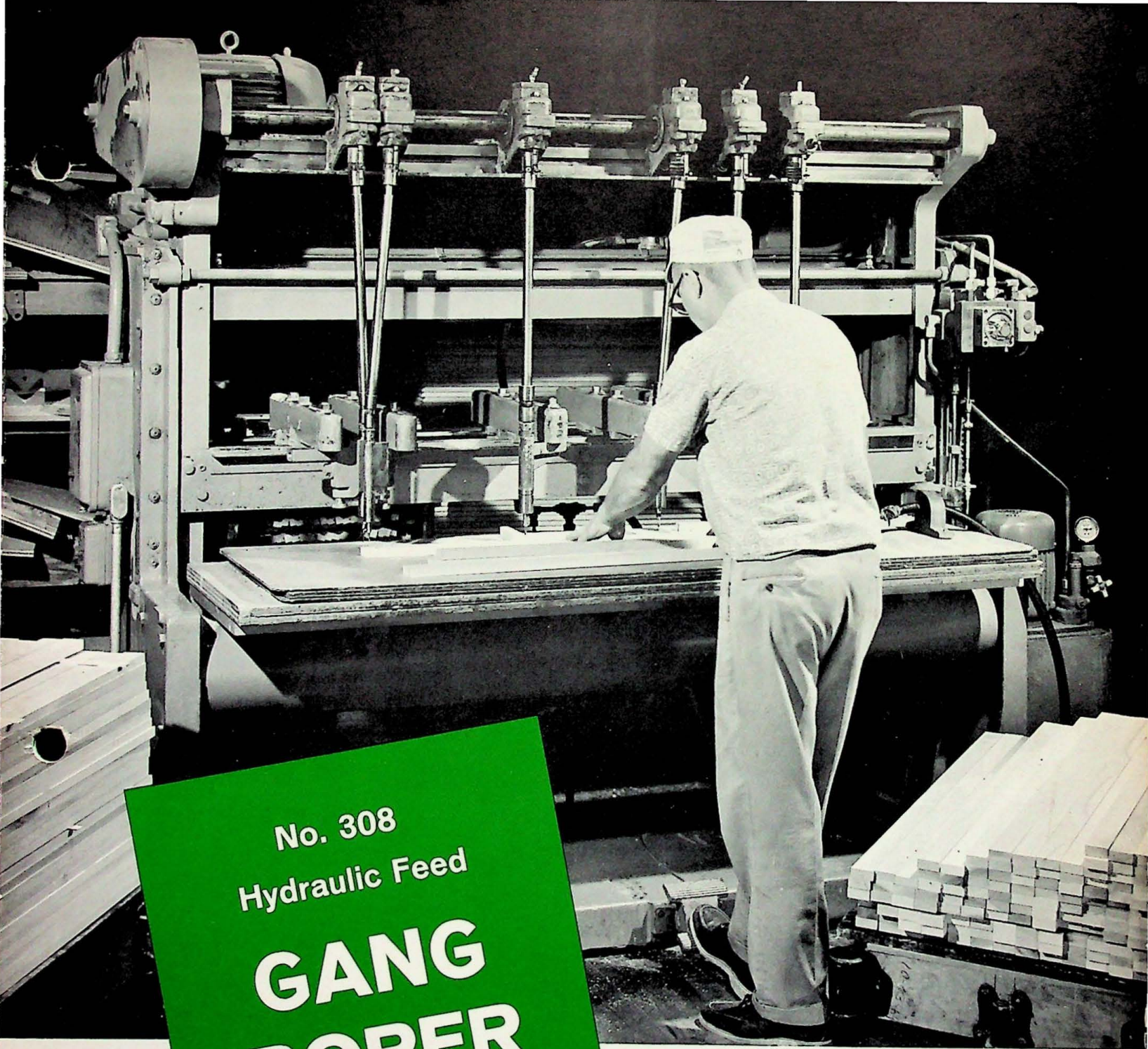
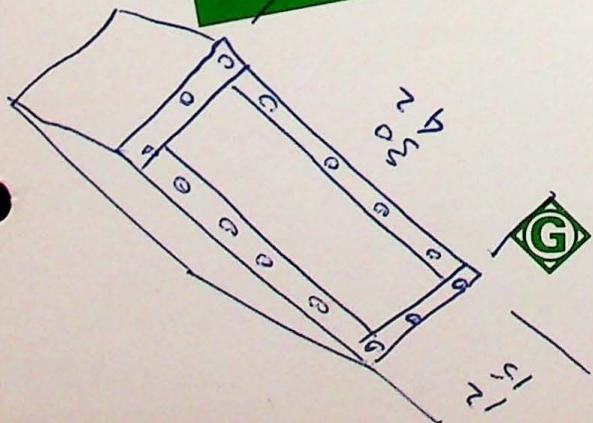




