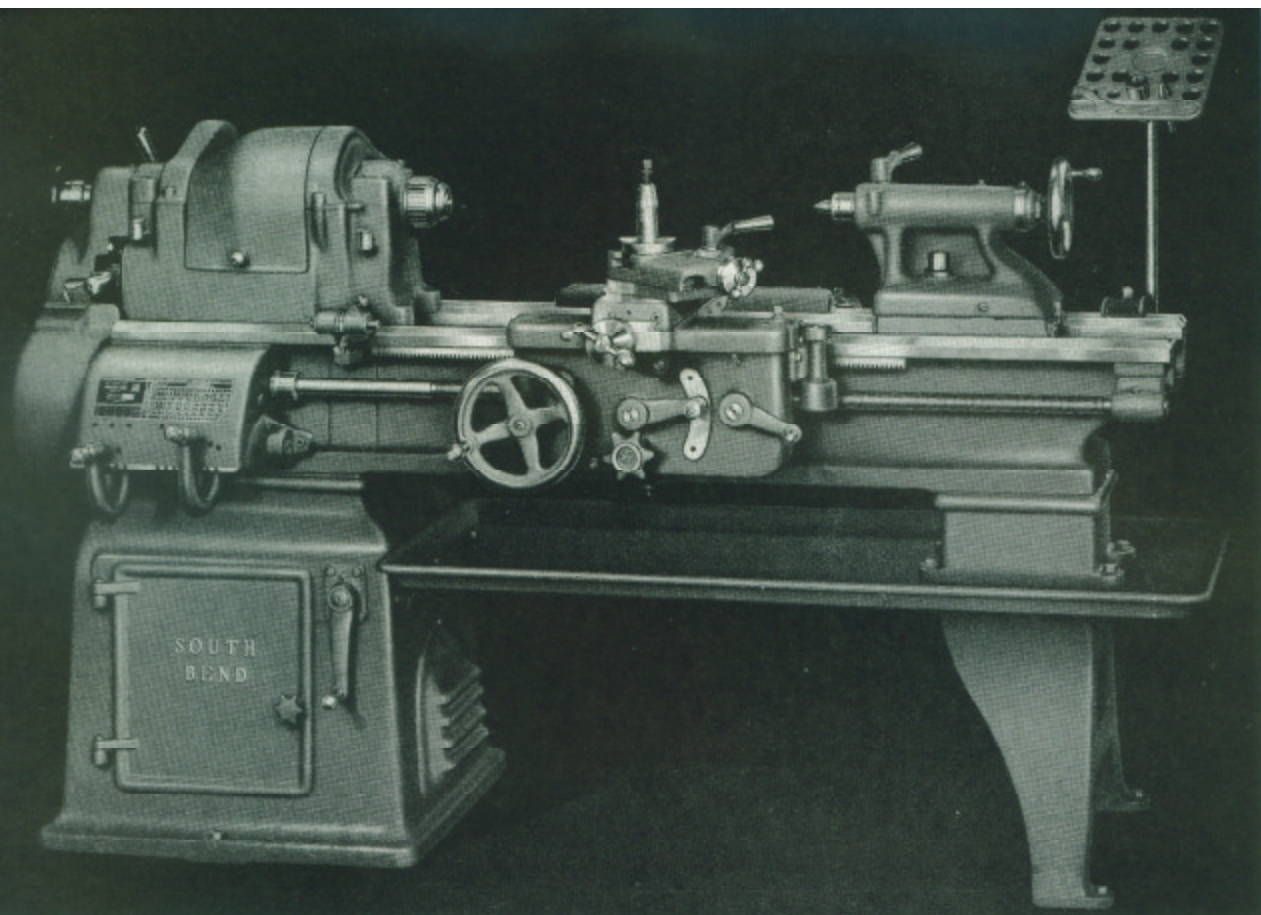
TOOL POST

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

MOTOR

Standard size of motor required	1 1/2 h.p.
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South Bend—the most copied lathe in the world.



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. See attachment catalog.

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	Factory Price
CL8117C	6	33 1/4	95	2925	2525	\$2690
CL8117D	7	45 1/4	101	3175	2605	2750
CL8117E	8	57 1/4	111	3375	2685	2810

Specifications of 16-inch Toolroom Lathes

CAPACITY OF LATHE

Swing over bed and saddle wings.....	16 1/4"
Swing over saddle cross slide.....	9 1/2"

HEADSTOCK

Hole through spindle.....	1 1/2"
Maximum collet capacity.....	1"
Spindle nose diameter and threads.....	2 1/2"-8
Size of center, Morse taper.....	No. 3
Width cone pulley step.....	2 1/2"
Large face plate diameter.....	13 1/2"
Small face plate diameter.....	8 1/2"
Front spindle bearing, diameter.....	2 1/4"

SPINDLE SPEEDS

Standard spindle speeds (approximate, not exact)
r.p.m. of spindle, direct belt drive... 950, 610, 390, 240
r.p.m. of spindle, back-gear drive... 125, 80, 50, 30

TAILSTOCK

Size of center, Morse taper.....	No. 3
Spindle travel.....	5 1/2"
Each graduation on tailstock spindle.....	1/16"
Tailstock top set-over for taper turning.....	1"

COMPOUND REST

Cross slide travel.....	10 1/2"
Angular hand feed of compound rest top slide.....	3 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 .0641"
Cross-feeds through friction clutch—48 feeds..... .0006" to .0315"
Lead screw, 29° Acme thread..... 1 1/2" dia.—8 thds.

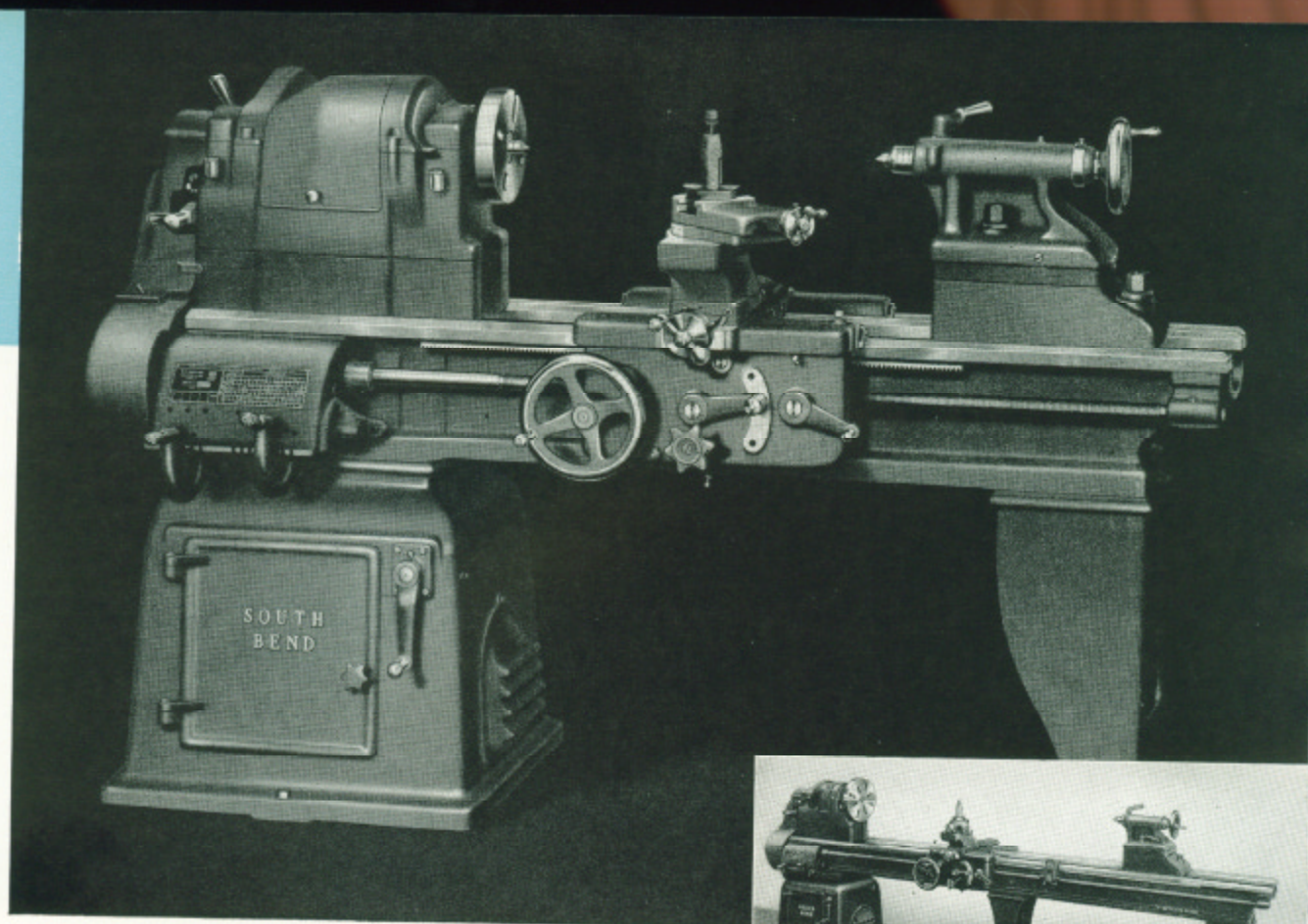
TOOL POST

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

MOTOR

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

You can't go wrong—when you select a South Bend.



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 4.

Catalog Number	Bed Length Feet	Between Centers Inches	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
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16-24" Large Swing Lathes with Eight-Speed Drive

CL198C	6	30	93	3100	2480	\$2437
CL198D	7	42	99	3200	2560	2468
CL198E	8	54	108	3300	2640	2541
CL198G	10*	78	127	3700	2980	2690
CL198H	12*	102	150	3900	3155	2840

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

CL179C	6	30	93	3175	2555	2437
CL179D	7	42	99	3275	2635	2468
CL179E	8	54	108	3375	2715	2541
CL179G	10*	78	127	3775	3055	2690
CL179H	12*	102	150	3975	3230	2840

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

Specifications of 16-24" Large Swing Lathes

CAPACITY OF LATHE

Swing over bed.....	25 $\frac{1}{8}$ "
Swing over saddle wings.....	24 $\frac{1}{2}$ "
Swing over saddle cross slide.....	18 $\frac{3}{4}$ "
Swing over cross slide without chip guard.....	19 $\frac{1}{4}$ "

HEADSTOCK

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

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
8-speed drive.....	470, 280, 175, 105	60, 36, 22, 15
16-speed drive.....		
high speeds.....	900, 550, 340, 203	116, 70, 45, 30
low speeds.....	455, 274, 170, 104	60, 34, 24, 15

TAILSTOCK

Size of center, Morse taper.....	No. 3
Spindle travel.....	5 $\frac{1}{2}$ "
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 $\frac{1}{2}$ "
Angular hand feed of compound rest top slide.....	3 $\frac{1}{2}$ "

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 .0641"
Cross-feeds through friction clutch—48 feeds.....	.0009" to .0315"
Lead screw, 29° Acme thread.....	1 $\frac{1}{2}$ " dia.—6 thds.

TOOL POST

Size of tool holder shank.....	3 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "
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.

Why do others copy South Bend's design and features?

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SPECIFICATIONS FOR 2H SOUTH BEND BACK-GEARED
TURRET LATHE
1" COLLET CAPACITY

1. GENERAL The lathe to be back geared, screw cutting floor leg model, with individual motor drive beneath the headstock. The headstock spindle cone and drive countershaft cone to be connected by a flat leather belt at least 2-7/8" wide.

Capacity of Lathe

Swing over bed - 16-1/4"		
Swing over double tool cross slide - 6-7/8"		
Length of bed	6'	7'
Approx. weight crated, lbs.	2810	2900
Approx. weight boxed, lbs.	3175	3300

2. HEAD-STOCK Back geared type. To be hand scraped to fit bed. The headstock spindle shall be alloy steel, turned and bored from a solid bar, carburized, heat treated to a hardness of 56-61 Rockwell "C" and ground. The journals shall be superfinished to a smoothness of 5 micro inches, (.000005") rms. The spindle shall have hole clear through, with spindle taper hardened and ground. Spindle nose thread to be milled. (Type "L" 00 Long tapered key drive or 4" Type "D" 1 Cam lock spindle nose optional).

Spindle bearings to be tapered wedge-lock expanded one piece replaceable bronze sleeve type fitted with removable caps and shims to provide adjustment for wear. Lubrication of the spindle bearings shall be obtained through a large reservoir and a capillary oiling system providing a complete film of filtered oil which separates the rotating spindle from the bearings. An oil return system shall be provided to retain the oil. The bull gear shall be provided with a quick acting plunger type bull gear lock.

Hole through headstock spindle - 1-3/8"
Headstock spindle center size - No. 3MT
Number of spindle speeds - 6 or 12
Range of spindle speeds:
2 hp motor, 6 speeds Approx. 32 to 945 RPM
2-1 hp motor, 12 speeds Approx. 20 to 945 RPM
Collet capacity, max - 1" dia., #5 collet

3. BED Bed to have three prismatic V-ways and one flat way precision finished to align the headstock, tailstock and carriage.

Width of lathe bed, not less than - 11-5/8"

4. TURRET Ram type turret shall be equipped with both power and hand feeds. Turret shall have adjustable feed trip and stop for each of the six turret faces. The turret head shall index automatically on the return stroke of the turret ram. Different rates of power feed shall be obtained by using the quick change gear box of the lathe and also by changing gears in the turret apron. Power shall be transmitted to the turret ram through a friction type clutch in the turret apron. Turret clutch shall be engaged by moving clutch lever. Clutch shall be arranged that it will disengage at end of turret ram travel. Adjustment shall be provided to regulate the amount of pressure on the clutch.

Diameter of holes in turret faces - $1\frac{1}{2}$ "
 Center of turret holes to top of turret ram - $2\frac{1}{2}$ "
 Effective feed of turret ram - $5\frac{7}{8}$ "
 Distance between opposite flats - $9\frac{3}{8}$ "
 Max distance between spindle nose and
 turret face at beginning of indexing
 movement - 6 ft. bed - $28\frac{1}{4}$ "
 7 ft. bed - $40\frac{1}{4}$ "

5. CARRIAGE Apron shall be one piece double wall construction having steel spur gears. Power longitudinal and cross feeds shall be provided and engaged by multiple disc friction clutch. Separate lever shall be provided for engaging the half nuts.

Saddle shall be one piece casting and of Brinell hardness of 5 to 15 points less than the bed ways. Cross slide screw shall be fitted with micrometer graduated collar. Cross feed screw shall have two ball thrust bearings. One to take the thrust at the front of the cross feed bushing and one at the rear. The saddle ways both in front and in back shall be of the inverted "V" type, hand scraped to match corresponding ways on the bed. The saddle shall be provided with an adjustable gib at the rear. Saddle shall have oilers for lubricating ways. The bearing of the cross slide shall be of dovetail construction, hand scraped and provided with adjustable gib.

Cross slide travel - $9\frac{3}{4}$ "
 Tool block openings for cutter bits - $5\frac{5}{8}$ " x $5\frac{5}{8}$ "

6. DRIVE The motor drive unit and motor shall be mounted inside the cabinet leg underneath the headstock. Motor to be connected by 4 V-belts to the countershaft. Countershaft cone to be connected to the headstock spindle cone by flat leather belt at least $2\frac{7}{8}$ " wide. Motor drive and belts to be fully enclosed with cabinet leg provided with door on front and removable grills on two sides. A tilting device operated by a convenient lever outside the headstock cabinet leg shall be provided to lift the motor drive cradle for releasing the belt tension.

7.FEED Quick change gear type. Different rates of power feeds shall be provided through a quick change gear box by means of tumbler gears. No sliding gears. The gear box gears shall be of steel and the gear box shall be enclosed at top, front and sides.

A twin gear reverse shall be provided for right and left hand feeds. The twin gear reverse bracket shall have a quick acting plunger lock.

