The New 1937 Model South Bend
9-inch "WORKSHOP"
Precision Lathe

A BACK-GEARED, SCREW CUTTING LATHE

AUGUST 2, 1937

SOUTH BEND LATHE WORKS
468 Niles Avenue - South Bend, Indiana, U. S. A.
9-inch "Workshop" Motor Driven Bench Lathe—1937 Model

With Adjustable Horizontal Countershaft and Motor Drive Equipment

The 1937 Model 9-inch "Workshop" South Bend Bench Lathe is recommended for use in machine shops, repair shops, manufacturing plants, garages, laboratories, home workshops, and experimental shops where the finest type of back-gearled, screw cutting precision lathe is required.

The Adjustable Horizontal Motor Drive, shown in Fig. 2, is practical, convenient and efficient. The countershaft has belt tension adjustment (A and B) of both cone pulley belt and motor belt. A quick release (C) for cone pulley belt permits easy shifting of the belt for changing spindle speeds.

Prices 9-inch "Workshop" Adjustable Horizontal Motor Driven Bench Lathe

<table>
<thead>
<tr>
<th>No. 15</th>
<th>9-inch &quot;Workshop&quot; South Bend Precision Bench Lathe, Complete with Graduated Compound Rest and Regular Lathe Equipment, but without Motor Drive Equipment and Less Bench</th>
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<tr>
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<td><em>NET FACTORY PRICES</em> f.o.b. South Bend, Ind.</td>
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<tr>
<td></td>
<td>Motor Drive Equipment consists of: Adjustable Type Horizontal Countershaft; S, H.P. Start-Stop Reversing Split-Phase Motor, 1260 R.P.M. (1-ph., 100-v. A.C. 110-V-1); V-Groove Pulley for Motor; Drum Reversing Switch (Style R-12); Bracket for attaching Switch to Lathe; V-Belt, Motor to Drive Unit; Flat Leather Belt and Lacing.</td>
</tr>
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<td>$90.00 $102.00 $114.00 $131.00</td>
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MOTOR DRIVE EQUIPMENT

Motor Drive Equipment consists of: Adjustable Type Horizontal Countershaft; S, H.P. Start-Stop Reversing Split-Phase Motor, 1260 R.P.M. (1-ph., 100-v. A.C. 110-V-1); V-Groove Pulley for Motor; Drum Reversing Switch (Style R-12); Bracket for attaching Switch to Lathe; V-Belt, Motor to Drive Unit; Flat Leather Belt and Lacing. $32.00

Total Price, Lathe with Motor Drive Equipment $122.00 $134.00 $146.00 $163.00

Catalog Numbers, Lathe with Motor Drive Equipment

<table>
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<tr>
<th>No. 415-YA</th>
<th>No. 415-2A</th>
<th>No. 415-AA</th>
<th>No. 415-RA</th>
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<tr>
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<td>Lathe with Motor Drive Equipment</td>
<td>Maple</td>
<td>Mahog</td>
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Price extra for heavy, rubber covered wiring for connecting motor to switch, together with 5-ft. extension cord and plug, $1.75.

For additional prices of other motors see page 22.

Improved Features including back-gearled headstock, ball thrust bearing for spindle, precision lead screw, compound rest, etc., are illustrated and described on pages 10 and 11.

Regular Equipment included in price of lathe consists of: graduated compound rest; face plate 5 inches diameter; forged steel tool post; two 60-degree tool steel lathe centers, No. 2 Morse Taper; headstock spindle sleeve; wrenches; set of independent change gears for screw thread cutting; compound gearing for automatic longitudinal power feeds; installation plan and book, "How to Run a Lathe", bench information on page 7.

Fig. 1. Cat. No. 415-YA, 9"x3' "Workshop" Motor Driven Precision Bench Lathe, complete as shown, but less bench. (Ship. wt. crated 320 lbs.)... $122.00

Fig. 2. End View of "Workshop" Lathe with Adjustable Horizontal Motor Drive Countershaft.
9-inch "Workshop" South Bend Lathes
A General Description of the 1937 Model "Workshop" Lathe—All Types

The features specifications and general description given below apply to all 1937 Model 9-inch "Workshop" South Bend Lathes shown throughout this catalog. Each lathe is built up of standard units, such as the headstock, tailstock, apron, carriage, bed, etc., which are uniform in design and quality.

The 1937 Model "Workshop" Lathe is recommended for the production of small accurate parts in the manufacturing plant, for precision work in the tool room, for general use in the machine shop, auto service shop, laboratory, school shop, repair shop, home work shop and shops of all kinds engaged in the machining of metals, wood, fiber, bakelite, cast resin plastics, etc.

Convenience and Ease of Operation are assured by the simple, practical design of the lathe. Well placed controls, large easy reading micrometer dials, lever reverse for threads and feeds, graduated compound rest, wrenchless bull gear lock, large hand wheels, and other improvements save time and effort and reduce the possibility of mistakes. See pages 10 and 11.

Accuracy and Durability are built into every South Bend "Workshop" Lathe. The workmanship and materials are the best that can be obtained, and no die castings are used. The substantial design assures permanent alignment of the headstock, tailstock and other major units. Unusually large bearing surfaces give this lathe the power and rigidity for taking heavy cuts and the precision accuracy for the most exacting tool work.

Highest Standards of inspection are maintained, from the planing of the lathe bed to the final inspection tests which are made with the lathe in actual operation. All dovetails and V-ways are carefully hand-scraped and all units are aligned to the most exacting specifications.

Lathe Bed is made of special quality gray iron with 50 per cent steel, which makes a hard, close-grained metal having long wearing qualities. Bed is heavily constructed and reinforced by box braces its entire length. Three V-ways and one flat-way accurately planed and hand-scraped, align and support the headstock, carriage and tailstock.

Back-gear ed Headstock is hand-scraped to lathe bed; has three-step cone pulley; six changes of spindle speeds, three direct and three back-gearred; wrenchless bull gear lock; and lever reverse for threads and feeds.

Bearings for Headstock spindle are unusually large, and are line bored and lapped to fit the spindle. The bearings are adjustable for wear, and have an excellent felt wick oiling system.

Headstock Spindle is made of a special quality spindle steel, finish ground, and has a ball thrust bearing. Take-up is provided for eliminating end play. Spindle has a 3/4-inch hole bored its entire length, with No. 3 Morse standard taper in front end.

Tailstock is substantially designed with long hand-scraped bearing on bed. Tailstock top has set-over for taper turning. Tailstock spindle is made of special quality spindle steel and has self-ejecting tool steel center.

Carriage has unusually long bearings (over 9 1/2 inches) on V-ways of lathe bed, providing a solid support for the cutting tool and reducing wear to a minimum. V-ways of saddle are hand-scraped to match V-ways of lathe bed perfectly and are fitted with felt wipers to clean and oil the bed.

Compound Rest is graduated 180 degrees, swivels to any angle, and has improved locking device with double binder. Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Dovetails are hand-scraped and lapped and have adjustable gibs.

Precision Lead Screw is 3/4-inch diameter, 8 Acme standard threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads.

Standard Screw Threads 4 to 40 per inch, right or left-hand, including 11/4 pipe thread, can be cut on all 9 inch "Workshop" Lathes. See page 9.

Automatic Longitudinal Feeds for the carriage .0028", .0056", .0072", .008", etc., can be obtained with the change gears supplied with the lathe. See page 9.

Practical Attachments for milling, keyway cutting, grinding, turning tapers, etc., can be supplied. Most of these attachments may be purchased with the lathe or ordered later. See pages 16 to 22.

