

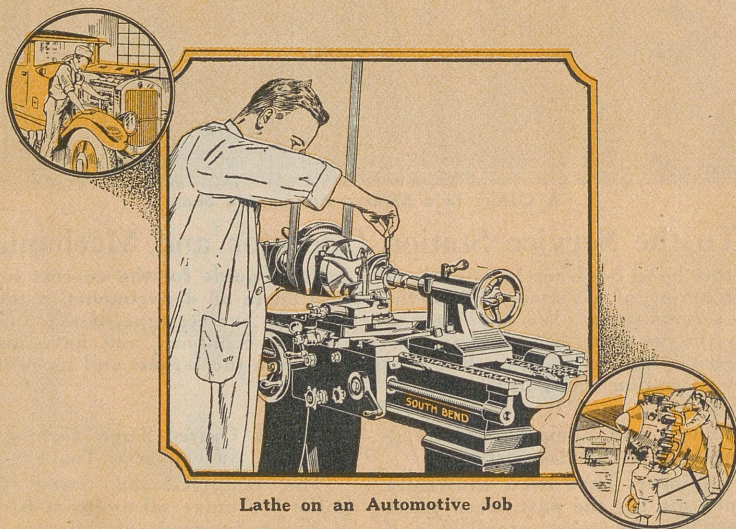
"South Bend"

Hand Book No. 33

FIFTH PRINTING

For the Auto Mechanic

NOVEMBER, 1929



Lathe on an Automotive Job

New Model South Bend Lathes

*For Automobile Service Station Shops
and Airport Shops*

Garages
Wheel Service Shops
Bus Service Stations
Auto Repair Shops

Auto Electric Shops
Brake Service Stations
Machine Shops
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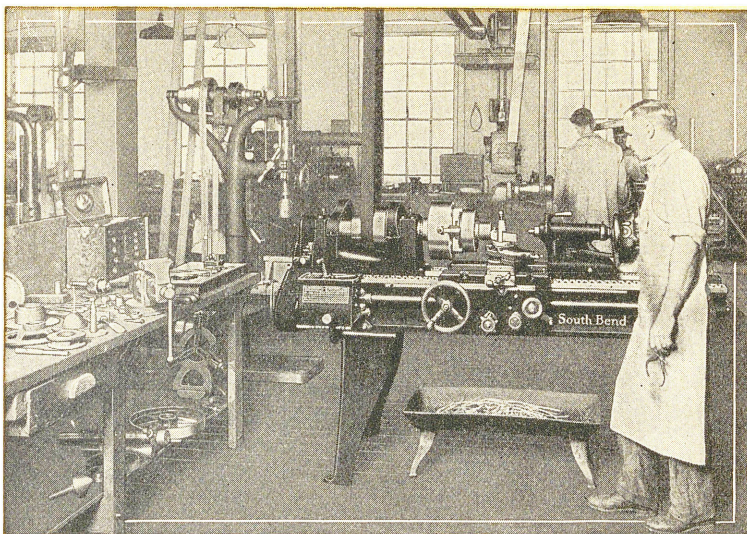
A. R. WILLIAMS MACHINERY CO., Ltd.

66 Front Street, West

TORONTO, ONTARIO, CANADA

Telephone: Elgin 2381

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A Corner in a Modern Automotive Shop

To the Service Station Operator and Mechanic

In this hand book we have outlined a reliable guide for the correct servicing and machining of a variety of jobs that come up in all departments of the automotive service shop. We have recommended the correct type of machines that will do the work with accuracy, precision, and economy, and have indicated the latest methods used as modern shop practice in the largest and most successful service station shops in the United States.

Shop Methods and Equipment of Leading U. S. A. Service Stations

Our engineers have been constantly experimenting for the past seven years to determine the most practical and economical methods of servicing the parts of the automobile, truck and bus. The result of this engineering development is a practical service recognized to such an extent that the leading automobile manufacturers in this country have adopted the South Bend methods in their service station shops both at home and abroad.

You will find South Bend Service methods and equipment illustrated, described and recommended in the authorized service tool and equipment catalogs of many of the largest automobile manufacturers.

The shop devoted to the servicing of automobiles, buses and trucks that intends to give real service, should be equipped with correct machinery and tools for turning out the work accurately, promptly and economically, so that the vehicle will operate with the same precision and efficiency as when it was new.

The Back Geared Screw Cutting Lathe, a Universal Tool

The Back Geared Screw Cutting Lathe is a universal tool that is capable of doing hundreds of different operations on various classes of machine work, while the single purpose tool is capable of doing only that class of work it is designed for.

The mechanical units of the modern automobile, truck, bus and airplane, such as the engine, transmission, differential, ignition system, brakes, ball bearings, roller bearings and other parts, are all built to meet the most exacting standards of accuracy and precision.

The back geared, screw cutting lathe, being a precision tool, is employed in the manufacture of these parts: therefore, it is logical that when these parts are to be repaired, the work should be done with the same type of equipment.

"How to Run a Lathe," a complete guide on the care and operation of the Back Geared Screw Cutting Lathe—see page 31.

Important Mechanical Units

Of the Automobile, Bus and Truck

The Modern Engine of the automobile, bus and truck is a very efficient unit, assembled from a variety of accurate machined parts that perform with the greatest precision when the engine is in operation. It is important in servicing a complete machine such as this engine that careful consideration should be given to the selection of the proper tools.

The Back Geared Screw Cutting Lathe is the practical tool for servicing the major units of the automobile as illustrated on this page. The size of the lathe will depend somewhat upon the class of work that the service shop wishes to take care of or makes a specialty of. For example, if all the units on this page are to be serviced we recommend the 16-inch Lathe as illustrated and described on pages 18 and 20 of this hand book. Brake drum work and wheel work, however, would require the Brake Drum Lathe as illustrated and described on pages 22 and 23.

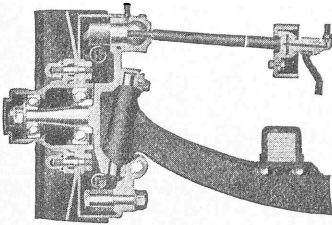


Fig. 2. Front Wheel and Steering Mechanism

The Small Parts of all Units can be taken care of nicely on the 9-inch and 11-inch lathes. The correct size of lathe for the various classes of work can be determined by studying pages 14 and 15 of this book, where this subject is explained.

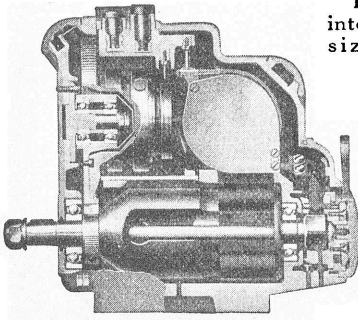


Fig. 5. Ignition Unit

Bulletin and Catalog. If interested in any particular size lathe, write for our Catalog No. 90-A, also for a bulletin describing the size of lathe that interests you most. See page 31 where the bulletins and catalog are described.

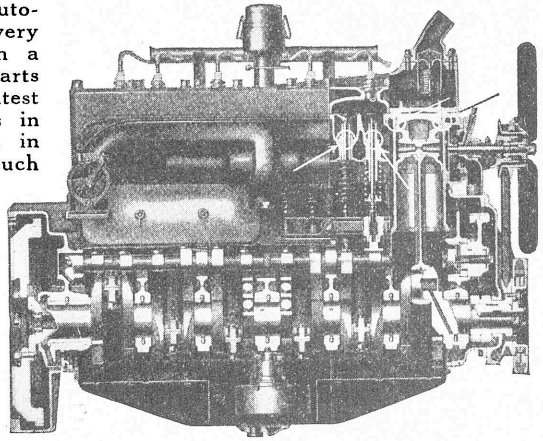


Fig. 1. Automobile Motor with Sections Cut Away to Show Construction

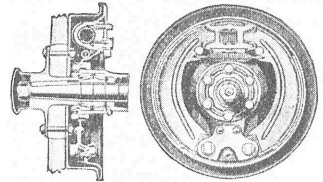


Fig. 3. Rear Wheel Hub and Brake Drum

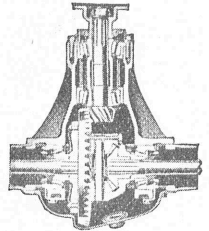


Fig. 4. The Differential

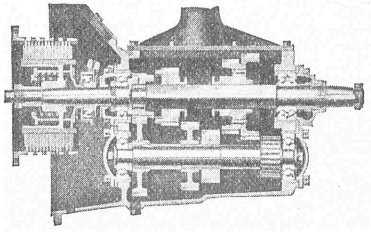


Fig. 6. Clutch and Transmission

A Copy of "Auto Mechanics Service Book No. 66" included with each Lathe shipped

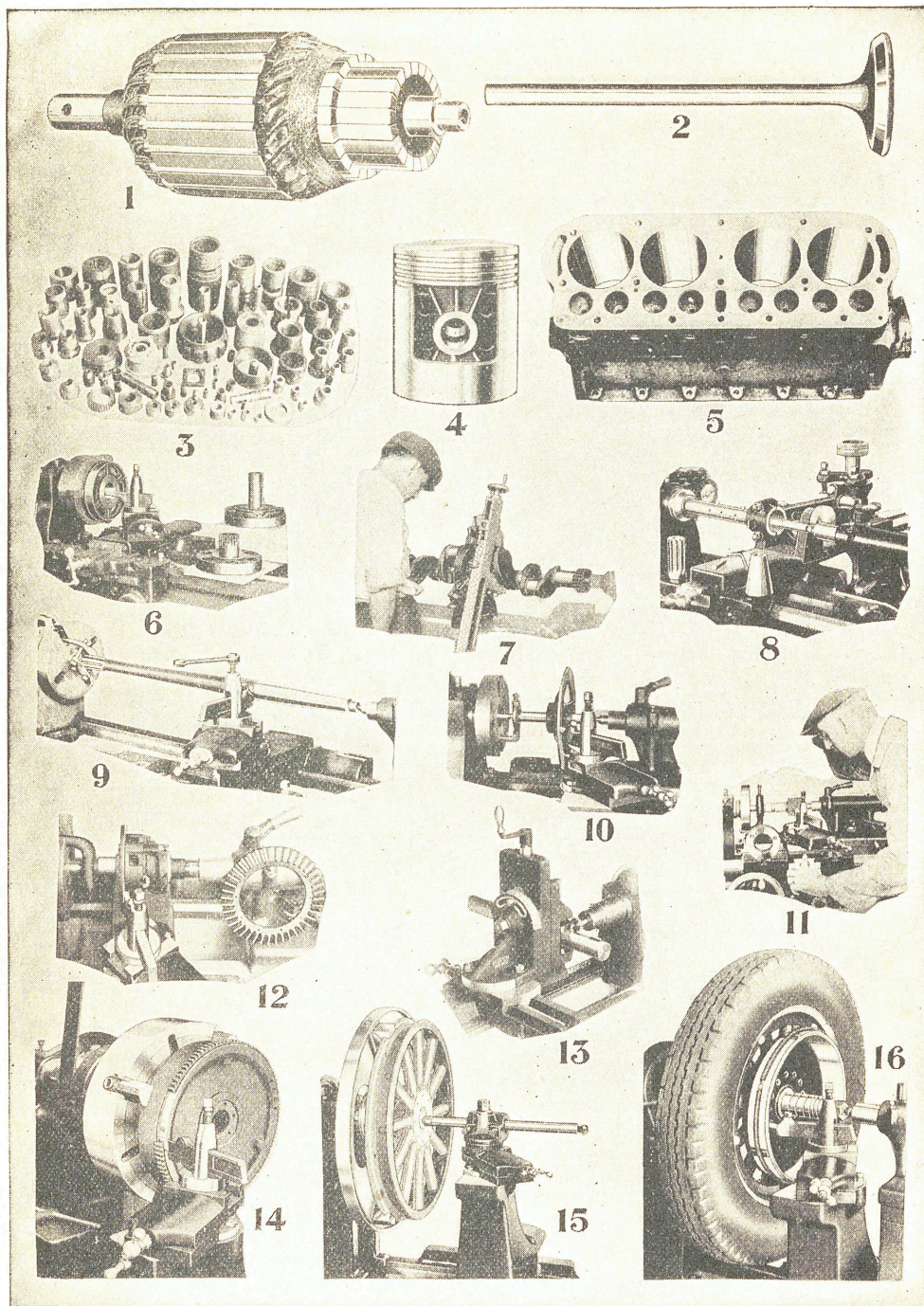
152 Jobs That Can Be Done on the Lathe

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Truing armature commutators		Balancing assembled wheel, tire attached
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Making armature center holes		Truing all sizes of flywheels
Restoring center holes		Cutting teeth off flywheels for new ring gears
Cutting old wire off armatures		Boring flywheels accurately
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Boring Field Poles		Fitting ring gears on flywheels
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Truing inside by boring		Brake Drums
Truing outside by turning		Testing brake drums for trueness
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Polishing bushing inside and outside		Truing brake drums of all kinds and sizes
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Reaming bushings		Removing scores from brake drums
Boring and repairing bushings in transmission		Fitting metal liner in brake drum
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		Grinding points on 60 degree dead center
		Grinding thread taps
		Grinding master thread gauges

Auto Mechanics Service Book No. 66 gives complete instructions on how to do the above jobs. See page 31.

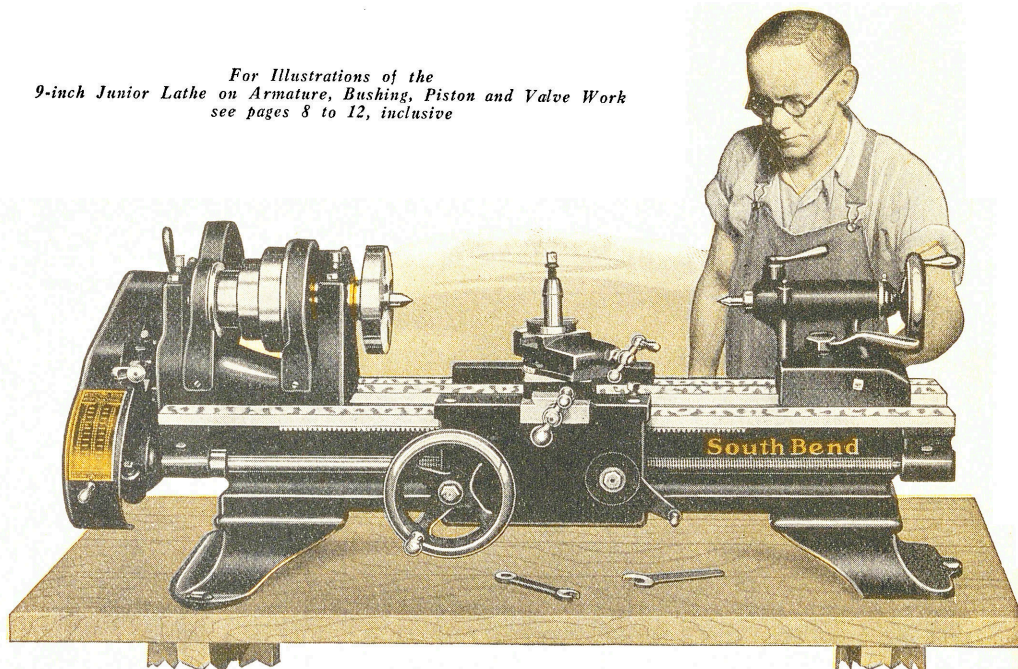
Auto Units That Should Be Serviced on the Lathe



- 1—ARMATURES AND COMMUTATORS
- 2—VALVES
- 3—BUSHINGS AND SMALL PARTS
- 4—PISTONS
- 5—ENGINE BLOCK AND CYLINDERS
- 6—TRANSMISSION
- 7—CRANKSHAFT
- 8—CONNECTING RODS

- 9—AXLES, DRIVE SHAFTS, CAM SHAFTS, ETC.
- 10—CLUTCH DISCS
- 11—THREADED PARTS, BOLTS, SCREWS
- 12—DIFFERENTIAL
- 13—MAKING KEYSEATS
- 14—RING GEARS AND FLYWHEELS
- 15—WHEELS, HUBS, ETC.
- 16—BRAKE DRUM AND WHEEL WORK

For Illustrations of the
9-inch Junior Lathe on Armature, Bushing, Piston and Valve Work
see pages 8 to 12, inclusive



9-in. x 3-ft. Junior New Model South Bend Bench Lathe - \$169

Back Geared, Screw Cutting Precision Tool, Bench Type—Countershaft Drive

The 9-inch Junior New Model South Bend Lathe is the practical tool for the service station shop, garage, and electrical shop for taking care of all machine work on small parts of the automobile motor where the finest accuracy and precision must be maintained. It will take care of machining armatures, valves, pistons, bushings and hundreds of other jobs that come up in servicing automobiles, trucks, tractors and airplanes. See pages 7 to 12 and 16.

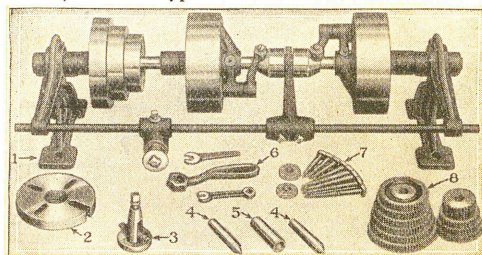
Motor Drives. The 9-inch Junior New Model South Bend Lathe may be had in Silent Chain Motor Drive and in Horizontal Motor Drive. See page 7.

A Metal Index Plate attached to each 9-inch Junior Lathe shows the gear arrangement for cutting threads from 4 to 40 per inch, right or left hand, including $1\frac{1}{2}$ -inch pipe thread. Change Gears are furnished for cutting these threads and for power longitudinal feeds.

SOUTH BEND LATHE WORKS TRADE MARK ENGINE LATHES		
THREAD	STUD	SCREW
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	42
10	32	40
11	32	44
11½	32	48
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	88
24	16	96
25	16	100
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

LATHE FEATURES

Back geared headstock gives six spindle speeds. Hollow spindle made of special alloy steel. Phosphor bronze bearings for spindle. Graduated compound rest swivels to any angle. Precision lead screw for cutting accurate threads. Micrometer collar on cross feed and compound rest screws. Tailstock set-over for turning and boring tapers. Quick-acting spring latch reverses carriage travel. Power longitudinal screw feed to the carriage. Graduated tailstock spindle.



Lathe Equipment Included in Price of the 9-inch Junior Lathe: 1—Double Friction Countershaft; 2—Face Plate; 3—Tool Post Complete; 4—Two Lathe Centers; 5—Spindle Sleeve; 6—Wrenches; 7—Lag Screws and Washers; 8—Change Gears for cutting Screw threads and for longitudinal feeds. Installation Plans and Books, "How to Run a Lathe" and "Auto Mechanics Service Book No. 66."

The Features, Specifications and Descriptions on this page apply to the 9-inch Junior Lathes illustrated on pages 7 and 16.

LATHE SPECIFICATIONS

Countershaft Speed.....300 R.P.M.
Spindle Speeds...40, 75, 128, 246, 410, 700 R.P.M.
Width of Cone Pulley Belt.....1 inch
Acme Thread Lead Screw.....¾-inch diam. 8 pitch
Size of Lathe Centers.....No. 2 Morse Taper
Screw Thread Cutting Range.....4 to 40 per inch
Draw-in Collet Chuck Capacity.....¼ inch to ½ inch
Cross Slide Travel.....7 inches
Size of Tool Shank for Tool Post.....½ inch x ½ inch
Double Friction Countershaft Pulleys.....6⅞ in. x 2⅞ in.