Thread cutting range - 48 changes, R.H. or L.H.
4 to 224 thd. per inch

Longitudinal friction feeds
per revolution of spindle - 48 changes, R.H. or L.H.
.0015" to .0841"

Frictional cross feeds per
revolution of spindle - 48 changes, .0006" to .0315"

Max. longitudinal carriage travel - 6 ft. bed - 22-1/2"
7 ft. bed - 34-1/2"

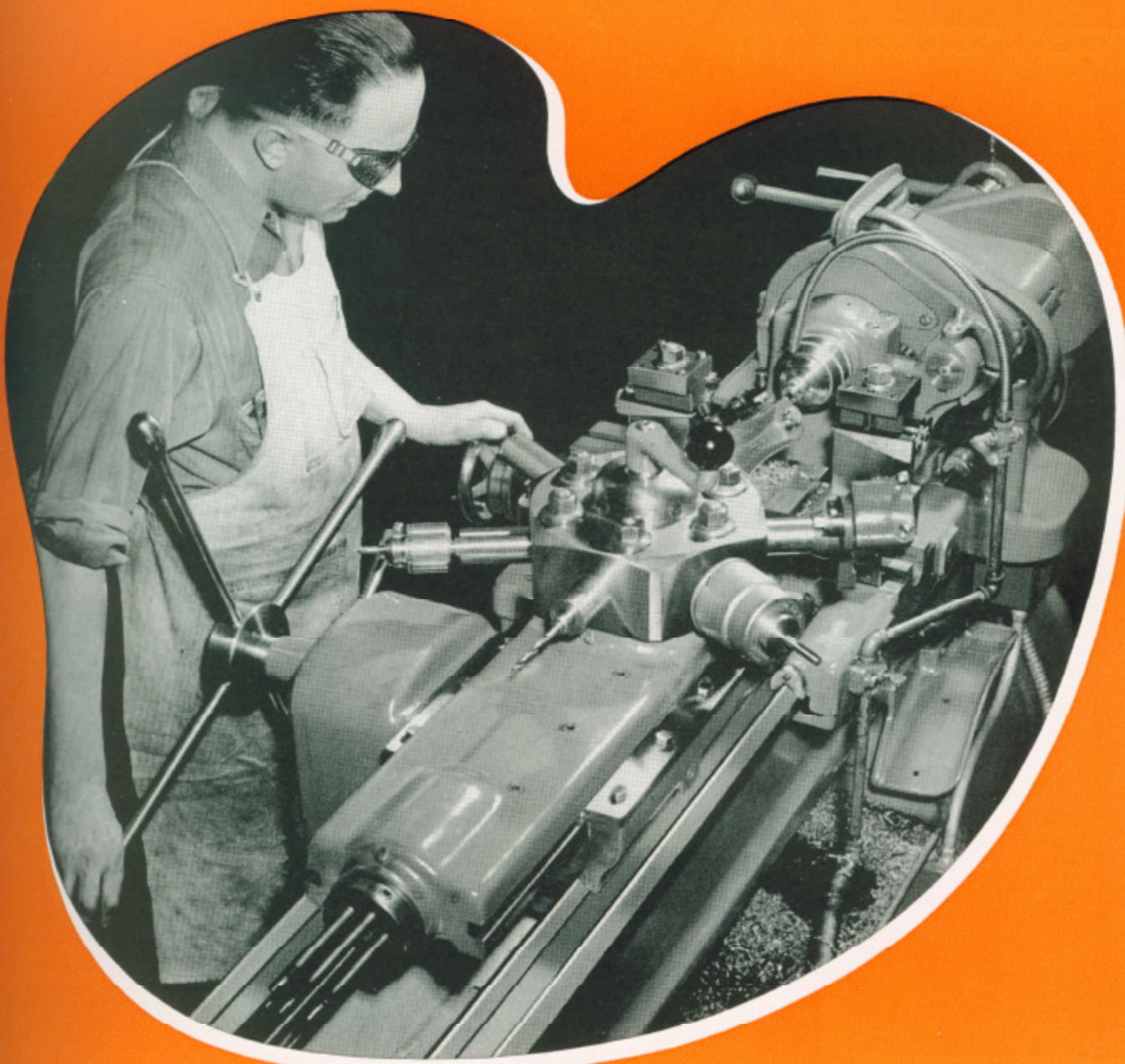
8.REGULAR Equipment to be included as standard equipment will be as EQUIPMENT follows:

Double tool cross slide
Power feed ram type turret
Oil pan
Coolant return assembly
Set of wrenches
All necessary belts
Instructions
Installation plan
Lubrication chart
"How to Run a Lathe"
Parts list

9.OPTIONAL Listed below are some of the items that are commonly used with EQUIPMENT this type machine.

Handlever collet attachment, Cat. No. CL5206H
Set of 16 collets for round work, Cat. No. CE2435
Collet splash guard, Cat. No. CL5223H
Collet rack, Cat. No. CE1770H
Step chuck, Cat. No. CE5936 (2")
Square turret tool block, Cat. No. CL3376H
Coolant pump, Cat. No. CL501B (1-60-115)
Micrometer carriage stop, Cat. No. CL968FH
Four position carriage stop, Cat. No. CL2185FH
7 1/2" 3 jaw universal chuck, Cat. No. CL3507MH
10" 4 jaw independent chuck, Cat. No. CL4210MH

SOUTH BEND TURRET LATHES



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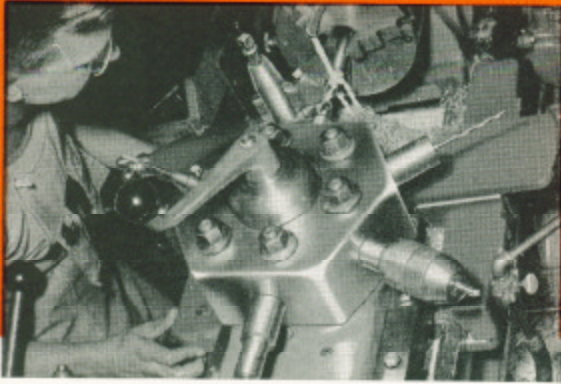
SOUTH BEND LATHE WORKS

Building Better Tools Since 1906

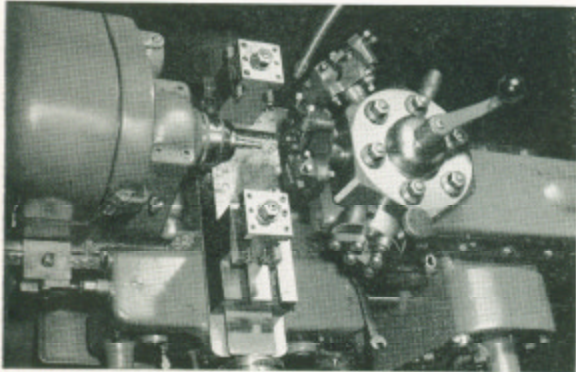
425 E. MADISON ST., SOUTH BEND 22, IND., U.S.A.



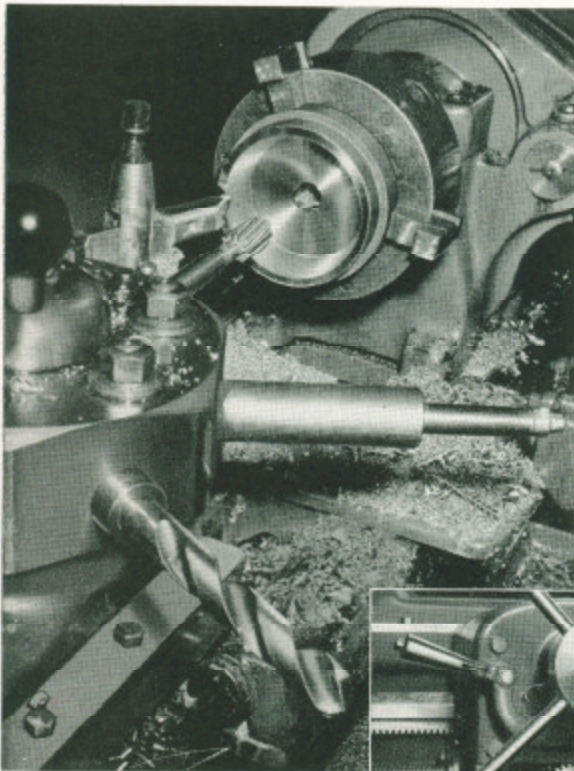
HIGH PRODUCTION WITH *Precision* ACCURACY



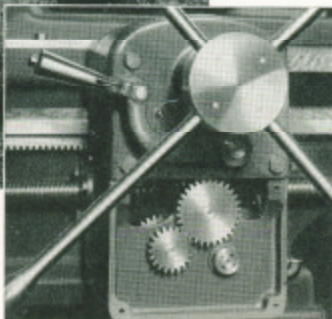
Manufacturing Small Parts from Bar Stock



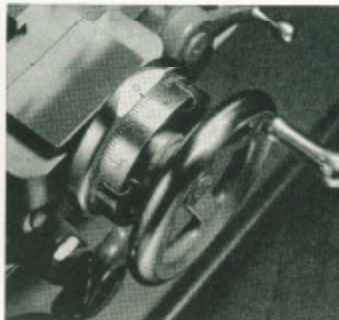
Close-up of Tooling on Turret and Cross Slide



Machining a Bronze Clutch in the No. 2-H Turret Lathe. A Compound Cross Slide is Used to Finish the Inside Taper.



Turret Apron Opened to Show Change Gears for Changing Direction and Speed of Power Feeds to Turret Slide



Close-up of Graduations on Cross Slide Micrometer Collar

No. 2-H Turret Lathe

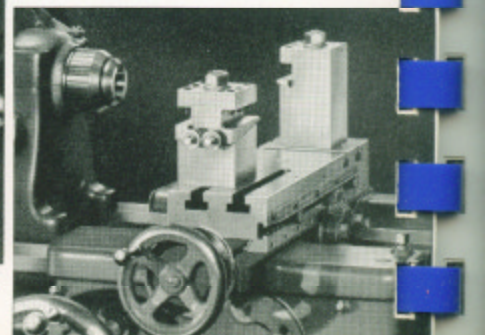
The South Bend No. 2-H Turret Lathe is a dependable tool for the manufacture of duplicate parts. It has the stamina for exacting, close-tolerance work, ample power for smooth performance, and the rigidity for producing a fine finish. It meets the demand for fast, efficient production, yet it is easily adaptable to many classes of work.

The universal carriage slides on the outer V-ways of the lathe bed, providing an exceptionally rigid support for the cross slide. This construction also permits working close to the lathe spindle, preventing excessive overhang of the work or the turret tools.

Mounted on the inside bed ways, the hexagon turret base clears the saddle wings of the universal carriage which slides on the outer bed ways. This permits the turret to be placed close to the work and eliminates excessive overhang of the turret tools. The turret head indexes automatically when the turret slide is returned to the starting position. An individual feed trip and stop for each face of the turret accurately regulates the length of the cut, with either the power feed or the hand feed. The turret head may be back-indexed or spun when it is desired to skip tool positions.

Accurate indexing of the turret head is assured by the use of a hardened, ground, and superfinished index pin which operates in ground and lapped bushings. The indexing bushings are replaceable and the main central bearing is tapered for adjustment. The turret slide has tapered gibs on both sides which provide adjustment for wear and alignment. Power feeds for the turret slide are driven by a lever operated friction clutch, permitting instant engagement and disengagement. The power feed is reversible to permit feeding the turret toward the headstock regardless of direction of feed on the universal carriage. A large turnstile is provided for hand feed.

Screw Feed Double Tool Cross Slide



CL1005Z TURRET LATHE

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in our complete attachment catalog. Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the double tool 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 ample power for smooth performance and the rigidity for producing a fine finish. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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. See small inset illustration.

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. Factory Price.....\$1612

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. See attachment catalog.

Specifications of CL1005Z Turret Lathe

CAPACITY OF LATHE

Hole through spindle.....	1½"
Swing over bed and saddle wings.....	10½"
Width of lathe bed.....	7½"
Spindle nose diameter and threads per inch.....	2¼"-8
Maximum collet capacity through handlever collet chuck.....	1"
Maximum capacity through universal lathe chuck.....	1½"

TURRET

Diameter of holes in turret faces.....	5/8"
Center of turret hole to top of turret slide.....	1½"
Effective feed of turret slide.....	4"
Distance between opposite flats.....	4½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	19½"

*Can be supplied to order with ¾" holes in turret head. No extra charge.

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	700, 448, 282	120, 80, 52
	370, 235, 152	65, 42, 27

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.....	3½"
Cross travel of cross slide.....	3½"
Maximum size cutter bit tool block opening will take.....	1½" x 1½"
Power cross-feeds.....	.0008" to .0303"

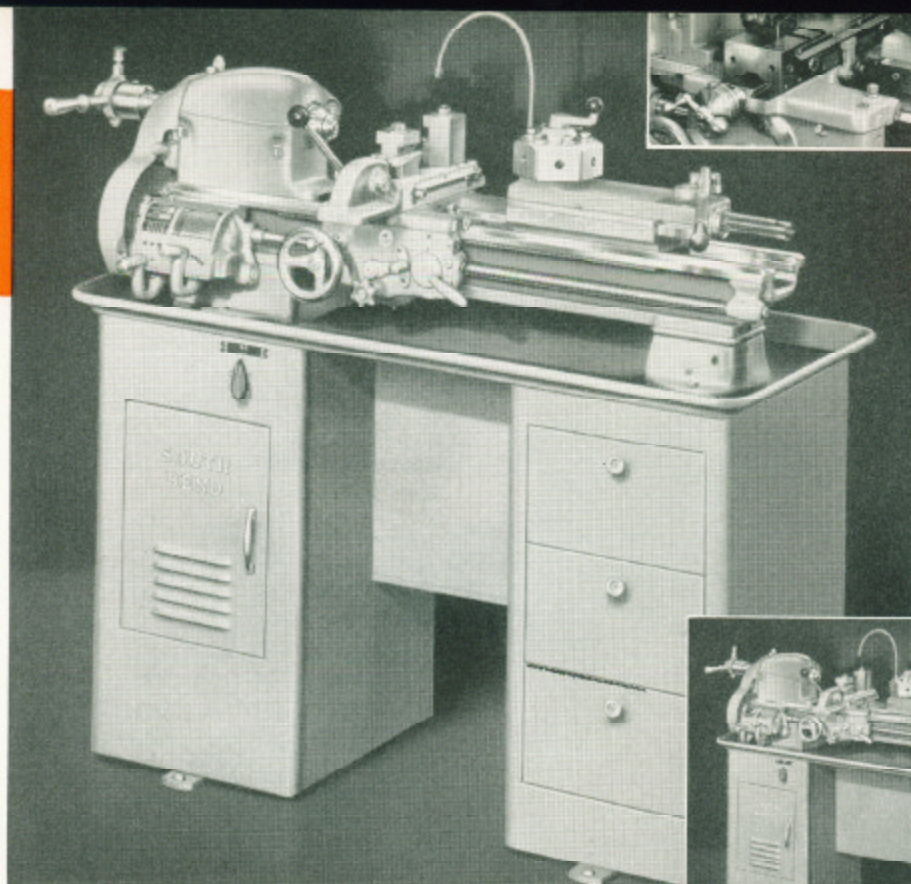
COMPOUND REST CROSS SLIDE

Swing over compound cross slide.....	5½"
Cross slide will travel.....	6"
Angular hand feed of top slide.....	2"
Size of tool holder shank for tool post.....	3/8" x 1½"
Size of cutter bits tool holder takes.....	3/8" x 1½"
Power cross-feeds.....	.0008" to .0303"

MOTOR (Standard size)

One-speed.....	¾ h.p.
Two-speed.....	1½ h.p.

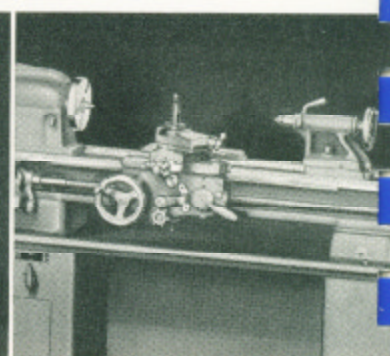
Total cost of work produced includes first cost of equipment, maintenance, and interest on investment.



SERIES 900 TURRET LATHES

CONVERT TO ENGINE LATHES

Compound rest cross slide and regular tailstock are included in equipment of these lathes. These units can be mounted in place of the double tool cross slide and bed turret as shown below to convert the turret lathe into an engine lathe for regular lathe work.



The handlever collet attachment, 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 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. See small inset illustration.

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 3½ ft. bed, mounted welded steel column base with drawers, built-in oil pan, underneath motor drive unit, power feed universal carriage, handlever bed turret, regular tailstock, double tool cross slide, compound rest cross slide, centers, spindle sleeve, small face plate, and coolant return assembly. Approx. wt. crated 800 lbs., boxed wt. 1130 lbs. Cubic feet boxed 47. Factory Price.....\$1009

CL930Z. Same as above but mounted on welded steel column base without drawers. Approx. wt. crated 795 lbs., boxed wt. 1120 lbs. Cubic feet boxed 47. Factory Price.....\$975

NOTE: Splash pan, draw-in collet chuck attachment, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathe. See attachment catalog.

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.....	4"
Maximum capacity through universal lathe chuck.....	3 1/2"

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 1/2"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	20 1/2"

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

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

UNIVERSAL CARRIAGE

Thread cutting range.....	.4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0653"
Maximum longitudinal travel of universal carriage, hand or power feed.....	18"
Maximum size cutter bit tool block opening will take.....	3/8" x 1 1/2"
Power cross-feeds.....	.0004" to .0255"

DOUBLE TOOL CROSS SLIDE

Swing over double tool cross slide.....	3 1/2"
Cross travel of cross slide.....	30 3/4"

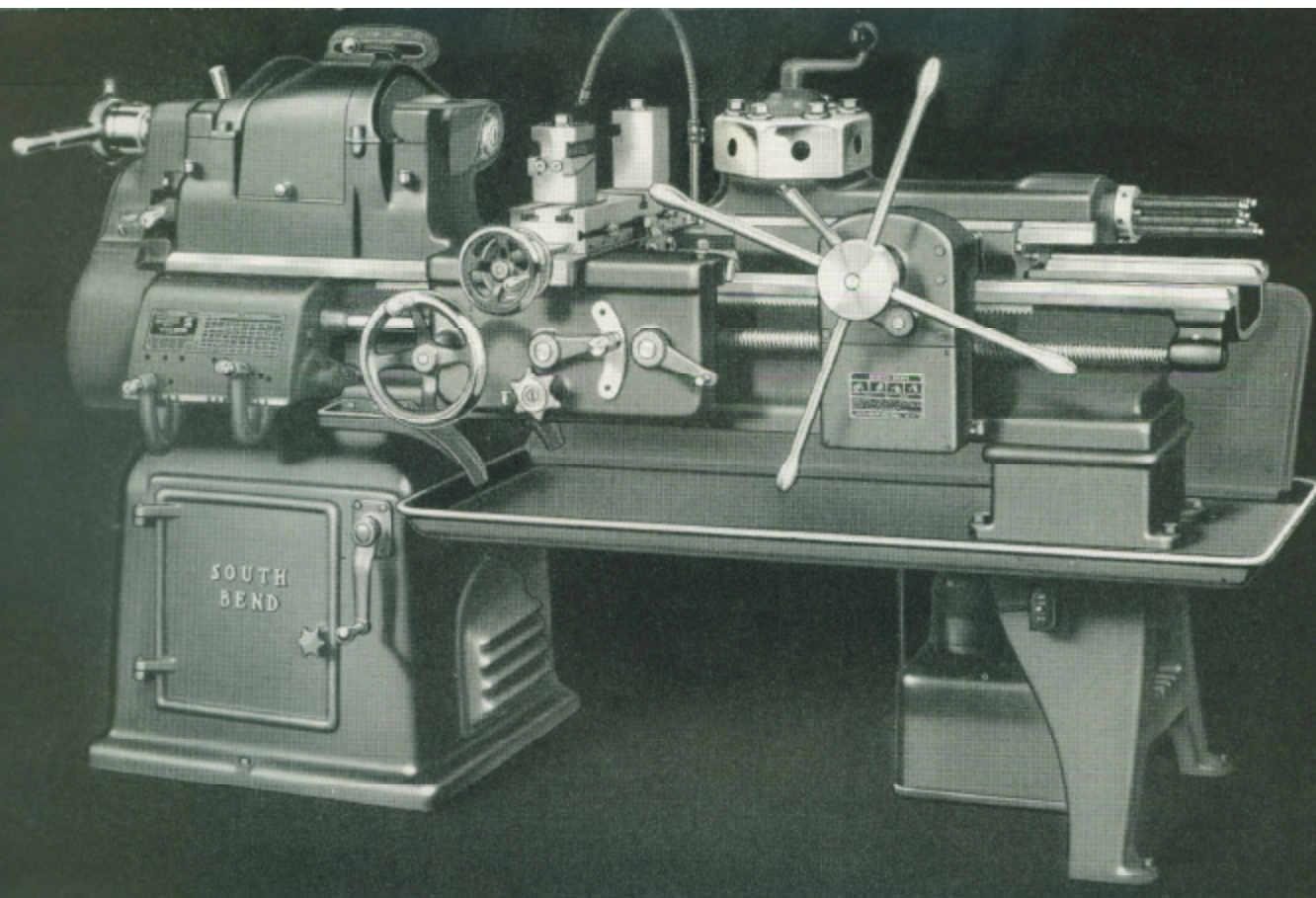
COMPOUND REST CROSS SLIDE

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

MOTOR

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

Lard oil is the best lubricant for cutting screw threads.