"Workshop" Lathe Features
Back-gear ed headstock, six spindle speeds.
Hollow steel spindle, 3/4" hole for machining bars and rods.
Ball thrust bearing for headstock spindle.
Adjustable bearings for headstock spindle.
Adjustable gibs on cross feed and compound rest.
Three V-ways and one flat-way on lathe bed.
Precision lead screw for accurate thread cutting.
Half-nuts have long bearing in lead screw.
Automatic longitudinal power feeds to carriage.
Reverse lever for right and left-hand screw threads and automatic longitudinal feeds to carriage.
Micrometer graduations on compound rest screw.
Micrometer graduations on cross feed screw.
Tailstock top has 9/16" set-over for taper turning.

"Workshop" Lathe Specifications
Swing over bed .................................................. 9 1/8"
Swing over carriage ........................................... 5 1/8"
Collet capacity 1/8" up to 1/2" Hole through spindle 8 3/8"
Automatic longitudinal feeds per revolution of spindle: .0028; .0056; .0072; .008; etc.
Standard screw thread cutting range 4 to 40 per in.
Spindle speeds 39, 68, 122, 202, 353, 630, r.p.m.
Width of cone pulley belt..................................... 1"
Cutter bites 1/8" x 1/8" x 1/2"
Lathe tool shank 8/32" x 3/4"
Head and tail spindle lathe centers No. 2 Morse Taper
Lead screw; Acme thread 3/4" di. 8 threads
Tool cross slide travel 5 1/2"
Angular travel compound rest top 2 1/2"
Tailstock spindle travel 2 1/2"
9-inch "Workshop" Motor Driven Bench Lathe—1937 Model
With Plain Horizontal Countershaft and Motor Drive Equipment

The 1937 Model 9-inch "Workshop" South Bend Bench Lathe with plain horizontal motor drive, illustrated above, is the same as the lathes described on pages 2 and 3 except for the type of drive.

The Plain Horizontal Motor Drive, shown in Fig. 4, is less expensive than the adjustable horizontal motor drive shown on page 2, but is not quite as convenient. The plain horizontal countershaft has slots in the base which permit shifting the countershaft to take up belt stretch. The motor is bolted direct to the bench top.

Improved Features including back-gared headstock, ball thrust bearing for spindle, precision lead screw, graduated compound rest, tailstock, etc., are illustrated and described in detail on pages 3, 10 and 11.

Regular Equipment included in price of lathe consists of: graduated compound rest, face plate 5 inches diameter; forged steel tool post; two 60-degree tool steel lathe centers, No. 2 Morse Taper; headstock spindle sleeve; wrenches; set of independent change gears for screw thread cutting; compound gearing for automatic longitudinal power feeds; installation blue print and book, "How to Run a Lathe". Bench is not included in price. For bench information see page 22.

Prices 9-inch "Workshop" Horizontal Motor Driven Bench Lathe—Less Bench

<table>
<thead>
<tr>
<th>No. 15, 9-inch &quot;Workshop&quot; South Bend Precision Bench Lathe, Complete with Graduated Compound Rest and Regular Lathe Equipment, but without Motor Drive Equipment and Less Bench</th>
<th>Net Factory Prices</th>
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<td>Each, South Bend, Ind.</td>
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<td>9&quot; x 3'</td>
<td>9&quot; x 3 1/2'</td>
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<td>$90.00</td>
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MOTOR DRIVE EQUIPMENT

Motor Drive Equipment consists of: Improved Plain Horizontal Countershaft; 3/4 H.P. Start-Stop Reversing Split-Phase Motor, 1725 R.P.M. (1-ph. 60-cp., A.C. 110-V.); V-Groove Pulley for Motor; Drum Reversing Switch (Style R-12); Bracket for attaching Switch to Lathe; V-Belt, Motor to Drive Unit; Flat Leather Belt and Lacing.

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<tr>
<th>No. 415-Y</th>
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<th>No. 415-A</th>
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Total Price, Lathe with Motor Drive Equipment

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<th>No. 415-Y</th>
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<th>No. 415-A</th>
<th>No. 415-R</th>
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<td>$117.00</td>
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<td>$158.00</td>
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Catalog Number, Lathe with Motor Drive Equipment

Macer | Macer | Mafab | Mager

| 310 lbs. | 315 lbs. | 360 lbs. | 410 lbs. |

Shipping Weight, Lathe and Motor Drive Complete

| 1 1/2 in. | 1 3/4 in. | 1 3/8 in. | 1 3/4 in. |

Collet Capacity, 1/8" up by 64ths to

*Price extra for heavy, rubber covered wiring for connecting motor to switch, together with 6-ft. extension cord and plug, $1.75.

For additional prices of other motors see page 22.
9-inch "Workshop" Bench Lathe—1937 Model
With V-Belt Adjustable Horizontal Motor Drive
and Hardened Headstock Spindle

The "Workshop" Lathe with V-Belt Adjustable Motor Drive is exactly the same as the lathe shown on pages 2 and 3, except that it is equipped with V-belt cone pulley instead of flat belt cone pulley and has a hardened headstock spindle. Eight spindle speeds are provided as follows: 44, 60, 82, 113, 230, 313, 424, and 585 R.P.M.

The V-Belt Drive is supplied for those who prefer it but we consider the flat belt more practical for South Bend Lathes as it is more flexible, easier to shift and easier to replace when worn out.

Equipment included in price of lathe consists of: Hardened headstock spindle; V-belt cone pulley; adjustable horizontal motor drive; 1/4 H.P. 1725 R.P.M., A.C. 1-phase, 110-volt, 60-cycle, start-stop reversing motor; reversing switch; V-belts; motor pulley; graduated compound rest; face plate; tool post; two 60-degree centers; spindle sleeve; wrenches; change gears; installation plan and book, "How to Run a Lathe." Bench is extra, see page 22.

Prices of 9-inch "Workshop" V-Belt Adjustable Horizontal Motor Drive Bench Lathes

<table>
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*Price extra for heavy, rubber covered wiring for connecting motor with switch, together with 6-ft. extension cord and plug, $1.75.

9-inch "Workshop" South Bend Bench Lathe—1937 Model
With Countershaft for Linshaft Drive or Without Countershaft

The 1937 Model 9-inch "Workshop" bench lathes with countershaft drive are exactly the same as the lathes shown on the preceding pages except for the type of drive. They are recommended for shops that are equipped with linshaft for power. These lathes are also supplied without the countershaft for those who wish to use their own motor drive or countershaft equipment.

Countershaft has two friction clutch pulleys, one of which may be driven with an open belt and the other with a crossed belt, which permits the lathe to be operated forward and in reverse.

Regular Equipment included in price of lathe consists of: Graduated compound rest; face plate; tool post; two 60-degree centers; headstock spindle sleeve; wrenches; installation blue print and book, "How to Run a Lathe." Bench is extra. See page 22.

Prices of 9-inch "Workshop" Bench Lathe with Regular Equipment, but without Bench

<table>
<thead>
<tr>
<th>Swing Over Bed Inches</th>
<th>Length of Bed Feet</th>
<th>Distance Between Centers Inches</th>
<th>Hole Through Spindle Inches</th>
<th>Collet Capacity 1/2&quot; up by #6th size</th>
<th>Swing Over Carriage Inches</th>
<th>Power Required Horse Power</th>
<th>Approx. Ship Wt. Pounds</th>
<th>Prices With Countershaft</th>
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If floor legs are wanted instead of bench legs add $10.00 to above prices.
9-inch "Workshop" Motor Driven Bench Lathe—1937 Model
With Adjustable Underneath Motor Drive Equipment

The 1937 Model "Workshop" Bench Lathe illustrated above is the same as the lathes shown on the preceding pages, except for necessary alterations in the headstock and bed to accommodate the underneath motor drive. The hinged cone pulley cover may be raised for belt shifting. Bed and legs are cast integral.

