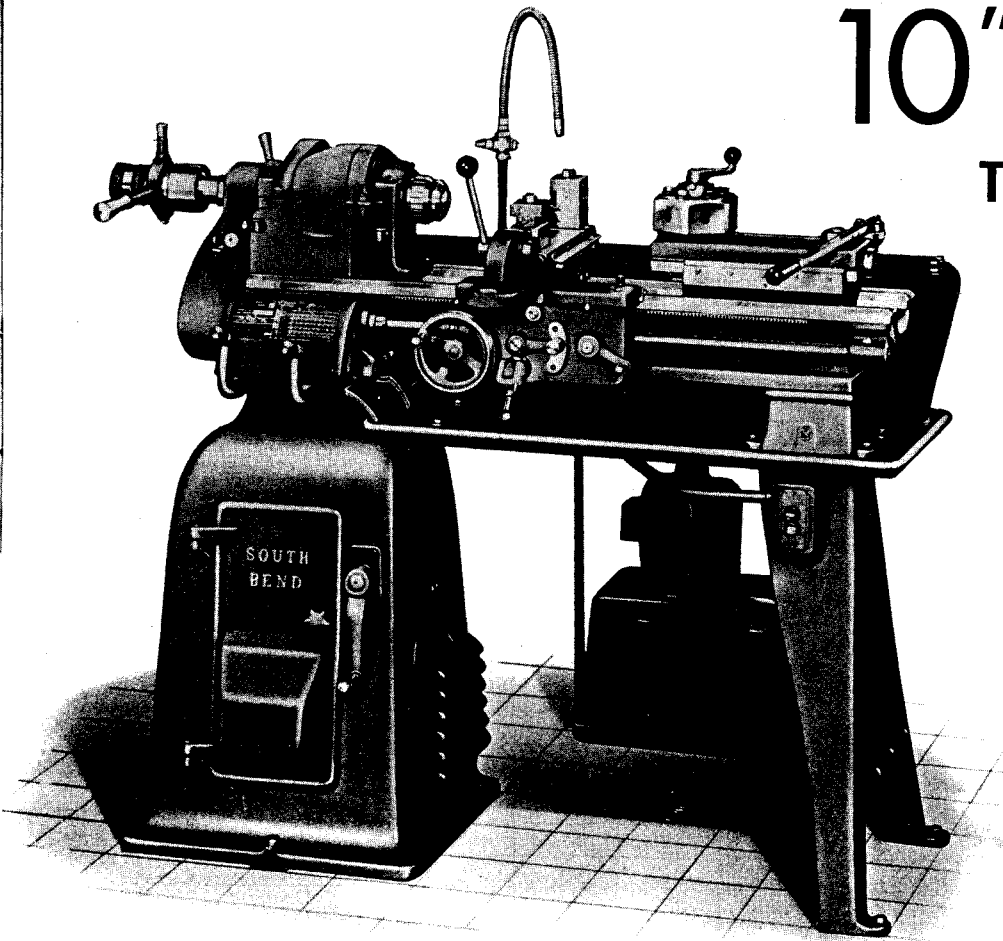


10" SOUTH BEND *Precision* TURRET LATHES



South Bend 10" Precision Turret Lathe with Floor Mounting.

The bed turret, double tool cross slide and other accessories supplied with this lathe are also sold separately and are listed in attachment section of catalog.

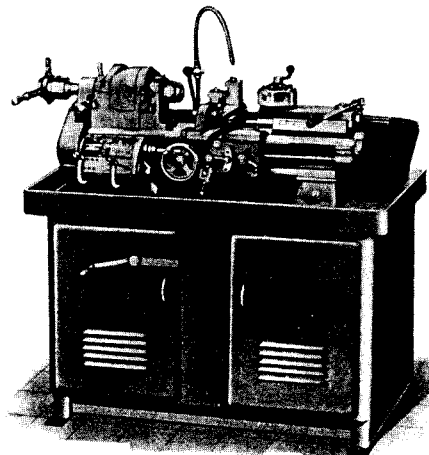
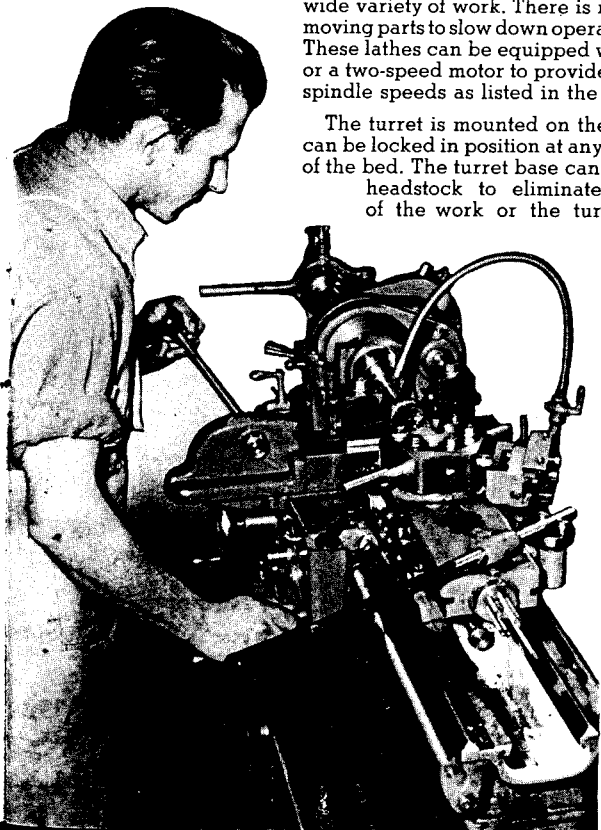
South Bend 10" Turret Lathes are made with 3 1/2' bed length and with either bench or floor mounting, as illustrated. They are precision tools capable of fast, efficient production and are easily adaptable to a wide variety of work. There is no excessive weight in moving parts to slow down operation and cause fatigue. These lathes can be equipped with a one-speed motor or a two-speed motor to provide twelve or twenty-four spindle speeds as listed in the specifications.