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

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; wrenches; and installation plan. Electrical equipment, handlever collet attachment, collet splash guard, coolant reservoir, coolant pump, splash pan, and piping are not included in price of lathe. See attachment catalog.

No. 2-H Turret Lathes with Power Feed Carriage and Turret

Catalog Number	Bed Length Feet	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CL2CT	6	112	3175	2810	\$3190
CL2DT	7	127	3300	2900	3250

Note—These lathes can be supplied with hand feed only for the turret, or the turret can be supplied as an accessory for lathes now in use. Write for information.

Specifications of No. 2-H Turret Lathes

CAPACITY OF LATHE

Hole through spindle	1 1/2"
Swing over double tool cross slide	6 1/2"
Swing over bed and saddle wings	16 1/2"
Width of lathe bed	11 1/2"
Spindle nose diameter and threads per inch	2 1/2" x 8
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, 23, 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 1/2"
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 1/4"

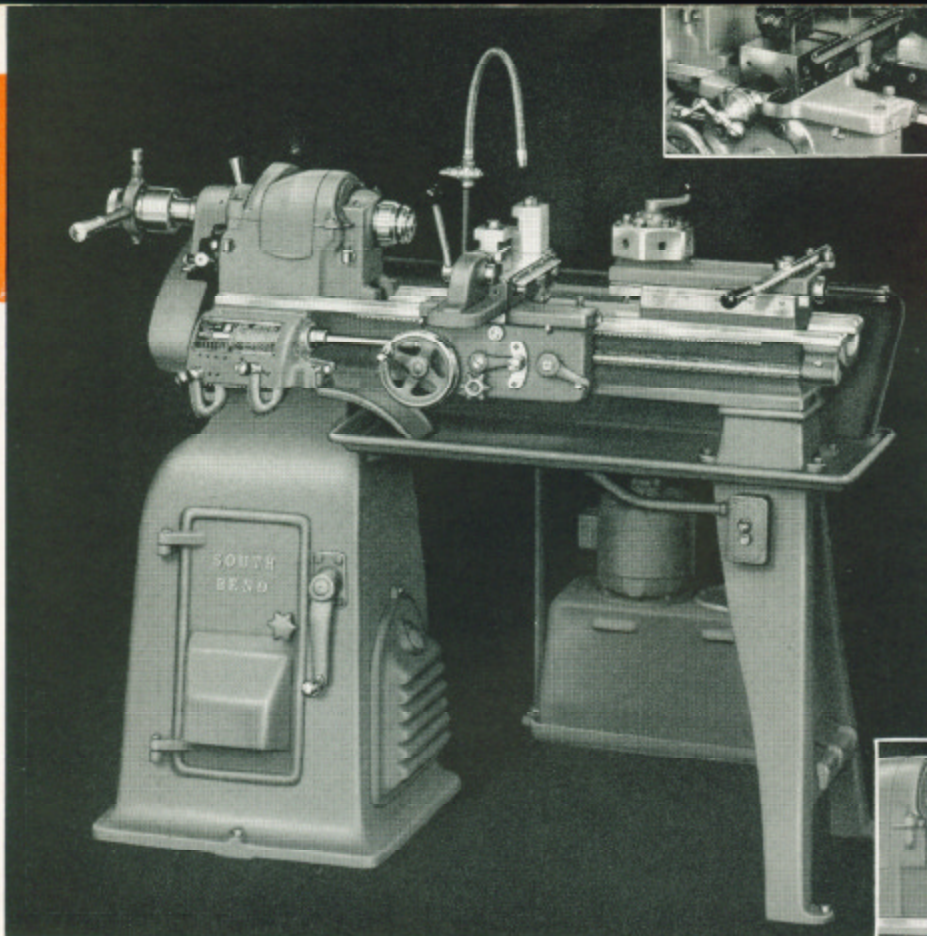
For a better buy—buy South Bend.

UNIVERSAL CARRIAGE

Thread cutting range	4 to 224 per inch
Power longitudinal feeds	.0015" to .0841"
Maximum longitudinal travel	6 ft. bed 22 1/2"
	7 ft. bed 34 1/2"
Power cross-feeds, 48	.0006" to .0315"
Cross travel of cross slide	9 1/2"
Tool block openings for cutter bits	5/8" x 3/8"

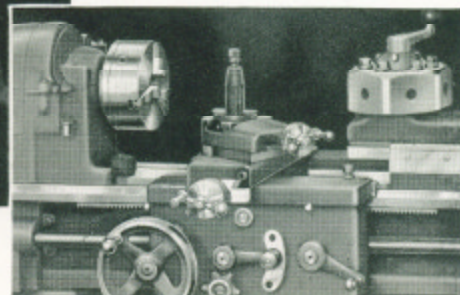
MOTOR

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.



CL1006Z TURRET LATHE

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in our complete attachment catalog. Compound rest cross slide with power feed, shown below, is supplied as regular equipment with each lathe and is interchangeable with the double tool 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. This lathe can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications below.

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. See small inset illustration.

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 3½ ft. bed, power feed universal carriage, handlever bed turret, double tool cross slide, compound rest cross slide, oil pan, and coolant return assembly. Approx. wt. crated, 1050 lbs. Boxed wt. 1350 lbs. Cubic feet boxed 45. Factory Price.....\$1574

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. See attachment catalog.

Specifications of CL1006Z Turret Lathe

CAPACITY OF LATHE

Hole through spindle.....	13½"
Swing over bed and saddle wings.....	10½"
Width of lathe bed.....	71"
Spindle nose diameter and threads per inch.....	2½"-8
Maximum collet capacity through handlever collet chuck.....	1"
Maximum capacity through universal lathe chuck.....	13½"

TURRET

Diameter of holes in turret faces*.....	3½"
Center of turret hole to top of turret slide.....	11½"
Effective feed of turret slide.....	4"
Distance between opposite flats.....	43½"
Maximum distance between spindle nose and turret face at beginning of indexing movement.....	19½"

*Can be supplied to order with ¾" holes in turret head. No extra charge.

SPINDLE SPEEDS (approximate, not exact)

	Direct Drive	Back-Geared
With one-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
With two-speed motor		
High speeds, r.p.m.....	1400, 898, 585	250, 160, 105
Low speeds, r.p.m.....	740, 470, 304	130, 85, 55
	700, 440, 292	125, 80, 52
	370, 235, 152	65, 42, 27

UNIVERSAL CARRIAGE

Thread cutting range.....	.4 to 224 per inch
Power longitudinal feeds.....	.0015" to .0036"
Maximum longitudinal travel of universal carriage, hand or power feed.....	16"

DOUBLE TOOL CROSS SLIDE

Swing over double tool cross slide.....	3½"
Cross travel of cross slide.....	3½"
Maximum size cutter bit tool block opening will take.....	1½" x 1½"
Power cross-feeds.....	.0006" to .0033"

COMPOUND REST CROSS SLIDE

Swing over compound cross slide.....	57"
Cross slide will travel.....	64"
Angular hand feed of top slide.....	2"
Size of tool holder shank for tool post.....	3½" x 13½"
Size of cutter bits tool holder takes.....	1½" x 1½"
Power cross-feeds.....	.0006" to .0033"

MOTOR (Standard size)

One-speed.....	¾ h.p.
Two-speed.....	1 h.p.

SPECIFICATION 12-DP-5

SPECIFICATIONS FOR SOUTH BEND 14" PRECISION DRILL PRESS

1. GENERAL Drill press to be ruggedly constructed and latest model designed for manufacturing, tool room and general shop work. The drill press to be motor driven, with motor mounted vertically at rear with motor pulley in line with spindle drive pulley. Spindle drive pulley and motor pulley to be connected by a V-belt. Drill press to provide four different spindle speeds.

	Bench Model	Floor Model
Drills to center of circle, dia.	14-1/4"	14-1/4"
Maximum drill size in iron or steel	1/2"	1/2"
Chuck capacity	0-1/2"	0-1/2"
Distance from chuck to base, max.	16"	45-1/4"
Distance from chuck to table, max.	11-3/8"	40-3/4"
Over-all height	35-9/16"	65-9/16"
Over-all width	12-1/4"	15"
Over-all depth with 1/3 hp motor	27-3/4"	27-3/4"
Over-all depth with 1/2 hp motor	29"	29"
Approx. weight crated with motor	190 lbs.	235 lbs.

2. SPINDLE The spindle shall be free floating type. Two precision ball bearings shall be provided to carry the drive sleeve and two ball bearings shall carry the spindle which shall be spline driven with 6 splines. Bearings shall be preloaded and sealed type.

Spindle speeds - 4
Range of spindle speeds - 720 to 4325 RPM
Spindle travel, max. - 4"

3. HEAD The head shall be of one piece construction of iron. The head shall be of sufficient width to accommodate a built-in work light. The head unit shall be clamped to the supporting column by means of a double plug binder. Head to be adjustable to any position on the column. Head casting shall not be split.

4. ADJUSTMENT Provision shall be made for quill tension adjustment. Quill OF SPINDLE bearing not to be split. The quill shall be equipped with a QUILL device to eliminate play between quill and casting when wear occurs.

5. TABLE The table shall be of heavy construction with ground top surface. The table to be full tilt type with diagonal slots for clamping work or fixtures and the edge of the table shall have a heavy flange with 3/4" flat underneath for clamping. The table column bearing shall not be split. A double plug binder shall be provided for locking the table in any position on the column.

Table work area - 10" X 10"
Table tilt - any angle

6. BASE The base shall be of heavy construction with precision ground top surface. Slots shall be provided for clamping work or fixtures.

	Bench Model	Floor Model
Base work area	7" x 10"	8" x 12"

7. COLUMN The column shall be approximately 2-3/4" diameter seamless steel tubing accurately ground on the outside diameter.

8. MOTOR MOUNTING The motor shall be supported on a hinged bracket to provide for movement forward or back as required when operating the belt tension mechanism.

Motor size - 1/3 hp or 1/2 hp
Motor speed - 1725 RPM

9. BELT TENSION MECHANISM A hand lever shall be provided to move motor and pulley forward to release tension on belt for shifting belt when changing spindle speeds.

10. WORK LIGHT A built-in work light shall be provided as an integral part of the machine.

11. CONTROLS Built-in controls shall be provided as follows:

On and off switch for work light
On and off switch for motor

12. OPTIONAL EQUIPMENT Items listed below are items that are commonly used on this type machine:

Swivel machine vise, Cat. No. CE9100
Swivel to be graduated to 180 degrees to permit setting vise at any angle. Jaws of vise to be replaceable, hardened and ground, 4" wide, 1" deep. Jaw opening 4". Vise casting to be made of nodular iron.
Mortising att. fence assembly, Cat. No. CE9151
Mortising att. chisel holder, Cat. No. CD9152
Mortising att. chisel, 1/2" sq., Cat. No. CE9155
Motor belt guard, Cat. No. CD9136
Table support ring, Cat. No. CE9140
Multi speed attachment, for 1/3 hp motor, Cat. No. CD9135A
Multi speed attachment, for 1/2 hp motor, Cat. No. CD9135B
Universal table, Cat. No. CE9156
Head positioning attachment, Cat. No. CD9131
Table positioning attachment, Cat. No. CD9130
Trunstile feed lever attachment, Cat. No. CD9155

CATALOG 5441

SOUTH BEND 14" DRILL PRESSES



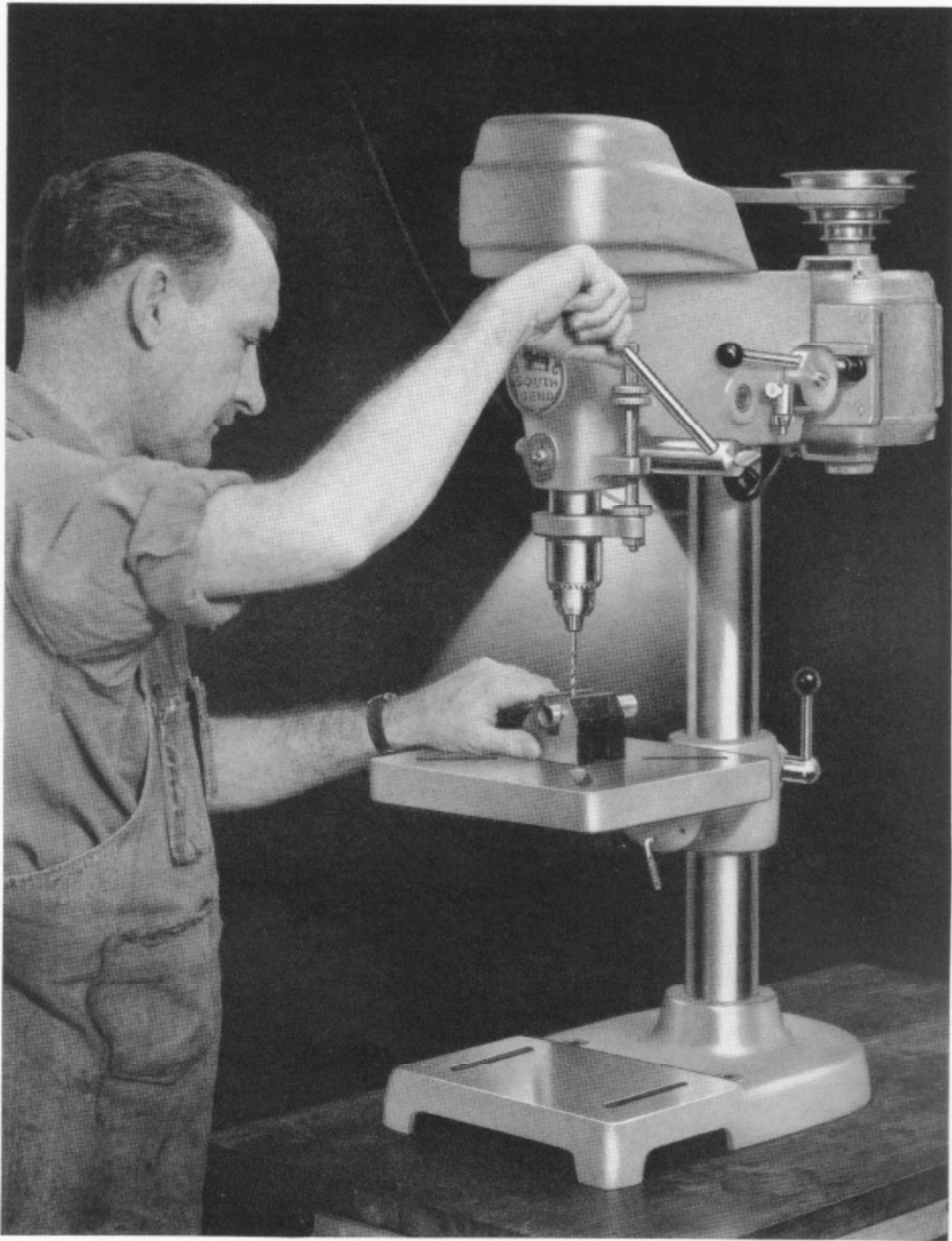
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SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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





14-inch South Bend *Precision* Model Bench Drill Press

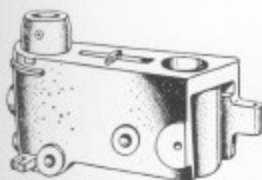
14-inch South Bend Precision Model Drill Press

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.

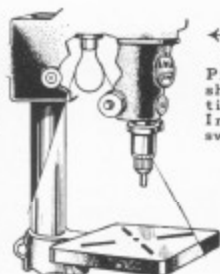
Being a completely new design, the Precision Model Drill Press introduces several original features which add to its convenience and ease of operation. A built-in light with independent switch provides shadowless illumination on the work area, eliminating the necessity of installing a separate lighting 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

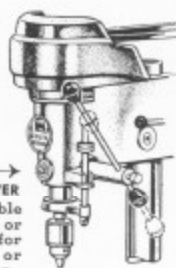
Maximum drill size in iron or steel.....	1 1/2"
Drills to center of.....	14 1/4" circle
Net weight, bench type, less motor.....	130 lbs.
Net weight, floor type, less motor.....	165 lbs.
Chuck capacity.....	0 to 1 1/2"
Spindle speeds, four, approx. r.p.m.....	720, 1335, 2025, 4325
Spindle travel, maximum.....	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.....	2.730"
Motor, size recommended.....	1/2 or 3/4 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.