Motor Drive Unit is bolted under the bench top. The cone pulley belt tension is released for shifting the belt by moving the crank handle "A" to position "B." Any desired belt tension can be obtained by adjusting the turnbuckle "C."

Hardened Headstock Spindle is included as regular equipment on all Underneath Motor Driven Lathes.

Improved Features including back-gears headstock, ball thrust bearing for spindle, precision lead screw, compound rest, etc., are illustrated and described on pages 3, 10 and 11.

Regular Equipment included in price of lathe consists of: graduated compound rest; face plate 3-inches diameter; forged steel tool post; two 60-degree tool steel lathe centers, No. 2 Morse Taper; headstock spindle sleeve; wrenches; set of independent change gears for screw thread cutting; compound gearing for automatic longitudinal power feeds; installation plan and book, "How to Run a Lathe". See bench data on page 22.

Electrical Equipment included in price consists of: underneath motor drive countershaft complete with 1 1/4 HP, 1725 R.P.M. 1-ph, 60-cycle, A.C. 110-V, start-stop reversing motor, reversing switch, motor pulley, belting, and wire for connecting motor to switch.

Prices of 9-inch "Workshop" Adjustable Underneath Motor Driven Precision Bench Lathe—Less Bench

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<tr>
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For additional prices of other motors see page 22.
9-inch "Workshop" Pedestal Motor Driven Lathe—1937 Model

With Pedestal Adjustable Motor Drive and Floor Legs

The 1937 Model 9-inch "Workshop" lathes with pedestal adjustable motor drive are recommended for shops requiring an efficient motor driven floor leg lathe. Except for the type of drive, these lathes are the same as those described on the preceding pages.

The Pedestal Motor Drive is very practical as it permits placing the lathe in any position in the shop. The lathe is relieved of all strain as the weight of the motor is supported by the pedestal, and an adjustable tension brace between the countershaft and the lathe headstock counteracts the pull of the belt.

Adjustment is provided for taking up belt stretch and a belt tension release permits easy shifting of belt.

Regular Equipment included in price of lathe consists of: graduated compound rest; face plate 5-inches diameter; forged steel tool post; two 60-degree tool steel lathe centers; No. 2 Morse Taper; headstock spindle sleeve; wrenches; set of independent change gears for screw thread cutting; compound gearing for automatic longitudinal power feeds; installation plan and instruction book, "How to Run a Lathe".

Electrical Equipment included in price of lathe consists of: pedestal motor drive countershaft complete with 3/4 H.P. 110 Volt A.C. start-stop type reversing motor, reversing switch, motor pulley, belting and wire to connect motor to switch.

Prices of 9-inch "Workshop" Pedestal Adjustable Motor Driven Precision Lathe—Floor Legs

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For additional prices of other motors see page 11.
9-inch "Workshop" Tool Room Lathe

1937 Model Adjustable Horizontal Motor Drive

The 1937 Model 9-inch "Workshop" Tool Room Lathe is the same as the lathes illustrated and described on the preceding pages, except that it is equipped with hardened and ground headstock spindle; hand wheel draw-in collet chuck with one round collet, any fractional size, 1/16 to 1/2 in. capacity; micrometer carriage stop and thread cutting stop for tool room work.

Prices also include 1/4 h.p., 1725 R.P.M., 1-phase 60-cycle, A.C. 110-V, start and stop type reversing split-phase motor, drum reversing switch, adjustable horizontal motor drive countershaft, belting, motor pulley, and regular lathe equipment. Bench is not included in price. For bench information see page 22.

Net Factory Prices, F.O.B. Cars, South Bend, Indiana

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9-inch "Workshop" with Raising Blocks

Swing Over Bed Increased to 11 1/2 Inches

Raising Blocks under headstock, tailstock and tool rest may be ordered with any 9-inch "Workshop" Lathe (except underneath motor drive) to increase the swing of the lathe from 9 1/4" to 11 1/2". Tabulation below shows prices of two popular models of "Workshop" Lathes equipped with raising blocks. Bench is not included in price. For bench information see page 22.

Prices of other models with raising blocks may be determined by adding $30.00 to price of lathe.

Prices of all motor driven lathes include 1/4 h.p., 1-phase 60-cycle, A.C. start-stop reversing motor* and regular equipment.

Prices of 9-inch "Workshop" Lathe with Raising Blocks

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9-inch "Workshop" Oil Pan Lathe

With Overhead Countershaft Drive and Floor Legs

The 1937 Model 9-inch "Workshop" Lathe shown at the right is the same as the lathes illustrated and described on the preceding pages, except that this lathe has a steel oil pan to catch oil and chips. Specifications and features are listed on page 3. Prices listed below include double friction countershaft and regular lathe equipment.

Net Factory Prices, F.O.B. Cars, South Bend, Indiana

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Oil Pan Equipment for Motor Driven Lathes

Oil Pan and special oil pan legs can be fitted to the motor driven lathe shown on page 7 at the following prices when ordering with lathe, $21.00; 9 x 3/4" lathe, $23.00; 9 x 4" lathe, $24.00; 9 x 4 1/2" lathe, $25.00; 9 x 5 1/2" lathe, $26.00; 9 x 7 1/2" lathe, $27.00. Prices of oil pan equipment for other lathes, oil pump, piping, etc. quoted on request.

*For additional prices of other motors see page 22.
Accuracy of 1937 Model 9-inch "Workshop" Lathe
Each Lathe Carefully Tested

Precision Accuracy is built into every 1937 Model 9-inch "Workshop" Lathe. From the planning of the lathe bed to the final testing of the finished lathe, the highest standards of inspection are maintained. All V-ways and dovetails are carefully hand scraped and all units are aligned to the most exacting specifications.

Sixty-four major accuracy tests made on each lathe during the process of manufacturing assure interchangeability of parts and precision accuracy in the finished product. The 1937 Model "Workshop" Lathe is substantially constructed so that it will retain this accuracy through years of service.

Alignment of Spindle with the lathe bed is tested with a dial indicator and test bar as shown in Fig. 15 at right. The run-out at the outer end of the test bar, which is six inches long, must be less than .001" and the alignment with the lathe bed in both the vertical and horizontal plane must be within .001". This is only one of many rigid tests.

Fig. 13. Testing Alignment of Headstock Spindle with Lathe Bed.
Fig. 14. Testing Alignment of Tailstock Spindle with Headstock Spindle.
Fig. 15. Testing Alignment of Headstock Spindle with V-ways of Lathe Bed.

Cutting Screw Threads on 1937 Model Workshop Lathe
Cuts 4 to 40 Threads Per Inch—R. H. or L. H.

Standard Screw Threads, from 4 to 40 per inch, right or left-hand, including 11½ and 2½ pipe thread, as listed on the screw thread cutting chart at the left, can be cut on the 9-inch "Workshop" Lathe.

Fine Screw Threads 44 to 80 per inch can be cut with fine screw thread cutting attachment described and priced on page 19.

Special Threads can be cut by using special change gears which can be supplied at extra cost. Prices on application.

Metric Screw Threads .3 mm. to 7.5 mm. pitch can be cut with the metric transposing attachment described and priced on page 19.

Automatic Longitudinal Feeds .002", .0056", .0072", and .008" per revolution of spindle can be obtained with the change gears supplied with the lathe.

Fig. 16. Thread Cutting Chart attached to 9-inch "Workshop" Lathe.
Fig. 17. Sample threaded piece showing various types of threads cut on a 9-inch "Workshop" Lathe.
Fig. 18. Change Gear Equipment Supplied with 9-inch "Workshop" Lathe.