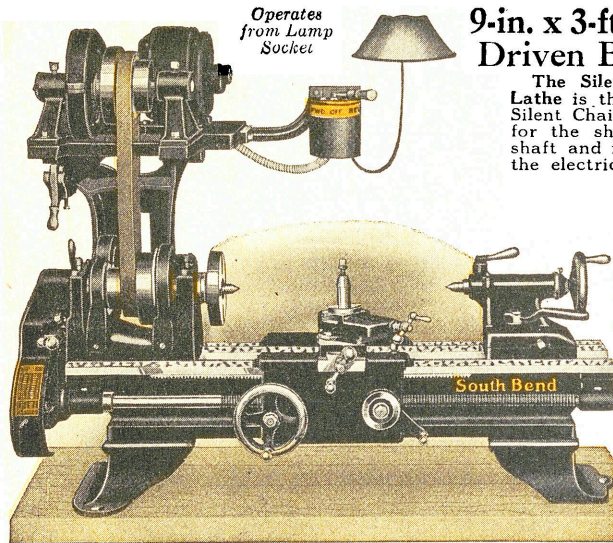
Net Factory Prices of 9-inch Junior New Model Bench Lathe, Including Countershaft and Equipment*

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Hole Thru Spindle	Swing Over Carriage	Power Required	Weight Crated	Code Word	Price F.O.B. South Bend
22-XB	9½ in.	2½ ft.	11 in.	¾ in.	6½ in.	¼ HP.	350 lbs.	Bylow	\$163.00
22-YB	9½ in.	3 ft.	18 in.	¾ in.	6½ in.	¼ HP.	375 lbs.	Bhorn	169.00
22-ZB	9½ in.	3½ ft.	23 in.	¾ in.	6½ in.	¼ HP.	400 lbs.	Bmatx	175.00
22-AB	9½ in.	4 ft.	29 in.	¾ in.	6½ in.	¼ HP.	425 lbs.	Blear	182.00
22-RB	9½ in.	4½ ft.	36 in.	¾ in.	6½ in.	¼ HP.	450 lbs.	Broil	190.00

*Prices do not include Bench.

Write for 9-inch Junior Lathe Bulletin No. 22

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.



Operates
from Lamp
Socket

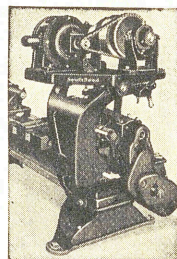
9-in. x 3-ft. Jr. Silent Chain Motor Driven Bench Lathe - \$275.50

The Silent Chain Motor Driven Junior Bench Lathe is the regular Junior Lathe equipped with Silent Chain Motor Drive. It is an excellent tool for the shop not equipped with overhead line-shaft and is ready to operate when connected to the electric current.

The Driving Cone receives its power from the motor through the silent chain which eliminates vibration and noise and is as powerful as if direct geared. The Spindle Cone is driven by belt. A wide, heavily constructed bench leg under the headstock end gives ample support to the motor drive unit.

Electrical Equipment consists of 1/4-H.P. Reversing Motor 1200 R.P.M., Reversing Switch (Drum Type), wiring between motor and switch, Flexible Metal Conduit, Wiring Diagram and Belt.

L a t h e
Equipment
consists of
Face Plate,
Tool Post
complete, Two
Lathe
Centers, Spindle
Sleeve, Change
G e a r s,
Wrenches, In-
stallation
Plans and
books, "How
to Run a
Lathe" and
"Auto Me-
chanics Ser-
vice Book."



Drive Unit, Gear
Guard Removed

Prices 9-inch Junior Silent Chain Motor Driven Bench Lathe*

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Size of Motor	Weight Crated	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
322-XB	9 1/4 in.	2 1/2 ft.	1/4 H.P.	565 lbs.	Bafes	\$269.50	\$284.50	\$277.50
322-YB	9 1/4 in.	3 ft.	1/4 H.P.	585 lbs.	Bamur	275.50	290.50	283.50
322-ZB	9 1/4 in.	3 1/2 ft.	1/4 H.P.	605 lbs.	Bemox	281.50	296.50	289.50
322-AB	9 1/2 in.	4 ft.	1/4 H.P.	625 lbs.	Bitun	288.50	303.50	296.50
322-RB	9 1/2 in.	4 1/2 ft.	1/4 H.P.	645 lbs.	Bunaz	296.50	311.50	304.50

*Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Leather Belt. Price of Bench on Application.

9-in. x 3-ft. Jr. Horizontal Motor Driven Bench Lathe - \$239

The Horizontal Motor Driven Junior Bench Lathe is the regular Junior Bench Lathe equipped with a horizontal motor drive mechanism, which is driven by a motor mounted on shelf beneath bench.

Electrical Equipment consists of motor drive mechanism and same equipment as described above.

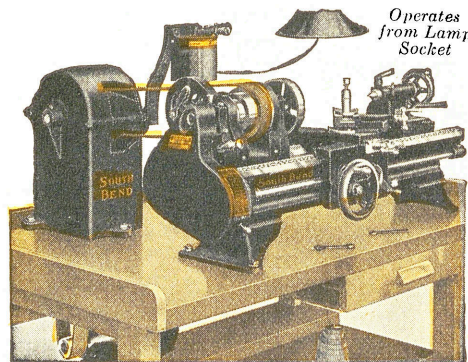
Lathe Equipment is the same as listed above for the Junior Silent Chain Motor Driven Bench Lathe.

9-in. Jr. Horizontal Motor Driven Lathe*

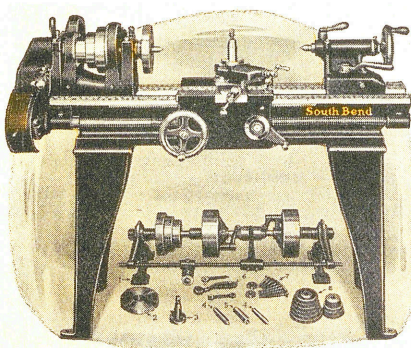
Cat. No. of Lathe	Swing Over Bed	Length of Bed	3-Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
422-X	9 1/4 in.	2 1/2 ft.	\$233.00	\$248.00	\$241.00
422-Y	9 1/4 in.	3 ft.	239.00	254.00	247.00
422-Z	9 1/4 in.	3 1/2 ft.	245.00	260.00	253.00
422-A	9 1/2 in.	4 ft.	252.00	267.00	260.00
422-R	9 1/2 in.	4 1/2 ft.	260.00	275.00	268.00

View of
Drive Unit

*Prices Include Lathe, Drive Cabinet, Lathe Equipment, Reversing Motor, Reversing Switch, Two Belts, But Not Bench.



Operates
from Lamp
Socket



9-in. x 3-ft. Jr. Floor Leg Lathe - \$179

The 9-inch Junior New Model Lathe with floor legs is exactly the same lathe as shown on page 6, except that it is furnished with long legs for floor use instead of short legs for bench use.

For Features, Specifications and Equipment of this lathe see description of the 9-inch Junior Bench Lathe.

The Equipment shown beneath the lathe is included in price.

Prices of 9-inch Junior Floor Leg Lathe

No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Power Required	Weight Crated	Code Word	Price F.O.B. South Bend
22-X	9 1/4 in.	2 1/2 ft.	11 in.	1/4 H.P.	415 lbs.	Byato	\$173.00
22-Y	9 1/4 in.	3 ft.	18 in.	1/4 H.P.	449 lbs.	Blunt	179.00
22-Z	9 1/2 in.	3 1/2 ft.	23 in.	1/4 H.P.	465 lbs.	Bmelo	185.00
22-A	9 1/2 in.	4 ft.	29 in.	1/4 H.P.	490 lbs.	Blunt	192.00
22-R	9 1/2 in.	4 1/2 ft.	36 in.	1/4 H.P.	515 lbs.	Bryan	200.00

Servicing Armatures

The 9-inch New Model South Bend Lathe is the ideal tool for servicing armatures and truing the commutator. The commutator can be trued in from two to three minutes, depending upon the wear of the surface of the commutator.

Machining the armature smooth and true is a precision job and must be done on a Screw Cutting Lathe equipped with automatic feed, for satisfactory results. The lathe may be used for undercutting mica, testing and straightening armature shafts, restoring damaged center holes, etc.

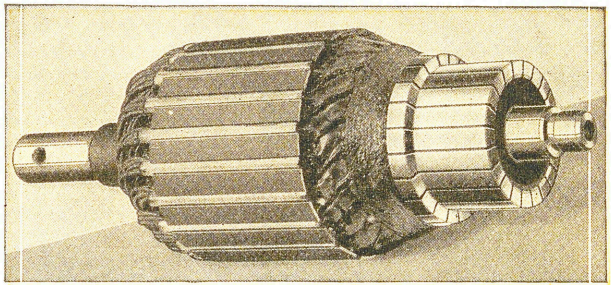


Fig. 7. Armature Commutator After Truing in the Lathe

Machining the Armature in the 9" Junior South Bend Lathe

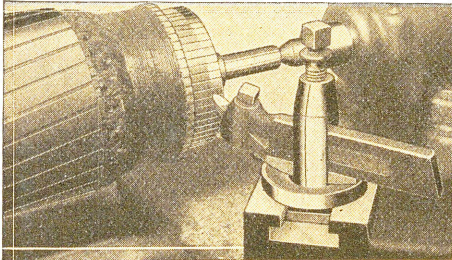


Fig. 8. Taking the Finishing Cut to True the Armature Commutator in the Lathe

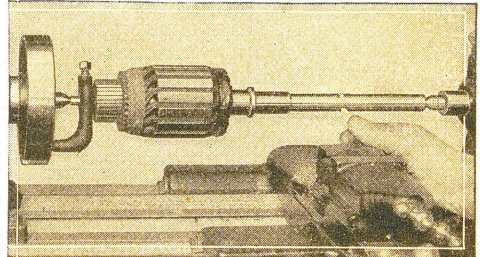


Fig. 9. Testing and Straightening a Bent Armature Shaft in the Lathe

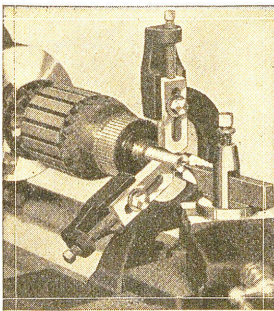


Fig. 10. Restoring a Damaged Center Hole

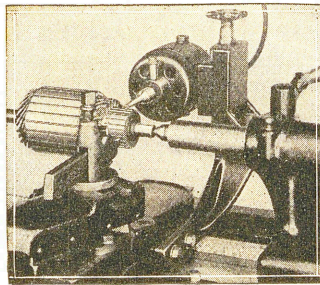


Fig. 11. Undercutting Mica with Electric Mica Undercutter
Price of Attachment \$50.00

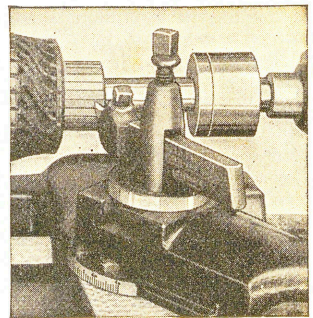
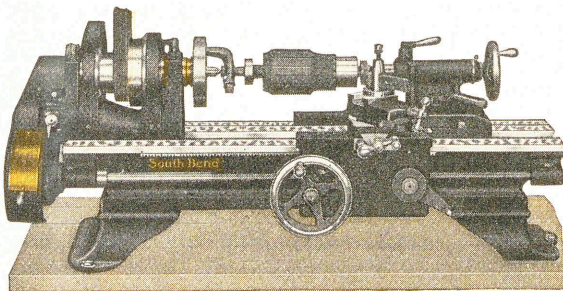


Fig. 12. Armature Commutator Centered by Bushing and Holder



A New Model 9-inch Junior Lathe on an Armature Job

Lathe and Tools for Servicing Armatures

The equipment needed for servicing armatures is the 9-inch Junior Bench Lathe (as illustrated at left and described on page 6), and a few tools which are listed and priced below.

Many other classes of work such as making bushings, servicing valves, pistons, etc., can be handled on this lathe plus a few additional tools. For equipment needed to machine each of these jobs and for illustrations showing the practical applications of the lathe on this work see pages 8-12. If equipment is desired for handling all these jobs see page 16.

1 No. 22-YB—9-in. x 3-ft. Junior New Model South Bend Countershaft Driven Bench Lathe.....	\$169.00
1 Set of Three Lathe Dogs $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1".....	2.10
1 No. 849-S—Patent Turning Tool with High-speed Cutter Bit.....	2.40
Total Cost of Above Equipment.....	\$173.50

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Making Bushings

The Screw Cutting Lathe is the only tool on which bushings can be machined accurately. All kinds and sizes of bushings—brass, bronze, aluminum, steel, babbitt, fibre or hard rubber can be made quickly on the 9-inch Junior lathe illustrated and priced below. Worn or damaged bushings can be reconditioned and new parts made when necessary. The same lathe is shown on the page opposite and on succeeding pages servicing other automotive units. For description and prices see page 6. Complete information on making bushings will be found in Auto Mechanics Service Book No. 66.

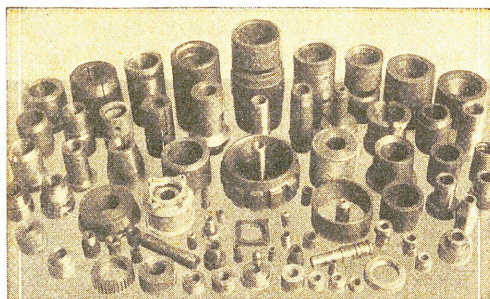


Fig. 13. Types of Bushings Made in the 9-inch Junior Lathe

Making Bushings in the 9" Junior South Bend Lathe

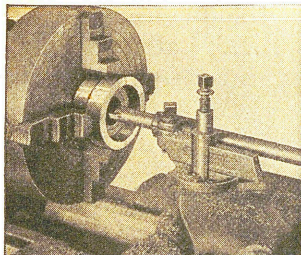


Fig. 14. Making a Large Bushing Held in a 4-Jaw Chuck

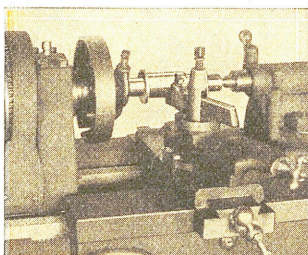


Fig. 15. Turning a Bronze Bushing on a Mandrel in the Lathe

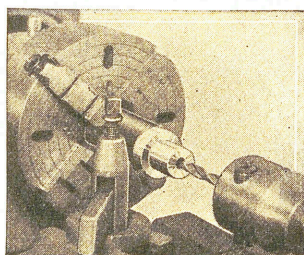


Fig. 16. Finishing a Bronze Bushing in One Chucking

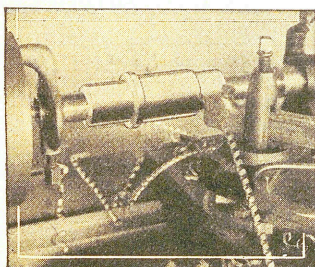


Fig. 17. Making a Steel Bushing

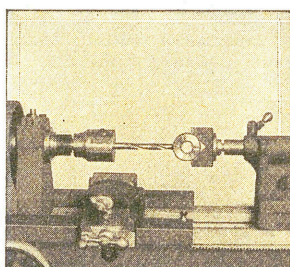


Fig. 18. Drilling Round Work Held in Crotch Center Tailstock

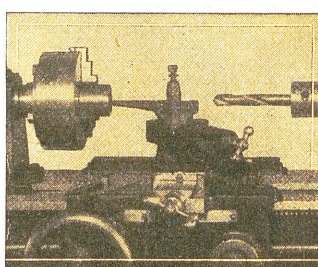
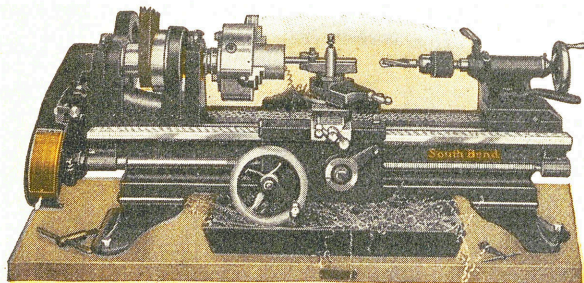


Fig. 19. Drilling and Boring a Bushing in One Chucking

Lathe and Tools for Making Bushings

The making of bushings requires only a 9-inch lathe and a few tools as listed and priced below. With this equipment the mechanic is not limited to bushing work only as the tools are practical for many other automotive jobs. The lathe illustrated is a tool of general utility. See page 6 for description and prices. It can also be furnished in motor drive types. See page 7.



Making a Bushing in the New Model 9-inch Junior Lathe

1 No. 22-YB	9-in. x 3-ft. Junior New Model South Bend Countershaft Driven Bench Lathe.....	\$169.00
1 No. 2106	6-in. 4-Jaw Independent Lathe Chuck.....	28.00
	Fitting Chuck to Lathe with Chuck Back.....	7.00
1 No. 1201	3-Jaw Geared Drill Chuck, 1/2" Capacity.....	8.50
1 No. 709	Drill Chuck Arbor, Fitted to Chuck.....	1.50
1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	2.40
1 No. 881-R	Patent Cutting-off Tool (Right Hand).....	2.60
1 No. 429	Patent Boring Tool, Style "B".....	4.40
Total Cost of Above Equipment.....		\$223.40

Finishing Semi-Machined Pistons

Semi-machined pistons, solid or split skirt types, made of cast iron, aluminum or other alloys, can be machined in the lathe to fit the cylinder block of all sizes of automobiles, buses and trucks. The lathe is the most practical tool to do this work as the turning tool does not close the porous surface of the skirt, which permits it to act as a reservoir to conserve the film of oil, so necessary to lubricate the cylinder when the piston is in operation. This is the latest and best practice in the service station shop. The piston may be ground in the lathe, but we do not recommend it.

Auto Mechanics Service Book No. 66* explains in detail the method of finishing semi-machined pistons in the lathe. The only equipment needed for finishing pistons in the lathe is the No. 44 piston adapter, a skirt reamer and an adapter ring.