No. 308
Hydraulic Feed
**GANG
BORER**

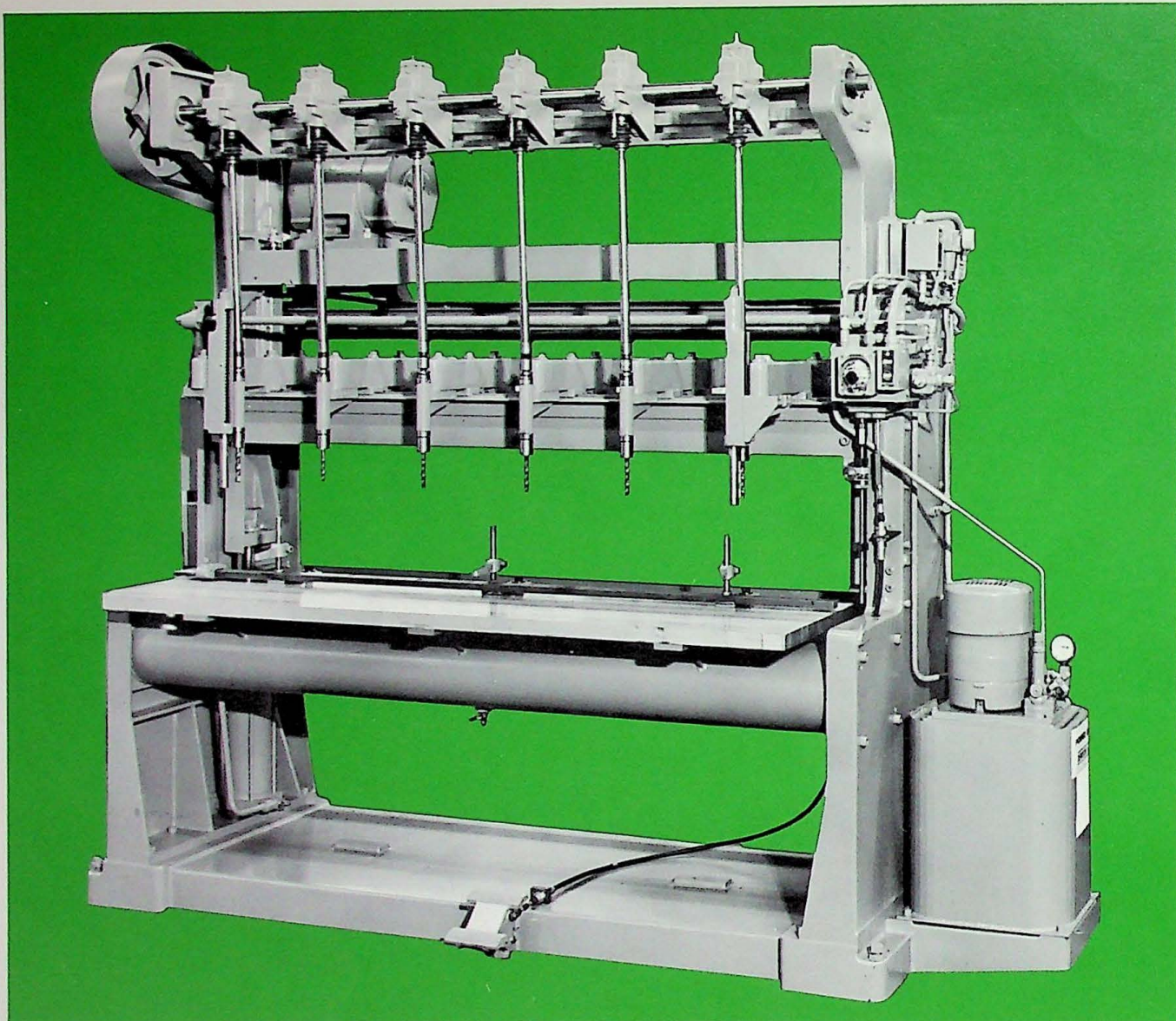


GREENLEE BROS & CO

2136 12th St., Rockford, Ill. 61101 U.S.A.