Power and Capacity of 1937 Model 9-inch "Workshop" Lathes

Fig. 19. Reducing the Diameter of a Steel Shaft more than ¾-inch in one cut on a 9-inch "Workshop" Lathe.
Fig. 20. Capacity of 9-inch "Workshop" Lathe for Chuck or Face Plate work is 9½" in diameter as shown.
Fig. 21. 9" x 3' "Workshop" Lathe takes work 5½ inches in diameter and 17 inches long over the tool carriage.

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Back-Geared Headstock

Has Ball Thrust Bearing

The Back-Geared Headstock used on the 1937 Model 9-inch "Workshop" Lathe, has many new features and improvements, a few of which are pointed out in Figure 22 and listed below.

Headstock is reinforced and webbed giving it strength and rigidity. The base is hand-scraped and accurately aligned with the inside V-way and flat-way on the lathe bed.

Improved Features

1. Reverse lever for screw threads and feeds.
2. Large spindle bearings, adjustable for wear.
3. Ball thrust bearing for headstock spindle.
4. Accurate cut gearing for screw threads and longitudinal power feeds to carriage.
5. Take-up nut for eliminating end play of headstock spindle.
6. Felt wick oiling system for spindle bearings.
7. Smooth running machine-cut back gears.
8. Back-gear ratio, 5 to 1, provides ample power for heavy cuts.
9. Cone pulley for 1" belt, machined and balanced for smooth operation.
10. Quick acting wrenchless bull gear lock.
11. Headstock spindle of special alloy spindle steel accurately threaded for face plates.
12. Hardened spindle instead of regular headstock spindle $6.00 extra.

Hollow Headstock Spindle

Headstock Spindle for 1937 Model 9-inch "Workshop" Lathe is machined from a solid bar of alloy spindle steel and has a 3/8" hole bored its entire length. Rear spindle bearing is 13/8" x 13/8", front bearing 13/8" x 21/4". Spindle has No. 3 Morse taper with sleeve which takes No. 2 Morse taper center. Bearing surfaces are accurately ground and tested.

Hardened Headstock Spindle is an optional feature on the "Workshop" Lathe. Unsurpassed for long life and precision service. Recommended for lathes to be operated at high speed or on heavy production. Price of hardened spindle instead of regular spindle $6.00 extra.

Improved Carriage

Carriage is of standard engine lathe design assuring permanent accuracy and rigid support for the lathe tool. The saddle has unusually long bearings (over 91/2") hand-scraped to the front and rear V-ways of the lathe bed. Carriage lock is provided for facing and cutting-off.

Compound Rest is constructed entirely of best quality steel and iron—no die castings. Tool post is of drop forged steel, heat treated and hardened. Swivel is graduated 180 degrees and can be locked at any angle. Dovetails are carefully hand-scraped and lapped and have adjustable gibbs. Cross feed and compound rest screws have adjustable micrometer collars.
Lathe Bed is Heavily Constructed
Large V-ways Assure Permanent Accuracy

The Bed of the 1937 Model 9-inch "Workshop" Lathe has three large V-ways and one flat-way which align the headstock, tailstock and carriage and assure permanent accuracy of the lathe. The carriage slides on the two outside V-ways and the headstock and tailstock are aligned by the inside V-way and flat-way.

V-ways and flat-way of the bed are carefully machined and hand-scraped. All bearing surfaces must be straight and parallel within .001" the entire length of the bed and must show a good even bearing.

The metal used for the lathe bed is a special mixture, 50% steel and 50% gray-iron, which produces a hard, close grained casting having long wearing qualities. Heavy box braces are cast in at short intervals the entire length to reinforce the substantial one-piece casting.

Substantial Apron Design
Large Half-nuts Steel Rack Pinion

Apron of the 9-inch "Workshop" Lathe is convenient, easy to operate, strong and powerful. The illustration shows an interior view of the apron, with a section of the lead screw, the opened half-nuts and the steel rack pinion which reduction gearing used for operating carriage by hand. An improved oiling system lubricates the half-nuts, the threads of the lead screw and the apron gearing.

Half-Nuts are operated by a cam lever to engage with the lead screw for cutting screw threads and for power longitudinal carriage feeds. They have a long bearing on the lead screw and both halves are threaded.

Large Hand Wheel on the front of the apron is used for operating the carriage by hand. Reduction gearing connects hand wheel with a steel pinion which meshes with the rack on the lathe bed permitting movement of the carriage the full length of the lathe bed.

Precision Lead Screw

Precision Lead Screw used on the 9-inch "Workshop" Lathe is 3/4 inch in diameter and has 8 threads per inch, Acme Standard. The lead screws are cut on a special machine equipped with a precision master screw and may be used for the most accurate threading jobs. The threads are tested for accuracy of lead, form and pitch diameter.

New Design Tailstock

Tailstock of the 1937 Model 9-inch "Workshop" Lathe is a new and improved design with long accurately hand-scraped bearing on the lathe bed. Features include 3/4" set-over for taper turning, improved spindle lock, No. 2 Morse taper hardened tool steel self-ejecting center, alloy steel spindle ground to fit tailstock barrel, spindle travel 2", cut-away design of tailstock top permitting compound rest to swivel parallel with lathe bed over tailstock base. Witness mark is conveniently located on right end of tailstock for measuring set-over for taper turning.

Graduated Tailstock Spindle

Tailstock Spindle Graduated in sixteenths of an inch, can be furnished at extra cost, if desired. The graduated spindle is convenient for measuring depth of hole when drilling with drill chuck held in tailstock. Price extra for Graduated Tailstock Spindle when ordered with lathe $1.50
Features of The 1937 Model 9

This is an enlarged illustration of the 1937 Model 9-inch "Workshop" South Bend Lathe shown on pages 2 and 3. This Lathe is identical with all lathes shown in this catalog with exception of the type of drive. The features of the lathe shown above will be found on all 1937 Model "Workshop" South Bend Lathes. No die cast parts used.
Nine "Workshop" Precision Lathe

The illustration shows the 9-inch "Workshop" Lathe with 3-foot bed and adjustable Horizontal Motor Drive—the most popular size and type for general work. The "Workshop" Lathe is also made with $3\frac{1}{2}$ foot, 4 foot and $4\frac{1}{2}$ foot bed and with several other types of drive which are illustrated and priced on the preceding pages.
Industrial Applications of the "Workshop" Lathe

Popular for Tool Room and Production Work

The precision accuracy, convenience and ease of operation of the South Bend 9" "Workshop" Lathe have made it one of the most popular small lathes for use in manufacturing plants on both tool room and production work.

The "Workshop" lathe can be equipped with a number of practical attachments for manufacturing and tool room operations, including hand lever bed turret, hand lever and hand wheel type draw-in collet chuck attachments, double tool rest, taper attachment, milling and keyway cutting attachment, etc.

Bulletin No. 71, "Interesting Installations of South Bend Lathes," illustrates a number of interesting installations of South Bend Lathes. A copy of this 24 page 6"x9" booklet will be mailed, postpaid, no charge, on request.

Auto Servicing With the "Workshop" Lathe

Does Six Major Auto Service Jobs

The "Workshop" Lathe with a few attachments can be used for truing and undercutting armature commutators, refacing valves, boring rebabbitting connecting rods, finishing semi-machined pistons, making bushings, cutting screw threads and many other classes of repair and maintenance work on automobiles, buses, and trucks.

The cost of the lathe and attachments for auto service work is less than one-half of the cost of single purpose machines for doing the same work, and the floor space required is also less.

A series of bulletins outlining the use of the lathe on various classes of automotive work are illustrated at the right and described on the back page of this catalog. Every auto mechanic should have a full set of these booklets.