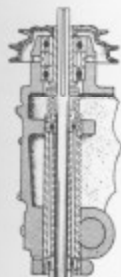
ADJUSTABLE FEED LEVER
Feed lever is adjustable and can be centered or extended as desired for increased leverage or for greater convenience.



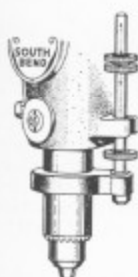
INTERCHANGEABLE SPINDLES
Spindles available to take No. 2 Morse taper shank tools, and for 1/2" straight shank tools, router bits, shaper cutters.



ADJUSTABLE QUILL RETURN SPRING
Retracts quill instantly upon release of feed lever. Tension of spring adjustable.



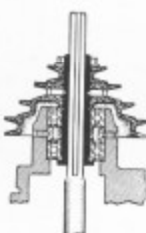
FOUR PRECISION BALL BEARINGS
Two on spindle, two on drive sleeve. Prelubricated and sealed precision type, no oiling required.



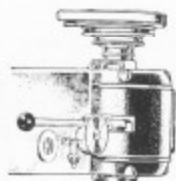
DEPTH GAUGE
Controls feed depth, length of return stroke, or locks spindle in any position. 16th graduations.



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.

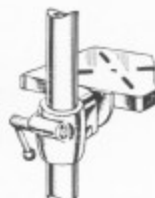
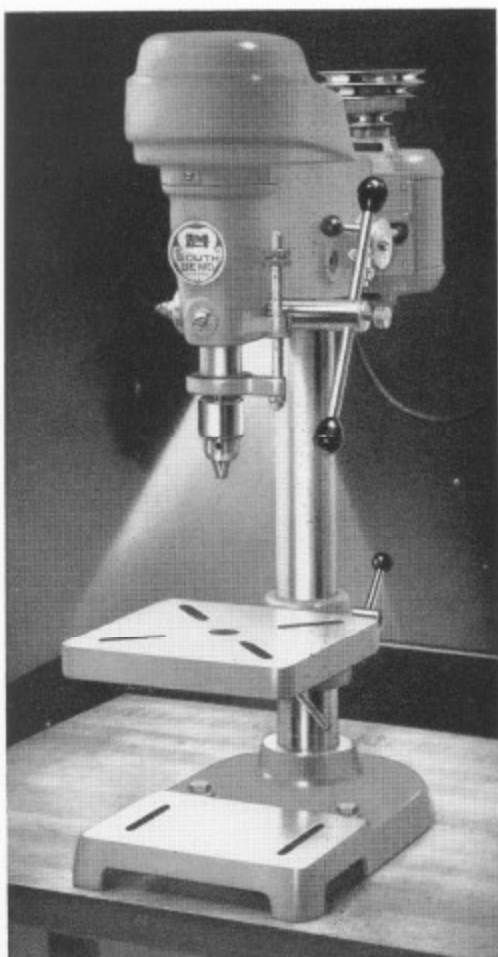


TABLE LOCK
Internal clutch securely locks table to column. Eliminates misalignment. Column bearing is NOT split.



PRECISION TABLE HAS WIDE CLAMPING RIB
Table has accurately ground work surface. Heavy rib 1/4" wide strengthens table and provides flat surface underneath for clamping work securely to table.

South Bend's Drill Press has been copied, too.



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 $\frac{3}{4}$ ". 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 prelubricated 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 8 for drill press motors.

Precision Model Bench Drill Presses

Catalog Number	Spindle Equipment	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CD400B	$\frac{1}{2}$ " Jacobs Key Chuck	9	285	190	\$122
CD414B	No. 2 Morse Taper Socket	9	285	190	117

Note: If ordered less motor, specify voltage, phase, and cycle of motor to be used.



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 internal clutch 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. See page 8 for drill press motors.

Precision Model Floor Drill Presses

Catalog Number	Spindle Equipment	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CD400F	$\frac{1}{2}$ " Jacobs Key Chuck	19	365	235	\$141
CD414F	No. 2 Morse Taper Socket	19	365	235	136

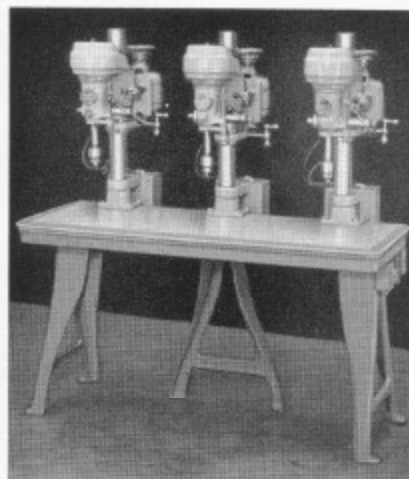
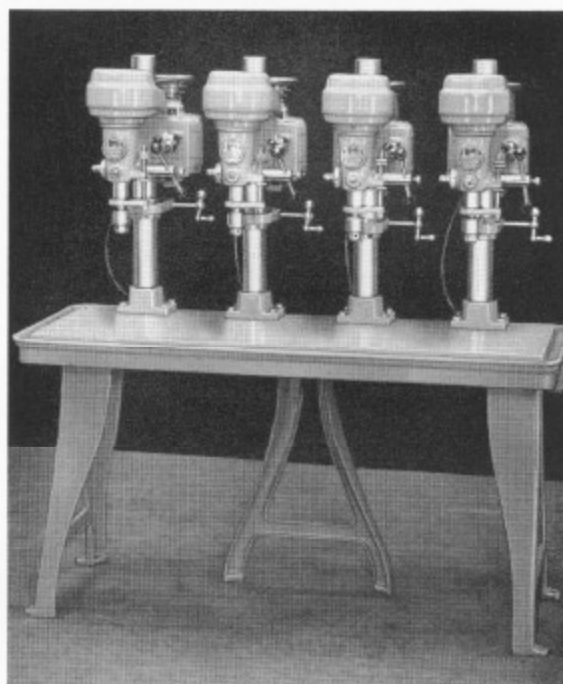
Precision Model Single and Multiple Spindle Drill Presses for Production Operations

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.

The drill press spindles can be supplied with either $\frac{1}{2}$ " Jacobs key type chucks or with taper sockets to receive tools with No. 2 Morse taper shanks. Coolant pump and reservoir, multi-speed attachment, and other attachments and accessories can be supplied and are illustrated and described on pages 8 to 11 inclusive.

Regular equipment supplied with each drill press head includes: head positioning mechanism, spindle equipment as indicated in table below, motor base, motor pulley, V-belt, built-in work light, wiring and toggle switches. Motors and remote control equipment are not included. (See page 8.) If drill press is ordered without motors, specify voltage, phase and cycle of motors to be used so correct wiring can be supplied in drill press head.



With $\frac{1}{2}$ " Jacobs Chucks		With No. 2 M. T. Sockets		Number of Spindles	Table Work Surface	Between Column Centers	Over-all Size			Cubic Feet Boxed	Boxed Weight Pounds	Grated Weight Pounds
Cat. No.	Factory Price	Cat. No.	Factory Price				Width	Depth	Height			
Floor Model Drill Presses for Production Operations												
CD451F	\$241.00	CD491F	\$236.00	1	13 $\frac{1}{8}$ " x 15 $\frac{1}{4}$ "	13"	29"	33"	69 $\frac{1}{2}$ "	22	475	375
CD452F	464.00	CD492F	454.00	2	14" x 26 $\frac{1}{4}$ "		33 $\frac{1}{2}$ "	33"	69 $\frac{1}{2}$ "	34	725	628
CD453F	720.00	CD493F	705.00	3	14" x 55"	19"	59 $\frac{1}{2}$ "	33"	70 $\frac{1}{2}$ "	57	1185	1065
CD454F	828.00	CD494F	808.00	4	14" x 55"	13"	59 $\frac{1}{2}$ "	33"	70 $\frac{1}{2}$ "	57	1320	1200
Bench Model Drill Presses for Production Operations												
CD451B	\$182.00	CD491B	\$177.00	1	13 $\frac{1}{8}$ " x 15 $\frac{1}{4}$ "	13"	29"	33"	37 $\frac{1}{2}$ "	22	393	293
CD452B	405.00	CD492B	395.00	2	14" x 26 $\frac{1}{4}$ "		33 $\frac{1}{2}$ "	33"	38 $\frac{1}{2}$ "	34	645	546
CD453B	599.00	CD493B	584.00	3	14" x 55"	19"	59 $\frac{1}{2}$ "	33"	38 $\frac{1}{2}$ "	57	1065	902
CD454B	739.00	CD494B	719.00	4	14" x 55"	13"	59 $\frac{1}{2}$ "	33"	38 $\frac{1}{2}$ "	57	1200	1035

South Bend Drill Presses are designed and built in the same shops and to the same standards as South Bend Lathes.

14-inch South Bend *Economy* Model Drill Press

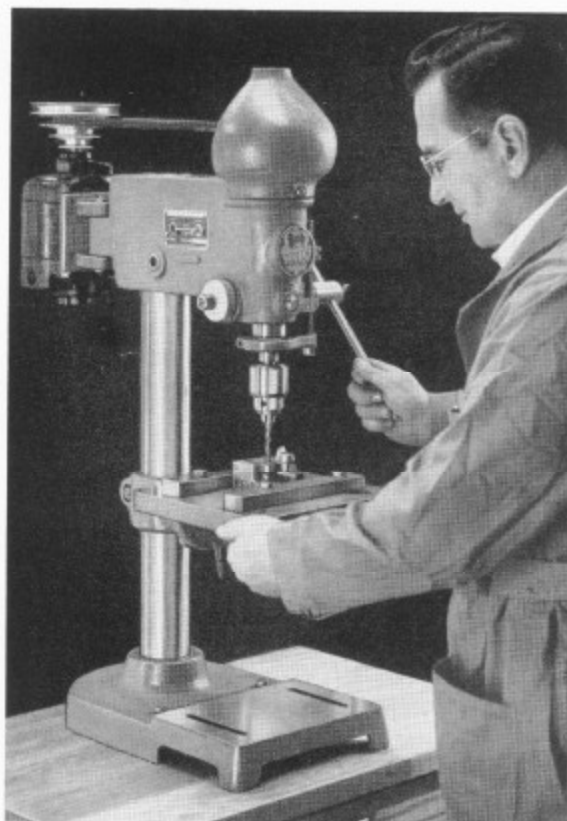
Ruggedly constructed for industrial service, the Economy Model Drill Press is one of our best values. Husky castings and quality bearings assure smooth operation and long, dependable service. All casting surfaces not machined are attractively finished with good quality enamel.

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, 1335, 2025, 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 3/4"
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.....	2.730"
Motor, size recommended.....	1/3 or 1/2 h.p.
Motor, speed recommended.....	1725 r.p.m.

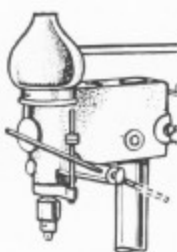
*For those who require greater accuracy we recommend our 14" Precision Model Drill Press. See pages 3 and 4.



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.



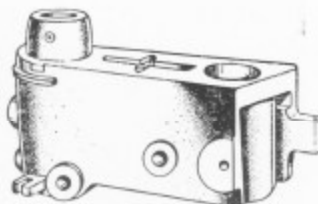
INTERCHANGEABLE SPINDLES

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. Sixsplines 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.



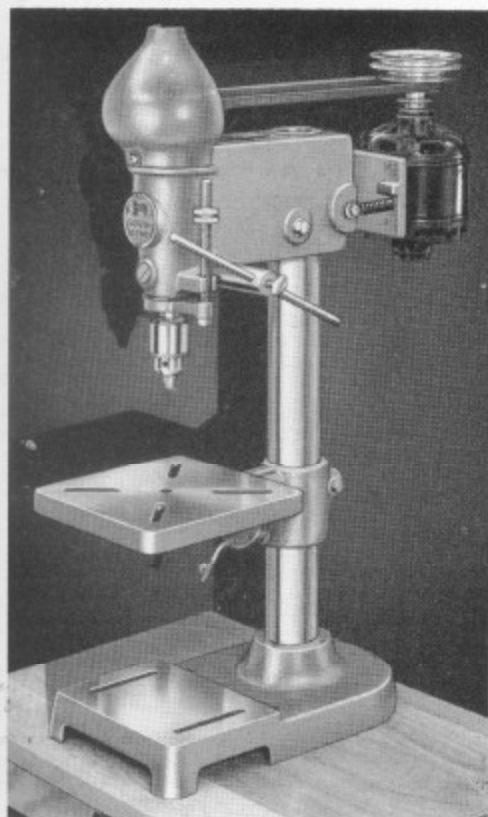
TABLE LOCK

Internal clutch securely locks table to column. Eliminates misalignment. Column bearing is NOT split.



PRECISION TABLE HAS WIDE CLAMPING RIB

Table has accurately ground work surface. Heavy rib 1/4" wide strengthens table and provides flat surface underneath for clamping work securely to table.



Economy Model 14-inch Bench Drill Presses

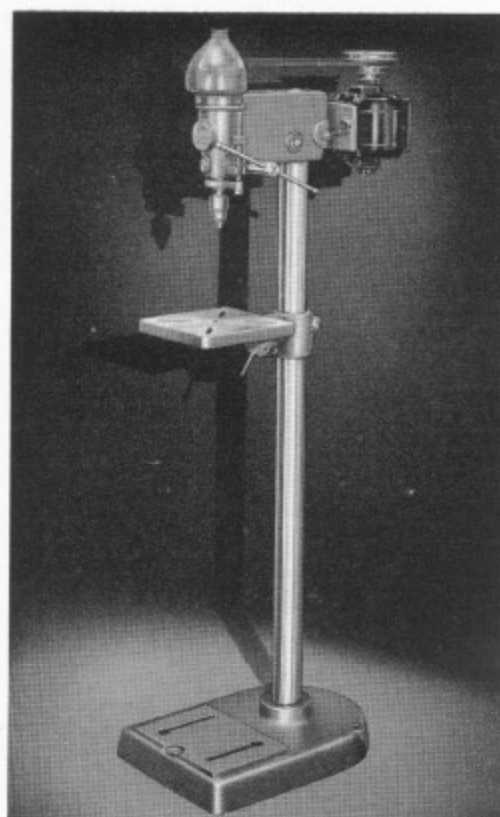
The substantial design and quality workmanship of the 14" Economy Model Bench Drill Press will appeal to the experienced shop man. Constructed throughout of sturdy, well proportioned parts, it is extremely rigid and will operate smoothly at all normal speeds. We sincerely believe that this is one of the best drill press values available.

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, V-belt and spindle equipment as indicated in table, but does not include motor or switches. See page 8.

Economy Model Bench Drill Presses

Catalog Number	Spindle Equipment	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CD401B	With short taper for No. 34 Jacobs Chuck, without chuck.	9	246	181	\$87
CD402B	With No. 2 Morse taper socket.	9	246	181	89
CD403B	With No. 34, Jacobs key type $\frac{1}{2}$ " drill chuck.	9	247	182	93



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. See page 8.

Economy Model Floor Drill Presses

Catalog Number	Spindle Equipment	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Factory Price
CD401F	With short taper for No. 34 Jacobs Chuck, without chuck.	19	356	232	\$102
CD402F	No. 2 Morse taper socket.	19	356	232	104
CD403F	With No. 34 Jacobs key type $\frac{1}{2}$ " drill chuck.	19	357	233	108

For maximum value at minimum cost—buy South Bend.

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	Cat. Price
CE4910B	1/2	A.C.	115	1	60	\$33.00
CE3256B	1/2	A.C.	115	1	60	16.50
CE4910D	1/2	A.C.	230	1	60	33.00
CE4911A	1/2	A.C.	115	1	50	38.00
CE4911C	1/2	A.C.	230	1	50	38.00
CE4912D	1/2	A.C.	208-220	3	60	37.00
CE4912C	1/2	A.C.	208-220	3	50	37.00
CE4913S	1/2	A.C.	380	3	50	45.75
CE4913F	1/2	A.C.	440	3	60	40.50
CE4913E	1/2	A.C.	440	3	50	40.50
CE4920B	1/2	A.C.	115	1	60	42.00
CE4920D	1/2	A.C.	230	1	60	42.00
CE4921A	1/2	A.C.	115	1	50	50.00
CE4921C	1/2	A.C.	230	1	50	50.00
CE4916R	1/2	A.C.	125	1	50	54.50
CE4915Q	1/2	A.C.	250	1	50	54.50
CE4922Y	1/2	A.C.	115	1	40	75.00
CE4922Z	1/2	A.C.	230	1	40	75.00
CE4914D	1/2	A.C.	208-220	2	60	46.00
CE4914C	1/2	A.C.	208-220	2	50	46.00
CE4914F	1/2	A.C.	440	2	60	46.00
CE4914E	1/2	A.C.	440	2	50	46.00
CE4924D	1/2	A.C.	208-220	3	60	42.00
CE4924C	1/2	A.C.	208-220	3	50	42.00
CE4924S	1/2	A.C.	380	3	50	47.25
CE4924F	1/2	A.C.	440	3	60	42.00
CE4924E	1/2	A.C.	440	3	50	42.00
CE4930	1/2	D.C.	115	...	...	86.50
CE4931	1/2	D.C.	230	...	...	89.00

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, and provide overload protection and low voltage release.

CE4901. Across-the-line Manual Starter for three phase or two phase three wire 208-220/440 v., 50/60 cycle A.C. motors. Ship. weight 5 lbs. Price f.o.b. factory.....\$9.95

CE4909E. Remote Control for three phase or two phase three wire 208-220/440 v., 50 cycle A.C. motors. Ship. weight 23 lbs. Price f.o.b. factory.....\$67.50

CE4909F. Remote Control for two phase or three phase, 208-220/440 v., 60 cy. A.C. motors. Ship. wt. 23 lbs. Price.....\$67.50

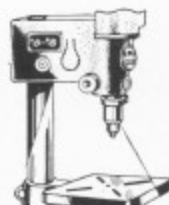
CE4909S. Remote Control for three phase 380 v. A.C. motors. Shipping weight 23 lbs. Price f.o.b. factory.....\$70.00



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. Price f.o.b. factory.....\$5.25

CE9106. Pushbutton Switch Wiring Kit for two or three phase motors up to 575 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 up to 250 volts, eight feet of No. 16 two wire Neoprene covered lead in cable and plug for lamp, receptacle for standard base lamp bulb, clip, wiring instructions, and box for mounting switches in drill press head. Shipping weight 3 pounds. Price f.o.b. factory.....\$13.75

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. Price.....\$5.25

CE3685. 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. Price f.o.b. factory.....\$1.10

CE3688. 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. Ship. wt. 1/2 lb. Price.....\$0.85

CE3689. 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. Ship. wt. 3/4 lb. Price.....\$1.10

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. Price f.o.b. factory.....\$1.10

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. Price f.o.b. factory.....\$1.25

*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 Presses.