The turret is mounted on the inside bed ways and can be locked in position at any point along the length of the bed. The turret base can be placed close to the headstock to eliminate excessive overhang of the work or the turret tools. Turret head

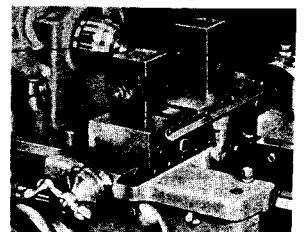
indexes automatically when the lever is moved to the extreme right, and has individual stops for each of the six turret faces. The turret head will index within plus or minus .0005", measured 4" from turret face and it may be back indexed or spun to skip tool positions. Turret ram slide can be locked for mounting work between centers if desired.

CATALOG NUMBER	TYPE OF MOUNTING	CUBIC FEET BOXED	BOXED WEIGHT POUNDS	CRATED WEIGHT POUNDS	PRICE F.O.B. FACTORY
CL1006Z	Floor	59	1350	1050	\$1748
CL1005Z	Bench	56	1250	950	1792

NOTE: Splash pan, tailstock, compound rest, centers, spindle sleeve, face plates, draw-in collet chuck attachment, lathe chuck, thread cutting stop, coolant equipment, and electrical equipment are not included in price of lathe. See attachment section of catalog for these accessories.



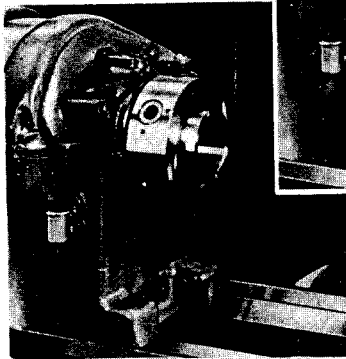
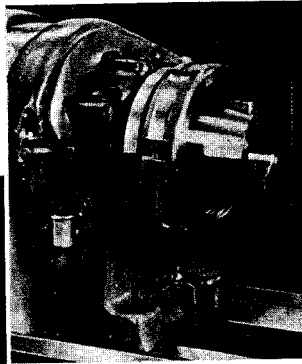
South Bend 10" Bench Turret Lathe.



Double Tool Slide with Screw Feed.

Cam Lock and Long Taper Key Drive Spindles

Right—Type L00 Long Taper Key Drive Spindle Nose.



Left—Type D1 Cam Lock Spindle Nose.

All South Bend Lathes, 10"-1½" Collet and larger, can be supplied with 4" Type D1 Cam Lock Spindles or Size L00 Type L Long Taper Key Drive Spindles, in lieu of the regular threaded spindles at extra cost. Price includes small face plate which is supplied with the lathe, but does not include large face plate, chucks, draw-in collet attachments, or other accessories. Spindle nose dimensions conform with ASA standards, but spindle bore and inside taper are larger to accommodate South Bend collet equipment, spindle sleeves, and centers. See attachment section of catalog for descriptions of chucks, collet equipment, and other accessories for these lathes.

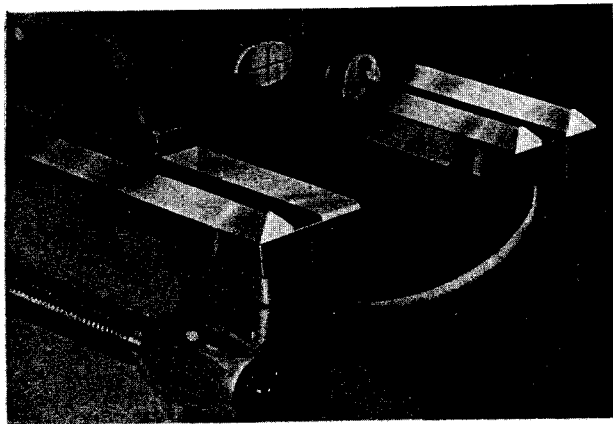
Size of Lathe	Size L00 Long Taper Key Drive Spindle Nose in Lieu of Regular Threaded Spindle Nose		4" Cam Lock Spindle Nose in Lieu of Regular Threaded Spindle Nose	
	Cat. No.	Price	Cat. No.	Price
10"	CA8050L	\$23.75	CB8050L	\$31.50
13"	CA8050T	33.50	CB8050T	33.50
14½"	CA8050F	41.00	CB8050F	41.00
16", 16-24", & 2-H	CA8050H	47.25	CB8050H	47.25

