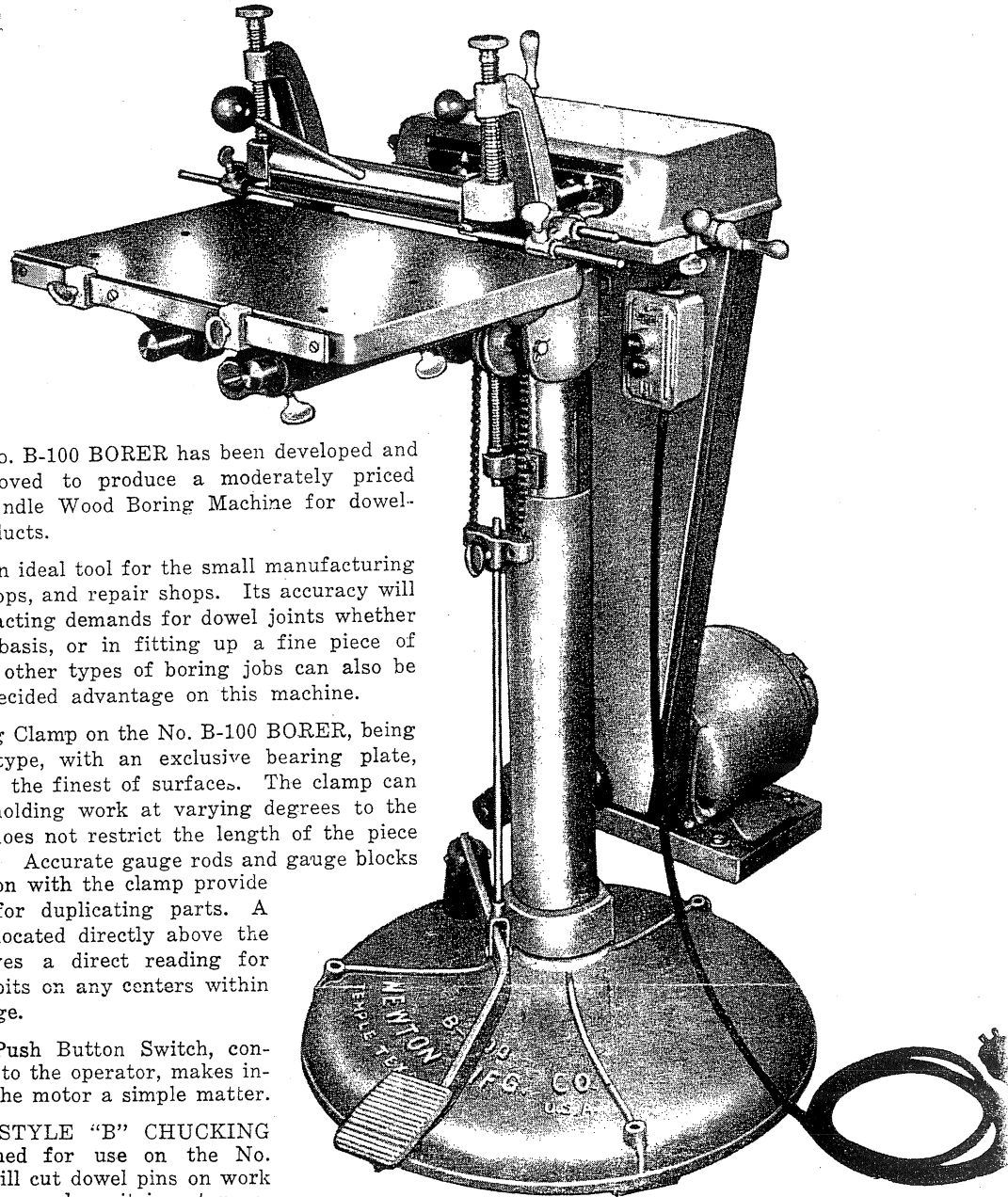


NEWTON

No. B-100 BORER

TWO SPINDLE HORIZONTAL BORING MACHINE



The NEWTON No. B-100 BORER has been developed and consistently improved to produce a moderately priced Precision Two-Spindle Wood Boring Machine for dowel-joining wood products.

This machine is an ideal tool for the small manufacturing plants, custom shops, and repair shops. Its accuracy will meet the most exacting demands for dowel joints whether on a production basis, or in fitting up a fine piece of furniture. Many other types of boring jobs can also be performed to a decided advantage on this machine.

The Work-Holding Clamp on the No. B-100 BORER, being of an eccentric type, with an exclusive bearing plate, will not mar even the finest of surfaces. The clamp can be adjusted for holding work at varying degrees to the work table, and does not restrict the length of the piece that is being held. Accurate gauge rods and gauge blocks used in conjunction with the clamp provide positive means for duplicating parts. A graduated scale located directly above the two spindles gives a direct reading for setting the drill bits on any centers within the specified range.

A Heavy-Duty Push Button Switch, conveniently located to the operator, makes instant control of the motor a simple matter.

The NEWTON STYLE "B" CHUCKING CUTTER, designed for use on the No. B-100 BORER, will cut dowel pins on work such as chair rungs, where it is not practical to drill holes for pins.

The simplicity and rugged construction of the No. B-100 BORER makes any job—even single piece set-ups — practical and time-saving

NEWTON-NEROC MANUFACTURING COMPANY
TEMPLE, TEXAS

U. S. A.

DRILL BITS and ATTACHMENTS for B-100 BORER



STYLE 500—Taper Point



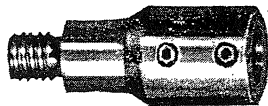
STYLE 700—Taper Point



STYLE 600—Spur Point



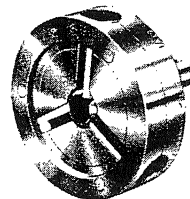
STYLE 800—Spur Point



BA-1 ADAPTER
Adapts straight shank bits
to threaded chucks.