A Unit of Ex-Cell-O Corporation





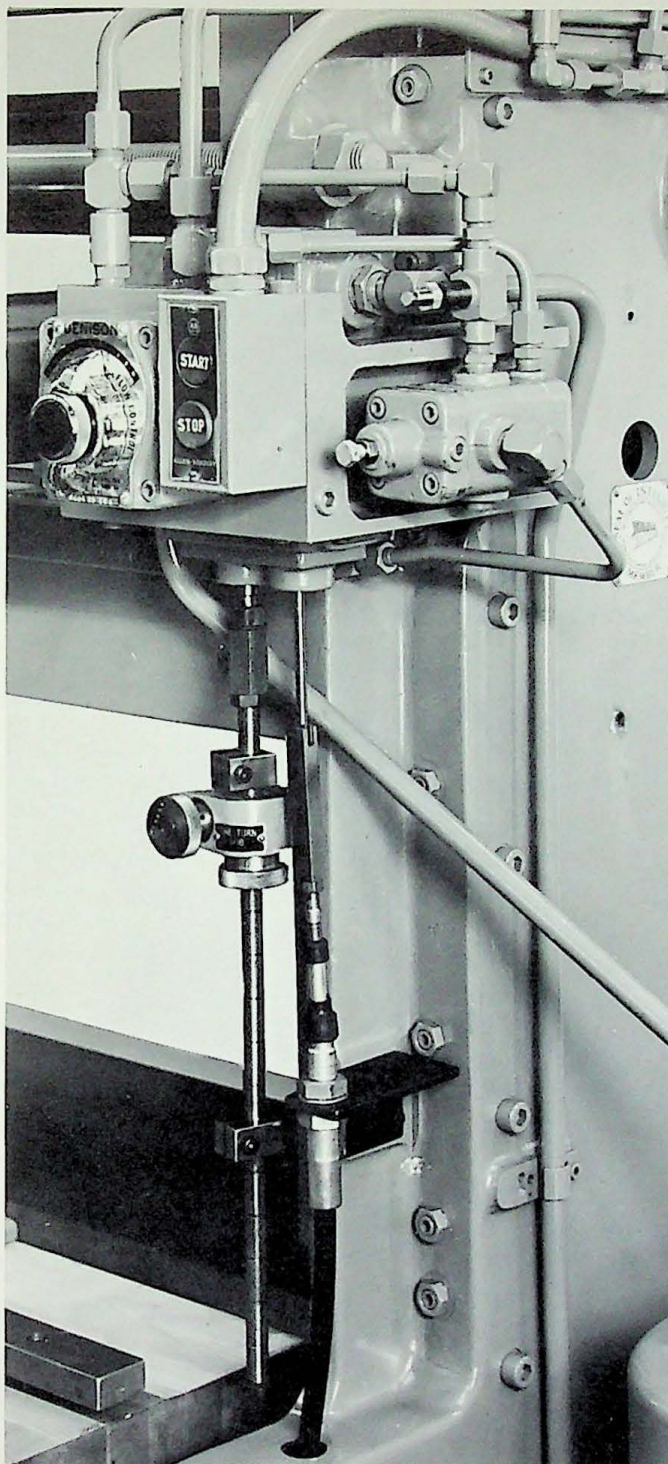
The Greenlee No. 308 Hydraulic Feed Gang Borer is well known as a high production machine. It is extremely accurate, smooth, quiet and fast. Recent improvements in the hydraulic circuit are a contributing reason for its ever-increasing popularity.