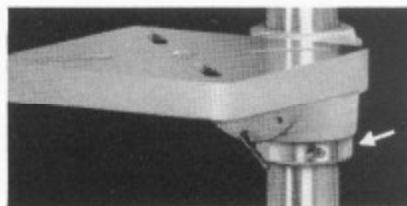
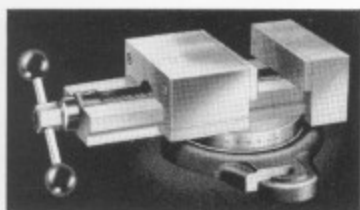


Table Support Ring

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. Ship. wt. 1 1/2 lbs. Price....\$1.60



Swivel Machine Vise

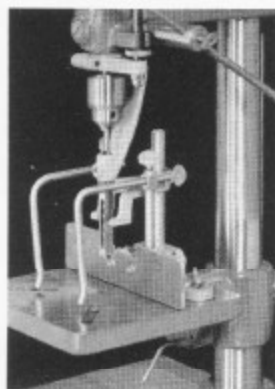
For holding work on drill press table, milling machine, shaper, etc. Swivel is graduated 180° to permit setting vise at any angle with slots in table. Jaws are hardened and are replaceable. Jaws are 4" wide and 1" deep. Maximum jaw opening is 4".

CE9100. Swivel Drill Press Vise. Shipping weight 18 pounds. Factory price.....\$26.00



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 1/2"
Capacity guide rods to fence, maximum.....	4 7/8"
Distance fence adjusts without moving base on table.....	1"
Working depth of chisels:	
1/2".....	2 1/4"
3/4".....	2 3/4"
1".....	3 5/8"

Cat. No.	Description	Ship. Wt.	Price
CE9151	Mortising Attachment Fence Assembly	10 lbs.	\$11.45
CD9152	Mortising Chisel Holder	3 lbs.	4.20
CE9153	1/4" Mortising Chisel and Bit	1/4 lb.	8.40
CE9154	3/8" Mortising Chisel and Bit	3/8 lb.	8.40
CE9155	1/2" Mortising Chisel and Bit	1 lb.	9.70

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 3/8" thick. Steel parts are finished in gray enamel. Shipping weight 52 lbs.

CE9141. Wood Top Machine Stand (less drawer).
Factory Price.....\$24.95



Drawer for Machine Stand

Handy for keeping small tools, wrenches, etc. Finished to match stand CE9141. Drawer is 20 1/4" wide, 14" long, 3 1/2" deep. Price includes metal pull and wood slides. Shipping weight 9 lbs.

CE1780D. Drawer for use with Machine Stand. Price \$3.25

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. Price..\$70.00

CE9146. Tapping head No. 10 to 5/16" tap capacity with No. 2 Morse taper arbor.
Ship. wt. 7 1/2 lbs. Price....\$85.00

CD9147. Tapping head No. 0 to No. 10 tap capacity, quill mounting.
Shipping weight 6 lbs. Price \$70.00

CD9148. Tapping head No. 10 to 5/16" tap capacity, quill mounting.
Ship. wt. 7 1/2 lbs. Price....\$85.00



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.

CE2693. Waterproof Service Cover for Drill Press, Ship. wt. 2 lbs. Price.....\$1.95



Protect your valuable machine tools with South Bend waterproof service covers.

Multi-Speed Attachment

The Multi-Speed Attachment for South Bend 14" Precision Model and Economy Model Drill Presses provides twelve spindle speeds 380, 605, 650, 1040, 1040, 1120, 2870, 3025, 3070, 4900, 5170, and 8010 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 1/2 h.p. motor. Factory Price.....\$16.25
CD9135B. For 3/4 h.p. motor. Factory Price.....\$16.25
Note: This attachment cannot be used with Head Positioning Attachment.

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. Factory Price.....\$13.50
CD9137. Belt Guard for use with Economy Model Drill Press only, when supplied with drill press in lieu of regular guard. Factory Price.....\$15.00
CD9138. Belt Guard for use with Economy Model Drill Press only, when supplied separate from drill press. Ship. wt. 50 lbs. Factory Price.....\$18.00

Balanced Pulleys for Economy Model Drill Press

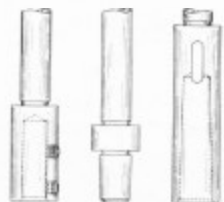
Accurately machined and balanced spindle and motor pulleys for smooth operation at high speeds. Recommended for use with Multi-Speed Attachment on Economy Model Drill Presses. (Supplied as standard equipment on Precision Model Drill Presses.) Specify diameter of motor shaft when ordering. Shipping weight 8 1/2 lbs.



CE9133. Pair of pulleys with drill press in lieu of regular pulleys. Price \$4.50
CE9160. Balanced Spindle Pulley only. Shipping weight 3 lbs. Price... 5.25
CE9161. Balanced Motor Pulley with 1/2" hole. Ship. wt. 3 lbs. Price... 5.70
CE9162. Balanced Motor Pulley with 3/4" hole. Ship. wt. 3 lbs. Price... 5.70
CE9163. Balanced Motor Pulley with 1/2" hole. Ship. wt. 3 lbs. Price... 5.70

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. Factory Price.....\$6.85
CD9126. Utility spindle with 1/4" x 1 1/2" deep straight hole for holding routing tools, etc. Shipping weight 3 lbs. Factory Price.....\$5.00
CD9127. Spindle with short taper for 1/2" Drill Chuck No. CE1201. (Jacobs No. 34). Shipping weight 2 lbs. Factory Price.....\$4.20

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 1/2" capacity with pinion key. Shipping weight 2 1/2 pounds. Factory Price.....\$8.56
CE9110. No. 2 Morse taper shank arbor with tang, for fitting above chuck to drill press spindle No. CD9125. Ship. wt. 3/4 lb. Factory Price \$1.20



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 1/4" 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 tools, two slides, two graduated swivels, and eight clamp bolts with nuts. Ship. weight 43 lbs. Factory Price.....\$101.95

CE9150. Universal Table complete with base for South Bend 7" Shaper, two slides, two graduated swivels, and eight clamp bolts with nuts. Ship. wt. 37 lbs. Factory Price.....\$102.95

CE9157. Single Table with one graduated swivel and four clamp bolts with nuts. Ship. wt. 19 lbs. Factory Price.....\$48.50

CE9158. Base only for adapting single table to South Bend 7" Shaper. Ship. wt. 3 lbs. Factory Price.....\$4.00

CE9159. Base only for adapting single table to South Bend Drill Press or other machine tool. Ship. wt. 8 lbs. Price.....\$4.40

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,

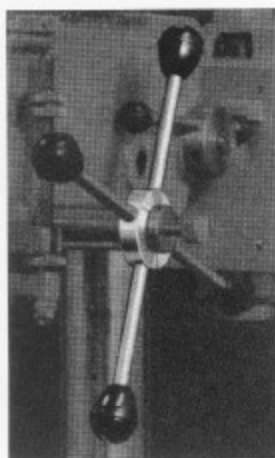


No. 88 Tap and Reamer Wrench, No. 1E Tap wrench, No. 514 Screw Pitch Gauge, Screw Driver, and one each carbon steel Tap and Die in following sizes: 4 x 36, 6 x 32, 8 x 32, 10 x 24, 10 x 32, and 12 x 24 machine screw standard; 1/4 x 20, 5/16 x 18, 3/8 x 16, 1/2 x 14, and 1/2 x 13 NC (U.S. Standard); 1/4 x 28, 5/16 x 24, 3/8 x 24, 1/2 x 20, and 1/2 x 20 NF (SAE Standard) and 1/8" pipe thread. Dies are 1" outside diameter. Dies are supplied in adjustable type as listed. Ship. wt. 6 lbs.

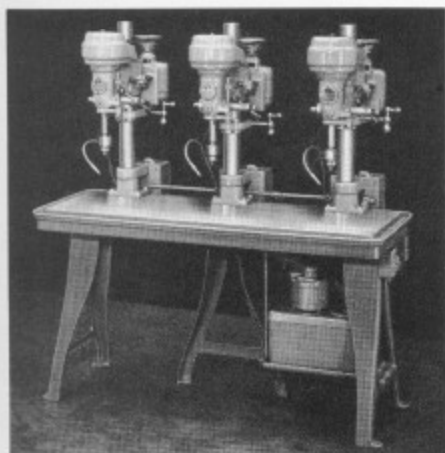
CE2187. Tap and Die Set with Adjustable Dies.....\$25.95

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.
Price f.o.b. factory.....\$3.00

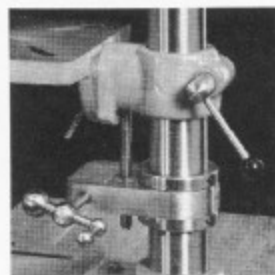


Coolant Pump Equipment for Production Type Drill Presses

This coolant pump equipment is designed for use with the production type drill presses. 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.

Table Positioning Attachment

This Table Positioning Attachment raises or lowers the drill press table. 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. Designed for use with South Bend Drill Presses which have column 2.730" in diameter.



PATENTED

CE9130. Table Positioning Attachment. Ship. wt. 10 lbs.
Price f.o.b. factory.....\$17.40

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 which have columns 2.730" in diameter. The head positioning attachment and the multi-speed attachment cannot be used at the same time.



PATENTED

CE9131. Head Positioning Attachment. Ship. wt. 10 lbs.
Price f.o.b. factory.....\$17.40

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. Write for price.

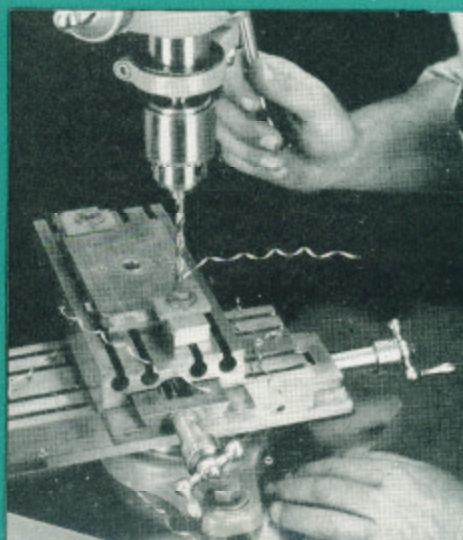
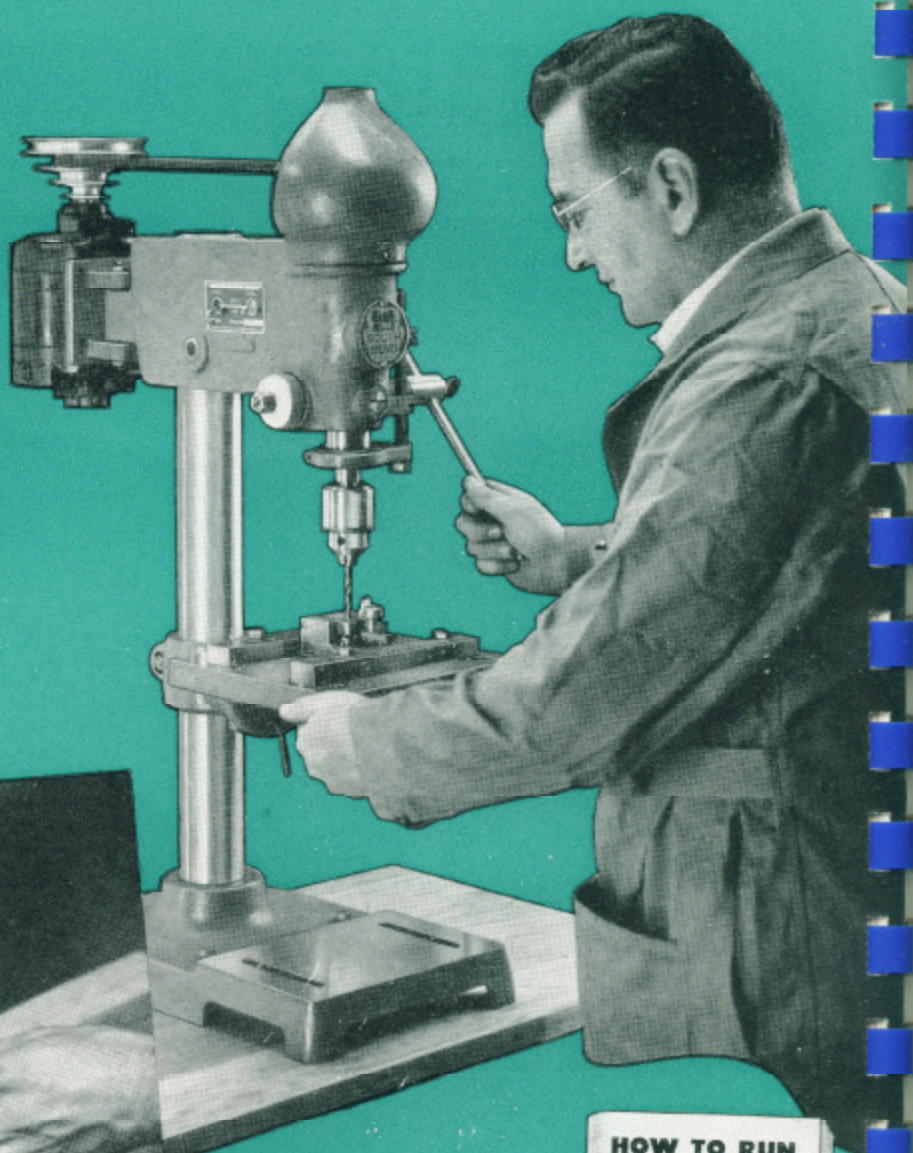


Coolant Pump Equipment for Production Type Drill Presses

CURRENT				One Spindle Drill Press		Two Spindle Drill Press		Three Spindle Drill Press		Four Spindle Drill Press	
Type	Phase	Cycle	Volts	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
A.C.	3	50	208-220	CD9103C	\$197.00	CD9203C	\$203.00	CD9303C	\$210.00	CD9403C	\$216.00
A.C.	3	60	208-220	CD9103D	197.00	CD9203D	203.00	CD9303D	210.00	CD9403D	216.00
A.C.	3	50	440	CD9103E	201.00	CD9203E	207.00	CD9303E	214.00	CD9403E	220.00
A.C.	3	60	440	CD9103F	201.00	CD9203F	207.00	CD9303F	214.00	CD9403F	220.00
A.C.	3	50	550	CD9103G	201.00	CD9203G	207.00	CD9303G	214.00	CD9403G	220.00
A.C.	3	60	550	CD9103H	201.00	CD9203H	207.00	CD9303H	214.00	CD9403H	220.00
A.C.	2	50	208-220	CD9102C	197.00	CD9202C	203.00	CD9302C	210.00	CD9402C	216.00
A.C.	2	60	208-220	CD9102D	197.00	CD9202D	203.00	CD9302D	210.00	CD9402D	216.00
A.C.	1	50	115	CD9101A	182.00	CD9201A	188.00	CD9301A	195.00	CD9401A	201.00
A.C.	1	60	115	CD9101B	178.00	CD9201B	185.00	CD9301B	191.00	CD9401B	198.00
A.C.	1	50	230	CD9101C	185.00	CD9201C	191.00	CD9301C	198.00	CD9401C	204.00
A.C.	1	60	230	CD9101D	181.00	CD9201D	187.00	CD9301D	194.00	CD9401D	200.00
D.C.	...	...	115	CD9100K	227.00	CD9200K	233.00	CD9300K	240.00	CD9400K	246.00
D.C.	...	...	230	CD9100L	230.00	CD9200L	237.00	CD9300L	243.00	CD9400L	249.00

SOUTH BEND THE *Versatile* DRILL PRESS

One of the most versatile of all shop tools, the South Bend Drill Press can be used for drilling, tapping, mortising, grinding and other operations when equipped with the various attachments shown in this catalog. Include a good selection when ordering your drill press.



HOW TO RUN A DRILL PRESS



SOUTH BEND LATHE WORKS
SOUTH BEND, INDIANA, U.S.A.

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 1/4" x 7 1/4" and more than 75 illustrations. Price per copy \$0.25.

SPECIFICATIONS FOR SOUTH BEND 7" BENCH SHAPER.

1. GENERAL The shaper shall be ruggedly and accurately built for manufacturing, tool room or instructional use.

Overall dimensions of shaper

Length with 1/3 hp motor - 31-1/2"
Length with 1/2 hp motor - 35"
Width - 19"
Height - 26"

2. COLUMN The column shall be a heavy, close grain casting and ribbed at points of stress. Bearings surfaces for ram and cross rail shall be precision finished and of dovetail construction. Adjustable gibs shall be provided for take up. Table raising and lowering shall be through a worm and worm gear mechanism and be controlled by a steel ball crank located on the side of the shaper column. Gear shafts shall be supported on oilite bearings in the column. Bottom of the column shall be precision finished to match the top of base.
3. BASE The shaper base shall be a heavy, close grained casting with three ground weight bearing support pads with holes for hold down bolts to provide for three point contact and mounting shaper to any flat top bench. The top of the base shall be precision finished so that the column and base will fit together properly. The base shall be of T-shaped construction with a long bearing surface on the front to support the table in all positions.
4. PRESSURE LUBRICATION Pressure lubrication shall be provided by continuous operating plunger type pump for lubricating ram dovetails, bull gear and pinion, pinion shaft, rocker arm shaft and rocker arm sliding block. The oiling system shall be provided with an adjustment to regulate the flow of the oil to ram ways, and pump shall be provided with a by pass adjustment for regulating the flow of oil to all of the points.
5. RAM Ram shall have long dovetail bearings to provide rigid support for the cutting tool, even in the extreme front position. Gib adjustments shall be provided and dovetail ways shall be fitted with oil scrapers on both ends of the column. Length of stroke shall be regulated by crank gear eccentric adjustment and rocker arm shall be graduated to indicate length of stroke in inches. A large handwheel shall be provided for moving the ram during adjusting operations. Ram shall lock in position by conveniently located binding lever. The crank gear to be precision made for quiet operation. Oilite bearings shall be used for both crank gear shaft and pinion shaft.