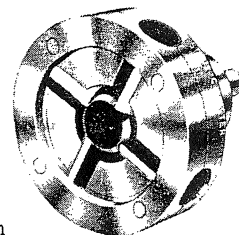


STYLE 400—Countersink
(Can be combined with BA-1 Adapter
for threaded chucks)



STYLE B
Chucking Cutter
Capacity
 $\frac{1}{4}$ " to $\frac{5}{8}$ "
dia. x $1\frac{1}{2}$ "
length

STYLE C
Chucking Cutter
Capacity
 $\frac{1}{4}$ " to 1"
dia. x 2" length



Spindles— The Drill Spindles on the Newton B-100 Borer are mounted on precision high-speed ball bearings that are completely protected against dust and other foreign matter. The bearings are grease-sealed for life. The spindle assembly units move on dove-tailed ways, and are provided with gibbed adjustments for wear. The drill chucks are an integral part of the spindles.

Capacity—The No. B-100 Borer will drill two holes on any centers from $1\text{-}5/32$ " to $7\text{-}1/4$ ", and at a maximum depth of 5". The work-holding clamp will take stock up to 3" in thickness by any length. The work table adjusts vertically to $3\text{-}1/2$ " below the spindle centers.

Work Table— This part of the machine is a heavily ribbed casting, accurately machined and precisely aligned with the drill spindles. It is equipped with an adjustable stop for determining the depth of the holes to be bored, and there are four drilled and tapped holes for holding special jigs and fixtures. Gauge Rods and Gauge Blocks are provided for accurately locating the work to the drill bits.

Rod Ways—The two rods forming the table slide ways are made of $1\frac{1}{8}$ round Ground and Polished Steel. These rods are firmly anchored for maximum rigidity. Oversize Bearing Surfaces on the slide are precision fitted to the rods.

Power Transmission— Power from the motor to the drill spindles is transmitted by means of matched V belts operating over heavy-duty steel sheaves. The hinged-based motor automatically retains the correct tension on the V belts irrespective of the center spacings of the drill spindles.

Motor Recommendations— Use $\frac{3}{4}$ H. P., 1725 R. P. M. motors for Standard Duty. Use 1 H. P., 1725 R. P. M., Frame 182 motors for heavy production duty.

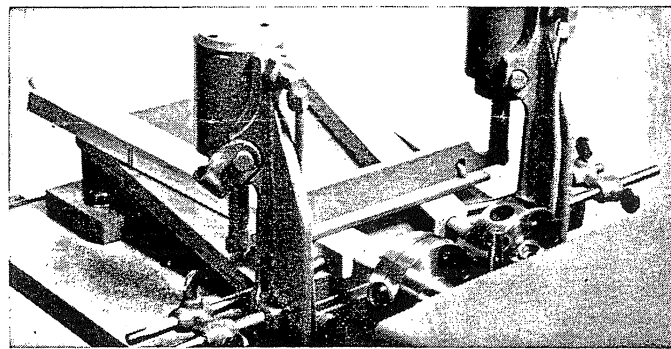
Drill Bits— The short length Dowel Drills (approximately 5" in overall length) are recommended for best results on all Newton Borers, though longer length bits can be used, if necessary.

Standard Equipment— The Newton No. B-100 Borer is regularly equipped with Work-Holding Clamp; Motor Control; Motor Pulley; V Belts; Heavy-duty Extension Cord; Two $3/8$ " Bits and necessary Wrenches. Motors are extra.

Specifications—

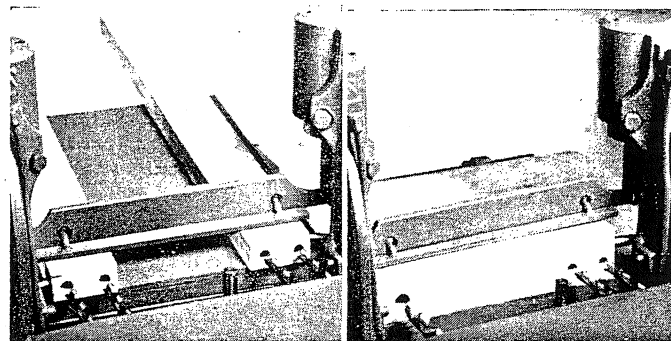
Drilling Centers.....	1-5/32" to 7-1/4"
Drill Bit Capacity.....	3/4"
Maximum Depth of Boring.....	5"
Plain Chucks (2 Hollow-Head Setscrews).....	1/2" Bored
Threaded Chucks.....	7/16" x No. 14 Thread
Work Table.....	10" x 16"
Horizontal Travel of Work Table	5"
Vertical Adjustment of Work Table.....	3-1/2"
Spindle Speed.....	3600 R. P. M.
Motor.....	3/4 H.P., or 1 H.P., 1 or 3 Ph., 60 Cy.
Net Weight (With Motor).....	280 lbs.
Domestic Shipping Weight.....	Approx. 320 lbs.
Crated For Export.....	Approx. 375 lbs.

Important— Specify Type of Chuck and Phase of Motor, when ordering. If machine is ordered "LESS MOTOR", give wiring specifications and R. P. M. of motor to be used.

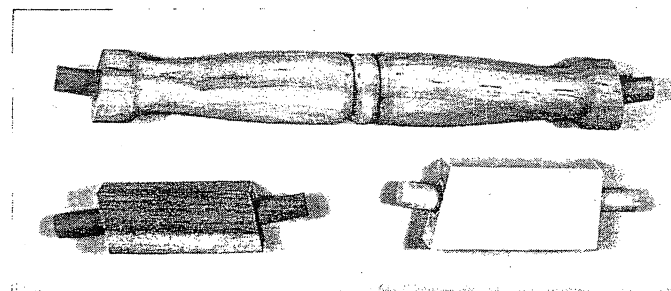


In the above operation, right and left hand compound-angle pins are being cut on chair stretchers in one operation, using two Style "B" Chucking Cutters.