AUTOMOTIVE ATTACHMENT BULLETIN No. 12—A 12-page bulletin, 8½"x11", showing and pricing attachments, chucks, tools and accessories for servicing armatures, valves, pistons, bushings, brake drums and wheels. Mailed, post paid on request.
The Homeshop and the "Workshop" Lathe

For Hobby-Invention Development-Research

The 9" "Workshop" South Bend Lathe is the ideal tool for the home shop, the laboratory, and any shop desiring an accurate, sturdy, modern back-gearied screw cutting precision lathe.

A metal working lathe is the first power driven tool selected by many home shop owners, because with the lathe they are in position to make in their own shop other tools and fixtures needed.

The "Workshop" Lathe can be used for turning, boring, facing, drilling, cutting right and left hand screw threads and other operations on steel, cast iron, brass, aluminum, bronze, wood, fibre, bakelite, cast resin plastics, etc.

Write for Handbook No. 11-W, "The Home Workshop", in which you will find many valuable reference charts and tables, lathe hints and other helpful information. Free postpaid.

Fig. 41. Ivar Nordstrom, well known model maker, in his home shop.

Fig. 42. J.W. Neptune, Akron, Ohio.

Fig. 43. James Beard, Mishawaka, Ind.

Fig. 44. Holt Condon, Pasadena, Cal.

School Shop Installations of the "Workshop" Lathe

The Most Important Machine Tool

The lathe is the oldest and most important machine tool in industry, and for this reason is the most important tool in school shops.

The "Workshop" lathe is small in size and easy to operate, which makes it especially suitable for use in Junior High School shops. However, it is a real back-gearied screw cutting lathe and is just as satisfactory for teaching machine shop practice as a large floor leg machine.

Many interesting installations of South Bend Lathes are shown in Booklet No. 57, "The School Shop", and Booklet No. 55-W, "Modern School Shops". These books will be mailed postpaid no charge on request to any machine shop instructor, supervisor or superintendent.

Fig. 45. Five "Workshop" Lathes in the Great Falls, Montana, school shop.

Fig. 46. Industrial Apprentice Shop Equipped with Bench Lathes.

Fig. 47. Lane Technical School, Chicago, Illinois, where 92 South Bend Lathes are used.

Fig. 48. Allentown Junior High Shop, Allentown, Pa.
Attachments for 1937 "Workshop" Lathe

More than 38 practical attachments may be fitted to the 1937 Model 9-inch "Workshop" Lathe for handling special classes of work. With these accessories the lathe is ideal for special machine operations of all kinds in the manufacturing plant, tool room, machine shop, garage, etc. These attachments may be used with any 9-inch "Workshop" Lathe and most of them may be ordered with the lathe or at any time later.

Hand Wheel Type Draw-in Collet Chuck Attachment

The Draw-in Collet Chuck is the most accurate type of chuck made. It has draw-bar of the attachment is hollow which permits bars and rods from 1/64" in diameter up to and including 1/4" in diameter to be passed through the spindle of the lathe and held in the collet for machining. The work is gripped in the collet by turning the hand wheel to the right and released by turning it to the left. The lathe spindle must be stopped in order to open or close the collet.

Equipped includes hand wheel and hollow draw-bar; spindle nose cap and spanner wrench; tapered closing sleeve made of tool steel hardened, tempered and ground; and one split collet for round work. When ordering specify hole size of collet wanted.

Cat. No. 4306-W. Code Word "Acrut". Shipping weight 4 lbs. Price $25.00

Split Collets for Round Work

Fig. 55. Hand Wheel Draw-in Collet Chuck Attachment.

Fig. 56. Split Collet for Round Work.

Collets are made of tool steel hardened and tempered. Both inside and outside surfaces are ground to insure accuracy. The left end of collet is threaded for the hollow draw-bar. The other end of collet is tapered to conform with taper of closing sleeve.

Prices of Collets for square and hexagonal work and with special hole sizes on request. No. 6091. Special collet with 5/8" hole in front and for jewelers Plunger Blanks. Code. Hoesl $8.00

Range of Collet Sizes

Collet can be supplied with standard hole sizes up to and including 1/8 inch in diameter in steps of .040" of an inch. A standard size collet will hold only work that is within .001" of size specified. A separate collet must be used for each diameter.

Collets for Round Work

Cat. No. 606-W. Collets, 3/8" up to 7/8" cap. "Cetron". Wt. 6 oz. Each. $4.00
Cat. No. 131-W. Collets smaller than 3/8" cap. "Pytag". Wt. 6 oz. Each. $5.00

Metric Collets

Cat. No. 1156-W. Collets, 1.5 mm. up to 12.7 mm. capacity. "Ganymede". Wt. 6 oz. Each. $5.00
Cat. No. 149-W. Collets smaller than 1.5 mm. capacity. "Nyhot". Wt. 6 oz. Each. $6.00

Hand Lever Type Draw-in Collet Chuck Attachment

This attachment is recommended for rapid production work on small parts. Permits releasing and feeding bar stock through the collet without stopping lathe. Collet can be adjusted to any desired tension. Capacity 1/64" to 1/4". Takes collets listed above.

Cat. No. 5206-W. Code Word, "Albatr". Shipping Wt., 10 lbs. Price with one collet $85.00
Manufacturing Attachments for "Workshop" Lathes

**Hand Lever Collet Chuck**
Collet may be tightened or released without stopping lathe spindle. Maximum collet size is 5/4". Price includes one collet, extra collets 44.00 each. See page 16.
Cat. No. 8206-W, "Abat", Wt. 10 lbs...$85.00

**Hand Lever Bed Turret**
Hexagon turret head has six holes 5/4" diam. Indexes automatically on each backward movement of the lever. Has adjustable stops for each turret face.
Cat. No. 1809-W, Fitted and bored "Jarvis"$350.00

**Lathe Equipped for Manufacturing**
The illustration above shows the lathe equipped for making small duplicate parts. The lathe is fitted with Hand Lever Draw-in Collet Chuck, Hand Lever Double Tool Slide, and Hand Lever Tailstock.

**Hand Lever Tailstock**
A practical attachment for quantity drilling, reaming, tapping, and counterboring operations.
Cat. No. 518, Hand Lever Tailstock, when ordered with lathe, in lieu of Regular Tailstock "Jivett"...$350.00

**Gear Cutting Attachment**
Has index head for 2 to 360 divisions. Cuts spur and bevel gears up to 4/1" in diameter. Also for graduating, milling, cutting keyways and splines, etc.
Cat. No. 270-W, "Hapno", Fitted...$225.00

**Lever Double Tool Slide**
Has adjustable stops. Price includes one tool post, completes but no tool holder.
Cat. No. 735, Double Tool Slide "Abat"...$60.00
Cat. No. 958, Double Tool Slide (operated by feed screw) "Bemor"...$40.00

**Thread Dial Indicator**
When cutting screw threads this attachment permits reversing carriage by hand to the starting point of each cut. A graduated dial shows when to clamp half-nuts on lead screw for the next cut.

**Plain Carriage Stop**
A practical and inexpensive stop for general facing, turning, boring, etc. Can be used on either side of carriage at any point along the lathe bed. Has clamp with collar screw for locking to lathe bed.
Cat. No. 758-W, Code Word "Abatco," Shipping wt. 1/2 lbs. Price each $3.00

**Micrometer Carriage Stop**
A precision stop with micrometer adjustment for accurate facing, turning, boring, etc. Does not stop carriage automatically. Has hardened stop which maybe locked for doing duplicate work.