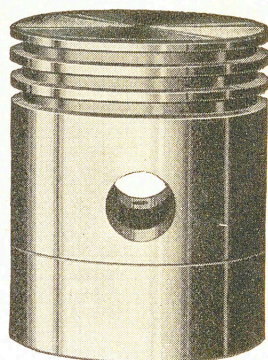


Fig. 20. A Finish Machined Piston

Machining Pistons in the 9" Junior South Bend Lathe

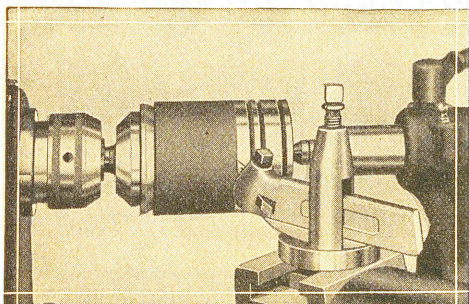


Fig. 21. Turning to Finished Diameter a Semi-Machined Piston in the Lathe

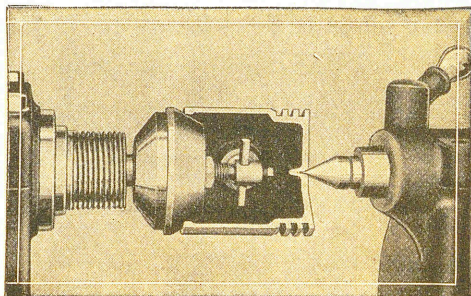


Fig. 22. The Application of No. 44 Piston Adapter Shown in Cross-Section View

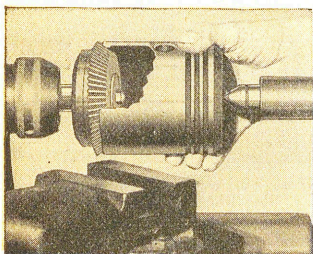


Fig. 23. Reaming the Skirt of a Piston True and Round

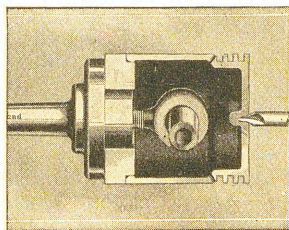


Fig. 24. Cross Section of Piston Mounted on Adapter

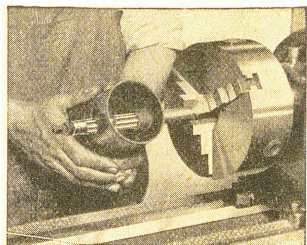


Fig. 25. Reaming the Wrist Pin of a Piston

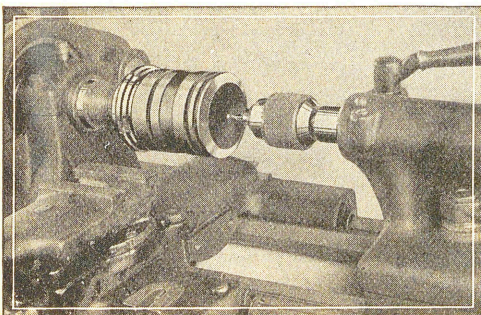


Fig. 26. Piston Mounted in Lathe for Drilling Center Hole in Head

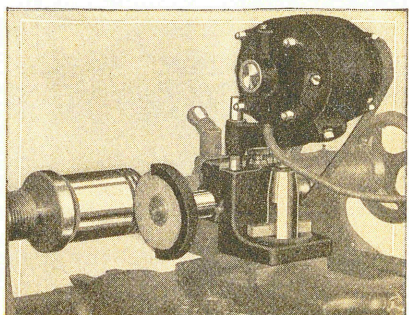


Fig. 27. Grinding a Semi-Machined Piston Using Electric Grinder

*A copy of Auto Mechanics Service Book No. 66 is included with each lathe, or will be mailed postpaid upon receipt of 25c coin or stamps of any country.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Finishing Semi-Machined Pistons in the 9" Junior Lathe

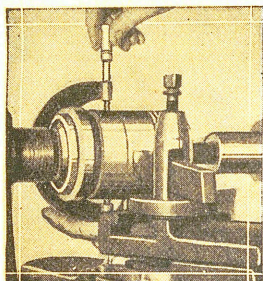


Fig. 28. Measuring Diameter of Turned Piston

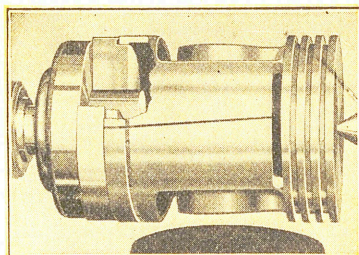


Fig. 29. Split Skirt Piston Mounted for Machining

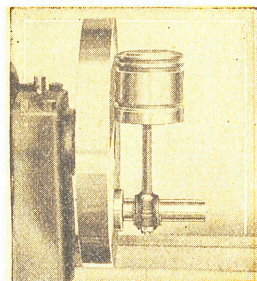
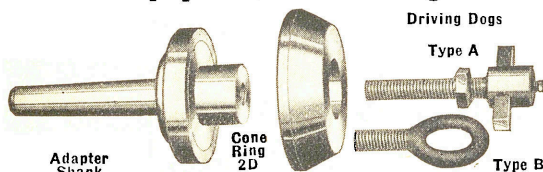


Fig. 30. Aligning Piston and Connecting Rod

Equipment for Finishing Semi-Machined Pistons



No. 44 Self-Centering Piston Adapter

The **Piston Adapter** is used to center pistons in the lathe for machining. The skirt end of the piston is centered on an adapter ring which fits adapter shank. If piston has center hole in head use cone ring. For use of other rings see column at right. Use Type A driving dog for pistons with center hole in head and Type B for those without center hole.

Prices of No. 44 Self-Centering Piston Adapters

Size Lathe	Morse Taper of Shank	Catalog No.	Code Word	Price complete with Shank, one Driving Dog, Type A, and one Cone Ring, any size or type	Extra Driving Dog, Type B
9 in.	3	44-A	Hanov	\$12.00	\$0.50
16 in.	3	44-E	Heota	13.00	.50

For prices of Adapter for other size lathes, see General Catalog No. 90-A.

Prices and Specifications of Adapter Rings

Extra Cone Rings			Extra Step Rings			Extra Knife Edge Rings		
Cone Ring No.	For Pistons Outside Diameter	Price, Extra Rings	Step Ring No.	For Pistons Outside Diameter	Price, Extra Rings	Knife Ring No.	For Pistons Outside Diameter	Price, Extra Rings
1D	2½ to 3¼ in.	\$2.50	1C	2½ to 3¼ in.	\$2.50	1K	2½ to 3¼ in.	\$2.50
2D	3¼ to 3½ in.	2.50	2C	3¼ to 3½ in.	2.50	2K	3¼ to 3½ in.	2.50
3D	3½ to 4 in.	2.50	3C	3½ to 4 in.	2.50	3K	3½ to 4 in.	2.50
4D	4 to 5¼ in.	2.50	4C	4 to 5¼ in.	2.50	4K	4 to 5¼ in.	2.50

Step Rings

Are for holding pistons without center hole in head. Step Rings are rough turned on outside diameter. The step must be machined to size desired.



Knife Edge Rings

Are for holding split skirt pistons, aluminum or alloy. These Rings are rough turned on outside diameter. The knife edge and step must be machined to size desired.



Piston Skirt Reamers

Are used on the No. 44 Piston Adapter Shank. The holes in the cone rings and the Reamers are the same size.

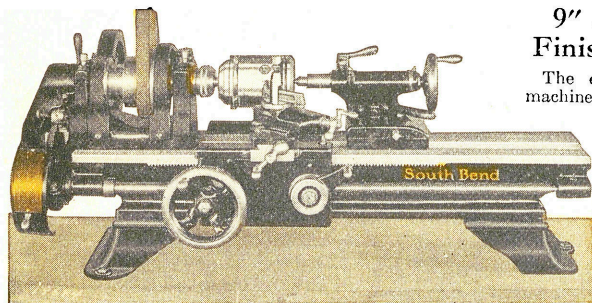


Prices of Piston Skirt Reamers

Reamer No.	For Pistons Outside Diam.	Price, Each Reamer
1R	2½ to 3¼ in.	\$ 7 50
2R	3¼ to 3½ in.	9 00
3R	3½ to 4 in.	11 00
4R	4 to 5 in.	13.00

9" Junior Lathe and Tools for Finishing Semi-Machined Pistons

The only equipment needed for finishing semi-machined pistons is a 9-inch lathe and a few tools as listed and priced below. The tools are complete for mounting and machining pistons in the lathe. For description of the countershaft driven lathe illustrated see page 12. The 9-inch lathe will finish pistons varying in diameter from 2½ to 4½ inches. In addition to finishing semi-machined pistons the lathe will take care of armatures, valves, bushings, and hundreds of other machine jobs including cutting of screw threads. See pages 8-12.



Machining a Piston to Finished Diameter in the 9-inch Junior Lathe

1 No. 22-YB	9 in. x 3 ft. Junior New Model South Bend Countershaft Driven Bench Lathe	\$169.00
1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	2.40
1 No. 44	Piston Adapter complete with one Adapter Ring, any size or type listed.....	12.00
1 No. 1-R	Piston Skirt Reamer	7.50
Total Cost of Above Equipment.....		\$190.90

9-INCH JUNIOR LATHE IS DESCRIBED AND ILLUSTRATED IN BULLETIN No. 22

Refacing Valves

The Modern Method of refacing valves in the service station shop is to true them in the lathe by machining instead of grinding as machining is from four to six times quicker than grinding and will do just as good a job. No valve is so hard that it cannot be machined. For information on refacing valves see Auto Mechanics Service Book No. 66, a copy of which is furnished with each lathe.

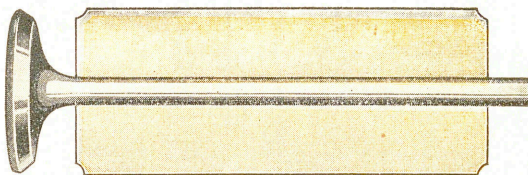


Fig. 31. A Valve Refaced by Machining in a Lathe

Machining Valves in the 9" Junior South Bend Lathe

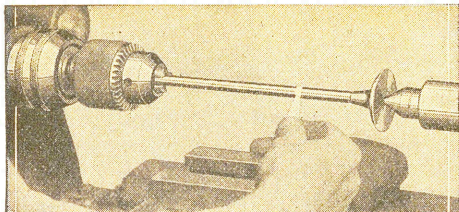


Fig. 32. Testing and Straightening a Bent Valve Stem in the Lathe

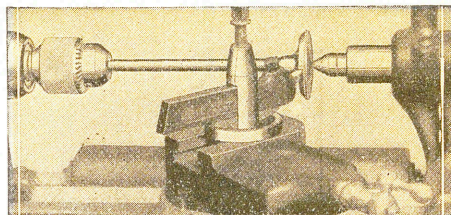


Fig. 33. Refacing a Valve Held in a Three-Jaw Drill Chuck at Correct Angle

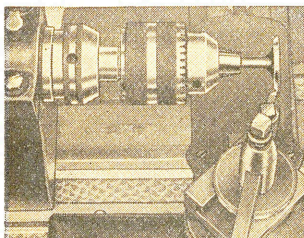


Fig. 34. Refacing a Ford Valve with Large End on Stem

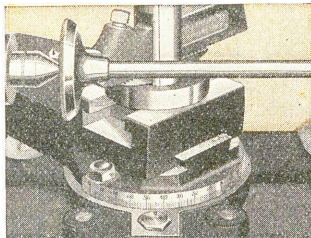


Fig. 35. Compound Rest at 45° Angle for Refacing Valves

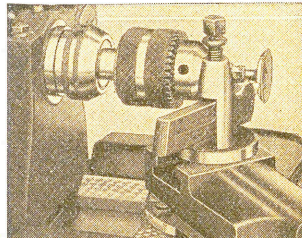


Fig. 36. Refacing a Valve Without Centered Head, Such as Ford

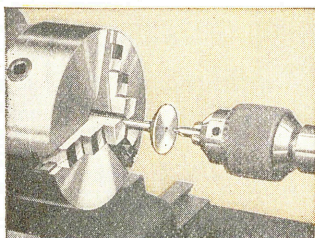


Fig. 37. Centering a Valve Head Held in Chuck

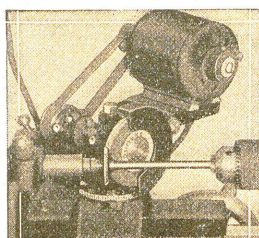


Fig. 38. Refacing a Valve with No. 15 Electric Grinder

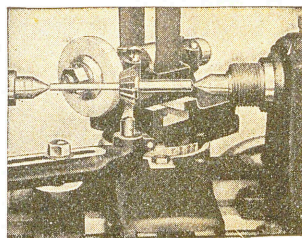
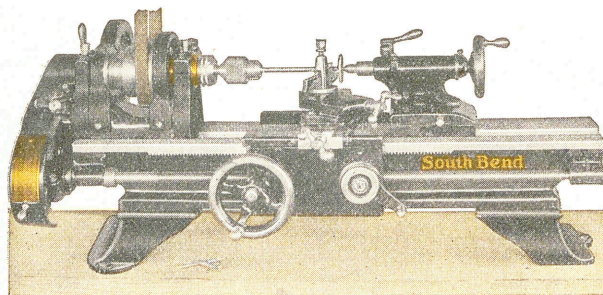


Fig. 39. Grinding a Valve Seat Reamer



Refacing a Valve in the New Model 9-inch Junior Lathe

1 No. 22-YB	9-in. x 3-ft. Junior New Model South Bend Countershaft Driven Bench Lathe.....	\$169.00
1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	2.40
1 No. 1212	Hollow Spindle Drill Chuck, 5/8" Capacity.....	9.50
1 No. 1223	Hollow Drill Chuck Arbor.....	3.00

Total Cost of Above Equipment..... \$183.90

Lathe and Tools for Refacing Valves

The only equipment needed for refacing valves by machining is a 9-inch lathe and a few tools as listed and priced below. This equipment, unlike single purpose machines is not limited to valve work only, since the lathe, with a few additional tools, can be used for many other classes of automotive work. See pages 8 to 11.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Lathe Jobs in the Auto Service Station Shop

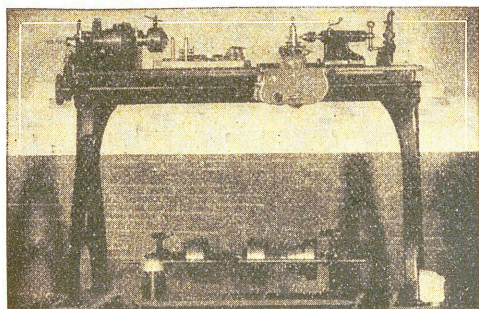


Fig. 40. Henry Ford's First Lathe. At this lathe, which he purchased early in 1894, Henry Ford made parts for the first Ford Car

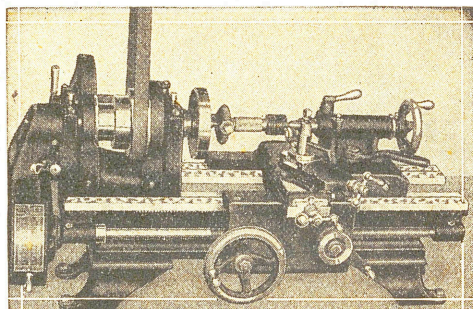


Fig. 41. Cutting the Thread on a Master Screw Thread Gauge

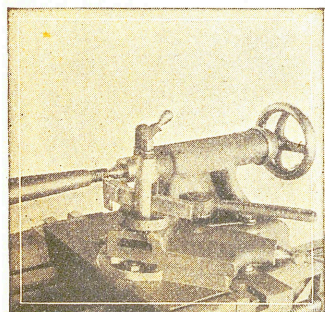


Fig. 42. Cutting Thread on an Automobile Axle

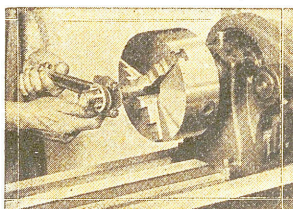


Fig. 43. Quick Method of Reaming a Single Connecting Rod

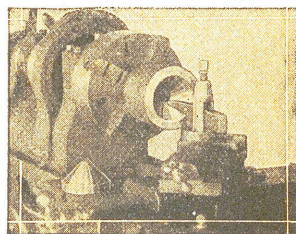


Fig. 44. Boring the Taper of a Conical Die

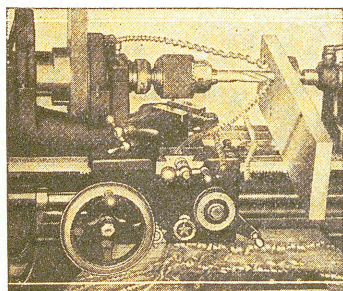


Fig. 45. Drilling a Piece of Flat Steel in the Lathe

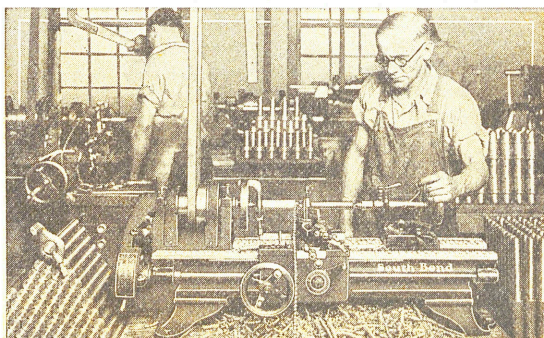


Fig. 46. Turning a Shaft in the 9-inch Junior Lathe. See Pages 8 to 12 for Other Practical Jobs

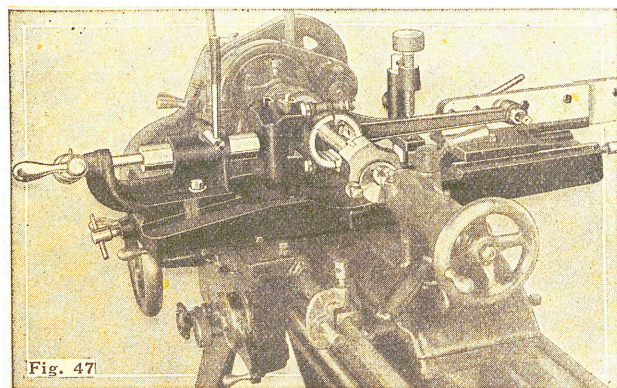


Fig. 47

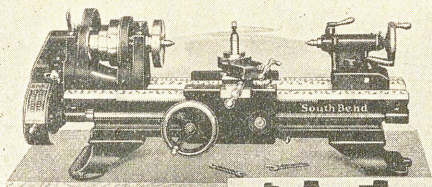
Connecting Rod Boring Attachment

The illustration shows the Hempy-Cooper Connecting Rod Boring Attachment for use on South Bend Lathes. This attachment is capable of boring all sizes and types of connecting rods for automobiles, buses and trucks. It is furnished for use on the 11-inch, 13-inch, 15-inch, 16-inch, and 18-inch Lathes. Write for special bulletin.