The Newton Style "B" Chucking Cutter will produce square shouldered dowel pins from $3/8$ " to $5/8$ " diameter by $1\frac{1}{2}$ " in length on rectangular stock up to $7/8$ " x 2" or round stock up to 2" in diameter. This cutter is completely free from chatter, and can be used on any Newton Borer. See separate bulletins for complete description and specifications on both Style "B" and Style "C" Cutters.



Many special spindle arrangements, using our standard parts, are available on all Newton Borers. The view above shows how a four-spindle setup has been adapted to the drilling of chair legs and chair rails for mass production at low cost on a Newton BA-600 Borer.



Samples of pins cut with a Newton Style "B" Chucking Cutter.

PRICE LIST

NEWTON - NEROC CORPORATION

TEMPLE, TEXAS

Effective June 1, 1988

(817) 773-5344

BORERS (Less Motors)

*B-100 BORER	— 2-Spindle Model; 1-5/32" to 7 1/2" Spindle Centers; With Motor Control _____	1625.00
*B-600 BORER	— 2-Spindle Model; 1-5/32" to 7 1/2" Spindle Centers; With Motor Control _____	2020.00
B-600 BORER	— 4-Spindle Model; 1" to 8 1/2" Spindle Centers; With Motor Control _____	2430.00
BA-100 BORER	— 2-Spindle Model; 1-5/32" to 7 1/2" Spindle Centers; With Motor Control _____	2225.00
*BA-600 BORER	— 2-Spindle Model; 1-5/32" to 7 1/2" Spindle Centers; With Motor Control _____	2720.00
BA-600 BORER	— 4-Spindle Model; 1" to 8 1/2" Spindle Centers; With Motor Control _____	3100.00

MOTORS OF BORERS Prices and Recommendations

MODEL	HP	PHASE	RPM	HZ	VOLTS	FRAME	WT.	PRICE
B-100 (2-Spindle) _____	1	1	1725	60	115/230	182	48	195.00
B-100 (2-Spindle) _____	1 1/2	3	1725	60	208-230/460	184	47	195.00
B-600 (2-Spindle) _____	1	1	1725	60	115/230	182	48	195.00
B-600 (2-Spindle) _____	1 1/2	3	1725	60	208-230/460	184	47	195.00
B-600 (4-Spindle) _____	2	3	3450	60	208-230/460	184	49	210.00
BA-600 (2-Spindle) _____	1	1	1725	60	115/230	182	48	195.00
BA-600 (2-Spindle) _____	1 1/2	3	1725	60	208-230/460	184	47	195.00
BA-600 (4-Spindle) _____	2	3	3450	60	208-230/460	184	49	210.00

NOTE: ORDERS FOR MOTORS NOT LISTED, PRICES QUOTED UPON REQUEST.

THE FOLLOWING INFORMATION MUST BE SUPPLIED WHEN ORDERING BORERS:

1. CHUCKS - THREADED. (4-Spindle Borers Have Threaded Chucks Only.)
2. MOTOR SPECIFICATIONS.
3. WIRING PHASE (When Machines Are Ordered "Less Motor).
4. SHAFT DIAMETER of Your Motor (When Machines Are Ordered "Less Motor").

NOTE: MINIMUM ORDER \$10.00

ACCESSORIES — For Borers

BA-1 ADAPTER (Adapts 1/2" Straight Shank Bits to 7/16-14 Threaded Chucks)	ea.	11.00
BA-5 ADAPTER (Adjusts 7/16-14 Threaded Shank Bits to 1/2" Bored Chucks)	ea.	11.00
101A ADJUSTABLE CHUCK (0-1/4"); 7/16-14 R. H. Threaded Shank	ea.	20.00
3L-570 V-BELT — For Replacement on B-7 and B-100 Borers (4 per set)	ea.	6.50
3L-600 V-BELT — For Replacement on B-7 and B-100 Borers (4 per set)	ea.	5.50
3L-660 V-BELT — For Replacement on B-600 and BA-600 Borers (4 per set)	ea.	6.50

NOTE: When replacing V-Belts on NEWTON BORERS, a Complete New Set should be installed. Never use Old Belts with New Belts.

DRILL BITS — Carbon Steel

Style 500 Bits — 1/2" Dia. Shank, Taper Point, 4" Twist		*Style 700 Bits — 7/16" - 14 Threaded Shank, Taper Point, 2-3/4" Twist, Right or Left Hand	
No. 590 3/16" ... \$5.75	No. 594 7/16" ... \$5.75	No. 790 3/16" ... \$6.75	No. 794 7/16" ... \$6.75
No. 591 1/4" 5.75	No. 595 1/2" 5.75	No. 791 1/4" 6.75	No. 795 1/2" 6.75
No. 592 5/16" ... 5.75	No. 597 5/8" 8.50	No. 792 5/16" ... 6.75	No. 797 5/8" 9.50
No. 593 3/8" 5.75	No. 598 3/4" 9.00	No. 793 3/8" 6.75	No. 798 3/4" 12.00

Style 600 Bits — 1/2" Dia. Shank, Spur Point, 2-3/4" Twist		*Style 800 Bits — 7/16" - 14 Threaded Shank, Spur Point, 2-3/4" Twist, Right or Left Hand	
No. 690 3/16" ... \$5.75	No. 694 7/16" ... \$5.75	No. 890 3/16" ... \$6.75	No. 894 7/16" ... \$6.75
No. 691 1/4" 5.75	No. 695 1/2" 5.75	No. 891 1/4" 6.75	No. 895 1/2" 6.75
No. 692 5/16" ... 5.75	No. 697 5/8" 8.50	No. 892 5/16" ... 6.75	No. 897 5/8" 9.50
No. 693 3/8" 5.75	No. 698 3/4" 9.00	No. 893 3/8" 6.75	No. 898 3/4" 12.00
No. 699 25/64" .. 6.90		No. 899 25/64" .. 7.00	

*NOTE: Styles 700 and 800 are available in Right and Left Hand. Right Hand will be supplied unless Left Hand is specified.