DISTANCES BETWEEN CENTERS FOR LATHES WITH 4" TYPE D1 CAM LOCK SPINDLES OR TYPE L00 LONG TAPER KEY DRIVE SPINDLES

Size of Lathes	Distance Between Centers										
	3' bed	3½' bed	4' bed	4½' bed	5' bed	6' bed	7' bed	8' bed	10' bed	12' bed	14' bed
10"	13"	19"	25"*	33"	...	...	...	...	...	...	...
13"	15"	...	27"	39"	51"	...	...	...	...
14½"	23"	35"	47"	59"	...	...	...
16"	32"	44"	56"	80"	104"	128"
16-24"	29"	41"	53"	77"	101"	125"

* 26" with Cam Lock Spindle.

Hardened and Ground Bed Ways



South Bend Lathes 10" and larger can be supplied with hardened and ground bed ways in lieu of regular bed ways at extra cost as listed in tabulation below. Heat-treating produces a hardness of 50-55 Rockwell C to a depth of 1/8" on the surface of all bed ways throughout the wearing area of the bed. After a period of seasoning, the bed ways are finished by precision grinding on equipment especially designed and built for the purpose.

Hardened bed ways resist wear and scoring. They are especially recommended for lathes that are to be used for machining rubber, plastics or other abrasive materials, also for machining tool steel or other materials which may produce sharp work-hardened chips.

Catalog Number	Size	Bed Length Feet	Price
CL4955Y	10"	3	\$157
CL4955Z	10"	3½	163
CL4955A	10"	4	168
CL4955R	10"	4½	173
CL4956A	13"	4	191
CL4956B	13"	5	204
CL4956C	13"	6	216
CL4956D	13"	7	229

Catalog Number	Size	Bed Length Feet	Price
CL4957B	14½"	5	\$218
CL4957C	14½"	6	232
CL4957D	14½"	7	246
CL4957E	14½"	8	258
CL4958C	16", 16-24" & 2-H	6	245
CL4958D	16", 16-24" & 2-H	7	260
CL4958E	16", 16-24"	8	276
CL4958G	16", 16-24"	10	307
CL4958H	16", 16-24"	12	337
CL4958K	16", 16-24"	14	407

COMPARE THESE FEATURES

- Overarm has large key with tapered gib and rack and pinion adjustment for positioning head in or out without disturbing angular alignment of head.
- "Lo-Loss" combination timing belt and V-belt drive to spindle transmits full h.p. efficiently at all speeds. Convenient belt tension release is provided for quick and easy speed changes.
- Quill is ground and accurately fitted to semi-steel head casting. Quill bearing in head is bored and honed to a perfect precision fit with quill. Quill has lever operated fast feed and hand-wheel operated slow feed as standard equipment. (Hydraulic power feed is available at extra cost.) Turnstile lever for rapid hand feed disengages when worm and worm gear fine feed is used.
- Spindle has dependable micrometer depth stop graduated in thousandths, and positive quill lock. Independent spindle lock is also provided.
- Spindle is made of hardened and ground alloy steel, has 1 1/4" ten-spline drive, takes No. 30 MM taper quick change individual holders.
- Spindle face has four 3/8"-16 bolt holes for mounting face milling cutters, etc.
- Large diameter easy reading micrometer collars for positioning table have nonflare satin finish surface with black graduations.
- Lever locks for table, knee and saddle are conveniently located on front of machine. Chip guard between dovetails protects cross-feed screw from damage.
- Adjustable stops in T-slot are provided for regulating length of table travel.
- Manual longitudinal and cross-feeds to table are standard equipment. Power longitudinal feeds available at extra cost.

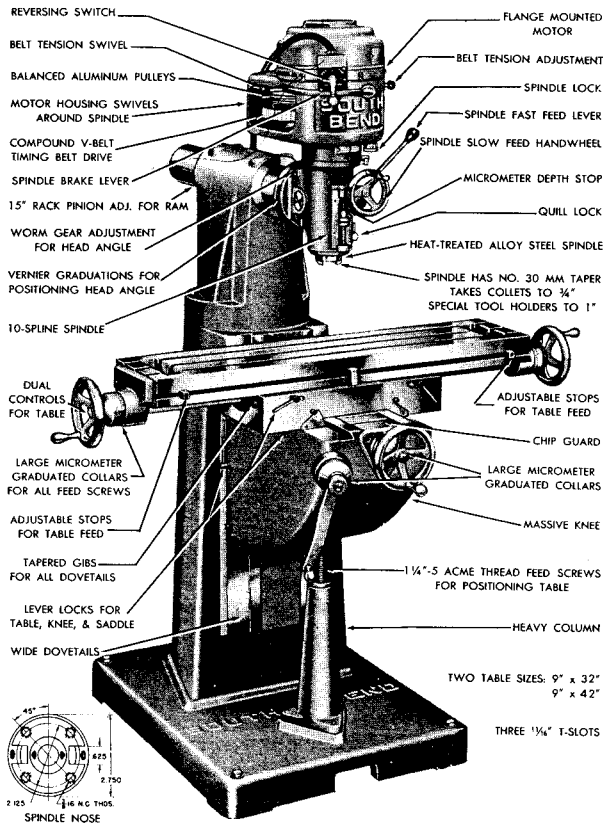
SPINDLE BRAKE

Spindle Brake is now standard equipment for South Bend Milling Machines. This feature can be added to older models if desired. Specify serial number of machine when ordering.