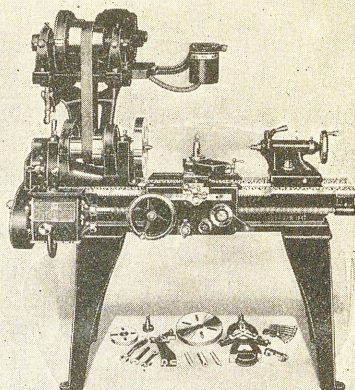
Prices of Connecting Rod Boring Attachment

Size of Lathe	Cat. No.	Weight	Code Word	Price
11 in.	1427	129 lbs.	Nulom	\$175.00
13 in.	1428	138 lbs.	Novor	185.00
15 in.	1429	151 lbs.	Nimor	195.00
16 in.	1430	165 lbs.	Nolas	205.00
18 in.	1431	189 lbs.	Noxit	215.00

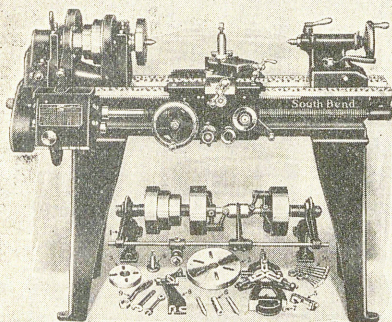
The Size Lathe for the Auto Service Station Shop



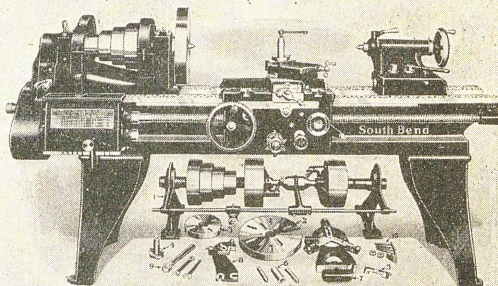
9" x 3' New Model Junior Bench Lathe With Countershaft and Equipment . . . \$169



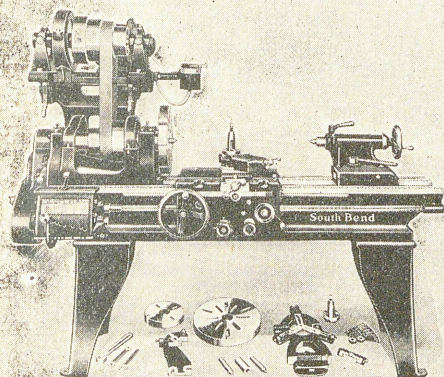
11" x 4' New Model Silent Chain Motor Driven Quick Change Gear Lathe With Motor and Regular Equipment . . \$498



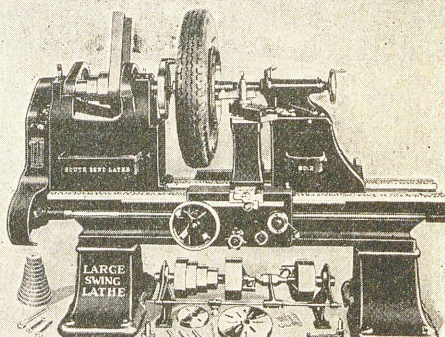
9" x 3' New Model Quick Change Gear Lathe With Countershaft and Equipment . . . \$294



18" x 8' New Model Quick Change Gear Lathe With Countershaft and Equipment \$763



16" x 6' New Model Silent Chain Motor Driven Quick Change Gear Lathe With Motor and Regular Equipment . . \$777



36" x 6' Brake Drum Standard Change Gear Lathe With Countershaft and Equipment . . . \$688

Special Bulletin on Each Size Lathe

We have special bulletins on each size of New Model South Bend Lathe illustrating, describing and pricing the lathe in all its various types and drives. Write for bulletin on the size of lathe in which you are interested.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Selecting the Size of Lathe for Your Work

When selecting the size of lathe for your work, take into consideration the largest diameter and the greatest length of the work. Then select the lathe that has a swing over bed and distance between centers at least 10% greater than the dimensions of the largest work to be handled.

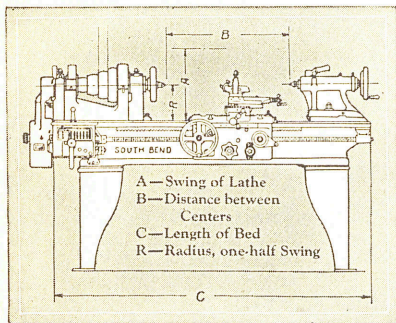
Sizes and Types of Lathes

New Model South Bend Lathes are made in nine (9) sizes, 9-inch, 11-inch, 13-inch, 15-inch, 16-inch, 18-inch, and 24-inch Back Geared Screw Cutting Engine Lathes and 36-inch and 42-inch Brake Drum Lathes. These lathes are made in various lengths of beds as shown in our general Catalog No. 90-A.

The South Bend Screw Cutting Lathe is made in various types such as, the Quick Change Gear Lathe, Standard Change Gear Lathe, Tool Room Lathe, Bench Lathe, Gap Bed Lathe, Manufacturing Lathe, and Brake Drum Lathe, all of which are illustrated and described in the catalog and in special bulletins. See page 31.

Types of Drive for a Lathe

The two principal types of drive for the South Bend Screw Cutting Lathe are the Overhead Countershaft Drive and the Motor Drive. The Overhead Countershaft Drive is used principally in factory and production work where Countershaft Driven Lathes are operated from a lineshaft which is motor driven. In the shop where there is no lineshaft the Motor Drive Lathe is more practical and efficient and less expensive because a smaller motor can be used and the cost of installing hangers and lineshafting, etc. is eliminated.



How to Determine Size of Lathe

The size of a Screw Cutting Lathe is determined by the swing over bed and the length of bed (see illustration). European tool manufacturers determine the size of a lathe by its radius or center distance. What the European terms an 8-inch center lathe, United States manufacturers term a 16-inch swing lathe.

- A—The swing over bed
- R—Radius or half the swing
- C—The length of bed
- B—Distance between centers

Lathe Attachments

All the above lathes can be fitted with a variety of attachments, such as Lathe Chucks, Drill Chucks, Taper Attachment, Milling Attachment, Draw-in Collet Chuck, etc. These attachments are not included in the price of the lathe but are extra as shown on pages 26 and 27 and in the General Catalog No. 90-A.

Special Lathe Bulletins

A Special Bulletin is available for each size and type of South Bend Lathe giving complete illustrations, descriptions, and prices. Write for a copy on the size of lathe in which you are interested. See page 31.

The 9-inch Junior Lathe

This lathe does the work of many tools otherwise needed for doing automotive work. It is practical for truing commutators, undercutting mica, refacing valves, finishing pistons, making bushings and hundreds of other jobs. It is identical with the regular 9-inch lathe except that the automatic friction feeds and several attachments are omitted as they are not always needed for the work in the small shop. It will cut standard screw threads from 4 to 40 per inch. The distance between centers ranges from 11 to 36 inches. The lathe is described on pages 6 and 7.

9-inch Quick Change Gear and Standard Change Gear Lathes

These lathes are used in the Auto Repair Shop, Electrical Shop and Airport Service Shop, Machine Shop, Tool Room and Manufacturing Plant. They are equipped with automatic friction longitudinal and cross feeds. The Quick Change Gear type has a quick change gear box for cutting standard screw threads from 2 to 112 per inch, while the Standard Change Gear type has independent change gears for cutting threads from 4 to 40 per inch. The distance between centers ranges from 11 to 36 inches. See Bulletin No. 9.

11-inch Quick Change Gear and Standard Change Gear Lathes

The 11-inch lathe has the same features and is similar in design to the 9-inch lathe except that it is larger and more powerful. It will do the same work as the 9 inch lathe and, in addition, work which is heavier and of larger dimensions. This lathe is recommended for machine and tool work of precision. The distance between centers ranges from 12 to 42 inches. See Bulletin No. 11.

16-inch Quick Change Gear and Standard Change Gear Lathes

We recommend this lathe as it is the popular and practical one for the shop which handles all classes of general automotive work. It has the capacity and precision for hundreds of jobs either heavy or light such as crankshafts, axles and driveshafts, pistons, valves and bushings. In addition to service work on automobiles, buses and trucks this lathe is practical for general machine work and it is widely used in industry on heavy production and fine tool work. The distance between centers ranges from 34 to 106 inches. See Bulletin No. 16.

18-inch Quick Change Gear and Standard Change Gear Lathes

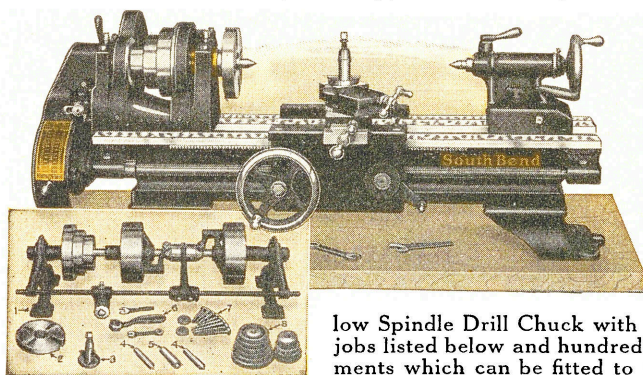
The 18-inch Lathe is recommended for heavy machine work of all kinds in the servicing of large size buses, trucks, tractors, etc. This lathe has the power and rigidity necessary for heavy duty work. It is widely used in industry for heavy production and fine tool work. The distance between centers ranges from 29½ to 125½ inches. See Bulletin No. 18.

36-inch Brake Drum Lathe

The 36-inch Brake Drum Lathe is intended for truing Brake Drums and servicing wheels although it is practical for machining other work of large diameter. It has the capacity for all single or dual wheels of medium size buses and trucks, with tire attached, up to a diameter of 36 inches. See pages 22 and 23 for illustration and description.

9-inch Junior Lathe and Equipment for Light Work

In the Auto Repair Shop, Electrical Shop and Airport Service Shop



The 9-inch Junior Back Geared Screw Cutting Bench Lathe, illustrated at left and described on pages 6 and 7, is the correct size and type for machining armatures, bushings, pistons, valves and other light work. Special Tool Equipments are listed below for each job. When equipped with No. 122 Chuck and Tool Assortment plus a Piston Adapter, a Reamer and a Hollow Spindle Drill Chuck with Arbor, the lathe will handle all jobs listed below and hundreds of others. For special attachments which can be fitted to this lathe see pages 26 and 27.

1 No. 22-YB—9"x3' Junior Bench Lathe, Countershaft Drive. \$169.00

(Countershaft and Equipment as illustrated included in price)

EQUIPMENT FOR TRUING ARMATURE COMMUTATORS

1 Set (3)	Malleable Lathe Dogs $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1".....	\$ 2.10*
1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	2.40*
Total Cost of Above Equipment.....		\$ 4.50

EQUIPMENT FOR MACHINING BUSHINGS

1 No. 2106	6-in. 4-Jaw Independent Lathe Chuck.....	\$28.00*
	Fitting Chuck to Lathe Including Chuck Back.....	7.00*
1 No. 1201	3-Jaw Drill Chuck, $\frac{1}{2}$ " Capacity.....	8.50*
1 No. 709	Drill Chuck Arbor, Fitted to Chuck.....	1.50*
1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	2.40*
1 No. 881-R	Patent Cutting-off Tool (Right Hand).....	2.60*
1 No. 429	Patent Boring Tool (Style B).....	4.40*
Total Cost of Above Equipment.....		\$54.40

EQUIPMENT FOR FINISHING PISTONS

1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	\$ 2.40*
1 No. 44-A	Piston Adapter Complete with 1 Adapter Ring, Any Size or Type Listed.....	12.00
1 No. 1-R	Piston Skirt Reamer	7.50
Total Cost of Above Equipment.....		\$21.90

EQUIPMENT FOR REFACING VALVES

1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	\$ 2.40*
1 No. 1211	Hollow Spindle Drill Chuck, $\frac{1}{2}$ " Capacity.....	9.50
1 No. 1223	Hollow Drill Chuck Arbor for Above.....	3.00
Total Cost of Above Equipment.....		\$14.90

No. 122 CHUCK AND TOOL ASSORTMENT FOR GENERAL WORK

1 No. 2106	6-in. 4-Jaw Independent Lathe Chuck.....	\$28.00
	Fitting Chuck to Lathe Including Chuck Back.....	7.00
1 No. 1201	3-Jaw Drill Chuck, $\frac{1}{2}$ " Capacity.....	8.50
1 No. 709	Drill Chuck Arbor, Fitted to Chuck.....	1.50
1 No. 849-S	Patent Turning Tool with High Speed Cutter Bit.....	2.40
1 No. 865	Patent Threading Tool	3.75
1 No. 429	Patent Boring Tool (Style B).....	4.40
1 No. 881-R	Patent Cutting-off Tool (Right Hand).....	2.60
1 Set (5)	Malleable Lathe Dogs $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ ", $1\frac{1}{2}$ ".....	4.05
Total Cost of Above Equipment.....		\$62.20

TOTAL COST OF LATHE AND EQUIPMENT LISTED ABOVE..... \$263.20

NOTE: If the customer purchases the No. 122 Chuck and Tool Assortment, only a few extra tools and attachments are required for handling all classes of work listed above. Tools which are marked with a star () need not be purchased when the No. 122 Chuck and Tool Assortment is ordered.

Work for Which This Lathe Is Recommended

True Armature Commutators
Make Bushings and Pins
Machine Distributors
Milling and Keyway Cutting
Reface Valves

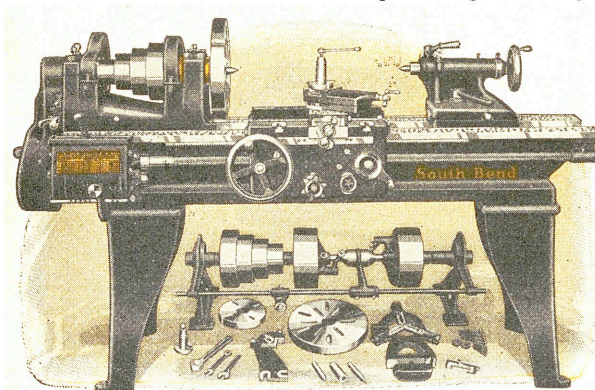
Ream Wrist Pin Holes
Straighten Armature Shafts
Finish Semi-Machined Pistons
Cut Standard Screw Threads
Undercut Mica

Straighten Valve Stems
Enlarge Piston Ring Grooves
All Kinds of Chucking
Polishing, Tapping, Drilling, etc.
Hundreds of similar jobs.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

16-inch Lathe and Equipment for General Work

In the Auto Repair Shop and Airport Service Shop



The 16-inch Quick Change Gear New Model South Bend Lathe, floor leg type, illustrated at the left, is the practical size for use in the auto repair shop and airport service shop as it will do the large and small jobs with equal ease. The swing and distance between centers permit it to be used for a wide variety of operations on either heavy or light work. This lathe may be had in Countershaft and Motor Drive types. For illustrations, descriptions and prices see pages 18 and 20.

1 No. 92-E—16"x8' Quick Change Gear New Model South Bend Lathe \$638.00
(Countershaft and Equipment Illustrated Included in Price)

EQUIPMENT FOR TRUING ARMATURE COMMUTATORS

1 Set (3)	Malleable Lathe Dogs $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1".....	\$ 2.10*
1 No. 853-S	Patent Turning Tool with High Speed Cutter Bit.....	3.60*
Total Cost of Above Equipment.....		\$ 5.70

EQUIPMENT FOR MACHINING BUSHINGS

1 No. 2110	10-in. 4-Jaw Independent Lathe Chuck.....	\$40.00*
	Fitting Chuck to Lathe Including Chuck Back.....	9.00*
1 No. 1303	2-Jaw Drill Chuck, 1" Capacity.....	15.00*
1 No. 716	Drill Chuck Arbor, Fitted to Chuck.....	2.00*
1 No. 853-S	Patent Turning Tool with High Speed Cutter Bit.....	3.60*
1 No. 884-R	Patent Cutting-off Tool (Right Hand).....	4.00*
1 No. 432	Patent Boring Tool (Style B).....	6.90*
Total Cost of Above Equipment.....		\$80.50

EQUIPMENT FOR FINISHING PISTONS

1 No. 853-S	Patent Turning Tool with High Speed Cutter Bit.....	\$ 3.60*
1 No. 44-E	Piston Adapter Complete with 1 Adapter Ring, Any Size or Type Listed.....	13.00
1 Set (4)	Piston Skirt Reamers, $2\frac{1}{2}$ "—5" Diameter.....	40.50
1 Set (D)	Cone Rings (4) @ \$2.50 each.....	10.00
1 Set (K)	Knife Edge Rings (4) @ \$2.50 each.....	10.00
Total Cost of Above Equipment.....		\$73.50
Total Cost of Above Equipment.....		\$77.10

EQUIPMENT FOR REFACING VALVES

1 No. 853-S	Patent Turning Tool with High Speed Cutter Bit.....	\$ 3.60*
1 No. 1212	Hollow Spindle Drill Chuck, $\frac{3}{8}$ " Capacity.....	9.50
1 No. 1225	Hollow Drill Chuck Arbor	3.00
Total Cost of Above Equipment.....		\$16.10
		\$12.50

No. 116 CHUCK AND TOOL ASSORTMENT FOR GENERAL WORK

1 No. 2110	10-in. 4-Jaw Independent Lathe Chuck.....	\$40.00
	Fitting Chuck to Lathe, Including Chuck Back.....	9.00
1 No. 1303	2-Jaw Drill Chuck, 1" Capacity.....	15.00
1 No. 716	Drill Chuck Arbor, Fitted to Chuck.....	2.00
1 No. 853-S	Patent Turning Tool (Straight Shank).....	3.60
1 No. 868	Patent Threading Tool	5.75
1 No. 432	Patent Boring Tool (Style B).....	6.90
1 No. 884-R	Patent Cutting-off Tool (Right Hand).....	4.00
1 Set (5)	Malleable Lathe Dogs, $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1", $1\frac{1}{2}$ ", 2".....	4.45
Total Cost of Above Equipment.....		\$90.70
		\$90.70

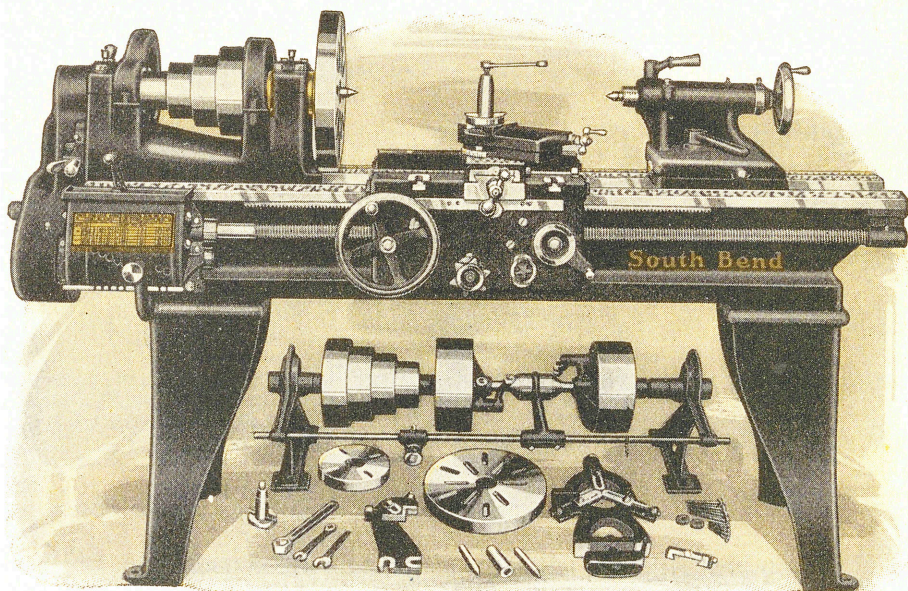
TOTAL COST OF LATHE AND EQUIPMENTS LISTED ABOVE..... \$814.70

NOTE: If the customer purchases the No. 116 Chuck and Tool Assortment, only a few extra tools and attachments are required for handling all the classes of work listed above. Tools which are marked with a star () need not be purchased when the No. 116 Chuck and Tool Assortment is ordered.

Attachments for General Machine Work

The 16-inch Lathe may be fitted with a number of attachments for general machine work and for special jobs such as: testing and truing crankshafts, boring connecting rods, testing and straightening axles and driveshafts. See pages 26 and 27.

BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE



Regular equipment, as illustrated under Lathe, is included in price of Lathe

16-inch x 6-ft. Quick Change Gear New Model Lathe - \$598

Back Geared, Screw Cutting Lathe, Countershaft Drive

The 16-inch Quick Change Gear New Model South Bend Lathe illustrated above is a practical tool for the Service Station Shop, Garage, Electrical Shop and Airport Service Shop, as it will handle a wide range of automotive repair work of all kinds. In addition to the light work such as machining pistons, valves, bushings, etc., the swing and distance between centers permits the use of this lathe for much heavier work of a general type. This lathe is also built in the Standard Change Gear type with features and specifications the same for both lathes.