**Graduated Taper Attachment**
The graduated taper attachment is used for turning and boring all classes of taper work, and is practical for the rapid and accurate production of duplicate tapered parts and pieces. The attachment is bolted to the lathe carriage and can be used at any position along the bed. Does not interfere with straight turning. Attachment should be fitted to lathe at factory.
The swivel bar which controls the taper is graduated and can be set for cutting any taper up to 3" per foot and up to 7" in length at one setting; maximum taper in degrees, 14° in each direction.
Cat. No. 428-W, Code, "TAPCO", Wt. 35 lbs.$55.00

**Turning a Taper on a Shaft Using the Graduated Taper Attachment**
Attachments and Accessories for “Workshop” Lathes

Milling Attachment

This attachment is practical for the small shop handling such work as cutting keyways, squaring ends of shafts, milling dovetails, etc. Attachment fits on the compound rest base of the lathe and swivels both horizontally and vertically over an arc of 180°. Capacity of vice is 1 3/4". Vertical feed is 2 3/16", the vertical adjusting screw has a micrometer graduated collar. Cross feed is 5/16" and is operated by hand. Longitudinal feed can be operated by hand or by automatic feed to carriage. Jaw size 1 1/2 x 3/8".

Equipment includes: Milling attachment, two V-blocks, wrench for feed screw and wrench.
Cat. No. 9-W. “Vabif.” Ship. Wt. 13 lbs. $35.00

Milling and Boring Table

The Milling and Boring Table shown in Fig. 72 is practical for right milling, boring, keyway cutting, etc. The table swivels on a post attached to compound rest base and is adjustable for height. Has 5 T-slots for clamping work.
T-slots take 1/4" bolts. Table size 5 1/2" x 7 1/4". Maximum distance from table top to center line of lathe 1 1/4". Clamps and bolts not furnished.
Cat. No. 804. Code “Yasan.” Ship. Wt. 9 lbs. $12.50

High Speed Pulleys and Wood Turning Accessories

Two-Step Pulleys for Countershaft and Motor

Twelve spindle speeds ranging from 40 to 1200 R.P.M. can be obtained by using the 2-step pulleys illustrated at left on the motor and countershaft of Motor Drive “Workshop” Lathes.

The “Workshop” Lathe equipped with these pulleys has the high spindle speeds practical for machining aluminum, brass, cast iron, plastics, wood turning, etc. The standard spindle speeds are also available. The carriage with power feeds, graduated compound rest, and tool post make the “Workshop” Lathe especially suited for pattern making and exacting wood working jobs.

Since high spindle speeds require more power than normal speeds, a 1/2 H.P. motor should not be used with the double pulleys. For high speed work a 1/2 H.P. motor (condenser type or instant reversing type) should be used. A 1/2 H.P. motor (condenser type or instant reversing type) is preferable if lathes is to be used exclusively for high speed work. See page 22 for motor prices.

Two-Step Pulleys for Countershaft and Motor

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<th>Description</th>
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<th>When Ordered as Separate Equipment</th>
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<td>Pulley for Countershaft</td>
<td>12</td>
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<td>Pulley for Motor</td>
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Fig. 71. Milling a Keyway in a Shaft

Fig. 72. Milling and Boring Table used to Square End of Shaft

Hand Rest for Wood Turning

The hand rest for wood turning shown at the left consists of a knee and two T-rects 4" and 12" long. Made of cast iron. Fits on compound rest of lathe.
No. 806-W, Code, “Adowa”. $5.00 (Shipping weight 6 lbs.)

Fig. 74

Screw Center
No. 721-W, “Kalaft” $2.50 (Ship. wt. 1/2 lb.)

Cup Center
No. 733-W, “Jalak” $2.00 (Ship. wt. 1 oz.)

Spur Center
No. 732-W, “Kedol” $2.75 (Ship. weight 15 oz.)

Fig. 75. 9-inch “Workshop” Lathe with Double Pulleys for Wide Range of Spindle Speeds

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Electric Grinder for Lathe

The Electric Grinder is a valuable addition to the lathe in any shop that is not equipped with a modern tool room grinder. The grinder fits on the compound rest, operates from a lamp socket and is practical for grinding reamers, lathe centers, milling cutters, taps, dies, valves, pistons, bushings, hardened and tempered tools, parts, etc., but is not intended for grinding lathe tool bits, drills, etc. Will grind work 3 1/2" in diameter.

Price includes 1 ½ H.P. Motor, 1725 R.P.M. (1-phase, 60 cycles, 110 volt, A.C.) V-belt, belt guard, and 4" x 1 1/2" Aluminum grinding wheel (grain 46-N, grade 5-B), extension cord, switch and clamp for mounting. When ordering specify voltage and current required.

Cat. No. 85-W. Code "RB80". Ship. wt. 55 lbs. $45.00

If D.C. Motor is wanted, add $1.00 to price above. For 3-phase Motor add $16.00

Valve Repacing—The 9-inch "Workshop" lathe fitted with the above electric grinder and equipment, together with the No. 907-W Headstock Spindle Check shown on page 20 is the ideal equipment for repacing valves of all kinds.

Fine Thread Cutting Attachment

For Threads 44 to 80 Per Inch and for Fine Feeds

The Fine Thread Cutting Attachment permits the cutting of fine pitch screw threads from 44 to 80 per inch as shown on the chart, on extra fine turning feeds .0014" to .003" per revolution of spindle. For extra fine screw threads and fine feeds we can supply the necessary change gears at extra cost.

Equipment includes a double arm bracket, one 1 to 2 compound gear (36 teeth—72 pitches) one 80-tooth intermediate gear, thread chart, bushings, bolts, nuts.

Cat. No. 1565-W. Attachment when ordered with lathe and fitted to lathe at factory. "Bexco" $80.00

Cat. No. 1678-W. Attachment when ordered after lathe is shipped and fitted to lathe by customer, "Atary" Ship. wt. 6 lbs. $10.00

(Note: When the Fine Thread Cutting Attachment or the Metric Transposing Gear Attachment is ordered with the lathe a double arm bracket is supplied and the single arm gear bracket regularly furnished with lathe is omitted as it is not required.

Center Rest

Used to support long shafts, tubing, etc., up to 3" diameter for turning, boring, threading, drilling, etc.

Cat. No. 125-W. Code Word, "Cegco," Wt. 19 lbs. $48.00

*Price when ordered for Raising Block Lathe Cat. No. 90W. "Clara" $30.00

Follower Rest

The Follower Rest is used when machining long slender work up to 3/4" diameter. It fastens to the saddle and travels with the cutting tool. Should be fitted to lathe at factory.

Cat. No. 34-W. Code Word, "Cegco," Wt. 4 lbs. $4.00

*Price when ordered for Raising Block Lathe, Cat. No. 935W. "Bekar" $6.00

Adjustable Thread Cutting Stop

Used when cutting screw threads for regulating depth of each chip that is cut. The attachment fits on the cross slide dovetail of the lathe. Can be adjusted and locked at any point on cross slide. See application below.

Cat. No. 67-W. Code Word, "Cegco," Wt. 8 oz. $2.50

Large Face Plate

The Large Face Plate is 7 3/4" in diameter and is accurately thread ed to fit the spindle nose of the lathe. It is equipped with six slots for clamping work. See view below.

Cat. No. 40-W. Code Word, "Celach," Weight, 9 lbs. $6.00
Lathe Chucks and Drill Chucks for "Workshop" Lathes

**4-Jaw Independent Lathe Chuck**

**Medium Duty**
A good, substantial, accurate chuck for machining metals of all kinds. Has four reversible independent jaws with individual screw adjustment for chucking round or irregular work in a concentric or eccentric position. Width of jaws, 1/8". Hole through chuck, 1/8" in. diam. Body is a gourd-encased steel casting. Face is accurately ground. Screws are hardened alloy steel.