MIL7051. Spindle Brake for Milling Machines built before January 16, 1958. Shipping weight 6 lbs. Price f.o.b. factory \$15.50

METRIC GRADUATIONS

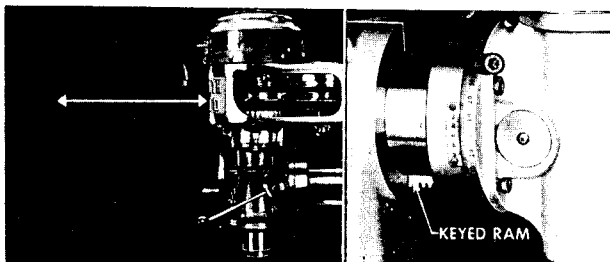
South Bend Milling Machines can be supplied with metric quill stop screw and depth scale, metric feed screws and metric graduated collars in lieu of English at no extra cost when metric equipment is specified at time machine is ordered.



SPECIFICATIONS

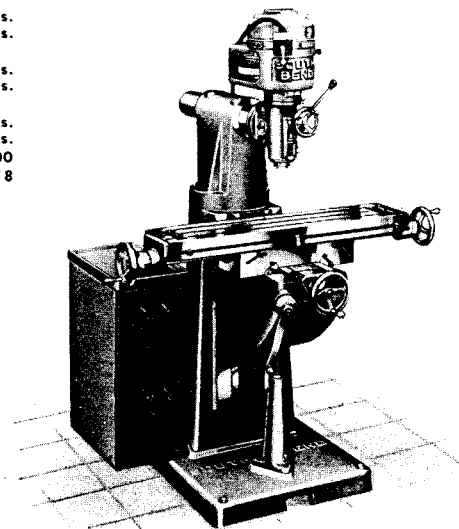
Table width	9"
Table lengths	32"-42"
Table travel, longitudinal	20"-30"
Table travel, cross	9 1/2"
Table travel, vertical	18"
Table feed screws, Acme thread	1 1/4"-5
Table to spindle, maximum	20"
Spindle to column, maximum	20"
Ram travel by rack and pinion	15"
Ram diameter	4 1/2"
Head rotates	360°
Quill diameter	3 1/4"
Quill travel	4"
Collet capacity, maximum	3/4"
Spindle taper	#30 MM

Spindle speeds	8
r.p.m. with 1 h.p., 1800 r.p.m. motor	135, 220, 350, 560, 900, 1450, 2330, 3750
r.p.m. with 3/4 h.p., 1200 r.p.m. motor	90, 150, 230, 375, 600, 965, 1550, 2500
Net weight, Approx.	
With 32" Table	1635 lbs.
With 42" Table	1700 lbs.
Shipping weight crated, approx.	
With 32" Table	1950 lbs.
With 42" Table	2000 lbs.
Shipping weight boxed, approx.	
With 32" Table	2430 lbs.
With 42" Table	2625 lbs.
Cubic feet boxed, 32" Table	100
Cubic feet boxed, 42" Table	118