Length of ram stroke - 0 to 7"
Strokes per minute - Approx. 45-75-120-195
Cutting speeds - 3 to 114 feet per minute

6. TOOL HEAD Tool slide to have dovetail construction with gib for adjustment to compensate for wear. A knurled binding screw shall be provided for locking the tool head slide when operating shaper. Tool head shall be equipped with Acme thread feed screw, ball crank and graduated collar. Tool head swivels 360 degrees and shall be graduated 90 degrees left and right. Clapper box to swivel left or right and shall be hinged on tapered pin. Heat treated tool post and ring shall be provided as regular equipment.

Vertical travel - 3"

Tool post takes tool holder shank 3/8" x 13/16"

7. TABLE Table shall have drilled holes on top and each side for clamping work. Table shall also have machined slots for use in alignment of work. A vertical "V" groove shall be provided on one side. Top and sides of table shall be finish ground. An adjustable support shall be provided at the front of the table. This support shall be in contact with the shaper base even when table is in its extreme right or left positions. Vise shall swivel to any angle through at least 180 degrees. The base of vise shall be graduated 90 degrees right and left. Vise shall have hardened steel insert jaws and all surfaces shall be finished ground. Base of vise shall be keyed for alignment on top or side of table. A large center bolt to secure the vise to the table.

Length of top - 6-5/16"

Width of top - 5"

Depth of table - 5-3/8"

Horizontal travel - 9 1/2"

Vertical travel - 5"

Distance from ram-1/2" to 5 1/2"

Width of slots - 5/16"

Holes for clamp bolts - 9/32"

8. CROSS RAIL The cross rail which supports the table shall be fitted to the front of the column by large widely spaced dovetail slides with gib adjustment. The vertical slide shall be fitted with a ball handle lever to lock the cross rail in position. The cross rail shall support the table at the top. Table support at the bottom of the cross rail shall be by a precision finished dovetail with gib adjustment. Felt wipers shall be provided to lubricate the ways and keep out foreign material. The cross feed screw shall have a Acme pitch thread and shall be equipped with a machine graduated micrometer collar. The cross feed screw shall be so constructed that the nut will run off thread when it has traveled the maximum distance in either direction. The table cross feed shall be reversible with suitable control on the feed ratchet to engage and disengage the table cross feed. The power feed eccentric shall be graduated from .002" to .012" on both sides of zero.

9. DRIVE V-belt 4 step countershaft pulley to drive 4 step pulley on shaper. V-belt drive shall be provided from motor to countershaft. Motor and countershaft bracket mounted on rear of shaper base with suitable belt tension release. Guard shall fully enclose belts and pulleys of drive unit.

Motor size - 1/3 or 1/2 hp

10.REGULAR Equipment shall include the following items as standard
EQUIPMENT equipment:

- Work light
- All necessary belts
- Push button control for single phase current
- All necessary wrenches
- Instructions
- Installation plan
- Parts list
- "How to Run a Metal Working Shaper"

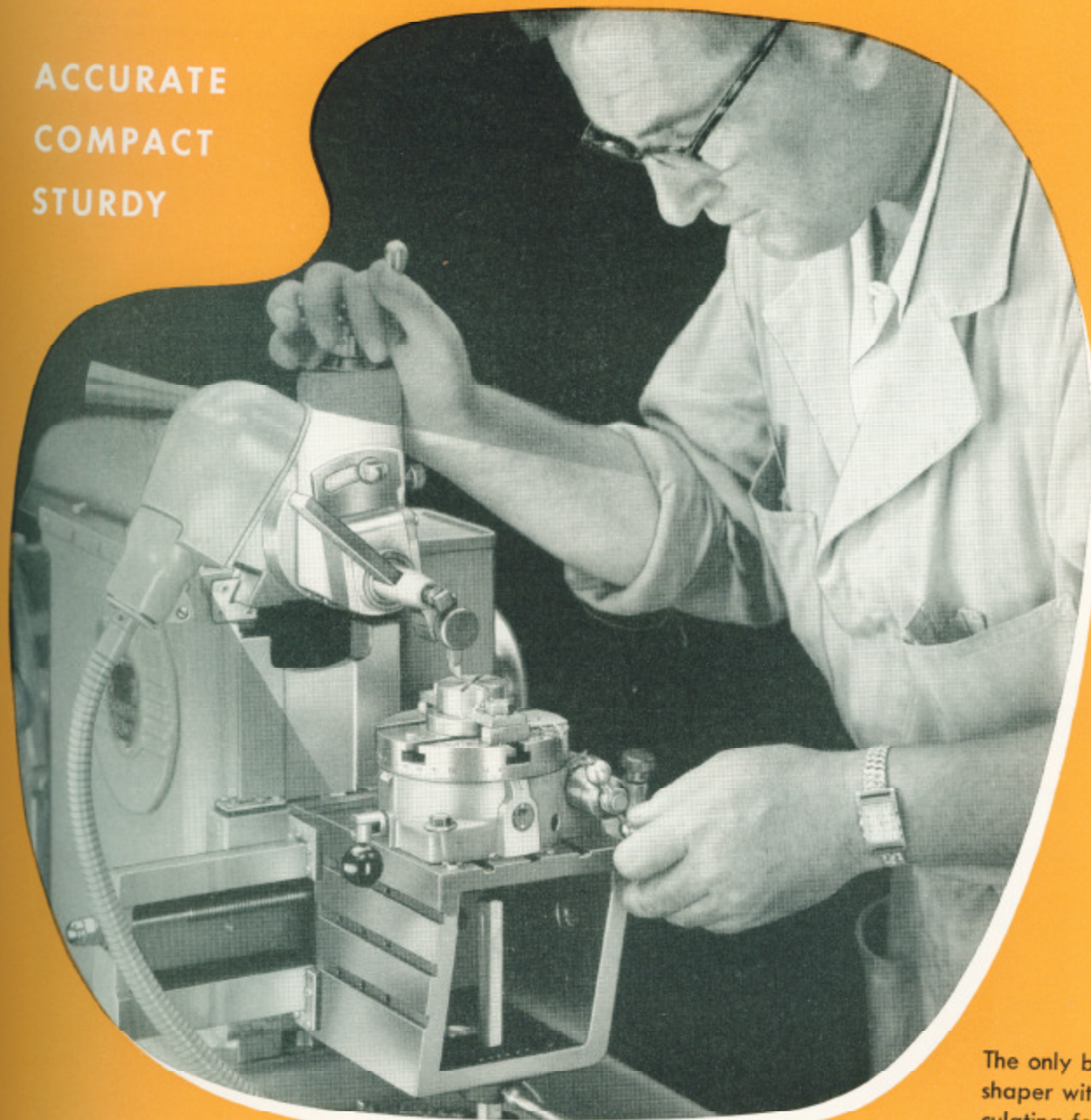
11.OPTIONAL The items listed below are items that are commonly used with
EQUIPMENT machine.

- Shaper tool holder, Cat. No. CS9630
- Extension shaper tool, Cat. No. CS9631
- Indexing table, Cat. No. CE9144
- Indexing centers, Cat. No. CE9635
- Angle plate, Cat. No. CE9640
- Steel machine stand, Cat. No. CS9600
- Waterproof service cover, Cat. No. CE2694

SOUTH BEND

7" *Precision* SHAPER

ACCURATE
COMPACT
STURDY



The only bench
shaper with cir-
culating force
feed lubrication.

SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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



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 precision parts of all kinds.

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.

Pressure lubrication is provided by an automatic pump which circulates lubricating oil from a large reservoir in the base of the shaper to the ram dovetail, bull gear and pinion, pinion shaft and rocker arm shaft.

Tool head swivels to any angle, and has $3\frac{1}{8}$ " 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 shoe travels with the table and provides extreme rigidity for heavy cuts regardless of table position.

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 $\frac{3}{8}$ 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. If shaper is ordered without motor, specify voltage, phase, and cycle of motor to be used so that correct wiring can be supplied.

CS100. South Bend 7" Precision Bench Shaper with vise, drive unit for $\frac{3}{8}$ h.p. motor, motor pulley, V-belts, guards, work light, and built-in pushbutton type across-the-line manual starter for motor, but without motor, steel stand, or tool holder. (See page 4.) Shipping weight crated 330 lbs. Boxed weight 400 lbs., cubic feet boxed 12. Price.....\$551.00

CS100M. South Bend 7" Shaper, same as above but with metric graduations. Price f.o.b. factory.....\$551.00

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 Head

Length of Vertical Feed.....3"
Tool Post Takes Tool Holder Shank..... $\frac{3}{8}$ " x $\frac{13}{16}$ "
Swivels.....360°

Vise

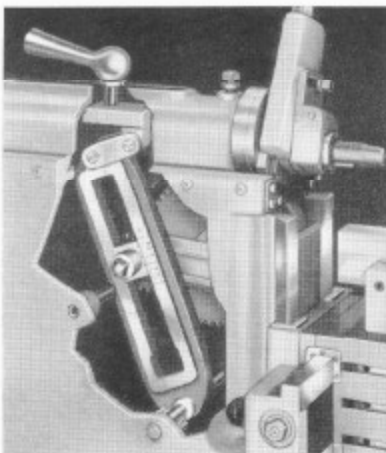
Width of Jaws.....4"
Depth of Jaws.....1"
Maximum Opening.....4"

Table

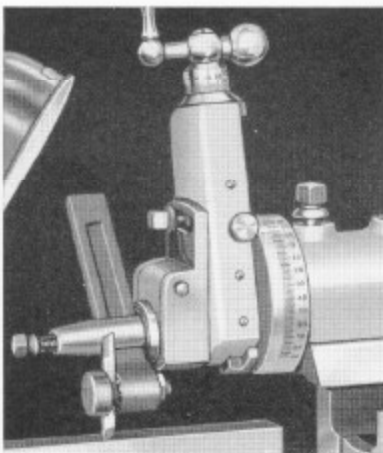
Length of Top..... $6\frac{5}{16}$ "
Width of Top.....5"
Depth of Table..... $5\frac{5}{8}$ "
Horizontal Travel..... $9\frac{1}{2}$ "
Vertical Travel.....5"
Distance from Ram..... $\frac{1}{4}$ " to $5\frac{1}{2}$ "
Power Cross-Feeds (reversible)......002" to .012"
Width of Slots..... $\frac{5}{16}$ "
Holes for Clamp Bolts..... $\frac{9}{32}$ "

Motor

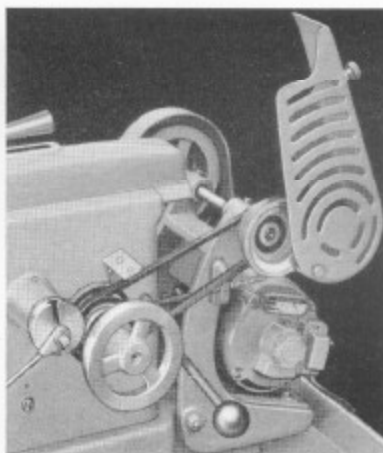
Size Recommended..... $\frac{3}{8}$ or $\frac{1}{2}$ h.p.



Rocker and crank with graduated eccentric adjustment for stroke



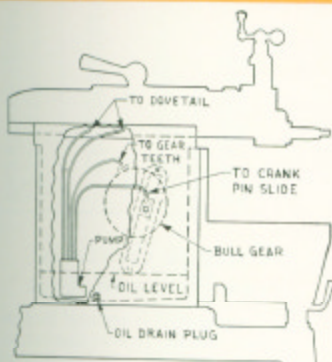
Tool head locks in any position. Rugged clapper box also adjustable



Guards on all belts and pulleys. Quick-acting belt tension release

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".
- Pressure lubrication to important bearings including ram dovetail.



Swiveling Machine Handles

Swiveling machine handles for the shaper can be supplied in lieu of the solid machine handles, 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. Price f.o.b. factory when ordered with shaper...\$2.30



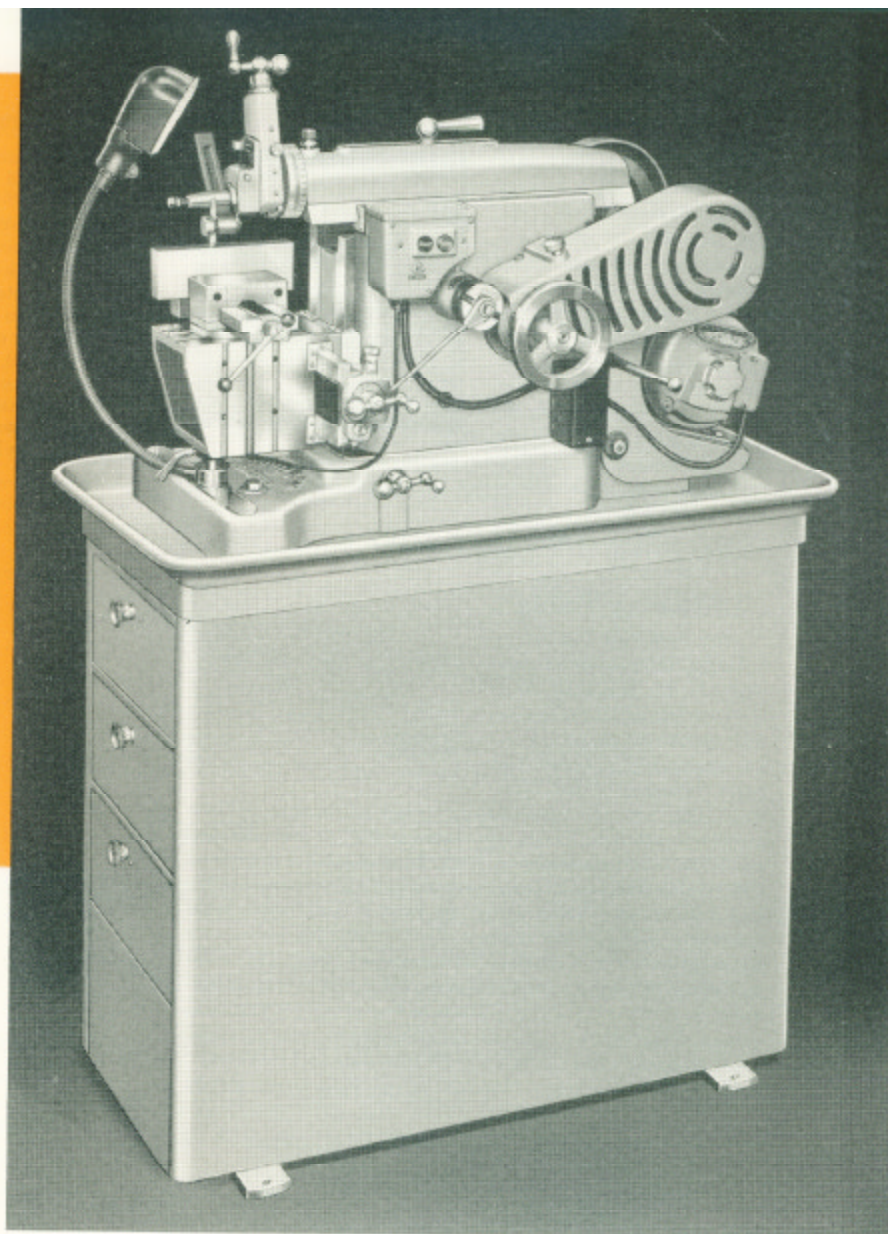
Angle Plate

A heavy cast iron angle plate for clamping work on shaper, drill press, milling machine, face plate of lathe, etc. Size 4 1/2" x 3" x 2".

CE9640 Ship. wt. 4 lbs. Price....\$10.95



The only bench shaper with force feed lubrication to ram dovetail.

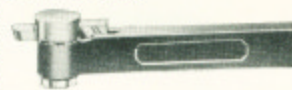


Note: Motor, tool holder, and steel stand are not included in regular equipment of shaper.

Shaper Tool Holder

An extremely rigid forged steel tool holder for 1/4" 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. Price.....\$7.10



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 1/2" x 7 1/2". Takes cutter bit 3/16" x 3/16". Shipping weight 2 pounds.

CS9631. Extension Shaper Tool. Price f.o.b. factory....\$7.10



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 10 1/2" x 5 1/2" x 15 3/4" 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 28 3/8". Shipping weight 150 pounds.

CS9600. Steel Stand for Shaper. Price f.o.b. factory...\$120.00



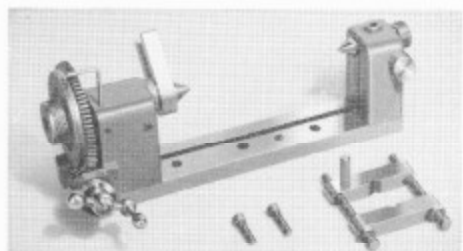
Indexing Table

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 4 1/2" 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. Ship. wt. 14 lbs. Price.....\$53.95



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. Ship. wt. 12 lbs. Price.....\$67.00

SOUTH BEND LATHE WORKS

H5417-ROXM-5-54

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 1/2 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.



Information on motors for current characteristics not listed will be supplied on request. Approximate ship. wts.: 1/2 h.p. motors 40 lbs., 3/4 h.p. motors 50 lbs.