The Gear Box on Quick Change Gear Lathes provides 48 changes, without removing a gear, for cutting right or left-hand screw threads from 2 to 112 per inch as follows: 2, 2½, 2½, 2½, 2½, 3, 3¼, 3½, 4, 4½, 5, 5½, 5¾, 6, 6½, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 23, 24, 26, 28, 32, 36, 40, 44, 46, 48, 52, 56, 64, 72, 80, 88, 92, 96, 104, 112. It also provides for a wide range of Automatic Feeds.

Standard Change Gear Lathes do not have the Quick Change Gear Box, but instead are equipped with independent change gears to cut the following screw threads per inch, right or left-hand, including 11½ pipe thread: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36 and 40. By compounding the gears furnished many other threads can be cut.

LATHE FEATURES

Back geared headstock gives 8 spindle speeds.
Automatic cross feed, automatic longitudinal feed.
Hollow spindle made of special alloy steel.
Spring latch reverse for feeds and threads.
Phosphor bronze bearings for spindle.
Graduated compound rest swivels to any angle.
Tailstock is arranged for set-over for taper turning.
Graduated collar on cross feed and compound rest screws.
Precision lead screw for cutting accurate threads.

Automatic Friction Feeds. All types of 16-inch Quick Change and Standard Change Gear Lathes have automatic cross and longitudinal feeds which are operated by a powerful worm drive in the apron. An automatic safety device prevents engaging of any two feeds at the same time.

Motor Drive. The 16-inch New Model South Bend Lathe, in both Quick Change Gear and Standard Change Gear types, can be had with Silent Chain Motor Drive. See page 20 for illustration, description and prices.

Regular Equipment consists of: Double Friction Countershaft, Large and Small Face Plates, Tool Post complete, Adjustable Thread Cutting Stop, two Lathe Centers and Spindle Sleeve, Center Rest, Follower Rest, Wrenches, Change Gears with the Standard Change Gear Lathe and Books "How to Run a Lathe" and "Auto Mechanics Service Book."

Lathe Attachments such as Draw-in Collet Chuck, Taper Attachment, Milling Attachment, Grinding Attachment, Straight and Taper Mandrels, Piston Adapters, Wheel Chuck, Special Boring and Turning Tool, Hollow Chuck for Valves, Mica Undercutter, Connecting Rod Boring Attachment, etc., may be fitted to this lathe for automotive and general work.

LATHE SPECIFICATIONS

Head and Tail Spindle Centers.....No. 3, Morse Taper
Size of Spindle Nose.....2½ in. diam., 6 Threads
Precision Acme Lead Screw.....1½ in. diam., 6 Threads
Width of Cone Pulley Belt.....2½ in.
Spindle Speeds.....20, 30, 50, 75, 140, 225, 360, 610 R.P.M.
Countershaft Speed.....225 R.P.M.
Countershaft Friction Clutch Pulleys.....10 in. x 3½ in.
Angular Travel of Compound Rest Top.....3¼ in.
Size of Lathe Tool Shank.....½ in. x 1½ in.

Net Factory Prices 16-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

Lathe Specifications					Quick Change Gear			Standard Change Gear		
Swing Over Bed	Length of Bed	Between Centers	Swing Over Carriage	Power Required	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend
16¼ in.	6 ft.	34 in.	11½ in.	1 H.P.	92-C	1875 lbs.	\$598.00	41-C	1840 lbs.	\$518.00
16¼ in.	7 ft.	46 in.	11½ in.	1 H.P.	92-D	1955 lbs.	618.00	41-D	1920 lbs.	538.00
16¼ in.	8 ft.	58 in.	11½ in.	1 H.P.	92-E	2035 lbs.	638.00	41-E	2000 lbs.	558.00
16¼ in.	10 ft.	82 in.	11½ in.	1 H.P.	92-G	2195 lbs.	682.00	41-G	2160 lbs.	602.00
16¼ in.	12 ft.	106 in.	11½ in.	1 H.P.	*92-H	2355 lbs.	745.00	*41-H	2320 lbs.	665.00

*Lathe with 12-foot bed is equipped with center leg which is included in the price of the lathe.

Write for Bulletin No. 16 describing the 16-inch Lathe. See page 31.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Lathe Jobs in the Auto Service Station Shop

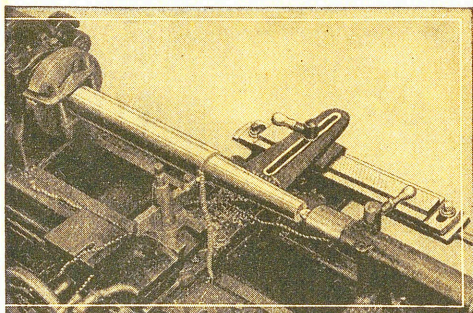


Fig. 50. Turning a Long Taper, Using the Taper Attachment to Determine Degree of Taper

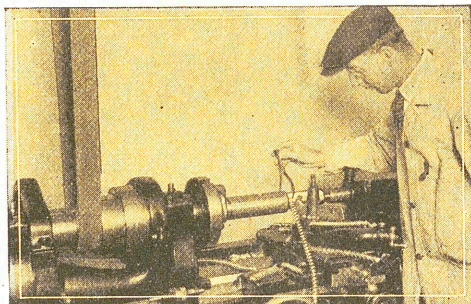


Fig. 51. Taking a Heavy Roughing Cut on a Steel Shaft

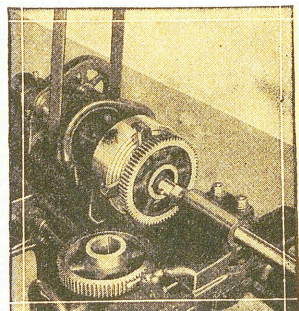


Fig. 52. An Emergency Job Cutting a Keyway in a Gear

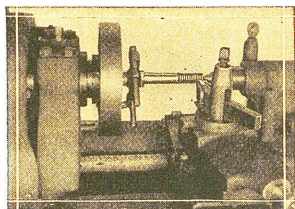


Fig. 53. Making and Threading a Shackle Bolt in the Lathe

Have You Secured Your Copy of "Auto Mechanics Service Book No. 66"? See Page 31.

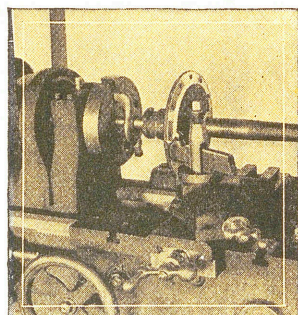


Fig. 54. Truing the Hub Flange of a Truck Wheel

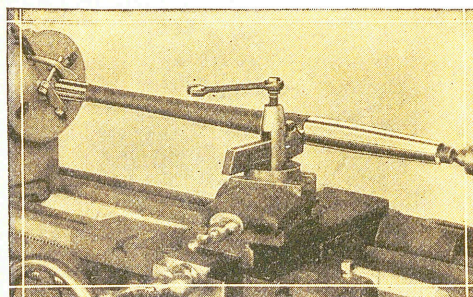


Fig. 55. Turning Taper of Automobile Axle, Using Tailstock Set Over to Degree of Taper

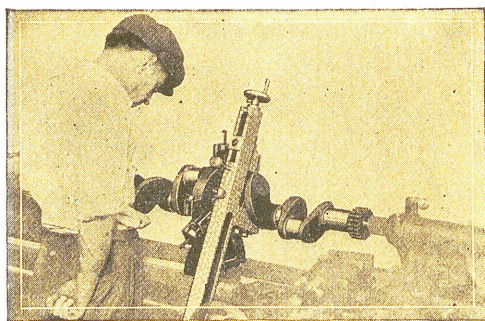


Fig. 56. Truing Crankshaft Throw Bearings with a Weber Tool Attachment

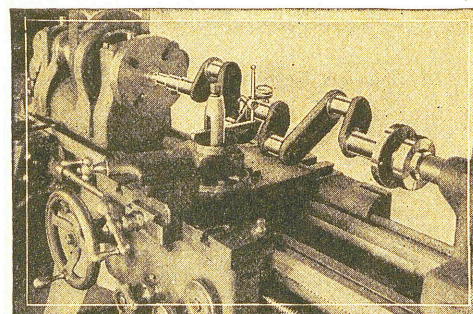


Fig. 57. Testing the Main Bearings of a Crankshaft with a Dial Indicator

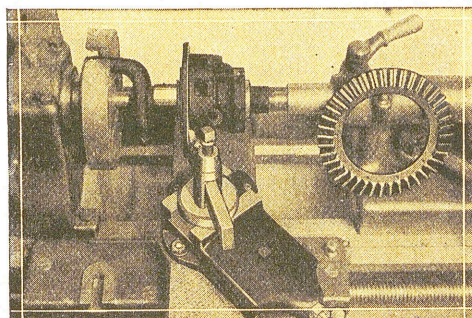
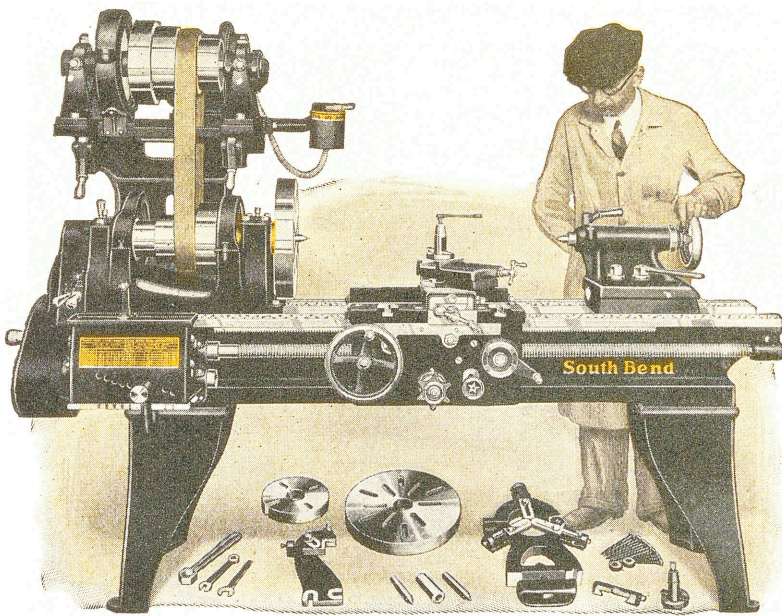


Fig. 58. Truing the Flange of a Differential Spider

CATALOG NO. 90-A DESCRIBES ENTIRE LINE NEW MODEL LATHES AND ACCESSORIES



Reversing Motor, Reversing Switch and Lathe Equipment are included in price

16-inch x 6-ft. Silent Chain Motor Driven Lathe - \$777

Six Sizes—9-inch to 18-inch Swing—Standard and Quick Change Gear Lathes

The 16-inch New Model South Bend Silent Chain Motor Driven Lathe is a practical tool for the electrical shop, garage and service station shop where power from an overhead lineshaft is not available. The lathe is a complete unit requiring no extra driving equipment of any kind. It occupies only the same amount of floor space as the regular belt driven lathe and is ready to operate as soon as it is connected to the electric current.

The Silent Chain Motor Driven Lathe shown above is exactly the same as the 16-inch lathe illustrated and described on page 18 except that it is equipped with the Silent Chain Motor Drive. This lathe is furnished in both quick change and standard change gear types.

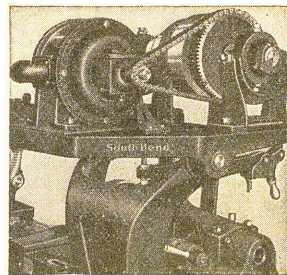
The Reversing Motor is mounted above the lathe where it is free from dirt and chips. A flexible metal conduit encases wiring from motor to switch. The silent chain drive is provided with a felt wick oiler and is entirely enclosed by a gear guard of cast iron.

The Motor Table which supports the motor and driving cone is held by a heavy bracket mounted directly on the lathe bed. A small lever allows the motor table to tilt forward and relieve belt tension for easy shifting. An independent adjustment takes up the stretch in belt.

Start, Stop and Reverse positions are provided on the switch; left for forward motion of the lathe spindle, center for stop, and right for reverse.

Regular Lathe Equipment included in the price of the 16-inch Silent Chain Motor Driven Lathe

consists of: Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, two Lathe Centers and Spindle Sleeve, Center Rest, Follower Rest, Wrenches and Change Gears with Standard Change Gear Lathes, also Installation Plans and Books, "How to Run a Lathe" and "Auto Mechanics Service Book."



End View of Drive Mechanism

Electrical Equipment included in the price of the 16-inch Silent Chain Motor Driven Lathe consists of a 1 H.P. Reversing Motor 1200 R.P.M. (Westinghouse, General Electric or equal make), Reversing Switch (drum type), Wiring between Motor and Switch, Flexible Metal Conduit, Wiring Diagram and Leather Belt.

Net Factory Prices of 16-inch New Model South Bend Silent Chain Motor Driven Lathes

Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Leather Belt

Swing Over Bed	Length of Bed	Distance Between Centers	Size of Motor	Approx. Weight Crated	QUICK CHANGE GEAR LATHES					STANDARD CHANGE GEAR LATHES				
					Catalog Number of Lathe	Code Word	3 Phase 60 Cycle A.C. Motor	Single Phase 60 Cycle A.C. Motor	Direct Current Motor	Catalog Number of Lathe	Code Word	3 Phase 60 Cycle A.C. Motor	Single Phase 60 Cycle A.C. Motor	Direct Current Motor
16 1/4 in.	6 ft.	34 in.	1 H.P.	2310 lbs.	392-C	Madge	\$ 777.00	\$ 806.00	\$ 855.00	341-C	Mirac	\$ 697.00	\$ 726.00	\$ 775.00
16 1/4 in.	7 ft.	46 in.	1 H.P.	2390 lbs.	392-D	Magpl	797.00	826.00	875.00	341-D	Moats	717.00	746.00	795.00
16 1/4 in.	8 ft.	58 in.	1 H.P.	2470 lbs.	392-E	Mears	817.00	846.00	895.00	341-E	Moral	737.00	766.00	815.00
16 1/4 in.	10 ft.	82 in.	1 H.P.	2630 lbs.	392-G	Metro	861.00	890.00	939.00	341-G	Musie	781.00	810.00	859.00
16 1/4 in.	12 ft.	106 in.	1 H.P.	2890 lbs.	392-H	Mires	924.00	953.00	1002.00	341-H	Mybeu	844.00	873.00	922.00

Write for Bulletin No. 16 describing the 16-inch Lathe. See page 31.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Lathe Jobs in the Auto Service Station Shop

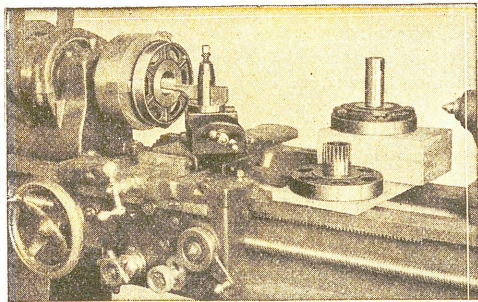


Fig. 59. Boring a Transmission Drum to Make a Bushing Repair

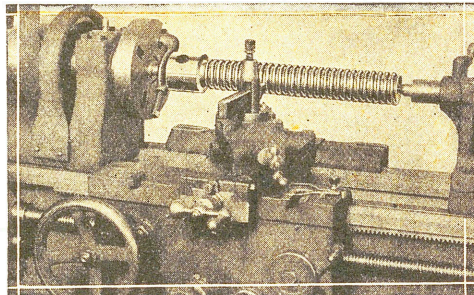


Fig. 60. Cutting a Square Thread on a Jack Screw

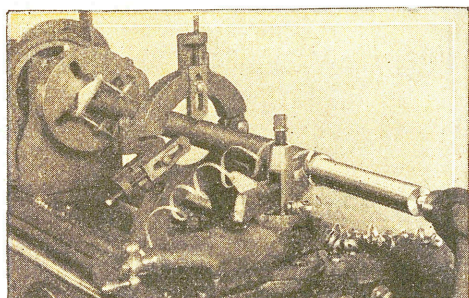


Fig. 61. Turning a Drive Shaft Supported by a Center Rest

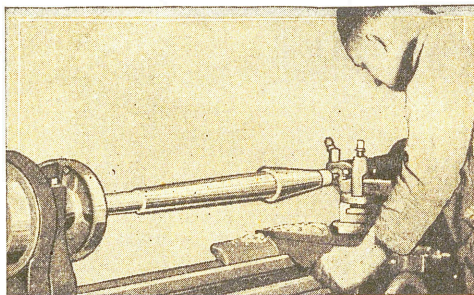


Fig. 62. Making an Automobile Axle in the Lathe

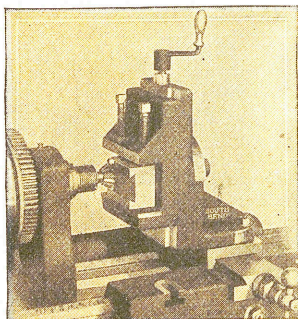


Fig. 63. Milling a Dovetail with a Milling Attachment

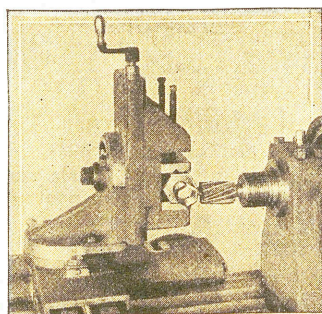


Fig. 64. Milling a Hexagon Head on a Bolt

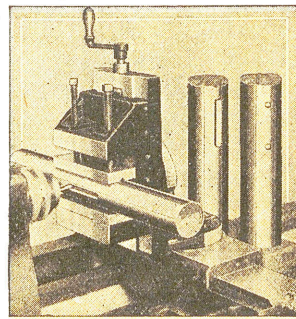


Fig. 65. Milling a Keyway with an End Mill

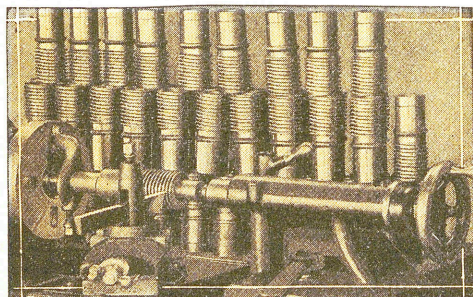


Fig. 66. Cutting an Acme Thread on a Steel Worm

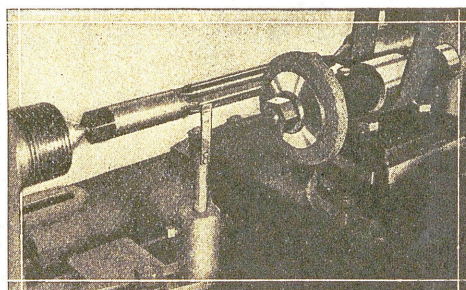


Fig. 67. Grinding a Straight Reamer. Taper Reamers Can Also Be Ground

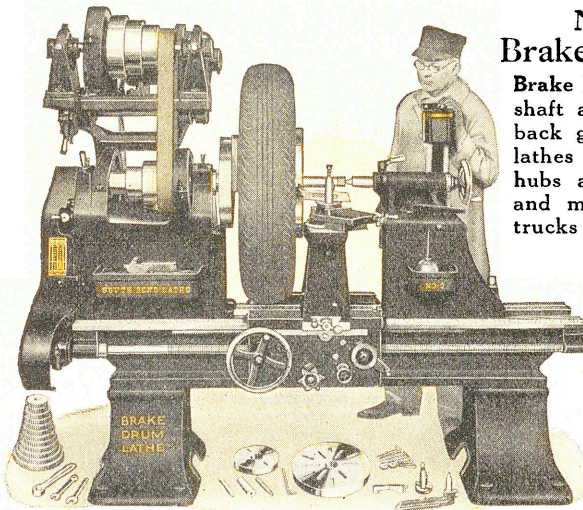
BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE

New Model South Bend Brake Drum and Wheel Lathes

Brake Drum Lathes are made in countershaft and motor drive types. They are back geared and screw cutting precision lathes for truing brake drums, refacing hubs and servicing wheels for all types and makes of pleasure cars, buses and trucks and for general machine work.