KEYED RAM SAVES TIME

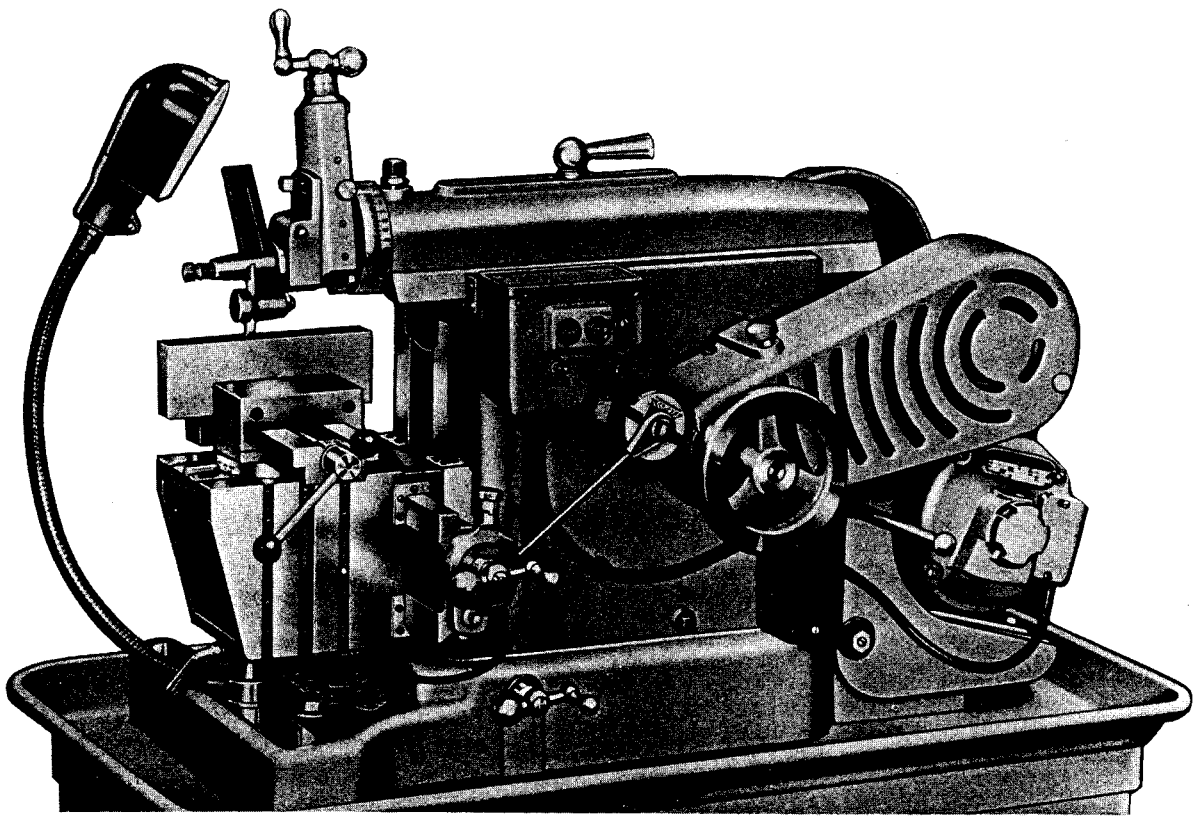
This feature saves you the time and annoyance of resetting the head angle every time the ram is moved transversely. A large key fitted with adjustable tapered gib holds the ram and head assembly in angular alignment, even when ram lock is released for transverse movement of head. The head swivels on a large flange on the end of the ram. Vernier graduations and worm adjustment make angular settings precise and easy.



CABINET FOR MILLING MACHINE

This steel cabinet has two compartments, one for holding the hydraulic pump and reservoir for operating power spindle feed and the other for coolant pump and reservoir. See page 44 for Universal Coolant Pump.

MIL7052. Cabinet for Milling Machine Price \$39.50



Motor, tool holder, and steel stand are not included in regular equipment of shaper.

7" SOUTH BEND *Precision* BENCH SHAPER

The South Bend 7" Shaper has been developed to meet tool-room and industrial demands for an accurate, compact bench shaper that is precision engineered and sturdily constructed. It has the built-in accuracy and versatility for rapid machining on small parts. The stroke rate per minute is higher than on larger shapers, permitting greater production on work within its capacity. The ease of setting up work in the bench shaper, its high operating speeds, and the low power consumption of the fractional h. p. motor, keep costs to a minimum. Built to the same high standards that have made South Bend Lathes famous for their precision and durability, this shaper is capable of the most exacting work on precision parts of all kinds.

Ram has long dovetail bearings which provide rigid support for the cutting tool, even in the extreme forward position. Gib adjustment is provided, and dovetail ways are fitted with felt wipers on both ends of column. Length of stroke is regulated by crank gear eccentric adjustment, and rocker arm is graduated to indicate length of stroke in inches. A large handwheel is provided for adjusting the ram which is locked in position by a conveniently located binding lever. The crank gear is precision made for quiet operation. Oil impregnated bearings are used for both the crank gear and the countershaft.

Pressure lubrication is provided by an automatic pump which circulates lubricating oil from a large reservoir in the base of the shaper to the ram dovetail, bull gear and pinion, pinion shaft and rocker arm shaft.

Tool head swivels to any angle, and has $3\frac{1}{2}$ " diameter mounting with accurately cut graduations 0 to 90° right and left. The tool slide screw has a clear cut graduated collar reading in thousandths of an inch. The clapper box swivels on the tool slide and may be adjusted for clearance, regardless of the tool slide angle. A tool slide lock is provided so that extreme accuracy and flatness can be maintained.

Table has holes and slots on top and on each side for clamping work. A V-groove is also provided on one side of the table. The cross-feed screw has a clear cut graduated collar reading in thousandths of an inch. The cross rail on which table slides is substantially constructed with large widely spaced bearing ways. Gib adjustment is provided for take-up. Provision is made for locking the vertical adjustment. For safety, the cross-feed screw is so constructed that the nut will run off the thread when it has traveled the maximum distance in either direction. An adjustable front end support shoe travels with the table and provides extreme rigidity for heavy cuts regardless of table position.

Vise swivels to any angle, with base graduated 0 to 90° right and left, and can be mounted on the top or right side of the table. Vise jaw inserts are made of heat-treated steel.

Motor required is $\frac{1}{3}$ or $\frac{1}{2}$ h.p., 1725 r.p.m., and is mounted on a cradle at the back of the shaper. Power is transmitted by V-belts. A quick acting belt tension release is provided for easy shifting of the belt to change speeds. All V-belts and pulleys are enclosed in substantial metal guards. If shaper is ordered without motor, specify voltage, phase, and cycle of motor to be used so that correct wiring can be supplied.