Motors for South Bend 7" Bench Shapers

Cat. No.	H.P.	Current	Volts	Phase	Cycle	Price
CS4910B	1/2	A.C.	115	1	60	\$ 38.00
CS3256B	1/2	A.C.	115	1	60	19.00
CS4910D	1/2	A.C.	230	1	60	38.00
CS4911A	1/2	A.C.	115	1	50	41.00
CS4911C	1/2	A.C.	230	1	50	41.00
CS4912C	1/2	A.C.	220	3	60	43.00
CS4912C	1/2	A.C.	220	3	50	43.00
CS4913S	3/4	A.C.	380	3	50	52.25
CS4913F	3/4	A.C.	440	3	60	47.00
CS4913E	3/4	A.C.	440	3	50	47.00
CS4920B	1/2	A.C.	115	1	60	61.00
CS4920D	1/2	A.C.	230	1	60	61.00
CS4921A	1/2	A.C.	115	1	50	68.00
CS4921C	1/2	A.C.	230	1	50	68.00
CS4916R	1/2	A.C.	125	1	50	70.00
CS4915Q	1/2	A.C.	250	1	50	70.00
CS4922Y	1/2	A.C.	115	1	40	91.00
CS4922Z	1/2	A.C.	230	1	40	91.00
CS4914D	1/2	A.C.	220	2	60	65.00
CS4914C	1/2	A.C.	220	2	50	65.00
CS4914F	1/2	A.C.	440	2	60	65.00
CS4914E	1/2	A.C.	440	2	50	65.00
CS4924D	1/2	A.C.	220	3	60	65.00
CS4924C	1/2	A.C.	220	3	50	65.00
CS4924S	1/2	A.C.	380	3	50	70.25
CS4924F	1/2	A.C.	440	3	60	65.00
CS4924E	1/2	A.C.	440	3	50	65.00
CS4930	1/2	D.C.	115	...	...	108.00
CS4931	1/2	D.C.	230	...	...	108.00

Optional Low Voltage Controls for Two and Three Phase Motors

Low voltage remote control equipment is optional (not required) for two and three phase motors. This equipment includes step-down transformer and relays which reduce current to operating switch to 110 v., and provide overload protection and low voltage release. Transformer is dual voltage rated type and may be connected for use with either 220 v. or 440 v. line current. Price of shaper includes the manual type across-the-line motor control switch.

CE9609E. Remote Control for two phase or three phase, 220 v. or 440 v., 50 cy. A.C. motors. Ship wt. 14 lbs. Price....\$67.50

CE9609F. Remote control for two phase or three phase, 220 v. or 440 v., 60 cy. A.C. motors. Ship wt. 14 lbs. Price....\$67.50

CE9609S. Remote control for three phase 380 v. A.C. motors. Shipping weight 14 lbs. Price f.o.b. factory.....\$70.00

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.

CE2694. Waterproof Service Cover for Shaper, shipping weight 2 lbs. Price f.o.b. factory.....\$2.75



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

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Printed in U.S.A.

SPECIFICATION 14-PG-5

SPECIFICATIONS FOR SOUTH BEND PEDESTAL GRINDER

1. GENERAL Grinder shall be two wheel pedestal type underneath motor drive with motor contained in pedestal.
2. HEAD Grinding head shall have wheel guards with removable end plates and large "U" shaped tool rests adjustable to any angle. adjustable spark arresters and large dust outlets shall be built into wheel guards. Grinder spindle to be V-belt driven and revolve in sealed ball bearings. Grinder head to be equipped with illuminated eye shields with positive type locks for adjusting to three positions. Eye shields to be provided with safety plate glass and so attached that they can be easily removed.
3. PEDESTAL Pedestal to be designed to provide for toe room in front and have large removable water pot for cooling work. The on-off switch to be conveniently mounted on top front of pedestal. Pedestal to house motor and safety belt guards to be firmly attached.
4. MOTOR Motor to be standard type, 3450 RPM

SPECIFICATIONS

Wheel size - For 3/4 hp motor 10" dia., 1" face, 3/4" hole
For 1/2 hp motor 8" dia., 1" face, 3/4" hole

Spindle - Sealed ball bearings, approximate speed - 2450 RPM

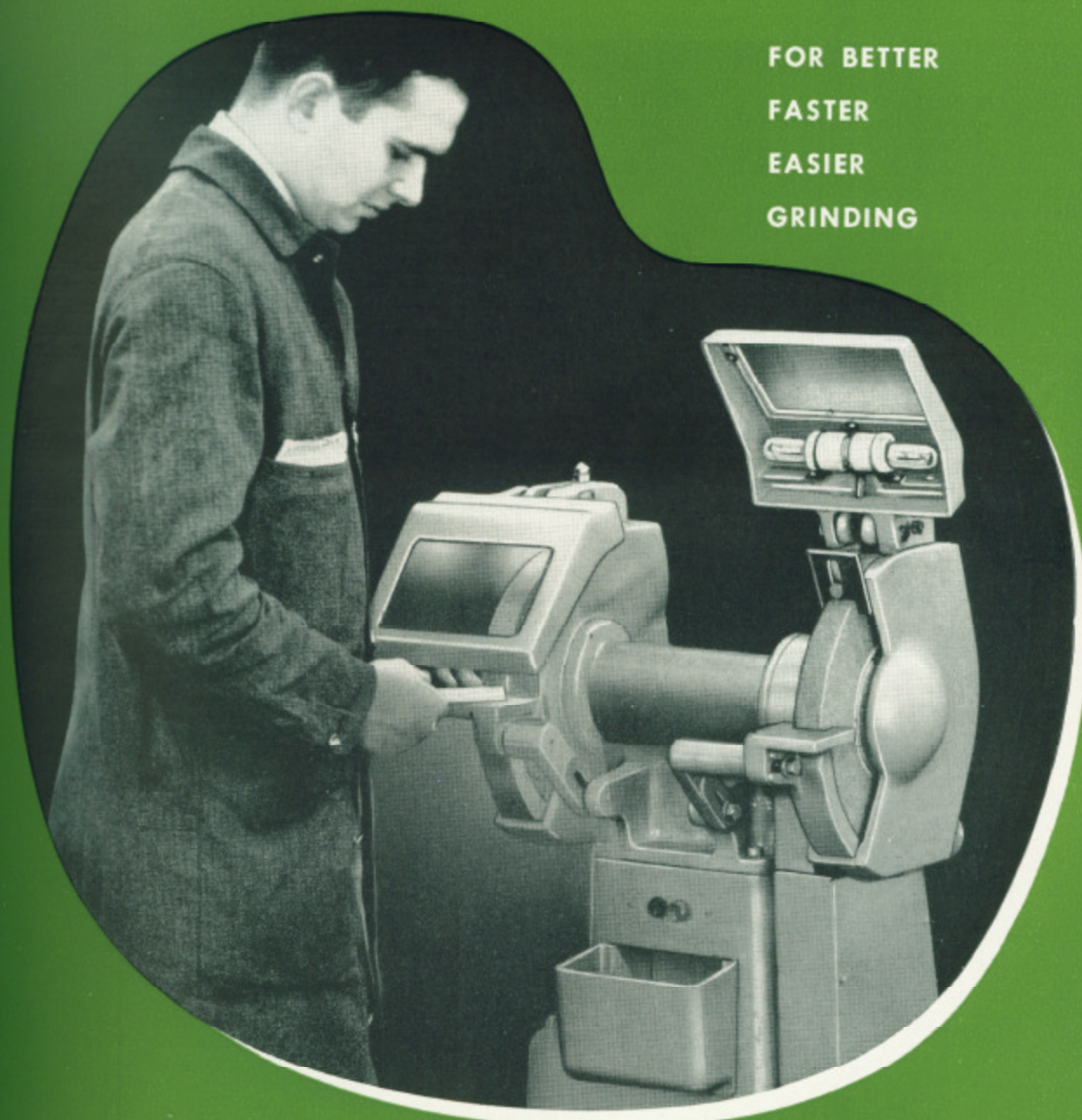
Motor - Standard 2875 RPM 50 cycle or 3450 RPM 60 cycle
and D.C. 1/2 or 3/4 hp

Over-all dimensions - 49 1/2" high
20-3/4" wide
22-3/4" deep

Shipping weight - 10" grinder, 377 lbs., crated
10" grinder, 437 lbs., boxed
8" grinder, 360 lbs., crated
8" grinder, 420 lbs., boxed

SOUTH BEND PEDESTAL GRINDER

FOR BETTER
FASTER
EASIER
GRINDING



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SOUTH BEND LATHE WORKS

BUILDING BETTER TOOLS SINCE 1906

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



SOUTH BEND PEDESTAL GRINDER

10" Wheels with 3/4 h. p. motor—8" Wheels with 1/2 h. p. motor

The new South Bend Pedestal Grinder strikes a modern and functional note in present day tool design. Built for ease of operation and trouble-free maintenance, South Bend engineers believe it will solve some of the problems shop men have experienced in the past with tool grinders. Compactly built, it requires a minimum of working space. The grinder comes with either 8 inch grinding wheels or with 10 inch wheels. A 1/2 h.p. motor is required with 8" wheels and a 3/4 h.p. motor with 10" wheels. Any N.E.M.A. standard 3450 r.p.m. or 2875 r.p.m. motor may be used.

There is plenty of work room around the grinding wheels since there is no bulky motor between them. To provide ample 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 extra toe room for the operator while working at the machine.

Large "picture window" size eye shields adjustable to three positions provide sturdy optical protection at each wheel. Because the safety glass shields are of such generous size, the operator need not raise the shield in order to see what he is doing. Two concealed lamps in each shield give plenty of light for freehand precision grinding. Wheel guard castings are extra thick for operator safety and have large dust outlets for connecting to a dust collector or exhaust system. Added operator protection is provided by close-fitting adjust-

able spark guards within the wheel guards. End plates are removable.

The U-shaped tool rests fit closely around the grinding wheels and are adjustable for wheel wear. They may also be adjusted to any angle with the face of the grinding wheel. A large water pot for cooling work is conveniently located and is removable for cleaning.

Since the motor is mounted in the pedestal, it is fully enclosed and protected from abrasive grinding wheel dust. Moreover, this design feature removes the weight of the grinding wheels from the motor bearings and also removes motor vibration from the grinding wheel spindle. The grinding wheel spindle runs on sealed ball bearings which, combined with the fully enclosed V-belt drive from the motor, produce a quiet, smooth running machine. The pushbutton motor control switch is conveniently located at waist level.

Equipment includes one coarse and one fine grinding wheel for general work; tool rests; wheel guards; eye shields with wiring, sockets, and 110 v. lamps; V-belt and pulleys; and built-in push-button type across-the-line manual starter for motor.

Prices of Pedestal Grinders

CE2725. Pedestal Grinder with 8" wheels and equipment as listed above, but without motor. Shipping weight 360 lbs. Factory Price.....\$245

CE2726. Pedestal Grinder with 10" wheels and equipment as listed above, but without motor. Shipping weight 377 lbs. Factory Price.....\$248

Motors for Pedestal Grinders

South Bend Pedestal Grinders require N.E. M.A. standard frame 3450 r.p.m. or 2875 r.p.m. motors as listed below. A 1/2 h.p. motor is required for the grinder with 8" wheels, and a 3/4 h.p. motor is required with 10" grinding wheels. Approximate shipping weight of 1/2 h.p. motor is 40 lbs., 3/4 h.p. motor 50 lbs. Write for information on motors for currents not listed.



Controls for Pedestal Grinder Motors

Prices of South Bend Pedestal Grinders include a push-button type across-the-line manual starting switch for the motor. Remote control equipment is optional for two and three phase motors. This equipment includes step-down transformers and relays which reduce the current to the operating switch to 110 volts, and provide overload protection and low voltage release.



CE2636. Remote Control for two phase three-wire or three phase, 208-220/440 v., 50 cycle A.C. motors. Ship. wt. 23 lbs. Price.....\$67.50

CE2637. Remote Control for two phase three-wire or three phase, 208-220/440 v., 60 cycle A.C. motors. Ship. wt. 23 lbs. Price.....\$67.50

CE2638. Remote Control for three phase 380 v., 50 cycle A.C. motors. Shipping weight 23 lbs. Price f.o.b. factory.....\$70.00

CE2664. Remote Control for two phase four-wire 208-220/440 v., 50 cycle A.C. motors. Shipping weight 23 lbs. Price.....\$67.50

CE2665. Remote Control for two phase four-wire 208-220/440 v., 60 cycle A.C. motors. Shipping weight 23 lbs. Price.....\$67.50

1/2 h.p. Motors for 8" Grinder		3/4 h.p. Motors for 10" Grinder		Current Characteristics			
Cat. No.	Price	Cat. No.	Price	Current	Volts	Phase	Cycle
CE3431A	\$ 39.00	CE3441A	\$ 44.00	A.C.	115	1	50
CE3431R	44.00	CE3441R	49.00	A.C.	125	1	50
CE3461B	39.00	CE3471B	44.00	A.C.	115	1	60
CE3431C	39.00	CE3441C	44.00	A.C.	230	1	50
CE3461D	39.00	CE3471D	44.00	A.C.	230	1	60
CE3431Q	44.00	CE3441Q	49.00	A.C.	250	1	50
CE3463P	44.00	CE3443P	52.00	A.C.	208	3	60
CE3463C	44.00	CE3443C	52.00	A.C.	208-220	3	50
CE3463D	44.00	CE3443D	52.00	A.C.	220	3	60
CE3433S	49.00	CE3443S	57.00	A.C.	380	3	50
CE3433E	44.00	CE3443E	52.00	A.C.	440	3	50
CE3433F	44.00	CE3443F	52.00	A.C.	440	3	60
CE3462D	44.00	CE3442D	52.00	A.C.	220	2	60
CE3462C	44.00	CE3442C	52.00	A.C.	220	2	50
CE3432F	44.00	CE3442F	52.00	A.C.	440	2	60
CE3432E	44.00	CE3442E	52.00	A.C.	440	2	50
CE3430K	61.00	CE3440K	102.00	D.C.	115	..	...
CE3460L	63.00	CE3470L	105.00	D.C.	230	..	...

Knuckle room to spare—no bulky motor between grinding wheels.

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, 20 $\frac{3}{4}$ " wide,
22 $\frac{3}{4}$ " deep.

8" Grinder, 49 $\frac{1}{2}$ " high, 18" wide,
20 $\frac{1}{2}$ " deep.

SHIPPING WEIGHT

10" Grinder 377 lbs. crated, 437 lbs.
boxed for export.

8" Grinder 360 lbs. crated, 420 lbs.
boxed for export.

EXPORT SPACE

16 cubic feet boxed.

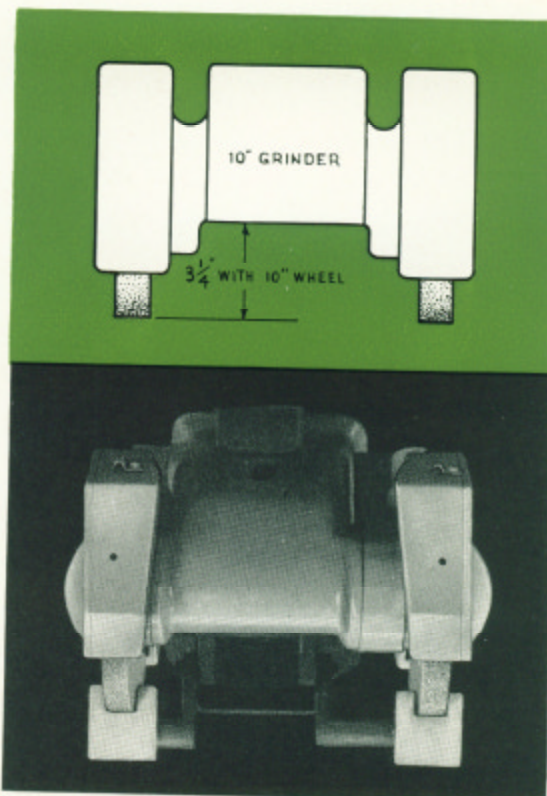


KNUCKLE ROOM TO SPARE

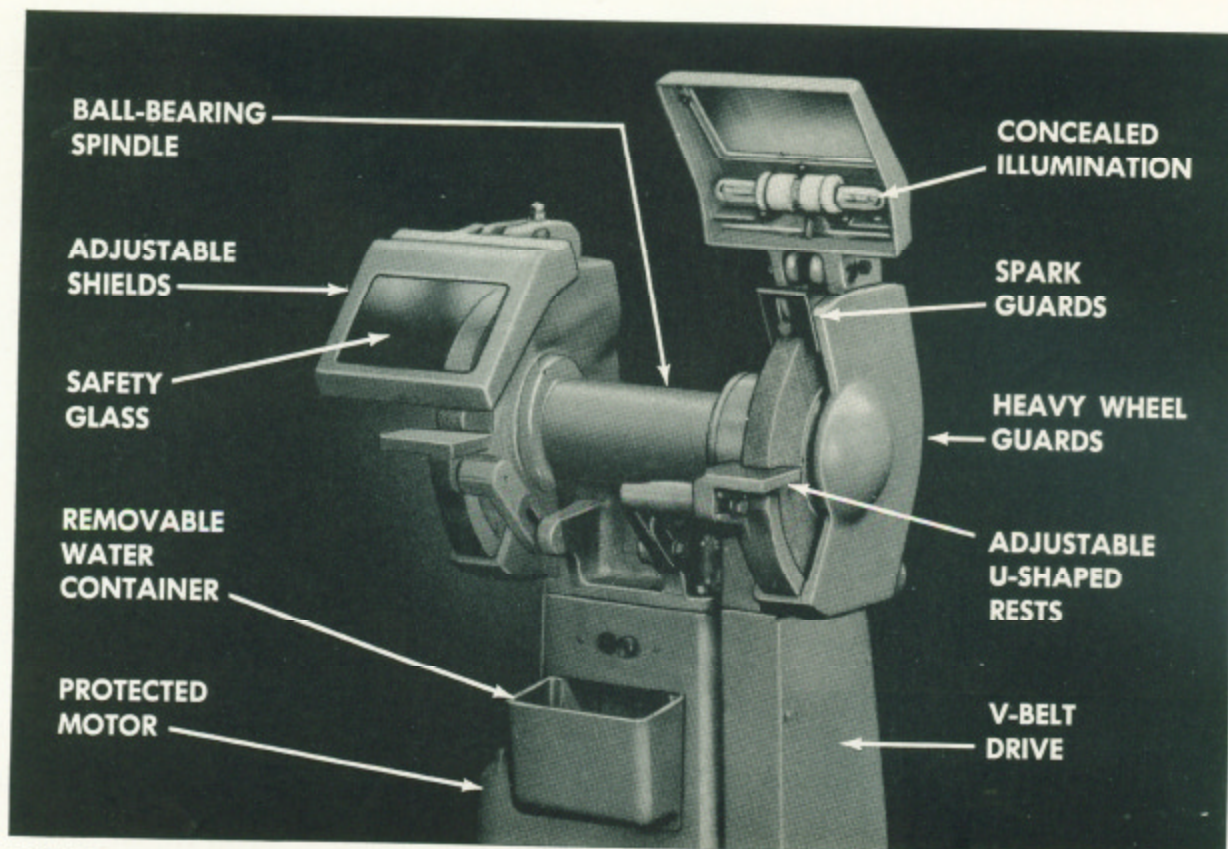
Expert tool grinders will especially appreciate one outstanding feature on this grinder. There is no bulky motor between the wheels. The wide open space around each grinding wheel permits the operator to do his work faster because his arm movements are never cramped. To give plenty of room for both work and hands, the motor is mounted inside the pedestal instead of between the grinding wheels. Spaced 12" apart, the peripheries of the 10" wheels extend $3\frac{1}{4}$ " beyond the spindle housing between them. See illustrations at right.