OTHER SIZES AVAILABLE. LARGE SELECTION OF SIZES IN STOCK FOR IMMEDIATE DELIVERY.

DRILL BITS — High Speed Steel

Style 100S — 1/2" Dia. Shank, Spur Point, 2-3/4" Twist		Style 200R — 7/16 - 14 R. H. Threaded Shank, Spur Point, 2-3/4" Twist	
No. 190 3/16" .. \$11.50	No. 194 7/16" .. \$11.50	No. 290 3/16" .. \$11.50	No. 294 7/16" .. \$11.50
No. 191 1/4" ... 11.50	No. 195 1/2" ... 11.50	No. 291 1/4" ... 11.50	No. 295 1/2" ... 11.50
No. 192 5/16" .. 11.50	No. 197 5/8" ... 18.00	No. 292 5/16" .. 11.50	No. 297 5/8" ... 18.00
No. 193 3/8" ... 11.50	No. 198 3/4" ... 24.00	No. 293 3/8" ... 11.50	No. 298 3/4" 24.00
No. 199 25/64" .. 13.00		No. 299 25/64" .. 13.00	

NOTE: Style 200 is available in Right and Left Hand. Right Hand will be supplied, unless Left Hand is specified.

COUNTERSINKS

Style 300 — 7/16-14 Threaded Shank, 1/2" Dia. x 3" Counter; With Choice of 3/16", 7/32" or 1/4" Lead Drill	ea.	12.75
Extra Lead Drills	ea.	2.00
Style 400 — 1/2" Dia. Straight Shank; 1/2" Dia. x 3" Counter; With Choice of 3/16", 7/32", or 1/4" Lead Drill	ea.	12.75
Extra Lead Drills	ea.	2.00

NOTE: MINIMUM ORDER \$10.00

E-30 UNIVERSAL EDGE SANDER — With Tilting Table

OSCILLATING 3 H.P. & 1/3 H.P., 220/440 V., 60 Cy., A.C., 3 Ph., Totally Enclosed
(3 PHASE) Motors, Magnetic Thermal Overload Starter to 3 H.P. Motor _____ 5300.00

ACCESSORIES — For E-30 Universal Edge Sander

843	WORK TABLE FENCE _____	34.60
852	4" DIA. RUBBER CYLINDER (For Replacement) _____	75.00
853	3" DIA. RUBBER CYLINDER (For Replacement) _____	65.00
855	WORK TABLE EXTENSION BAR _____	43.40
861	CROSS-BELT FENCE (Used when Work Table is removed from Machine) _____	27.30
862	PARALLEL-BELT FENCE (Used when Work Table is removed from Machine) _____	25.40
863	FRICITIONLESS PLATEN COVER (For Replacement - One required for each side of Platen) _____ ea.	11.50
864	FELT CUSHION FOR PLATEN COVER (For Replacement - One required for each side of Platen) _____ ea.	6.70
893	DUST GUARD _____	74.00

THE FOLLOWING ACCESSORIES ARE NEEDED FOR SPINDLE SANDING — E-30 Sander

167	EXPANDING CAP — For 4" EXPANDING RUBBER CYLINDER _____	21.50
192	FREE SPINDLE NUT (Locking Type) — For 1 1/4", 2", & 3" Cylinders _____	5.10
856	1 1/4" DIA. x 8 1/2" EXPANDING RUBBER CYLINDER (With Washer) _____	21.50
857	2" DIA. x 8 1/2" EXPANDING RUBBER CYLINDER (With Washer) _____	24.00
858	3" DIA. x 8 1/2" EXPANDING RUBBER CYLINDER (With Washer) _____	42.60
859	4" DIA. x 8 1/2" EXPANDING RUBBER CYLINDER _____	47.50
860	76" V-BELT (Drives Free Spindle) _____	7.25

E-18 UNIVERSAL EDGE SANDER — With Tilting Table

OSCILLATING 1 1/2" H.P. & 1/4" H.P., 220/440 V., 60 Cy., A.C., 3 Ph.,
(3 PHASE) Totally Enclosed Motors _____ 4700.00

ACCESSORIES — For E-18 Universal Edge Sander

168	3" DIA. RUBBER CYLINDER (For Replacement) _____	65.00
173	FRICITIONLESS PLATEN COVER (For Replacement) _____ ea.	9.40
178	FELT CUSHION FOR PLATEN COVER (For Replacement) _____ ea.	4.95
188	4" DIA. RUBBER CYLINDER (For Replacement) _____	71.00
196	DUST GUARD (With Mounting Bolt) _____	74.00
843	WORK TABLE FENCE _____	32.50

THE FOLLOWING ACCESSORIES ARE NEEDED FOR SPINDLE SANDING — E-18 SANDER

167	EXPANDING CAP — For 4" DIA. EXPANDING RUBBER CYLINDER _____	21.50
169	3" DIA. x 6 1/2" EXPANDING RUBBER CYLINDER (With Washer) _____	24.50
170	2" DIA. x 6 1/2" EXPANDING RUBBER CYLINDER (With Washer) _____	21.20
171	4" DIA. x 6 1/2" EXPANDING RUBBER CYLINDER _____	43.10
172	1 1/4" DIA. x 6 1/2" EXPANDING RUBBER CYLINDER (With Washer) _____	15.00
176	52" V-BELT _____	7.25
192	FREE SPINDLE NUT (Locking Type) — For 1 1/4", 2" & 3" Cylinders _____	5.10