CS100. South Bend 7" Precision Bench Shaper with vise, drive unit for $\frac{1}{3}$ h.p. motor, motor pulley, V-belts, guards, work light, and built-in pushbutton type across-the-line manual starter for motor, but without motor, steel stand, or tool holder. (See pages 70 and 71). Shipping weight crated 330 lbs. Boxed weight 400 lbs., cubic feet boxed 12.* Price f.o.b. factory **\$602.00**

CS100M. South Bend 7" Shaper, same as above but with metric graduations. Price f.o.b. factory **\$602.00**

* Cubic feet boxed with steel stand 38. Boxed weight with steel stand 625 lbs.



SOUTH BEND PEDESTAL GRINDER

For Better-Faster-Easier Grinding

SPECIFICATIONS

WHEEL SIZE

For ¾ h.p. motor, 10" dia., 1" face,
¾" hole.
For ½ h.p. motor, 8" dia., 1" face,
¾" hole.

SPINDLE

Sealed ball bearings. Approximate
speed 2450 r.p.m.

MOTOR

Standard 2875 r.p.m., 50 cycle or
3450 r.p.m. 60 cycle and D.C., ½
h.p. or ¾ h.p.

OVER-ALL DIMENSIONS

10" Grinder, 49½" high, 20¾"
wide, 22¾" deep.
8" Grinder, 49½" high, 20¾" wide,
20½" deep.

SHIPPING WEIGHT

10" Grinder 377 lbs. crated for rail
shipment, 437 lbs. boxed for ex-
port. 8" Grinder 360 lbs. crated for
rail shipment, 420 lbs. boxed for
export.

EXPORT SPACE

24 cubic feet boxed.

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

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

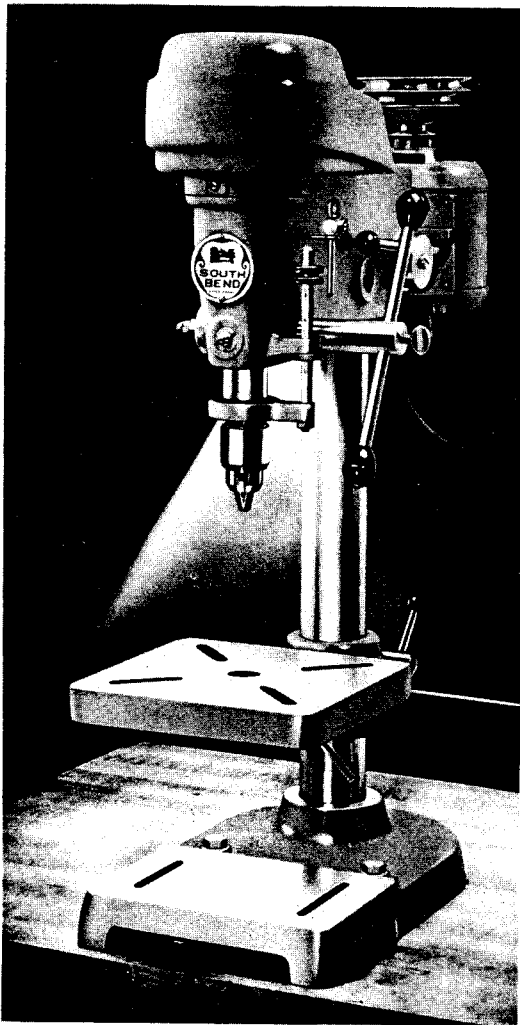
A pushbutton motor control is conveniently mounted at waist level on the front of the grinder frame. The motor is fully

enclosed in the pedestal. A V-belt drives the grinding wheel spindle which revolves on sealed ball bearings. This construction practically eliminates vibration, removes the weight of the grinding wheels from the motor bearings and protects the motor from the abrasive dust of the grinding wheels.

The grinder is made with either 8" grinding wheels or with 10" wheels. A ½ h.p. motor is required with 8" wheels and a ¾ h.p. motor with 10" wheels. Any NEMA standard 3450 or 2875 r.p.m. motor may be used. Equipment includes one coarse and one fine wheel for general work; tool rests; wheel guards; eye shields with wiring, sockets, and 110 v. lamps; V-belt and pulleys; and built-in pushbutton type across-the-line manual starter for motor. Price of grinder does not include motor. See page 73 for motors. If grinder is ordered without motor specify voltage, phase and cycle of motor to be used so correct wiring can be supplied.

CE2725. Pedestal Grinder with 8" wheels and equipment as listed above, but without motor. \$282.00

CE2726. Pedestal Grinder with 10" wheels and equipment as listed above, but without motor. \$284.00



Precision MODEL 14-INCH BENCH DRILL PRESS

Perfectly proportioned for mounting on any substantial work bench, table, or machine stand, this is one of our most popular drill presses. Base has bolt holes for securing to bench, and precision ground work surface with two slots for clamping. Maximum distance between base and chuck is 16" and between table and chuck is 11 $\frac{3}{8}$ ". See preceding page for other specifications and features.