Careful research suggested setting the grinding wheel spindle forward on the pedestal to provide even more work room around the grinding wheels. This offsetting of the spindle also allows more toe room for the operator while standing at the machine. In addition, the wide set grinding wheels further dispel the sense of cramped work space associated with conventional grinders.

Other features include ball bearing spindle, adjustable safety glass eye shields, removable water pot, concealed illumination and enclosed V-belt drive. See illustration below.



Top View of Pedestal Grinder with Eye Shields Removed



HOW TO RUN A DRILL PRESS



HOW TO RUN A LATHE

HOW TO RUN A METAL WORKING SHAPER



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

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

BOOKS AND CHARTS

on machine shop practice

HOW TO RUN A LATHE

"How to Run a Lathe" is a complete reference book and manual on the care and operation of the back-geared 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 contains 128 pages $5\frac{1}{8}'' \times 7\frac{1}{8}''$ and is illustrated with more than 360 photographs 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

CE3450, "How to Run a Lathe," paper binding, price postpaid..... \$0.50

CE3451, "How to Run a Lathe," leatherette binding, price postpaid..... 1.50

Note: "How to Run a Lathe" is printed in the English, Spanish, Portuguese, and French languages. State language wanted if other than English. Special prices quoted on lots of 25 or more. Sample copy will be mailed without charge on request from any school shop instructor or director.

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 $5\frac{1}{8}'' \times 7\frac{1}{8}''$ and more than 75 illustrations.

CE3455, "How to Run a Drill Press," paper binding, price postpaid..... 25c

Note: Special prices quoted on lots of 25 or more. Sample copy will be mailed without charge on request from any school shop instructor or director.

HOW TO RUN A SHAPER

The care and operation of the small metalworking 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 24 pages $5\frac{1}{8}'' \times 7\frac{1}{8}''$, and 64 illustrations.

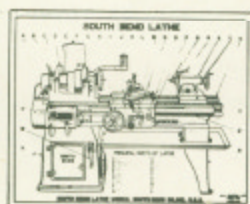
CE3456, "How to Run a Shaper," paper binding, price postpaid..... 25c

Note: Special prices quoted on lots of 25 or more. Sample copy will be mailed without charge on request from any school shop instructor or director.

QUIZ SHEETS

A diagram of a lathe is printed on a sheet $11'' \times 8\frac{1}{2}''$, with letters and arrows indicating the principal parts of the machine. Below is a blank space for each letter in which the student may write the name of each part.

CE3465, Package of 100 Quiz Sheets. .75c



NEW SOUTH BEND PROJECT BOOK

This 104-page book contains drawings and instruction sheets for 34 practical projects. They range from simple articles for beginners to useful tools requiring considerable skill and experience to make. Drawings show all dimensions clearly. The instruction sheets guide the student step by step through all operations for each project.



CE3475, South Bend Project Book, paper binding, price postpaid..... \$2.00

Note: The South Bend Machine Shop Course Books, printed in the Spanish and Portuguese languages, are similar to the above project book, but contain only 10 projects. These books are priced at 50c per copy postpaid. Special prices quoted on lots of 25 or more. Sample copy will be mailed on request from any school shop instructor or director. State language wanted.

WALL CHARTS

These wall charts are printed on heavy paper, deep blue with white lines to simulate blueprints. Ideal student guides for vocational instruction. Suitable for framing and hanging on wall of classroom or shop.



Wall Chart CE250, "How to Become a Machinist." Printed in English. Size 13" wide by 22" high. Price each postpaid..... 15c

Wall Chart CE777, "Decimal Equivalents." Size 13" wide by 19" high. Printed in English. Price each postpaid..... 15c

Wall Chart CE800, "Principal Parts of a Lathe." Size 21 $\frac{1}{4}$ " wide by 17 $\frac{1}{2}$ " high. Printed in English. Price each postpaid..... 15c

Wall Chart CE100, "Tap Drill Sizes." Size 13" wide by 19" high. Printed in English. Price each postpaid..... 15c

Wall Chart CE891, "Partes Principales Del Torno." Size 22" by 17" high. Printed in Spanish. Price each postpaid..... 15c

Wall Chart CE800, "Como Llegar A Ser Un Maquinista." Size 15 $\frac{1}{2}$ " wide by 20" high. Printed in Spanish. Price each postpaid..... 15c

SOUTH BEND LATHE WORKS

SOUTH BEND 22, INDIANA

Date _____

Please send items indicated below:

	Price	Amount Enclosed
<input type="checkbox"/> How to Run a Lathe.....	\$0.50	
<input type="checkbox"/> How to Run a Drill Press.....	0.25	
<input type="checkbox"/> How to Run a Shaper.....	0.25	
<input type="checkbox"/> Quiz Sheets (100).....	0.75	
<input type="checkbox"/> South Bend Project Book.....	2.00	
<input type="checkbox"/> Wall Chart No.....	0.15	
	Total	

Name _____

Street _____

City _____ Zone _____ State _____



use these

SCALE MODELS

for three-dimensional shop planning

Use these three-dimensional scale models to simplify the planning of your new shop. We shall be glad to loan them to you without charge or obligation of any kind. Accurately scaled $\frac{3}{4}$ inch to the foot, they reproduce our entire line of precision machine tools. When arranged on the floor plan sheets, which are ruled to the same scale, they give an accurate preview in miniature of your new shop.

Several models of each machine are included in the kit so that you can effectively plan a shop of the size you need. With study and rearrangement of the models you can easily work out the best possible use of available floor space.

It is much quicker, easier and less costly to move these models around than it will be to shift machines after installation. Fill in the order form below and let this scale model kit help get the plans for your new shop under way.

SOUTH BEND LATHE WORKS
SOUTH BEND 22, INDIANA

Date _____

Please ship your shop Model Kit to address below. I want to borrow the kit for approximately _____ days, and agree to return it to you, shipping charges prepaid, at the end of that time. Shop being planned is to be located at _____

I understand there is to be no charge for the loan of this kit, other than the transportation costs which I am to pay.

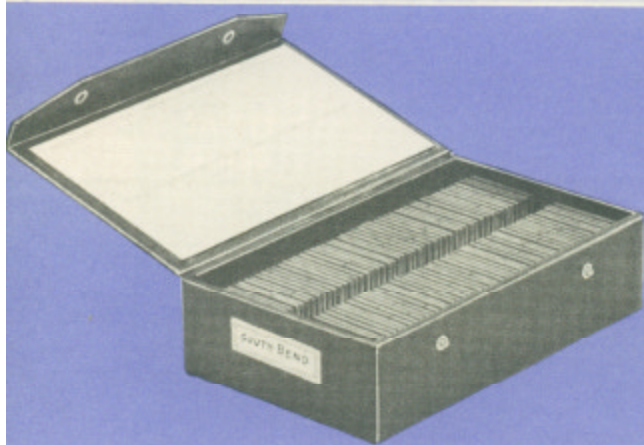
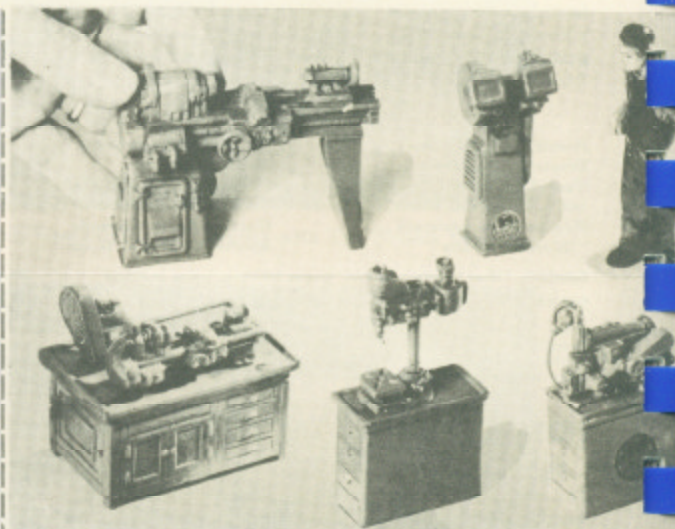
Name of organization _____

Street address _____

City _____ State _____

By _____ Position _____

Should you wish to keep one or more of these models, you may for \$1.00 each.



35mm COLOR SLIDES

Sent on Free Loan

This set of 35 mm color slides makes an excellent supplement to the three South Bend motion pictures on lathe operation. They show the design, construction, features, and application of South Bend Lathes, Drill Presses, Shapers, Pedestal Grinders, Attachments, and Accessories. Set consists of approximately 150 slides in 2" x 2" mounts. These slides may be borrowed for educational purposes a reasonable length of time. Use coupon to request the set on free loan.

SOUTH BEND LATHE WORKS
SOUTH BEND 22, INDIANA

Date _____

Please ship your set of slides to address below. I want to borrow them for approximately _____ days, and agree to return them to you at the end of that time.

Name of organization _____

Street address _____

City _____ State _____ By _____

SLIDES MAY BE PURCHASED

Duplicates of the slides included in the above set may be purchased in any quantity at 35c each. Each slide in the set is numbered and duplicates must be ordered by number. Slides in sets shipped on free loan must all be returned to factory as we cannot loan broken sets.

SOUTH BEND

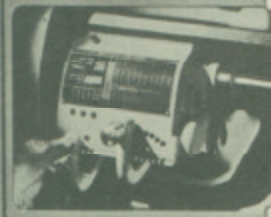
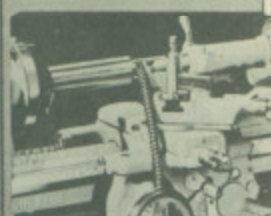
Motion Pictures

ON LATHE OPERATION



Three 16mm
Sound Films in
Full Color

Based on the Book
of
the same
title



Get your shop classes off to a good start by using these interesting films to demonstrate the best shop practice in elementary lathe operation. They show what a lathe is for, how it operates, the principle lathe operations, and the application of these operations on representative jobs. They are used by hundreds of schools and universities both in the United States and abroad, the U.S. Army, Navy, and Air Force.

South Bend motion pictures may be borrowed without charge by schools, colleges, universities, industrial apprentice schools, and other recognized organizations teaching machine shop practice. Borrower pays only the transportation costs. They may also be purchased outright by those who wish to keep the films for permanent use. Prices quoted on request. Sound track may be had in English, Spanish or French.

Film I—THE LATHE

Film I, "The Metalworking Lathe," introduces the student to the standard back-geared screw-cutting lathe by familiarizing him with the name of each principle lathe part, its purpose and operation. It is ideally suited for showing to beginners before they operate a lathe for the first time. After seeing the film the student may be allowed to manipulate the various lathe controls as demon-

strated in the picture. The film then can be shown again to answer the many questions that are bound to arise after initial experience with a lathe. The graphic method of instruction shortens the training period and reduces the amount of individual instruction—a real aid for today's larger enrollment. Approximately 800 feet of 16 mm sound film in full color. Showing time 20 minutes.

Film II—PLAIN TURNING

Film II, "Plain Turning," clearly describes all operations involved in the machining of a shaft held between the lathe centers. It teaches many of the basic procedures encountered in all lathe work. Among these are measuring with calipers and micrometers, locating and drilling center holes,

selecting the proper cutting tools, facing, rough turning, and finish turning the work piece. Each operation is developed step by step to fully illustrate proper methods. Approximately 800 feet of 16 mm sound film in full color. Showing time for this film is approximately 20 minutes.

Film III—GRINDING CUTTER BITS

Film III, "Grinding and Use of Basic Lathe Tool Cutter Bits," shows how to grind cutter bits for various lathe operations including rough and finish turning, facing, and thread cutting. Many extremely clear close-ups make it easy for the beginner to understand how to grind the correct

clearance and rake angles. The adjustment of the tool in the tool post and the action of the tool when taking a cut are also shown. This film will help the student master cutter bit grinding. Approximately 800 feet of 16 mm sound film in full color. Showing time 20 minutes.

SOUTH BEND LATHE WORKS
SOUTH BEND 22, INDIANA

Date _____

Please book motion picture films for showings indicated below.

Title of Film	DATE FILM IS WANTED FOR SHOWING		
	First Choice	Second Choice	Third Choice
THE METALWORKING LATHE			
PLAIN TURNING			
GRINDING BASIC LATHE TOOL CUTTER BITS			

We need the films for ☐ one day ☐ two days ☐ three days ☐ four days.

Sound track to be ☐ English ☐ Spanish ☐ French.

The films will be shown to ☐ employees ☐ machine shop students ☐ others.

The estimated total audience is _____ Ship films to following address:

Name of Organization _____

Street Address _____

City _____ State _____

By _____

PLEASE NOTE: If you received more than one copy of this Bulletin, PLEASE tear off and return to us the address section. We shall appreciate your cooperation and you will be assured of receiving future copies of our Catalogs and Bulletins. THANK YOU.

Compared with our costs
OUR PRICES ARE LOWER
than they were back in 1941

1941	1954
WAGES UP 150%	
MATERIALS UP 131%	
PRICES UP 43%	

Prices are closely tied to costs. Costs are still rising. Buy now, before increased costs necessitate higher prices.

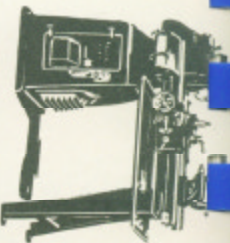
**THREE
SHOP
DIMENSIONAL
PLANNING**



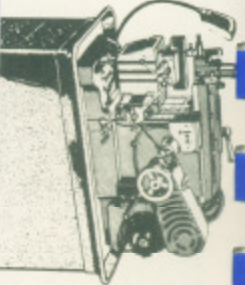
**BOOKS-FILMS-SLIDES
on machine shop
Practice**

*A helping hand
for you!*

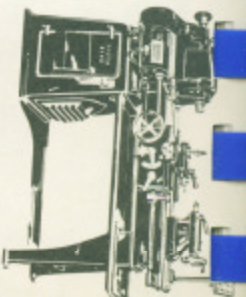
BULLETIN 5434



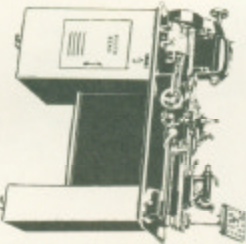
10" Quick Change Gear Floor Lathe. Base price \$1118.



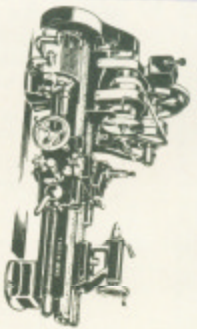
7" South Bend Precision Bench Shaper. Base price \$551.



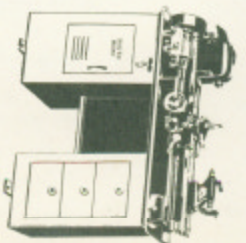
13" South Bend Toolroom Lathe. Base price \$1972.



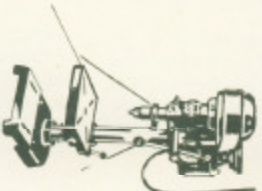
9" South Bend Toolroom Lathe. Base price \$831.



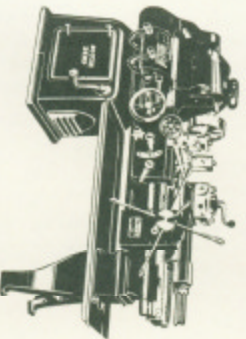
9" South Bend Model A Bench Lathe. Base price \$185.



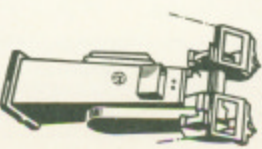
10" South Bend Light Ten Lathe. Base price \$675.



14" South Bend Bench Drill Press. Base price \$117.
Y5434-AD3M-9-54



No. 2-H South Bend Turret Lathe. Base price \$3190.
COPYRIGHT 1954 by South Bend Lathe Works. All rights reserved. Printed in U.S.A.



8" South Bend Pedestal Grinder. Base price \$345.

PLEASE SEND INFORMATION CHECKED:

- ☐ 9" and 10" BENCH LATHES
- ☐ 10" to 16-24" FLOOR LATHES
- ☐ DRILL PRESSES
- ☐ 1/2" & 1" Collet TURRET LATHES
- ☐ TOOL GRINDERS
- ☐ 7" BENCH SHAPERS

Name _____ Street _____

City _____ State _____