ABRASIVE BELTS - Cloth Backed, Factory Joined

GRITS	3/0	2/0	1/0	1/2	1
	120	100	80	60	50
6" x 54 1/2" (For Wood) _____ ea.	\$ 6.40	\$ 6.40	\$ 6.60	\$ 6.90	\$ 8.20
8" x 77" (For Wood) _____ ea.	11.40	11.40	11.40	11.60	11.60

NOTE: MINIMUM ORDER \$10.00

ACCESSORIES

AP-2 WORKHOLDING CLAMP (Complete for Manual Holddown)_____	125.00
AIR PACKAGE — Complete to convert Manual Machine to Air Clamp and Table Feed. (Note: When ordering, we will need to know Diameter of Rodways.)_____	600.00

CHUCKING CUTTERS — With 1" Straight, or 7/16-14 Threaded Shank

STYLE "B" CHUCKING CUTTER — With 1 Pilot Insert of Customer's Choice_____	285.00
BA-3 PILOT INSERTS — For Pin Sizes 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", or 5/8" _____ ea.	34.00
BA-2 BLADES — (3 to a set) High Speed Steel (For Replacement)_____ ea.	36.00
STYLE "C" CHUCKING CUTTER — With 1 Pilot Insert of Customer's Choice_____	335.00
C- PILOT INSERTS — For Pin Sizes 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", or 1" _____ ea.	48.00
BA-2 BLADES - (4 to a set) High Speed Steel (For Replacement)_____ ea.	36.00

PHONE ORDERS — NEWTON-NEROC Corp. accepts phone orders as a service to meet customer needs. However, a Purchase Order marked "CONFIRMATION" must follow immediately. Duplicate orders not marked "CONFIRMATION" are the responsibility of the customer.

MINIMUM ORDER — \$10.00

TERMS — All prices listed herein are F.O.B. factory. Net 30 days. All prices are subject to change without prior notice.

SALES POLICY — Possession of this Price List does not constitute authority to sell products contained herein.

NEWTON-NEROC CORPORATION

Printed in U.S.A.