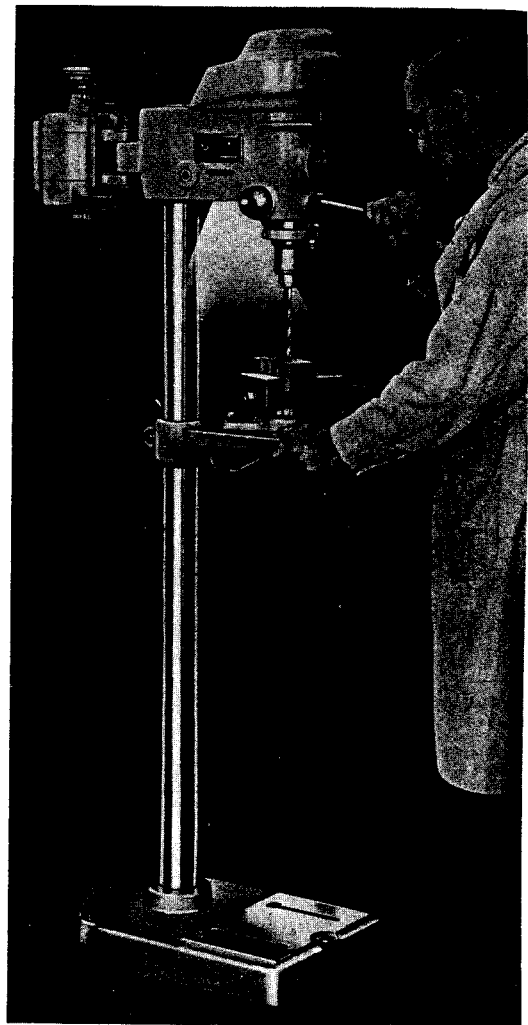
The free-floating spindle design prevents misalignment, side thrust, and whip. Two precision ball bearings carry the drive sleeve and two additional ball bearings carry the spindle, which is spline driven. All ball bearings, being prelubricated and sealed, require no oiling. Quill bearing adjustment provides feather touch tension and secure locking.

Regular equipment supplied with each Precision Model Bench Drill Press includes motor base, balanced motor pulley, balanced spindle pulley, V-belt, built-in work light, wiring in drill press head, spindle equipment as indicated in table, switch for work light, and switch for single phase motor when specified, but does not include motor. See page 78 for drill press motors.

PRECISION MODEL BENCH DRILL PRESSES

Catalog Number	Spindle Equipment	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Price
CD400B	1/2" Jacobs Key Chuck	9	255	190	\$133
CD414B	No. 2 Morse Taper Socket	9	255	190	128

Note: If ordered less motor, specify voltage, phase, and cycle of motor to be used.



Precision MODEL 14-INCH FLOOR DRILL PRESS

Except for the tall column and large base for floor mounting, this is the same as the bench drill press shown at the left. Base is heavily constructed and of ample size to provide substantial support. Precision ground work surface on base has two slots for clamp bolts. Maximum distance between base and chuck is 45 $\frac{1}{4}$ " and between table and chuck is 40 $\frac{3}{4}$ ". For other specifications and features see preceding page.

The full tilt type table, with 10" x 10" precision ground top surface, has slots for clamping fixtures or work. An improved type of internal clutch binder is provided for locking the table quickly in any position on the column. The edge of the table has a heavy flange with a 3/4" flat underneath for clamping.

Regular equipment supplied with each Precision Model Floor Drill Press includes motor base, balanced motor pulley, balanced spindle pulley, V-belt, built-in work light, wiring in drill press head, spindle equipment as indicated in table, switch for work light, and switch for single phase motor when specified, but does not include motor. See page 78 for drill press motors.

PRECISION MODEL FLOOR DRILL PRESSES

Catalog Number	Spindle Equipment	Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds	Price
CD400F	1/2" Jacobs Key Chuck	19	365	235	\$154
CD414F	No. 2 Morse Taper Socket	19	365	235	149