Lathe Equipment consists of: Countershaft (not furnished with Motor Driven Lathes), Large and Small Face Plates, Driver for Wheels, Graduated Compound Rest, Tool Post, Thread Cutting Stop, Two Lathe Centers, Spindle Sleeve, Rubber Belts and Springs, Wrenches, Change Gears for Threads and Feeds, and Books "How to Run a Lathe" and "Auto Mechanics Service Book."

Electrical Equipment included with the Motor Driven Lathes consists of: a Reversing Motor, Reversing Switch, Wiring and Wiring Diagram, Flexible Metal Conduit, and Leather Belt.



No. 2. New Model Silent Chain Motor Driven Brake Drum Lathe

The No. 2 or No. 302 Lathe is recommended for the shop servicing all makes and types of wheels for automobiles, buses and medium size trucks. The eight-foot bed is recommended as it handles work between centers up to 51 inches. This length will handle drive shafts.

The No. 3 or No. 303 Lathe is recommended for the shop servicing brake drums and wheels of automobiles, buses and trucks, heavy or light. The ten-foot bed is recommended as it has a capacity between centers up to 62 inches, and is a desirable size for heavy duty work.

Net Factory Prices of New Model Brake Drum Lathes—Countershaft and Motor Drive Types

Specifications of Lathes				Countershaft Drive Type			Silent Chain Motor Drive Type				
Swing Over Bed	Length of Bed	Distance Between Centers	Horse Power Required	Cat. No. of Lathe	Approx. Weight Crated	Price F. O. B. South Bend	Cat. No. of Lathe	Approx. Weight Crated	3 Phase 60 Cycle A. C. Motor	1 Phase 60 Cycle A. C. Motor	Direct Current Motor
No. 2 and No. 302 New Model Brake Drum Lathes											
36 1/4 in.	6 ft.	27 in.	1 H.P.	No. 2-BC	2160 lbs.	\$ 688.00	302-BC	2385 lbs.	\$ 867.00	\$ 896.00	\$ 945.00
36 1/4 in.	7 ft.	39 in.	1 H.P.	No. 2-BD	2240 lbs.	709.00	302-BD	2665 lbs.	868.00	917.00	966.00
36 1/4 in.	8 ft.	51 in.	1 H.P.	No. 2-BE	2320 lbs.	730.00	302-BE	2745 lbs.	909.00	938.00	987.00
36 1/4 in.	10 ft.	75 in.	1 H.P.	No. 2-BG	2480 lbs.	776.00	302-BG	2905 lbs.	955.00	984.00	1033.00
No. 3 and No. 303 New Model Brake Drum Lathes											
42 1/4 in.	8 ft.	38 in.	3 H.P.	No. 3-BE	4650 lbs.	\$1470.00	303-BE	5525 lbs.	\$1855.00	\$1926.00	\$1989.00
42 1/4 in.	10 ft.	62 in.	3 H.P.	No. 3-BG	4900 lbs.	1552.00	303-BG	5775 lbs.	1937.00	2008.00	2071.00
42 1/4 in.	12 ft.	86 in.	3 H.P.	No. 3-BH	5300 lbs.	1639.00	303-BH	6175 lbs.	2044.00	2115.00	2178.00

Quick Change Gear Box is extra: For No. 2 and No. 302 Lathes add \$80.00 to above prices; for No. 3 and No. 303 Lathes add \$120.00.

The South Bend Mandrel and Adapter Method

For Truing, Testing and Machining Brake Drums and Wheels

The Self-centering Mandrel and Adapter Method of mounting wheels in the lathe for testing, truing and machining insures the utmost accuracy and precision. It is based on the scientific principle of using the bearing cups in the wheel hub to line up the wheel on the mandrel and adapters.

All Machining Done on the brake drum and wheel will be concentric with the axis of the hub, because the mandrel and bearing adapters are supported at each end by the lathe centers, and hold the wheel in exactly the same position as when it is in actual use.

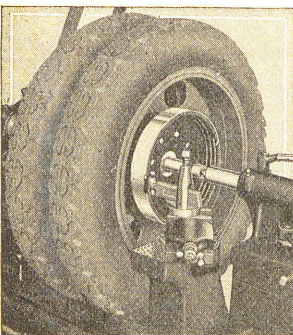


Fig. 68. Truing Brake Drum of a Dual Wheel Mounted on a Mandrel

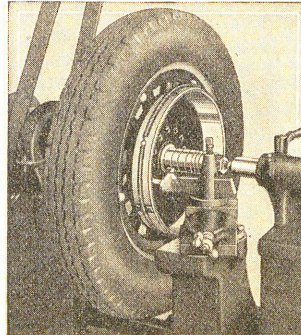


Fig. 69. Truing Internal Brake Drum Concentric with Axis of Hub

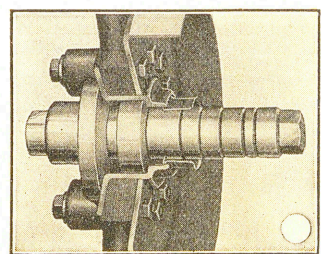


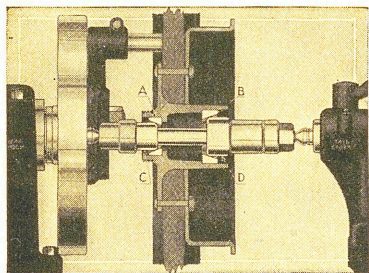
Fig. 70. The Face Plate and Annular Adapter Method is used for mounting rear wheels fitted with annular ball bearings as used on Buick, Chandler, LaSalle, Willys-Knight, etc. For prices and information see No. 29 Brake Drum Bulletin.

Write for 20-page Bulletin No. 29 illustrating and describing the Brake Drum Lathe and the work it does.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

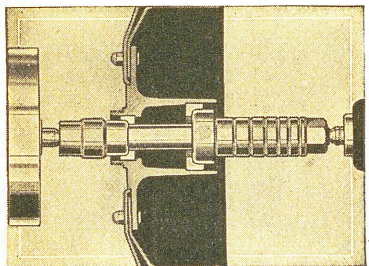
Mandrel and Bearing Adapter Method of Truing Brake Drums

For Mounting the Wheel Between Centers in the Lathe for Testing and Machining



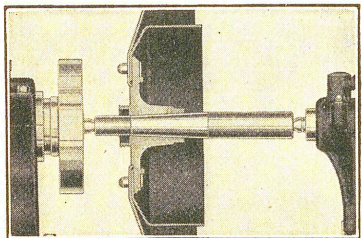
Timken Races and Universal Bearing Adapters

A front wheel with Timken roller races, mounted on the mandrel fitted with universal bearing adapters, between centers in the lathe ready for testing or machining.



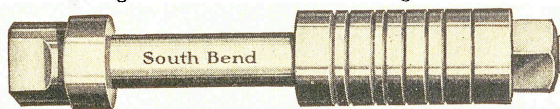
Ball Bearing Races and Universal Bearing Adapters

A front wheel with ball bearing races, mounted on the mandrel fitted with universal bearing adapters held between centers.



Set up of a rear wheel fitted with a taper mandrel, mounted between centers in the lathe for testing and machining.

Straight Mandrels for Mounting Wheels

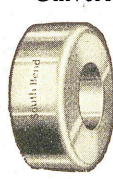


A steel mandrel fitted with adjustable collars and nut for carrying the universal bearing adapters for mounting all automobile, bus, or truck wheels, except semi-floating rear wheels, between centers in the lathe for testing or machining.

Specifications and Prices of Straight Mandrels for Front Wheels

Catalog Number	Diameter of Mandrel	Length of Mandrel	For All Adapters with	Code Word	Price Each
1800	1 1/4 in.	12 in.	1 1/4-in. hole	Narde	\$15.00
1810	1 3/4 in.	18 in.	1 3/4-in. hole	Nisee	25.00
1840	2 1/2 in.	26 in.	2 1/2-in. hole	Nizei	40.00

Universal Bearing Adapters for Front Wheels



The illustration shows a pair of universal bearing adapters made of steel, used on the self-centering straight mandrels for mounting all types and makes of front and rear wheels, except semi-floating rear wheels.

The rounded corner of the universal bearing adapter conforms to the curve in the ball race cup and also to the angle of the Timken cup and will center either type of wheel accurately on the mandrel.

Specifications and Prices of Steel Taper Mandrels for Rear Wheels

Catalog Number	To Fit Mandrel	Diameters Furnished	Diameter of Adapter Hole	Code Word	Price Per Pair*
1801	No. 1800	1 5/8" to 3 3/8" in eighths	1 1/4 in.	Nefas	\$ 5.00
1811	No. 1810	2 1/4" to 4 3/4" in quarters	1 3/4 in.	Negel	6.00
1841	No. 1840	3 1/2" to 7" in quarters	2 1/2 in.	Narug	10.00

*Specify Catalog Number and Diameter of Adapters wanted when ordering.

Taper Mandrels for Mounting Rear Wheels



The taper mandrel illustrated above is used for mounting rear wheels between centers in the lathe for testing or machining. This mandrel is made in five sizes to fit the rear wheel hubs of automobiles, buses and trucks.

Specifications and Prices of Steel Taper Mandrels for Rear Wheels

Catalog Number	Diameter of Mandrel	Length of Mandrel	Taper Per Foot	Code Word	Price Each
1820	1" to 1 1/2"	13 1/4 in.	3/4 in.	Numbe	\$8.00
1821	3/4" to 1 1/2"	11 1/2 in.	1 in.	Novel	8.00
1822	1" to 1 1/2"	15 1/4 in.	1 in.	Nasim	9.00
1823	1 1/4" to 1 3/4"	15 in.	1 in.	Nough	9.50
1824	3 3/8" to 1 3/4"	11 1/2 in.	1 1/2 in.	Nuper	8.00

Average Time for Truing a Brake Drum

The average time required to true the Brake Drum of an automobile or medium size truck on the No. 2 or No. 302 Brake Drum Lathes is from 5 to 12 minutes, depending on the width of drum.

A rough estimate of the time it takes to true an average brake drum is about one-half inch of the width of the surface of the brake drum per minute.

The average time required to true the Brake Drum of a large bus or heavy duty truck on the No. 3 or No. 303 Brake Drum Lathes is from 15 to 20 minutes, depending on the width of drum.

With a New Model South Bend Brake Drum Lathe one operator can service all brake drums and wheels of a large fleet of seventy-five trucks or buses.

Recommended Mandrel and Adapter Equipments

Assortment No. 1...\$53.50

Two Taper Mandrels, One Straight Mandrel and Eight Adapters Service 45 Models

The following three self-centering mandrels and eight universal bearing adapters will service 17 makes and 45 models of automobiles, light buses and trucks.

1—No. 1822 Taper Mandrel.....	\$ 9.00
1—No. 1823 Taper Mandrel.....	9.50
1—No. 1800 Straight Mandrel.....	15.00
8—No. 1801 Universal Bearing Adapters:	
1 5/8" dia., 1 7/8" dia., 2" dia., 2 1/4" dia., 2 3/8" dia.,	
2 1/2" dia., 2 5/8" dia., 2 7/8" dia.....	20.00

Total\$53.50

Assortment No. 2...\$93.00

Two Straight Mandrels, One Taper Mandrel and Four Adapters Service 42 Models

The following three self-centering mandrels and four universal bearing adapters will service 42 models of trucks.

1—No. 1810 Straight Mandrel.....	\$25.00
1—No. 1840 Straight Mandrel.....	40.00
1—No. 1826 Taper Mandrel.....	12.00
2—No. 1811 Universal Bearing Adapters: 2 1/2" dia.,	
3" dia.....	6.00
2—No. 1841 Universal Bearing Adapters: 4 1/4" dia.,	
4 1/2" dia.....	10.00

Total\$93.00

BRAKE DRUM BULLETIN No. 29 illustrates, describes and prices the New Model South Bend Brake Drum Lathe and attachments; and gives valuable information on the most efficient and modern methods of doing various kinds of automotive work. See page 31.

SOUTH BEND LATHES MAY BE PURCHASED ON EASY PAYMENTS—BOOKLET ON REQUEST

Lathe Jobs in the Auto Service Station Shop

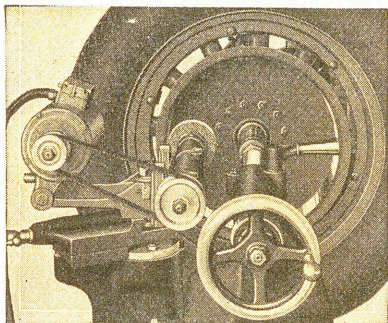


Fig. 71. Grinding a Brake Drum in the Lathe, in the Service Station Shop

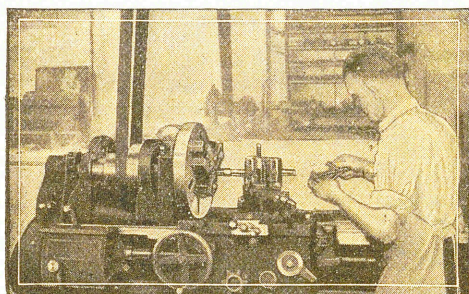


Fig. 72. Boring Special Tool Bolted on Face Plate

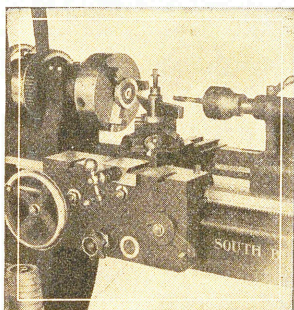


Fig. 73. Drilling and Facing Cast Iron Gear Blanks

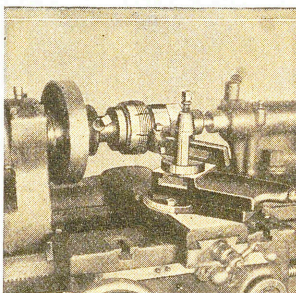


Fig. 74. Cutting a Screw Thread on a Bearing Retaining Collar

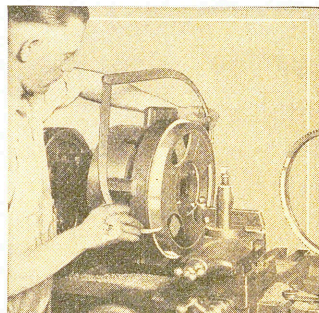


Fig. 75. Measuring the Diameter of a Turned Flywheel

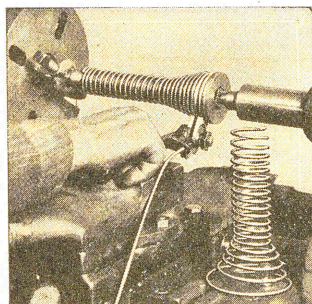


Fig. 76. Winding a Spring on a South Bend Lathe

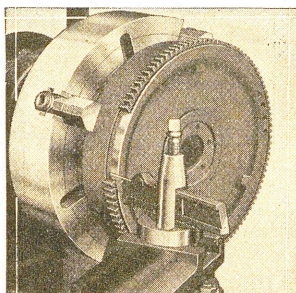


Fig. 77. Section of Flywheel Teeth Removed to Show the Groove Cut Under the Teeth by the Tool

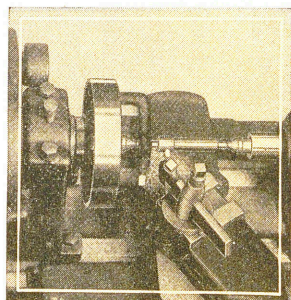


Fig. 78. Making a Valve Stem Guide

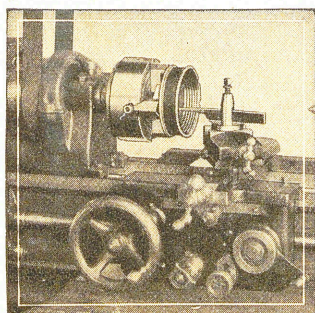


Fig. 79. Cutting an Internal Thread in a Hub Cap

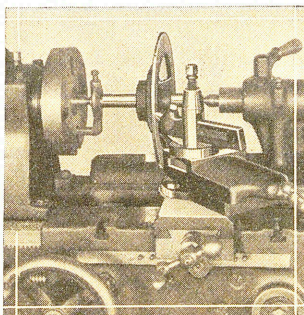


Fig. 80. Truing a Clutch Disc Mounted on an Arbor

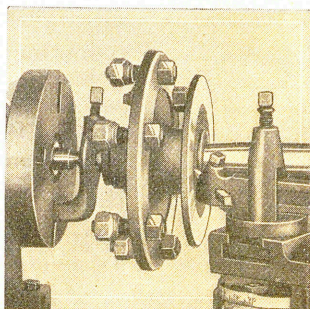
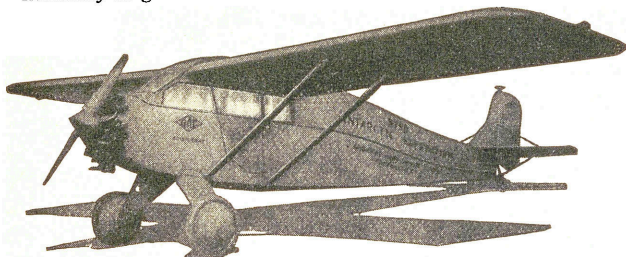


Fig. 81. Truing a Hub Flange of a Rear Auto Wheel

The Lathe in the Manufacture and Service of Aircraft

All Parts of the Airplane motor operate with precision, hence they should be repaired and maintained on precision tools such as the screw cutting lathe, as it is the most widely used machine in the plants manufacturing airplane motors of various types. A partial list of users of the New Model South Bend Lathe in the aeronautical industry is given on the back cover.

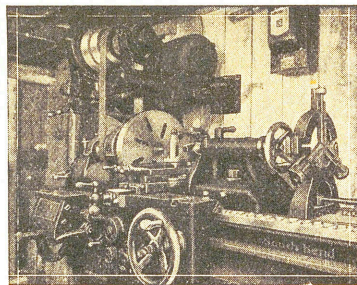


One of Byrd's Antarctic Airplanes

The Correct Size and type of lathe for the airport service shop is a 9-inch x 4-foot Bench Lathe or a 13-inch x 5-foot Floor Leg Lathe, equipped with motor drive.

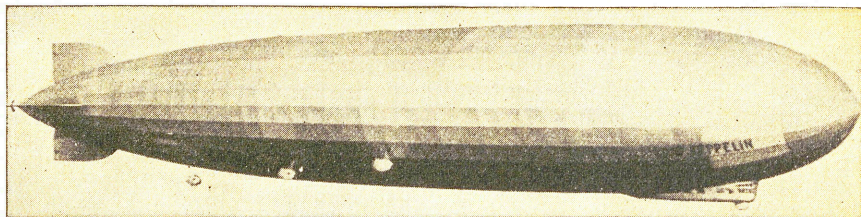
All South Bend Lathes can be fitted with a variety of attachments for doing such work as refacing valves, truing commutators, finishing pistons, grinding reamers, making screws of all kinds, etc. See pages 26 and 27.