Price and Weight include: Wrench and chuck plate threaded to fit lathe spindle and fitted to chuck.

Cat. No. 4006, Chuck, 4-in. Capacity. (Fitted to lathe.) Shipping weight 12 lbs. Code Word, "Fabew"...

$25.00

The Medium Duty Chucks shown above are of good quality, recommended for chucking all classes of small metal work requiring accurate machining.

**3-Jaw Universal Lathe Chuck**

**Medium Duty**
A good, substantial, accurate chuck for machining metals of all kinds. Chuck is self-centering and holds round or hexagonal work. Has two sets of jaws, one set for outside chucking, the other for inside chucking. Width of jaws, 1/8". Hole through chuck, 1/8" in. diam. chuck on the body is a ground semi-steel casting. The screw is of high carbon hardened alloy steel.

Price and Weight include: Wrench and chuck plate threaded to fit lathe headstock spindle nose and fitted to chuck and two sets of jaws.

Cat. No. 3006, Chuck, 5-in. Capacity. (Fitted to lathe.) Shipping weight 12 lbs. Code Word, "Fapel"...

$28.00

**4-Jaw Independent Lathe Chuck**

**Light Duty**
A low priced, light duty chuck. Width of jaws, 1/8". Hole through chuck, 1/8" in. diam. Has four reversible jaws, wrench and chuck plate threaded to fit lathe spindle and fitted to chuck.

Cat. No. 4706, Chuck, 6-in. Capacity. (Fitted to lathe.) Code Word, "Feted". Shipping weight 10 lbs...

$15.00

The Light Duty Chucks shown above are both low priced chucks and are usually selected by those who have very little metal chucking work to do. They are more satisfactory for home shop work.

**Threaded Chuck Plates**

For Mounting Additional Chucks on Lathe Spindle

4 Jaw Independent Lathe Chuck fitted with chuck back ready for use on lathe.

**3-Jaw Drill Chuck**

A practical, powerful and accurate drill chuck. Jaws are reversed steel. Prices and weights include pinion key, but not arbiter.

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**3-Jaw Drill Chuck**

An accurate chuck for general drilling in the lathe. Jaws are of tempered steel. Prices and weights include pinion key but not arbiter.

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<td>&quot;Romil&quot;</td>
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**Armature Support Chuck**

Armature Support Chuck is used in the tailstock spindle of the lathe in support and center end of armatures shaft. The Chuck takes shafts from 1/2" to 3/4" in diameter. Has three brass jaws in which the armature shaft revolves. Jaws close simultaneously and may be locked in position.

Cat. No. 340, Armature Support Chuck with Arbor, "Adang"...

$9.00

**Solid Arbor for Drill Chucks**

The arbor is used for fitting three-jaw drill chucks shown at left, to the lathe spindle. When information on the size and make of drill chuck is not given a semi-finished arbor which is fitted to the lathe spindle but not to drill chuck is supplied.


$1.00

**No. 105-WT Chuck and Tool Assortment $39.25**

We recommend the chucks and tools shown in the assortment at left and listed below for use on the "Workshop" Lathe. This is the basic equipment required in the average shop for handling general machine jobs, such as turning, boring, drilling, cutting-off, chucking, etc.

Cat. No. 105-WT, Chuck and Tool Assortment...

$39.25

- **No. 4006, 4-Jaw Independent Lathe Chuck (Medium Duty).**
  - Fitted to Lathe Ready for Use...
  - $23.00

- **No. 220, 5/8-Inch 3-Jaw Drill Chuck.**
  - $2.50

- **No. 209-W, Solid Arbor Fitted to above Drill Chuck.**
  - $1.00

- **No. 847-S, Straight Shank Tool Holder with 3-Min."**
  - $1.25

- **No. 291, Six 1/2-Inch High Speed Steel Cutter Bats, Ground.**
  - $1.65

- **No. 305-F, Boring Tool Holder, Style "D," with 1/2-Inch Boring Bar.**
  - $3.00

- **No. 833-R, Cutting-off Tool Holder, Right Hand, with Ground Cutter.**
  - $1.00

- **No. 178, 4 Standard Malleable Lathe Dags, 1/4", 5/16", 1/4", 5/16" Cap.**
  - $2.60

- **No. 105-WT, Chuck and Tool Assortment. Code: "Dekem," Ship. Wt. 17 lbs.**
  - $39.75

Fig. 92, No. 105-WT Chuck and Tool Assortment for 9-Inch "Workshop" South Bend Lathes.
**Tool Holders, Cutter Bits and Accessories**

### Lathe Tool Holders

**Straight Tool Holder**

Right Hand Tool Holder

Left Hand Tool Holder

### Tool Holders—Forged Steel

Drop forged steel, heat-treated and hardened lathe tool holders. Supplied in three styles: straight, right-hand, and left-hand as illustrated above. Shank is 3/8" x 3/4" and takes 9/16" square cutter bit. Price includes wrench and one high-speed steel cutter bit, hardened but not ground. Shipping weight 1 lb.

- **Cat. No. 847-S. Straight Tool Holder “Acump”** $1.25
- **Cat. No. 847-R. Right-Hand Tool Holder “Acuml”** $1.25
- **Cat. No. 847-L. Left-Hand Tool Holder “Acvel”** $1.25

### Ground High Speed Steel Cutter Bits

Made of good quality high-speed steel, (Rex AA, Red Cut Superior, or equal) heat treated, hardened and ground to the forms shown and are ready to use. Size 1/2" x 3/4" for use with tool holders listed above. When ordering ground cutter bits, specify Catalog number and letter designating form wanted.

- **Cat. No. Index:**
  - 364-A: 1/2" x 1/4" Bore $0.50
  - 364-B: 1/2" x 5/8" Bore $0.75
  - 364-C: 1/2" x 1" Bore $0.90
  - 364-D: 1/2" x 1 1/4" Bore $1.00

### Extra Boring Bars

For use with style D and C boring tools listed on this page. High-speed steel tip welded on to carbon steel shank.

- **Cat. No. Index:**
  - 364-F: 1/4" x 5/8" Bore $0.50
  - 364-G: 5/8" x 1 1/4" Bore $0.60
  - 364-H: 1" x 1 1/4" Bore $0.65
  - 364-I: 1 1/4" x 1 1/2" Bore $0.75

### Standard Lathe Dog

Made of heavy malleable iron, designed for strength and service. Ship wt. 1 lb.

- **Cat. No. Index:**
  - 207-A: 1/2" Cam $0.45
  - 207-B: 3/4" Cam $0.60
  - 207-C: 1" Cam $0.75
  - 207-D: 1 1/2" Cam $0.85

### Head Spindle Center

Made of tool steel, ground. Ship wt. 0.5 oz.

- **Cat. No. Index:**
  - 702-W: "Adgap" $2.00

### Tail Spindle Center

Made of tool steel, hardened and ground. Ship wt. 0.5 oz.

- **Cat. No. Index:**
  - 702-W: "Cenre" $2.25

### Morse Taper Sleeve

No. 2 Morse Taper Sleeve, 1 Morse Taper Bore. No. 118-A: "Corse" 6" .75

### Center Drill and Countersink

Made of carbon tool steel, hardened and ground. No. 808-A.1/16" dia. Code "Xniji" Ship wt. 0.30

- **Cat. No. Index:**
  - 808-B: 3/32" dia. Code "Xo" Ship wt. 0.36
  - 808-C: 1/8" dia. Code "Noxol" Ship wt. 0.49

### Drill Pad

Used in tail spindle. Supplied as shown below. shipment wt. 1/4 lb.