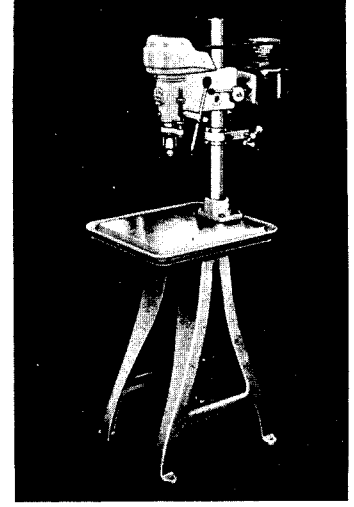
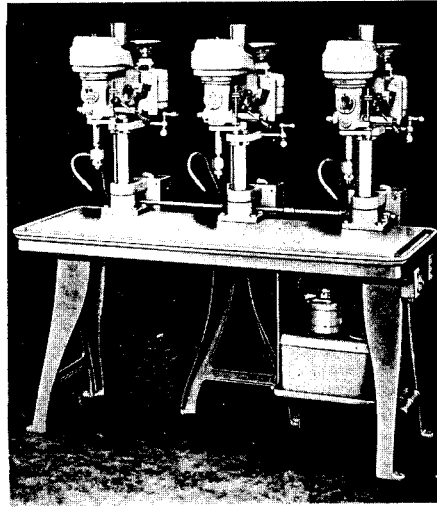
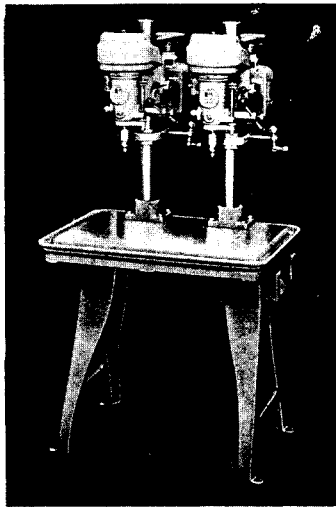
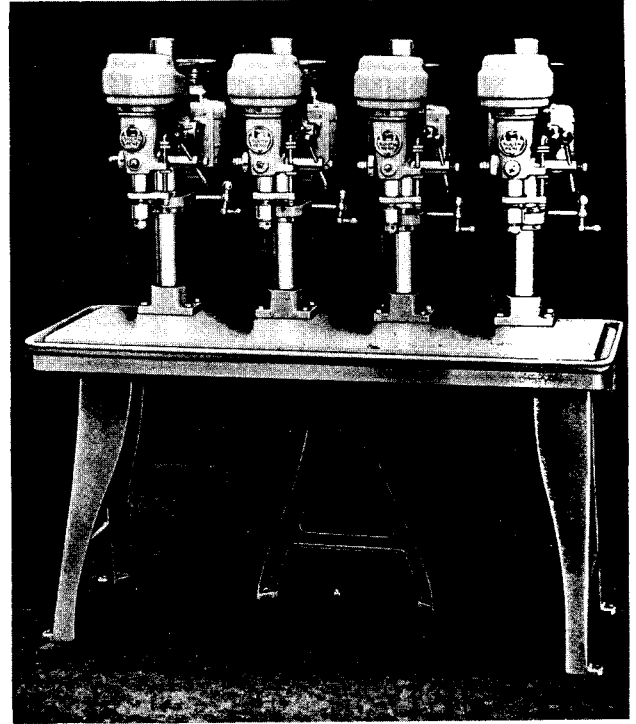
Precision MODEL SINGLE AND MULTIPLE SPINDLE DRILL PRESSES FOR PRODUCTION OPERATIONS

Much time can be saved on production drill press work by using one of these multiple spindle models so that two or more operations can be performed in rapid sequence. Each spindle can be adjusted independently to the correct position and speed for most convenient and efficient operation.

These drill presses consist of our standard 14" Precision Model drill press heads mounted on heavy, accurately machined work tables having large coolant return grooves. Either bench mounting (not illustrated) or heavy cast legs for floor installation as illustrated, can be supplied. The open leg construction facilitates cleaning and permits the operator to sit comfortably if desired.

The drill press spindles can be supplied with either 1/2" Jacobs key type chucks or with taper sockets to receive tools with No. 2 Morse taper shanks. Coolant pump and reservoir, multi-speed attachment, and other attachments and accessories can be supplied and are illustrated and described on pages 77 to 79 inclusive.

Regular equipment supplied with each drill press head includes: head positioning mechanism, spindle equipment as indicated in table below, motor base, motor pulley, V-belt, built-in work light, wiring and toggle switches. Motors and remote control equipment are not included. (See page 78.) If drill press is ordered without motors, specify voltage, phase and cycle of motors to be used so correct wiring can be supplied in drill press head.



With 1/2" Jacobs Chucks		With No. 2 M. T. Sockets		Number of Spindles	Table Work Surface	Between Column Centers	Over-all Size			Cubic Feet Boxed	Boxed Weight Pounds	Crated Weight Pounds
Cat. No.	Price	Cat. No.	Price				Width	Depth	Height			
Floor Model Drill Presses for Production Operations												
CD451F	\$264	CD491F	\$258	1	13 3/8" x 15 3/4"	...	20"	33"	68 1/2"	22	475	375
CD452F	507	CD492F	496	2	14" x 28 3/4"	13"	33 1/8"	33"	69 1/2"	34	725	628
CD453F	786	CD493F	770	3	14" x 55"	19"	59 1/2"	33"	70 1/4"	57	1185	1065
CD454F	904	CD494F	883	4	14" x 55"	13"	59 1/2"	33"	70 1/4"	57	1320	1200
Bench Model Drill Presses for Production Operations												
CD451B	\$198	CD491B	\$193	1	13 3/8" x 15 3/4"	...	20"	33"	37 3/4"	22	393	293
CD452B	442	CD492B	432	2	14" x 28 3/4"	13"	33 1/8"	33"	38 3/4"	34	645	546
CD453B	654	CD493B	637	3	14" x 55"	19"	59 1/2"	33"	38 1/4"	57	1065	902
CD454B	807	CD494B	785	4	14" x 55"	13"	59 1/2"	33"	38 1/4"	57	1200	1035