SUPERSEDES PRICE LIST DATED JANUARY 1, 1985

TEMPLE, TEXAS

AC 817-773-5344

B-100 Borer

Parts List



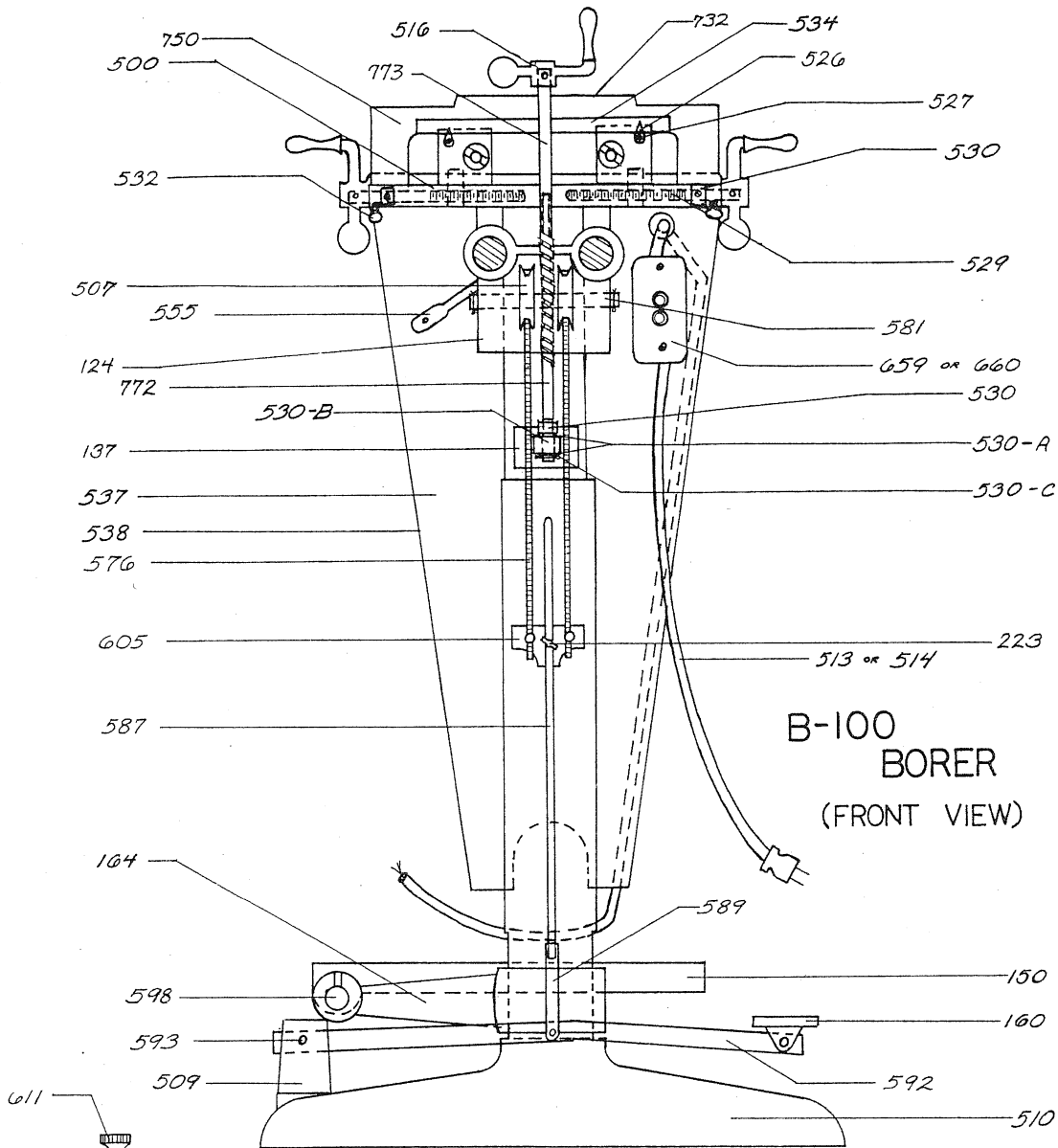
NEWTON – NEROC CORPORATION

LOOP 363 & IH 35 • BOX 3604 • TEMPLE, TEXAS 76505

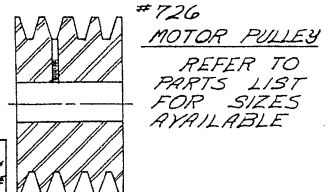
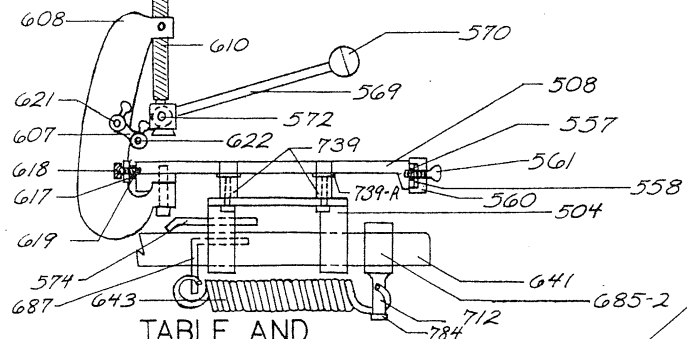
(817) 773-5344

(817) 773-5886

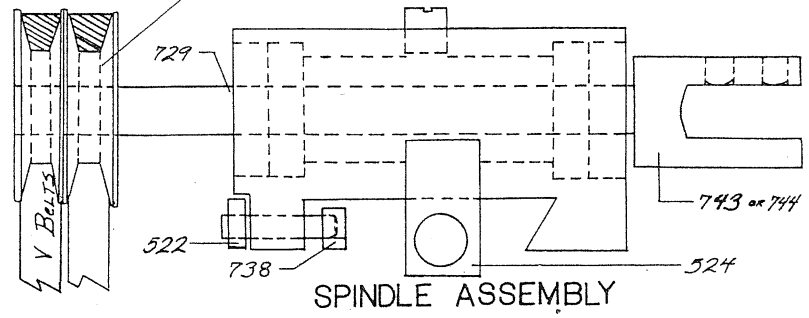
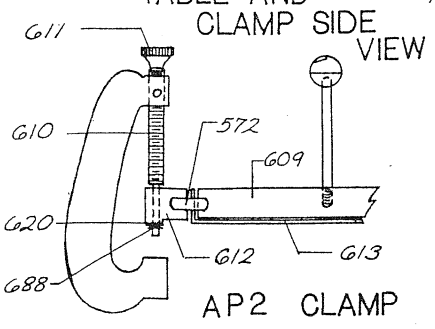
(817) 773-6220



**B-100
 BORER
 (FRONT VIEW)**



NOTE:
 WHEN ORDERING PULLEYS
 GIVE SIZE AND IF (SINGLE
 OR DOUBLE GROOVE).
 ALSO, IF ORDERING ONE
 PULLEY, DENOTE WHICH
 SIDE FACING MACHINE.