The modern airport that has every facility for maintaining, servicing and repairing aircraft uses the back geared screw cutting precision lathe for the greater part of this work because of its adaptability in machining work in this field.



A 16-inch South Bend Lathe in Byrd's Ship, "City of New York"

Commander Richard E. Byrd recognized the necessity of the back-geared, screw-cutting lathe for maintenance and repair work before starting on the South Polar Expedition. Two South Bend Lathes were taken along—the 16-inch to be used on the base ship, "City of New York," and a 9-inch lathe to be used at the various temporary bases set up on the ice to service the planes.

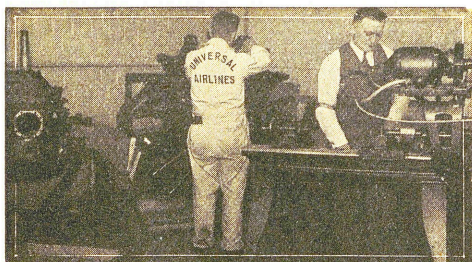


Underwood & Underwood

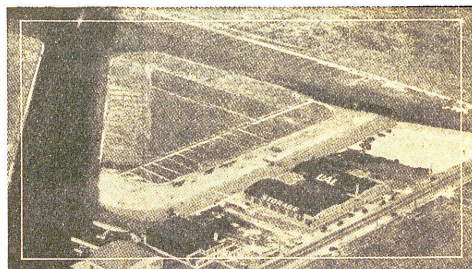
The Graf Zeppelin Dirigible

The Largest Modern Dirigible, the Graf Zeppelin, made an historic flight from Germany across the Atlantic Ocean to the United States and return, October, 1928, and circled the world the following summer. Such achievements are a tribute not

only to the crew and its able commander, Dr. Eckener, but also to the lathes and other precision tools used in constructing the mechanical units which made such daring flights possible.



Airplane Service Shop of the Universal Air Lines at the Chicago, Illinois, Airport



Air View of Part of the Chicago Airport Showing Hangars and Service Shops

Attachments for New Model South Bend Lathes

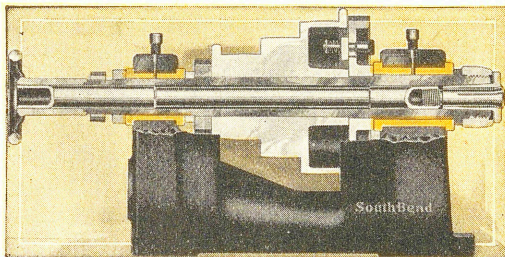


Fig. 77. Cross Section View of Lathe Headstock Showing Application of Hand Wheel Draw-in Collet Chuck

The Hand Wheel Draw-In Collet Chuck is used extensively for making small parts that require precision and accuracy. The price of each attachment includes Hand Wheel and Draw-Tube, Spindle Nose Cap, Tapered Steel Sleeve, one standard collet.

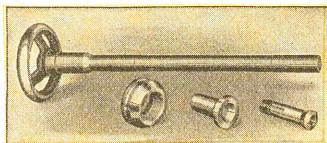


Fig. 79. Parts of Hand Wheel Draw-in Collet Chuck

Hand Wheel Draw-In Collet Chuck

The Hand Wheel Draw-In Collet Chuck attachment is made in sizes to fit all New Model South Bend Lathes. It is the most accurate type of chuck made and will center the work accurately and quickly. It is used for holding rods, bars, tubing and small parts. The standard collet illustrated at the right is made with holes ranging from $\frac{1}{8}$ inch to 1 inch by steps of 64ths. Prices of collets furnished upon request.

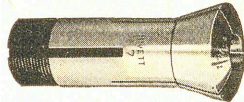


Fig. 78. Standard Collet

Net Factory Prices of Hand Wheel Draw-In Collet Chuck

Size of Lathe	Collet Capacity by 64ths of an inch	Price Each
9 in.	$\frac{1}{8}$ in. up to $\frac{1}{2}$ in.	\$33.00
11 in.	$\frac{1}{8}$ in. up to $\frac{5}{16}$ in.	38.00
13 in.	$\frac{1}{8}$ in. up to $\frac{3}{8}$ in.	44.00
15 in.	$\frac{1}{8}$ in. up to $\frac{1}{2}$ in.	50.00
16 in.	$\frac{1}{8}$ in. up to $\frac{3}{4}$ in.	56.00
18 in.	$\frac{1}{8}$ in. up to 1 in.	63.00

Graduated Taper Attachment

The Taper Attachment is used for tool room work, manufacturing and production work for turning and boring all classes of taper work. It is especially practical on production work where a large number of duplicate parts are to be taper machined. It bolts on lathe carriage and can be used at any point along lathe bed. Can be left on lathe bed at all times. The swivel bar which controls the taper is graduated—one end in inches per foot of taper and the other end in degrees.

Net Factory Prices of Graduated Taper Attachment

Size of Lathe	Catalog No.	Maximum Taper			Approximate Shipping Weight	Price Taper Attachment
		At One Setting	Per Foot	In Degrees		
9 in.	209	9 in.	3 in.	14	40 lbs.	\$50.00
11 in.	211	9 in.	3 in.	14	50 lbs.	60.00
13 in.	213	10 in.	3 in.	14	65 lbs.	75.00
15 in.	215	10 in.	3 in.	14	80 lbs.	80.00
16 in.	216	12 in.	3 in.	14	100 lbs.	90.00
18 in.	218	12 in.	3 in.	14	120 lbs.	95.00

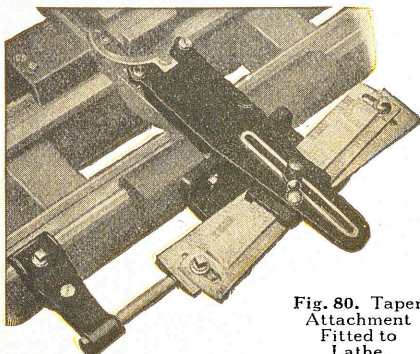


Fig. 80. Taper Attachment Fitted to Lathe

Milling and Keyway Cutting Attachment

The Milling and Keyway Cutting Attachment fits on the saddle of the lathe, swivels all the way around in a horizontal plane like the compound rest and is graduated 180 degrees. In addition, the upright Angle Plate to which the vise is attached swivels in a vertical plane, and is graduated 180 degrees. The vertical adjusting screw at the top of the attachment is equipped with a micrometer graduated collar. The automatic cross and longitudinal feeds of the carriage can be used as well as the hand feeds.

The Equipment consists of milling attachment, two steel "V" blocks for holding round work, one crank handle for feed screw, one double end wrench, T-bolts and nuts for attaching to carriage. Milling Arbors and Cutters are extra. Prices quoted on request.

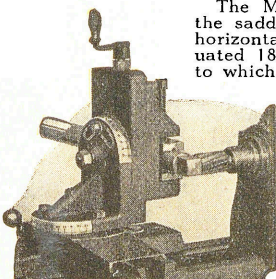


Fig. 81. Squaring the End of a Steel Shaft

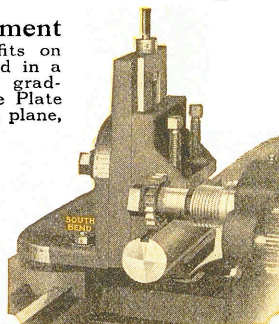


Fig. 82. Milling a Keyway in a Shaft

Net Factory Prices of Milling and Keyway Cutting Attachment

Size of Attachment	Size of Lathe	Vertical Feed	Cross Feed	Vise Will Hold	Depth of Jaws	Width of Jaws	Width of Base	Weight Each	Price Each
No. 1	9 in.	3 in.	7 in.	1½ in.	1½ in.	3½ in.	3½ in.	25 lbs.	\$40.00
No. 2	11 in.	4 in.	8 in.	1½ in.	1½ in.	3½ in.	3½ in.	30 lbs.	45.00
No. 3	13 in.	4½ in.	9 in.	2½ in.	1½ in.	4½ in.	5 in.	40 lbs.	50.00
No. 4	15 in.	6 in.	11 in.	3½ in.	1½ in.	5½ in.	5½ in.	50 lbs.	65.00
No. 5	16 in.	6 in.	10½ in.	4 in.	2 in.	5½ in.	5½ in.	65 lbs.	75.00
No. 5½	18 in.	6½ in.	14 in.	4 in.	2 in.	5½ in.	6½ in.	75 lbs.	85.00

For complete information on attachments for South Bend Lathes write for Catalog No. 90-A.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Attachments for New Model South Bend Lathes

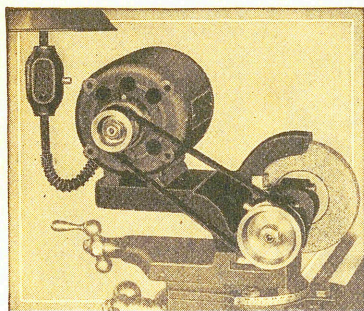


Fig. 83. No. 15 Electric Grinder
Prices of No. 15 Electric Grinder

Size of Lathe	Size of Wheel	Size of Motor	Price Complete
9-11 in.	4x3/4 in.	1/4 H.P.	\$75.00
13-15 in.	5x1 1/2 in.	1/2 H.P.	90.00

Thread Indicator

Shows when to clamp half-nuts on lead screw at starting point of thread on each successive cut.

Prices of Thread Indicator

9-11 in.	13-15 in.	16-18 in.
\$8.00	\$10.00	\$12.00

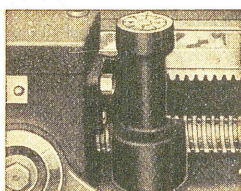
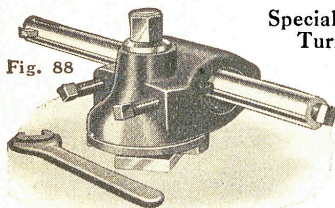


Fig. 86

Special Boring and Turning Tool

The special boring and turning tool is practical for truing brake drums of automobiles, buses and trucks. It is designed for turning large diameters and for heavy duty boring. Price in-



cludes holder, boring bar, wrench and cutter bit.

Net Factory Prices

Size of Lathe	Diameter of Bar	Size of Cutter Bits	Tool Complete		
			Cat. No.	Code Word	Price Each
No. 2	1 1/2"	3/8"	464-A	Hyrad	\$23.00
No. 3	1 3/4"	5/8"	465-A	Hindu	29 00

Extra Cutter Bits

Cat. No.	Code Word	Price Each
479	Huxit	\$1.60
480	Huloz	2.20

No. 15 Electric Grinder for South Bend Lathes

A practical attachment for grinding reamers, milling cutters, taps, dies, valves, pistons, hardened bushings, shafts, etc. Can be operated from an electric light socket, no special wiring necessary.

Different grades of grinding wheels are needed for different classes of grinding work. Satisfactory results cannot be obtained from using the same wheel on all kinds of metals. Order the grinding wheels you need from the following table, or state the nature of your work and correct wheels will be shipped. Only one wheel is included in price of grinder.

Metal	Grade	Grain
Steel	M-Alundum	46
Alundum	3-Shellac	46
Valves	3-Shellac	60
Tools	50-K-Alundum	19
Cast Iron	K-Crystalon	36

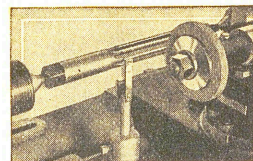


Fig. 84. Grinding a Reamer

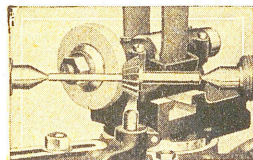


Fig. 85. Grinding a Cutter

Micrometer Carriage Stop

Used as permanent or adjustable stop for accurate facing, turning, boring, cutting-off, etc. Fits lathe bed on either side of carriage.

Prices of Micrometer Stop

9"	11"	13"	15"	16"	18"
\$10	\$12	\$13	\$14	\$15	\$17

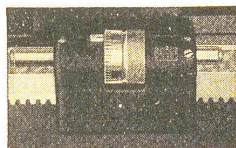


Fig. 87

Semi-Automatic Bed Turret

The turret will accommodate six tools and is automatically indexed one-sixth of a turn by the hand lever which also controls the turret slide.

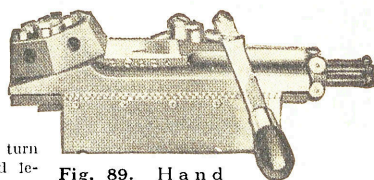


Fig. 89. Hand Lever Type Bed Turret

Net Factory Prices of Semi-Automatic Bed Turret

Size of Lathe.....	9 in.	11 in.	13 in.
Price of Attachment...	\$205.00	\$215.00	\$225.00

No. 116 Chuck and Tool Assortment for 16-inch Lathes

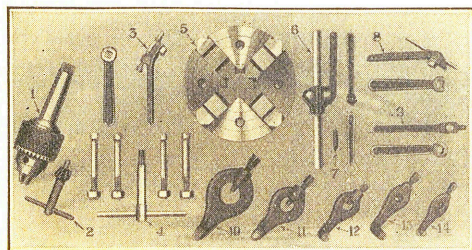


Fig. 90. Practical Chuck and Tool Assortment

1—3-Jaw Drill Chuck; 2—Pinion Key for Drill Chuck; 3—Formed Threading Tool; 4—Wrench and Screws for Chuck; 5—Independent Lathe Chuck; 6—Style "B" Boring Tool; 7—H. S. Steel Cutter Bit; 8—Right Hand Cutting Off Tool; 9—Straight Shank Turning Tool; 10-14—Malleable Lathe Dogs.

Write for Auto Mechanics Service Book No. 66 which describes and illustrates the modern methods of machining all parts of the automobile motor. Price 25 cents.

The Chuck and Tool Assortment illustrated at the left and listed below has the practical sizes of chucks and tools for all 16-inch South Bend Lathes. Assortments for other size lathes are priced below.

Cat. No.	Description	Price
1 No. 2110	10-inch, 4-Jaw Independent Lathe Chuck	\$40.00
	Fitting Chuck to Lathe including Chuck Back	9.00
1 No. 1303	2-Jaw Drill Chuck, 1-inch capacity.....	15.00
1 No. 716	Drill Chuck Arbor, fitted to Chuck.....	2.00
1 No. 833-S	Patent Turning Tool, straight shank.....	3.60
1 No. 888	Patent Threading Tool.....	5.75
1 No. 432	Patent Boring Tool, Style B.....	6.90
1 No. 834-R	Patent Cutting Off Tool (Right Hand).....	4.00
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/2", 2"	4.45

Net Factory Price (Code Word Margo)..... \$90.70

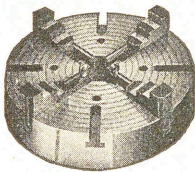
Chuck and Tool Assortments for Other Size Lathes

No. 122	Assortment for 9-inch Jr. Lathes (Balor)....	\$ 62.20
No. 109	Assortment for 9-inch Lathes (Celot).....	62.20
No. 114	Assortment for 11-inch Lathes (Denob).....	83.00
No. 113	Assortment for 13-inch Lathes (Enbal).....	70.95
No. 115	Assortment for 15-inch Lathes (Goreb).....	80.95
No. 118	Assortment for 18-inch Lathes (Somer).....	101.45

Lathe Chucks and Drill Chucks for South Bend Lathes

Independent Lathe Chucks

With Four Reversible Jaws and Iron Body

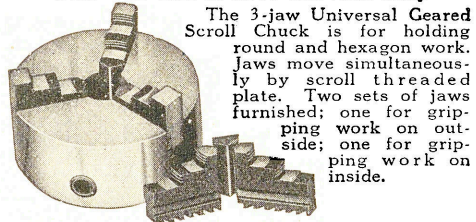


The Independent Lathe Chuck has four reversible jaws with individual screw adjustment for each jaw. The jaws and the screw bearings are hardened steel. Body of chuck is iron. Chucks of 12 inches and larger have the T slots. This chuck can hold round, hexagon, square, or odd-shaped work.

Prices of 4-jaw Independent Lathe Chucks

Catalog No.	Rated Size of Chuck	Will Hold About	Shipping Weight	Price Chuck
2104	4 1/2 in.	6 in.	11 lbs.	\$23.00
2106	6 in.	7 1/2 in.	21 lbs.	28.00
2108	8 in.	9 1/2 in.	35 lbs.	32.00
2109	9 in.	11 1/2 in.	42 lbs.	35.00
2110	10 in.	12 1/2 in.	51 lbs.	40.00
2112	12 in.	14 1/2 in.	90 lbs.	48.00
2114	14 in.	16 1/2 in.	117 lbs.	52.00
2115	15 in.	18 in.	139 lbs.	57.00
2116	16 in.	19 in.	147 lbs.	62.00
2118	18 in.	21 in.	184 lbs.	80.00

Universal Geared Scroll Chucks



The 3-jaw Universal Geared Scroll Chuck is for holding round and hexagon work. Jaws move simultaneously by scroll threaded plate. Two sets of jaws furnished; one for gripping work on outside; one for gripping work on inside.

Prices of 3-jaw Universal Geared Scroll Chucks

Catalog No.	Rated Size of Chuck	Will Hold About	Shipping Weight	Price Chuck
2403	3 in.	3 3/4 in.	3 1/2 lbs.	\$ 25.00
2404	4 in.	4 3/4 in.	7 1/2 lbs.	28.00
2405	5 in.	5 3/4 in.	17 lbs.	31.00
2406	6 in.	6 3/4 in.	20 lbs.	35.00
2407	7 1/2 in.	7 3/4 in.	32 lbs.	41.00
2409	9 in.	9 in.	45 lbs.	49.00
2410	10 1/2 in.	10 3/4 in.	64 lbs.	55.00
2412	12 in.	12 in.	80 lbs.	64.00
2415	15 in.	15 in.	143 lbs.	91.00
2418	18 in.	18 in.	180 lbs.	119.00

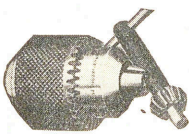
The Correct Sizes of Chucks for South Bend Lathes

To assist those who wish to select chucks for South Bend Lathes, we list in the table below the sizes we consider most practical for general work.

Size of Lathe.....	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.
4-Jaw Independent Chuck	6 in.	8 in.	8 in.	9 in.	10 in.	12 in.
3-Jaw Universal Chuck	4 in.	5 in.	6 in.	7 1/2 in.	9 in.	10 1/2 in.
Drill Chuck, capacity.....	1/2 in.	1/2 in.	3/4 in.	3/4 in.	1 in.	1 in.

Drill Chucks for South Bend Lathes

Three-Jaw Drill Chuck

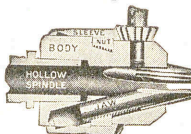


Has hardened steel geared sleeve and key, insuring powerful grip. Prices include key but not arbor.

Prices Three-Jaw Drill Chuck

Cat. No.	Capacity	Code Word	Price
1200	0 to 3/8 in.	Cleve	\$ 5.00
1201	0 to 1/2 in.	Wauko	8.50
1202	3/8 to 1 in.	Falco	14.00
1203	3/8 to 1 in.	Frank	18.50

Hollow Spindle Drill Chuck

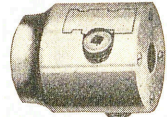


An ideal chuck for refacing valves that are not centered. It is also practical for small parts and bar work.

Prices Hollow Spindle Drill Chuck

Cat. No.	Capacity	Code Word	Price
1211	1/2 in.	Nedro	\$9.50
1212	3/4 in.	Nolan	9.50

Two-Jaw Drill Chuck

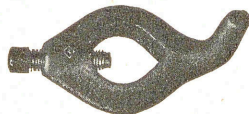


Excellent chuck for straight shank drills, reamers, etc. Prices include key but not arbor.