- **Cat. No. Index:**
  - 707-W: "Dennav" $2.00

### Lift Tool Bit Set

Set consists of tool holder (choice of straight, right-hand or left-hand) with one unground H.S. Steel Cutter Bit and a set of 6 H.S. Steel Cutter Bits ground to forms A to F as shown above. Ship wt. 1 1/2 lbs.

- **Cat. No. Index:**
  - 323-A: Code "Actit" Price per Set...$2.90

### Hand Forged Lathe Tool

These tools are properly forged to shape, tempered and ground and are ready for use. If ordering less than one complete set, be sure to state both Shape No. and Catalog No.

1. L. H. Side Tool
2. R. H. Side Tool
3. L. H. Bent Tool
4. R. H. Bent Tool
5. L. H. Diamond Point
6. R. H. Diamond Point
7. Round Nose Tool
8. Round Tool
9. Inside Tool
10. Roughing Tool
11. Carbide Tool
12. Countersink Tool

**Cat. No. Index:**

- No. 437-CW: Carbon Tool Steel Forged Lathe Tool. Price each..."Kaise"...$0.60
- No. 269-CW: Set of Twelve Forged Lathe Tools. Price per Set..."Kaise"...678
Prices of 9-inch "Workshop" motor drive lathes shown in this catalog include ½ h.p. start-stop reversing, split-phase motor 1275 R.P.M., for 1-phase 60 cycle, alternating current, 110 volt.

If lathes are wanted with motors of other specifications in lieu of motor regularly supplied with lathe, add to the price of the lathe the amount shown in the tabulation below. Motors which we supply are of Westinghouse, General Electric, or equal make.

½ H.P. or ¾ H.P. Motors (condenser type or instant reversing type) should be used for operating the "Workshop" lathe, (1) when greater power is required, (2) when countershaft and motor are fitted with 2-step drive pulleys (see page 18), for operating the lathe at high speeds. (3) when motor pulley larger than standard diameter is to be used for obtaining spindle speeds higher than standard.

¾ H.P. and 1 ½ H.P. Split Phase Start-Stop Reversing Motors for "Workshop" Lathes may be used in locations where "high starting amperage" motors are permitted by power companies, but should not be used when lathe is equipped for high speeds.

Condenser Type Start-Stop Reversing Motors for Single Phase A.C. are recommended for driving the 9-inch "Workshop" Lathe. The electric current consumed in starting the condenser type motor is lower than in starting the ordinary split-phase motor and the starting torque is higher. These features improve the efficiency of motor, resulting in better operation of lathe.

Instant Reversing Motors may be reversed instantly by throwing the reversing switch from forward to reverse. These motors are recommended for use with the 9-inch "Workshop" Lathe whenever a considerable amount of thread cutting is to be done on the lathe. The instant reversing motor is also preferable when heavy work is done continuously and when frequent starting and stopping of the lathe is required. This motor meets every requirement for starting torque, low power consumption, high efficiency and quiet operation.

Extra Charges for Special Motors with 9-inch "Workshop" Lathe in Lieu of Standard Motors
Add Amount Shown in Tabulation Below to Regular Price of Lathe to Obtain Price of Lathe with Special Motor
Equipment in lieu of Standard: ¾ H.P. Start-Stop Type Reversing 1 ph., 60 cy. 110 V. Motor.

Specifications of A. C. Motors

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>Speed of Motor</th>
<th>Voltage</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>½ H.P.</td>
<td>1425</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>220</td>
<td>60</td>
</tr>
<tr>
<td>1 ½ H.P.</td>
<td>1425</td>
<td>110</td>
<td>60</td>
</tr>
</tbody>
</table>

SINGLE PHASE A. C. MOTORS

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Price</th>
<th>Cat. No.</th>
<th>Price</th>
<th>Cat. No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>711-X</td>
<td>Add $1.50</td>
<td>714-X</td>
<td>Add $2.00</td>
<td>717-X</td>
<td>Add $3.50</td>
</tr>
<tr>
<td>1151-X</td>
<td>Add 7.00</td>
<td>1154-X</td>
<td>Add 10.00</td>
<td>1157-X</td>
<td>Add 15.00</td>
</tr>
<tr>
<td>1152-X</td>
<td>Add 7.00</td>
<td>1155-X</td>
<td>Add 10.00</td>
<td>1158-X</td>
<td>Add 15.00</td>
</tr>
</tbody>
</table>

Condenser Type Start-Stop Reversing Motor with No. 791 Drum Reversing Switch

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>Speed of Motor</th>
<th>Voltage</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>½ H.P.</td>
<td>1425</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>220</td>
<td>60</td>
</tr>
<tr>
<td>1 ½ H.P.</td>
<td>1425</td>
<td>110</td>
<td>60</td>
</tr>
</tbody>
</table>

Instant Reversing Induction Motor with No. 791 Drum Reversing Switch

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Price</th>
<th>Cat. No.</th>
<th>Price</th>
<th>Cat. No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>717-X</td>
<td>Add $15.00</td>
<td>718-X</td>
<td>Add $20.00</td>
<td>721-X</td>
<td>Add $25.00</td>
</tr>
<tr>
<td>1164-X</td>
<td>Add 15.00</td>
<td>1165-X</td>
<td>Add 18.00</td>
<td>1168-X</td>
<td>Add 20.00</td>
</tr>
<tr>
<td>1166-X</td>
<td>Add 15.00</td>
<td>1167-X</td>
<td>Add 18.00</td>
<td>1169-X</td>
<td>Add 20.00</td>
</tr>
</tbody>
</table>

Three Phase A. C. Motors

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>Speed of Motor</th>
<th>Voltage</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>115</td>
<td>60</td>
</tr>
<tr>
<td>½ H.P.</td>
<td>1425</td>
<td>115</td>
<td>60</td>
</tr>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>220</td>
<td>60</td>
</tr>
<tr>
<td>1 ½ H.P.</td>
<td>1425</td>
<td>115</td>
<td>60</td>
</tr>
</tbody>
</table>

D.C. Instant Reversing Motors With No. 791 Drum Rev. Switch

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>Speed of Motor</th>
<th>Voltage</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>115</td>
<td>60</td>
</tr>
<tr>
<td>½ H.P.</td>
<td>1425</td>
<td>115</td>
<td>60</td>
</tr>
<tr>
<td>¾ H.P.</td>
<td>1725</td>
<td>220</td>
<td>60</td>
</tr>
<tr>
<td>1 ½ H.P.</td>
<td>1425</td>
<td>115</td>
<td>60</td>
</tr>
</tbody>
</table>

No. 1618. Stand for mounting No. 791 Switch on bench top when used with 9-inch "Workshop" Underneath Belt Motor Drive Bench Lathes, $1.50.

Tool Grinder

(Electric)

A high grade bench grinder for grinding tool bits, drils, etc. Has ¾ H.P. 1725 R.P.M., 115 volt A.C. self starting motor, 4300 R.P.M.; 2 abrasive wheels, 6x1/2x1/2, 60 and 36 grit; 2 wheel guards; 2 rests; switch; 10-ft. cord and plug.

Cat. No. 1100. Cased "Lumina". Shipping Wt. 34 lbs. $24.00.

Blue Print Drawings of Benches

Supplied Free With Bench Lathes, On Request

Blue prints of detailed drawings showing all principal dimensions for building lathe benches will be supplied free with bench lathes, on request. These plans show both detail dimensions and assembly of bench. Blue prints are available for both frame and cabinet type benches and may be used for building benches of either hard pine or maple.

When requesting blue prints be sure to specify the type of bench for which you wish blue print drawings. Blue prints will be shipped with the lathe without obligation to you.

Fig. 96. Frame Bench with One Drawer

Fig. 97. Blue Print Drawings of Frame and Cabinet Type Benches. Size of Blue Prints, 12" x 18".