SPINDLE ASSEMBLY

B-100 BORER Parts List

124	SADDLE	587	TREADLE LINK ROD
137	LUG, ELEVATING SCREW	589	TREADLE YOKE AND PIN
150	MOTOR BASE	592	TREADLE BAR
160	TREADLE PEDAL	593	BEARING PIN, FOR TREADLE
164	MOTOR BASE ARM	598	MOTOR BASE SHAFT
223	3/8 x 3/4 THUMB SCREW	605	ANCHOR LUG FOR CHAIN
500	DOVETAIL WAY	607	GUAGE ROD LINKS
504	SLIDE CASTING	607-2	GUAGE ROD LINKS (ADJUSTABLE) (SPECIAL)
507	CHAIN SHEAVE	608	WORK CLAMP "C" CASTINGS
508	TABLE	609	CLAMP ROLL
509	TREADLE POST	610	CLAMP ADJUSTING SCREW
510	BASE	611	KNURLED KNOB FOR SCREW
513	WIRING PIGTAIL - 1 PHASE	612	CLAMP BLOCK
514	WIRING PIGTAIL - 3 PHASE	613	CLAMP PLATE
516	CRANK HANDLE	617	WORK STOP BAR
522	GIB SCREW AND NUT	618	KNURLED SCREWS, STOP BAR
524	NUT, SPINDLE ADJUSTING	619	SPACERS, STOP BAR
526	POINTER, FOR SCALE	620	WASHER, CLAMP SCREWS
527	SPACER, FOR POINTERS	621	GUAGE RODS, STRAIGHT
529	SCREWS FOR ADJUSTING SPINDLES	622	GUAGE RODS, BENT
530	SET SCREWS COLLAR	641	RODWAYS 1 1/4" O.D. x 15"
530-A	STEEL WASHER 1/2 I.D.	643	RETURN SPRING
530-B	BRONZE WASHER	659	MOTOR CONTROL - 1 PHASE
530-C	COTTER KEY - 1/8" x 1"	660	MOTOR CONTROL - 3 PHASE
532	THUMB SCREW FOR #516 CRANK HANDLE	685-2	LUG FOR SPRING
534	SCALE	687	CLAMP PLATE FOR SPRING
537	BELT GUARD - FRONT	688	RETAINING RING, CLAMP BLOCKS
538	BELT GUARD - BACK	712	SLEEVE ANCHOR FOR SPRING
549	SADDLE KEY 1/2"sq. x 3 1/2" (now shown)	725-L	V PULLEY, LEFT HAND SHOWN
551	NUT HOLDS BACK GUARD ON	725-R	(NOT SHOWN)
552	STUD HOLDS BACKGUARDS 3/8"NC x 4 1/2" (not shown)	726	7/8 MOTOR PULLEY - (4 GROOVE) 7/8" BORE
554	SPACER, FOR BELT GUARD #537 (not shown)	726-A	MOTOR PULLEY (4 GROOVE) 3/4" BORE
555	CLAMP HANDLE FOR SADDLE	726-B	MOTOR PULLEY - (4 GROOVE) 5/8" BORE
557	BAR FOR GUAGE BLOCKS	729	LOCKKEY FOR BEARING
558	SPACERS FOR #557 BAR-4	730-R	BEARING BLOCK (not shown)
560	GUAGE BLOCKS	731-L	BEARING BLOCK (shown)
561	5/16" x 3/4" THUMB SCREWS 2 FOR BLOCKS 5/16" x 3/4" THUMB SCREWS 2 FOR LOCKING ADJ. SCREWS	732	COVER PLATE FOR HOOD
569	CLAMP HANDLE ROD	738	GIB FOR BLOCKS
570	BALL KNOB	739	BUSHINGS FOR LEVELING AND MOUNTING TABLE
572	BEARING PINS FOR CLAMP ROLL	739-A	5/8" N.F. LOCK NUTS & WASHERS
574	TABLE STOP ROD	743-R	SPINDLE 1/2" PLAIN, SHORT
575	3/8" x 1" THUMB SCREWS FOR STOP ROD	743-L	SPINDLE 1/2" PLAIN, LONG
576	TREADLE CHAIN	744-R	SPINDLE 7/16"-14 THREADED - SHORT
581	CHAIN SHEAVE ROD	744-L	SPINDLE 7/16"-14 THREADED - LONG
583	TIE ROD, COLUMN, HOLDS DOVETAIL WAY AND COLUMN TO BASE (not shown)	750	HOOD
		772	ELEVATING SCREW
		773	WRENCH HANDLE FOR ELEVATING SCREW
		903	COLUMN

NEWTON - NEROC CORPORATION

Manufacturers of

★ Woodworking Power Tools ★ Institutional Furniture ★

TEMPLE, TEXAS, U.S.A. 76501

INSTRUCTIONS

OPERATING & MAINTENANCE

INSTRUCTIONS

for

**B-7, B-100 & B-600
Borers**

NEWTON-NEROC CORPORATION
P. O. Box 3604 Temple, Texas

INSTALLATION

For best results, the machine should be bolted to the floor, making sure the base is level bearing on all pads.

WORK TABLE & CLAMP

To set table to desired position, first unlock the saddle casting on the column, then adjust the table up or down by means of the vertical screw located between the table and column. This screw is operated by means of a Ball Crank Handle furnished with machine. After vertical adjustment of table has been made, lock saddle casting firmly in place on the column. (When saddle casting is unlocked, table will have a slight motion sideways due to looseness of saddle on column. However, re-locking of saddle will always bring the table back to its correct position, as alignment is controlled by accurately fitted key in the column.)

After making the vertical adjustment, position the table on the rodways so that the surface on the workpiece being drilled is approximately 1" from the points of the drills. Positioning of the table is accomplished by moving the spring lug on the rodways.

Next, adjust the clamp so that the pressure plate is parallel to and approximately 1/4" above the workpiece, when clamp is open. Set work table stop rod for depth of hole to be bored. (This rod is underneath the table at the right hand side, and is locked by means of a large thumb screw.) CAUTION - If the bits are set on less than 2" centers be sure work table elevating wrench is removed from elevating screw.

DRILL BITS

Since these borers are primarily designed for dowel boring, the short length Dowel Drills, approximately 5" in length and developed specifically for this purpose, should always be used in preference to the longer length drill for sake of accuracy. High speed steel drills are recommended for best results on this modern high speed borer. These drills will hold their cutting edges much longer than carbon steel drills, thus lowering production costs through faster boring and elimination of frequent down time for sharpening. A large stock of the most popular sizes, in both High Speed Steel and Carbon Steel is maintained at our factory for customer convenience.

Taper Point Drills, rather than the conventional Spur Point type, are frequently used to advantage in end grain boring, due to their fast free cutting, although they are not as accurate as the Spur Point Drills, and are not recommended for extreme accuracy. Screw Point Drills should never be used on this machine as their action creates a reverse thrust on the drill spindles, which in turn could result in damage to spindle units.

When installing the threaded shank drills on this machine, make sure that the shoulder of the drill and the face of the chuck are clean and free of chips or other foreign matter, otherwise the drill will not shoulder up properly, resulting in run-out. Adjustable drill chucks, for holding small drills with shanks up to 1/4" available.

SPINDLES

- 1—The spindles on all machines are made of Maxel 3-1/2 HR HT SR high carbon steel polished to extreme accuracy. They are the heart of the machine, and thus should always be protected against abuse and damage.
- 2—The spindles are located in the desired positions by means of a graduated scale directly above them. The scale reading on the 4-Spindle Model is for the two inside spindles. Add 2" to this for the reading on two outside spindles.
- 3—Adjustments on the spindles are made by large ball crank handles at each end of the workhead. The screws on which the handles are mounted move the spindles blocks on the dovetail ways, and are locked in position by means of thumb screws underneath the dovetail ways. The locking of the screws prevents the spindles from moving out of position, once they are set.
- 4—When it is desired to move the spindles into their closest setting, first remove all chips from the dovetail ways, as the blocks must come together at this setting.