Prices Two-Jaw Drill Chuck

Cat. No.	Capacity	Code Word	Price
1300	3/8 in.	Oblig	\$ 8.50
1301	1/2 in.	Oblic	10.00
1302	3/4 in.	Octav	11.50
1303	1 in.	Optio	15.00

Drill Chuck Arbors made of steel, accurately machined and finished, are furnished in either solid or hollow type for any size and kind of drill chuck. Prices on request. Drill Chuck prices above do not include hollow spindle or arbors.



Patent Tool Holders for South Bend Lathes

Made of drop forged steel. Furnished in 12 types for turning, boring, cutting-off, threading and knurling. Complete prices upon request.

Standard Lathe Dogs

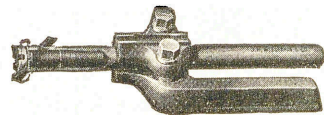
Made of heavy malleable iron. Price includes hardened tool steel set screw.

Capacity of Lathe Dog

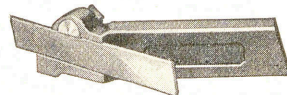
Capacity of Lathe Dog	Catalog No.	Code Word	Price Each
3/8 in.	1-M	Xaced	\$0.50
1/2 in.	2-M	Xcdfe	.60
3/4 in.	4-M	Xdegf	.70
1 in.	6-M	Xefhg	.80
1 1/4 in.	8-M	Xfghi	.90
1 1/2 in.	10-M	Xghij	1.05
1 3/4 in.	11-M	Xhikj	1.15
2 in.	12-M	Xijlk	1.30
2 1/2 in.	14-M	Xjklm	1.50
3 in.	15-M	Xklmn	1.65
3 1/2 in.	16-M	Xlmno	1.85
4 in.	17-M	Xmnop	2.15



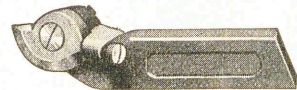
Straight Shank Turning Tool. Also furnished with right and left-hand off-set.



Style "B" Boring Tool for medium work. Also furnished in Heavy Duty type.



Right-hand Cutting-off Tool. Also furnished in straight shank and left-hand off-set.



Formed Screw Thread Cutting Tool. Requires only grinding on top to keep sharp.

Every auto mechanic should have a copy of "Auto Mechanics Service Book No. 66." This handy reference book shows modern machine methods employed in large service station shops. See page 31.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

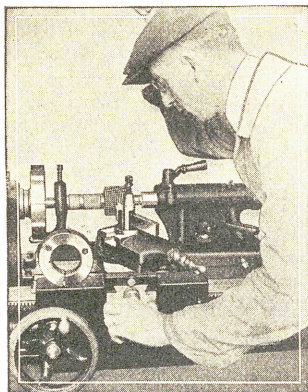
Screw Threads Cut on the New Model South Bend Lathe



Master Thread Gauge



Limit Thread Gauge



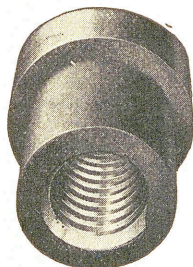
Cutting a Screw Thread



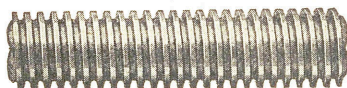
Acme Thread Tap



"V" Thread Tap



Internal Square Thread



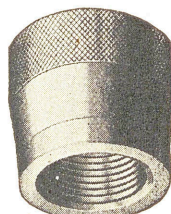
Precision Lead Screw—Acme Thread



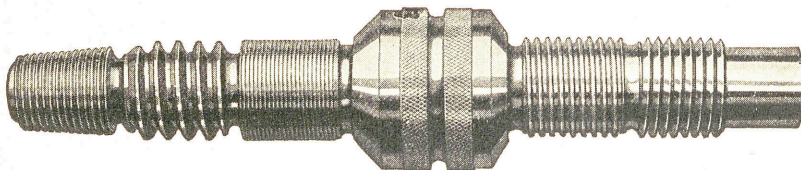
Right Hand Acme Double Screw Thread



U. S. Standard Thread



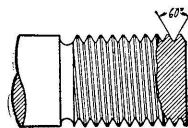
Internal U. S. Standard Thread



Special Screw Showing Various Types of Threads

Standard Screw Thread Formulas

All sizes and types of Screw Threads may be cut on South Bend Lathes; from 2 to 112 per inch on Quick Change Gear Lathes and from 4 to 40 on Standard Change Gear Lathes. Formulas for cutting U. S. Standard Screw Threads, Acme Screw Threads, Square Screw Threads, Whitworth Screw Threads and Brown and Sharpe 29° Worm Threads, are shown below.



U. S. STANDARD SCREW THREADS

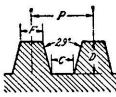
FORMULA

$$P = \text{PITCH} = \frac{1}{\text{NO. THDS. PER IN.}}$$

$$D = \text{DEPTH} = P \times .64952$$

$$F = \text{FLAT} = \frac{P}{8}$$

ACME SCREW THREADS



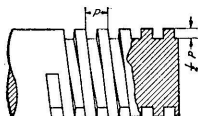
FORMULA

$$P = \text{PITCH} = \frac{1}{\text{NO. THDS. PER IN.}}$$

$$D = \text{DEPTH} = \frac{1}{2} P \times .018$$

$$F = \text{FLAT} = .3707 P$$

$$C = \text{FLAT} = .3707 P \times .002$$



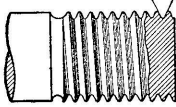
SQUARE THREADS

FORMULA

$$P = \text{PITCH} = \frac{1}{\text{NO. THDS. PER IN.}}$$

$$D = \text{DEPTH} = P \times .500$$

$$F = \text{SPACE} = P \times .500$$



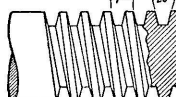
WHITWORTH STANDARD SCREW THREADS

FORMULA

$$P = \text{PITCH} = \frac{1}{\text{NO. THDS. PER IN.}}$$

$$D = \text{DEPTH} = P \times .6493$$

$$R = \text{RADIUS} = .1373 P \times \frac{1}{\text{NO. THDS. PER IN.}}$$



BROWN & SHARPE 29° WORM THREAD

FORMULA

$$P = \text{PITCH} = \frac{1}{\text{NO. THDS. PER IN.}}$$

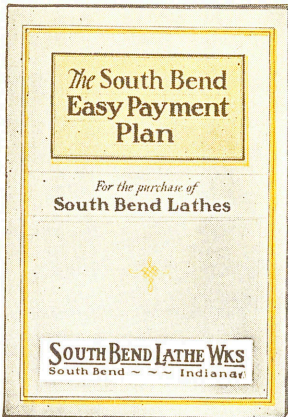
$$D = \text{DEPTH} = .6866 P$$

$$F = \text{FLAT} = .31 P$$

$$C = \text{FLAT} = .335 P$$

NEW 1929 EASY PAYMENT PLAN

For the Purchase of South Bend Lathes, Chucks, Tools, etc.



20% Down—A Whole Year to Pay

You can install a New Model South Bend Lathe in your shop under the New 1929 Easy Payment Plan by paying 20%, or one-fifth, of the total amount of the price of lathe and equipment with the order, the balance to be paid in twelve (12) equal monthly payments.

The first monthly payment is due one month from the day the lathe is shipped, and the remaining payments on the same day of each succeeding month until completed. A reminder is mailed from our office a few days before each payment is due, and remittances may be sent by check, draft or money order, as you prefer.

A Down Payment Puts the Lathe in Operation

The lathe and equipment specified on your order will be shipped to you immediately upon receipt of the order and the down payment, so the lathe can be put to work at once in your shop and the earnings used to make the monthly payments.

Any Size or Type Lathe

You may select any size or type of New Model South Bend Lathe shown in this Hand Book and pay for it under this new Easy Payment Plan. One or more lathes may be purchased just as you prefer.

Include Tools, Accessories

You may include lathe attachments, accessories, and chucks and tools in your order to be used on your New Model South Bend Lathe, and pay for them on these same convenient terms, which give you a full year to pay.

Carrying Charge

The only extra cost when buying your lathe and equipment on the Easy Payment Plan is a 5% Carrying Charge on the balance remaining after you have made the 20% down payment.

This Carrying Charge takes the place of all interest and other charges and is spread over twelve equal monthly payments as shown in the example below. It amounts to only \$5.00 on each \$100.00 of balance, or about \$4.00 on each \$100.00 worth of equipment purchased.

Over 8,000 Time Payment Users

More than 8,000 shops are using South Bend Lathes which were purchased under the Easy Payment Plan. Purchasing income producing equipment on the time payment plan is a sound business method as it conserves the cash of the company and gives it an opportunity to pay for the machines out of the monthly profits of the business. This custom is very popular today and more than 70 per cent of America's industries are taking advantage of it.

No Finance Company

We have no connection with any commercial financing organization—we deal direct with you in the collection of your payments and it is our sincere desire to give you whatever consideration is necessary at all times. You make all your payments direct to us here in South Bend.

Net Factory Prices

The prices shown in this Hand Book are net F.O.B. cars South Bend, Indiana. In setting the prices on each lathe, tool and attachment shown, we have made the lowest possible price. Our policy is, One Quality, One Price to all whether you purchase one lathe or a number of lathes. You get the same price as large manufacturers.

EXAMPLE

9-inch x 3-ft. Junior New Model South Bend Bench Lathe. Countershaft Drive

1—9-inch x 3-ft. Junior New Model South Bend Bench Lathe, Countershaft Drive (complete with Double Friction Countershaft and Equipment as illustrated and described on page 6).

Price F.O.B. South Bend.....	\$169.00
DOWN PAYMENT of 20%.....	33.80

Balance....	\$135.20
-------------	----------

Carrying Charge, 5% of Balance	6.76
--------------------------------------	------

Balance in 12 Equal Monthly Payments.....	\$141.96
---	----------

MONTHLY PAYMENTS Each (\$141.96 divided by 12).....	\$ 11.83
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If more information is wanted on the Easy Payment Plan, write for Catalog No. 90-P which illustrates the entire line of South Bend Lathes, Tools and Attachments, and gives complete Easy Payment information and prices. Copy mailed free on request.

SOUTH BEND LATHE WORKS, 331 E. Madison St., SOUTH BEND, IND., U.S.A.

Interesting Booklets for the Mechanic



General Catalog No. 90-A

Our new General Catalog, No. 90-A, illustrates, describes and prices the entire line of New Model South Bend Back Geared Screw Cutting Lathes from 9-inch swing to 18-inch swing, countershaft and motor drive types. Each size of lathe is fully described with its features and specifications. The Catalog has 96 pages and more than 300 illustrations.

A full line of Attachments, Chucks, Tools and Accessories for use on South Bend Lathes is also shown.

Mailed Anywhere in the World, Postpaid, No Charge

PARTIAL LIST OF CONTENTS

Quick Change Gear Lathes
Standard Change Gear Lathes
Tool Room Precision Lathes
Gap Bed Lathes
Brake Drum Lathes
Taper Attachment
Grinding Attachment

Silent Chain Motor Driven Lathes
Self-Contained Motor Driven Lathes
Simplex Motor Driven Lathes
Junior Bench and Floor Leg Lathes
Draw-in Collet Chuck Attachment
Milling and Keyway Cutting Attachment
Chucks, Tools and Accessories

Special Bulletins on Each Size Lathe

Special Bulletins of sixteen pages each, 8½x11 inches, printed in attractive colors are available for each size New Model South Bend Lathe. These Bulletins show much larger illustrations than those shown in this handbook and each illustrates and describes in detail the lathe and its various types, drives, tools and attachments.

If interested in any particular size of lathe and more detailed information is desired than is shown in this handbook, write for special bulletin specifying size of lathe.

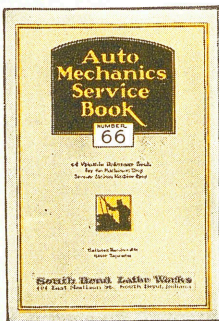
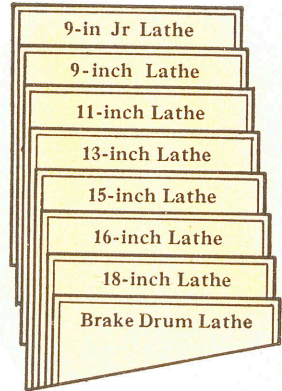
Mailed Anywhere in the World, Postpaid, No Charge.

PARTIAL LIST OF CONTENTS

Quick Change Gear Lathes
Standard Change Gear Lathes
Silent Chain Motor Driven Lathes
Tool Room Precision Lathes
Gap Bed Lathes

Taper Attachment
Grinding Attachments
Draw-in Collet Chuck Attachment
Milling and Keyway Cutting Attachment
Chucks, Tools and Accessories

Brake Drum Lathes



Auto Mechanics Service Book No. 66

This booklet is especially for the automobile mechanic. It describes and illustrates the modern methods of machining parts of the automobile motor. The best way to do the machine work on each job is carefully explained in detail. Contains more than 120 illustrations of practical ways to do different jobs. It is recommended by automobile manufacturers for use in their Service Station Shops throughout the world as a reliable guide for servicing motors with precision, speed and economy. Copy included with Lathe when shipped.

Mailed Anywhere in the World, Postpaid, Price 25 Cents

PARTIAL LIST OF CONTENTS

Finishing Pistons
Truing Commutators
Refacing Valves
Making Bushings
Machining Flywheels
Boring Connecting Rods
Centering and Countersinking

Truing Brake Drums
Cutting Screw Threads
Truing Crankshafts
Grinding
Axles and Driveshafts
Drilling, Boring, Reaming
Making Mandrels and Adapters

How to Run a Lathe

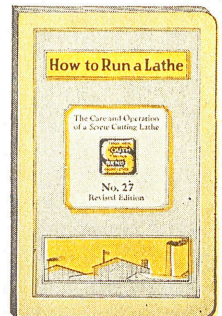
"How to Run a Lathe" is an authoritative manual covering the fundamental operations of the modern back geared screw cutting lathe. It is a valuable book for the mechanic as it contains complete instructions on the setting up, the operation and care of the screw cutting lathe. This booklet has 144 pages which include more than 300 illustrations of practical methods for doing lathe jobs. A copy of this booklet is included with each New Model South Bend Lathe.

Mailed Anywhere in the World, Postpaid, Price 25 Cents

PARTIAL LIST OF CONTENTS

How to Set Up a Lathe
Hanging a Countershaft
Calculating the Size of Pulleys
Calculating the Speed of Pulleys
Grinding Lathe Tools
How to Set Lathe Tools
Cutting Standard Screw Threads
Cutting Acme Screw Threads
Cutting Square Screw Threads

Straight Turning and Boring
Taper Turning and Boring
Operating the Automatic Feeds
Drilling, Reaming and Tapping
Reading a Micrometer Caliper
Table of Metric Measure
Centering and Countersinking
General Care of Lathe



INTERESTING BOOKLETS ON EACH SIZE LATHE MAILED FREE

Leading Automobile Manufacturers Use South Bend Lathes in Their Manufacturing Plants and Service Station Shops

A Few of the 7,000 Service Station Shops That Are Using South Bend Lathes

NAME	NUMBER OF SHOPS	NAME	NUMBER OF SHOPS
Auburn Service Stations.....	66	Lincoln Service Stations.....	106
Buick Service Stations.....	258	Nash Service Stations.....	84
Cadillac Service Stations.....	70	Oakland Service Stations.....	70
Chevrolet Service Stations.....	343	Oldsmobile Service Stations.....	181
Chrysler Service Stations.....	115	Packard Service Stations.....	45
Dodge Service Stations.....	427	Pierce Arrow Service Stations.....	163
Ford Service Stations.....	456	Reo Service Stations.....	55
Graham-Page Service Stations.....	66	Star and Durant Service Stations.....	106
Hudson-Essex Service Stations.....	163	Studebaker Service Stations.....	157
Hupmobile Service Stations.....	36	Willys-Overland Service Stations.....	157

Leading Airplane Manufacturers Use South Bend Lathes in Their Manufacturing Plants and Airport Service Shops

A Few of the Aeronautical Users of South Bend Lathes

Aircraft Corp. of America	Aeronautical Corp. of America	Atlantic Aircraft Corp.
Avion Corp.	ica	Commandaire Inc.
De Havilland Aircraft Co.	Cessna Aircraft Corp.	Ford Motor Co.
Fokker Aircraft Corp.	Delco Aviation Corp.	Grover Leoning Co.
Knoll Aircraft Co.	Goodyear Tire & Rubber Co.	Leoning Aeronautical Corp.
Lincoln Standard Aircraft Co.	Lenert Aircraft Co.	Parks Aircraft Inc.
Mid-Continent Aircraft	Michigan Model Airplane Supply Co.	Pratt & Whitney Aircraft Co.
Rearwin Aeroplane Inc.	Spartan Aircraft Co.	Sherman Aircraft Co. Inc.
Stearman Aircraft Co.	Stout Metal Plane Co.	Sullivan Aircraft Corp.
Swallow Airplane Co.	Thomas-Morse Aircraft Corp.	Timm, O. W. Airplane Corp.
Travel Air Mfg. Co.	Verville Aircraft Co.	Viking Flying Boat Co.

47,000 South Bend Lathes Are Used in All Classes of Industry in the United States and 78 Other Countries

96 Sizes and Types

New Model South Bend Lathes

Countershaft Driven Lathes

Motor Driven Lathes

Quick Change Gear Lathes

Standard Change Gear Lathes

Tool Room Lathes

Gap Bed Lathes

Brake Drum Lathes

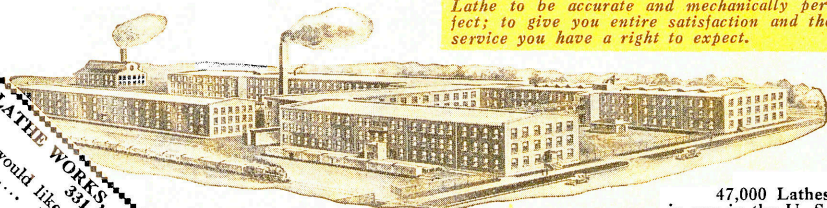
Bench Lathes

A Few Recent Purchasers

Formica Insulation Co.
National Cash Register Co.
Kelvinator Corp.
Fisher Body Corp.
International Harvester Co.
Western Electric Co.
Hercules Powder Co.
Carborundum Co.
Elgin National Watch Co.
Studebaker Corp.
Bethlehem Steel Co.
General Electric Co.

Westinghouse Electric and Mfg. Co.
General Motors Corp.
Bell Telephone Laboratories
Eastman Kodak Co.
Bendix Brake Co.
Fisk Rubber Co.
Burroughs Adding Machine Co.
Fairbanks-Morse Co.
U. S. Steel Corp.
Radio-Victor Corp.

WE GUARANTEE every South Bend Lathe to be accurate and mechanically perfect; to give you entire satisfaction and the service you have a right to expect.



Established 1906
Lathe Builders for 23 Years

47,000 Lathes
in use in the U. S.
and 78 Other Countries

South Bend Lathe Works

331 E. Madison St., South Bend, Ind., U.S.A.

11-1-29—225M

Printed in U.S.A.

SOUTH BEND LATHE WORKS
331 E. Madison St., South Bend, Ind.
Gentlemen: I would like complete information on a lathe.
Name ☐ Send Bulletin ☐ Send Catalog
Kind of Shop
Address
City
State