- 5—When using the machine, keep the spindles set at approximately equal distances from center to center to insure best performance.
- 6—Care should be taken to see that the gibbed adjustments at the back of the spindle blocks are always tight, looseness will cause inaccurate boring.
- 7—All spindles on both two and four spindle machines are mounted on High Speed Frictionless Ball Bearings, and will retain their original accuracy for a long period of time.
- 8—The gearing of the spindles on the 4-Spindle Model consists of a pair of HARDENED & GROUND precision HELICAL GEARS encased in a grease-sealed housing. These gears can be easily inspected by removal of the housing.
- 9—Due to the gear drive on the 4-Spindle Model, each spindle unit has one spindle with right hand threaded chuck, and one with left hand threaded chuck. The inside spindle on each unit is right hand. The Chucks have 7/16-14 internal threads. The two spindles in each spindle unit are on 1" fixed centers.
- 10—The spindles on all two spindle models should rotate in a counterclock direction. The threaded chuck 7/16-14 R. H. and plain chuck 1/2" bored. The power transmission is designed for two spindle models to use right hand twist drills only.

MOTOR MOUNTING ADJUSTMENTS

- 1—When customer installs motor, care should be taken to see that the V-Belts are in proper alignment and are in the clear of the machine frame throughout the full range of spindle settings. For proper belt tension a motor weighing less than 47 lbs. should not be used.
- 2—The motor on the B-600 is mounted on a full-floating base. The base automatically equalizes the load on the V-Belts the instant the drills engage the workpiece. It also compensates for belt stretch and normal variation in belt lengths. The floating base is equipped with a knurled head screw for purpose of limiting the "float" of the motor when the machine is under load. Refer to special motor mounting drawing and instructions for detailed adjustment of this screw.

V-BELTS

Since it is necessary to transmit a maximum amount of power to the drill spindles, always replace the V-Belts with the same type as originally supplied with machine. Replace belts in complete sets in matched pairs. Never use old belts with new belts.

LUBRICATION

- 1—The drill spindles on these Borers are encased in a grease sealed housing. They are packed in grease before leaving the factory, and should operate for a long period of time without additional lubrication. However, it is recommended that they be inspected at least once a month, when the machine is in use, and additional grease added, if needed. When re-lubricating, a safe method to follow is to fill both the spindle housing and gear housing with grease, leaving the grease holes open, then running the machine for a short time until any excess grease is forced out at the holes or at either of both ends of the spindle unit. Wipe off all excess grease, then insert the screw plugs in the grease holes. Care should always be taken to see that no excess grease is allowed to accumulate around the spindle sheaves, as this might cause belt slippage. A good grade of light weight ball bearing grease, such as LUBRIPLATE #930-AAA is recommended.
- 2—Apply a small amount of light weight oil to the Rodways, when machine is in use.
- 3—The electric motor is equipped with ball bearings. These bearings are packed in grease at the factory and will operate for a long period without further lubrication. However, should noise ever develop indicating a dry bearing, inspection should be made, and additional grease applied if needed.

REPLACING SPINDLE BEARINGS

Should these bearings ever need replacing, care must be taken not to damage the new bearings, when installing them. To remove the worn bearings from the block, insert a rod or similar tool in the assembly, pressing against the bearings from the

inside so as to force the bearing and the seal insert out at the same time. The new bearings should be carefully pressed in place using an arbour press, and a pin of sufficient diameter to bear against the entire end surface of the bearing. This pin should have a short pilot end on it that would go inside of the bearing for the purpose of holding the pin in place against the bearing. An improperly fitting pin will cause damage to the flanged end of the bearings, which in turn will prevent the small balls of the bearing from turning freely.

WORK TABLE

The work table on B-100 & B-600 is equipped with leveling bushings. For leveling remove work table by loosening the four bolts underneath fastening it to slide casting. With work table removed loosen the lock nuts on leveling screws. Lay work table back on slide casting without fastening. Check to make sure all four points where the leveling screws are touching the slide casting. If they are all touching mark a line on table in line with slot in leveling screws so you will know where you started from. Press on table where leveling bushings are in checking to make sure they are all touching. Either move spindles in to minimum centers or remove from dovetail. Place dial indicator base on front edge of table and dial point on machined surface of dovetail. Move base from side to side adjusting bushings as necessary to correct. Make sure the leveling screws on each side of the table are adjusted same amount so that one corner does not get low. Repeat procedure to make sure table is touching on all points. Tighten lock nuts on leveling screws after needed adjustments shown by dial indicator. Make sure table is touching on all four points again. Fasten table back down and test drill with at least 3/8" diameter drill.

INACCURATE BORING - Check the following:

- 1—Sharpness and runout of drills.
- 2—Table locking lever on column (should always be locked firmly when machine is in use).
- 3—Spindle block gibs (keep these tight so that spindle block has no play on dovetail ways).
- 4—Flatness of workpiece on table (if work is not flat against table, holes will not be accurate to face of work).
- 5—Woods of uneven texture (woods with hard and soft grain, such as yellow pine, will cause drills to lead off).
- 6—Looseness of spindles in bearings (are frequently the cause of inaccurate boring).
- 7—Spindle adjusting screw lock (the spindle adjusting screws should always be locked in place so that the spindle units will not move out of position, once a setting is made).
- 8—Slippage of workpiece from pressure of drills.

JIGS & FIXTURES

The work table on the B-100 and B-600 have drilled and tapped holes for mounting special jigs and fixtures. The work table on the B-7 is not prepared for jig and fixture mounting since it is used mostly in cabinet and short run work where these are not normally used. Newton-Neroc Corporation does not offer jigs and fixtures as an accessory for our machines. It has been our experience that customers can build their own jigs out of wood to meet specific requirements much cheaper than we can furnish a universal type fixture to do varied operations.