Of course, there are many other reasons why this machine is being received so well. The spindle carriage moves to and from the work table under precisely controlled hydraulic pressure. Spindle return is uniformly rapid regardless of the feed stroke speed. A "meter out" control eliminates uneven action of the feed stroke. Uniform boring stroke and accurate control of boring depth is assured. An automatic safety relief valve returns oil to the reservoir, instantly reversing the feed stroke, if jamming or overloading occurs. The stationary table permits more efficient operation. Operator fatigue is reduced, and setups are made quickly and easily. The advantage of a constant table height in

conjunction with "open back" design permits easy manual placement and removal of stock or use of special hopper feeding and automatic transferring devices. The glued-up hardwood table is rigidly fastened to the welded steel air reservoir. Back fence, end stop, and hold-down stops are adjustable and are mounted to the table top.

Pneumatic counterbalancing eliminates weights, chains, sheaves, and levers. Two air cylinders neutralize the weight of the moveable carriage and spindles. After each stroke, air is returned to the reservoir tank for reuse, instead of being exhausted. This reuse of compressed air greatly reduces operating costs.

If the air pressure should drop below the minimum counterbalancing pressure, a safety latch automatically engages, preventing downward drift of the spindle carriage. In addition, a safety switch stops the machine if the air source fails.



CONTROLS

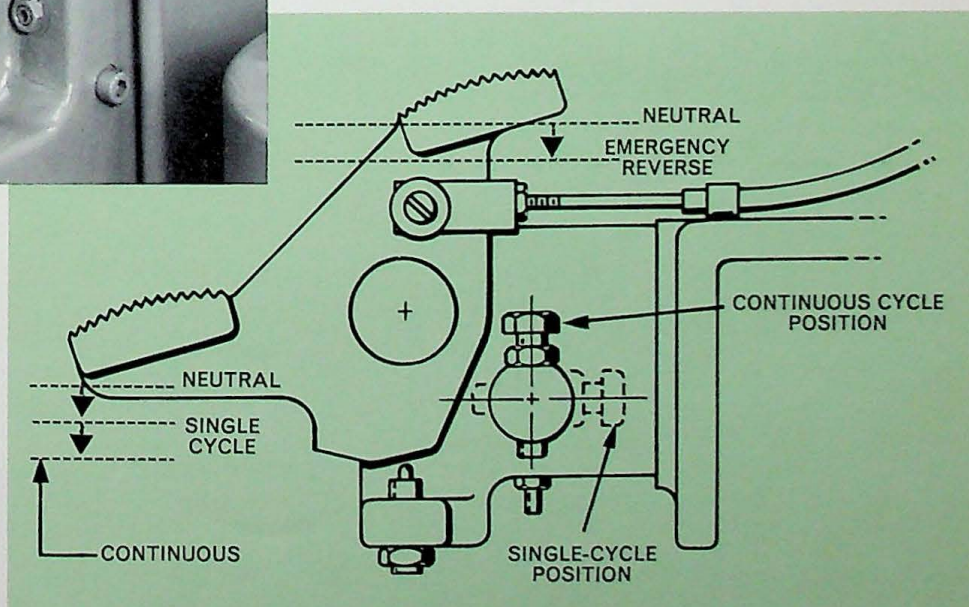
All operating and set-up controls are easily accessible to the operator from the front of the machine. The flow control valve is used for regulating the infinitely variable feed of the machine and also for making setups. By alternately turning the knob on this valve to the right and left, the spindle carriage can be jogged toward the table. The spindle movement can be stopped at any time by turning the knob to the zero setting. Thus, easy accurate setup and adjustments are quickly made.

The start and stop push button station is located to the right of the flow control valve.

The length of the feed stroke is determined by setting the upper and lower reversing collars on the shipper rod. Critical boring depth is controlled by the threaded micrometer adjusting sleeve that contacts the lower collar.

FOOT PEDAL

A single four-position foot pedal gives the operator instant, accurate feed control. Readily available are single cycle, continuous cycle, neutral and emergency reverse settings. Spring loading returns the pedal to the neutral position automatically except when depressed and locked in the continuous operating position. Simple manual positioning of the pedal stop screw selects either single or continuous cycle. Neutral or emergency reverse positions can be instantly attained by pressing the top of the pedal. The spindle carriage quickly returns to the top of the stroke when the pedal is depressed to the emergency reverse position. The machine remains in the neutral setting until the desired feed cycle is again started.



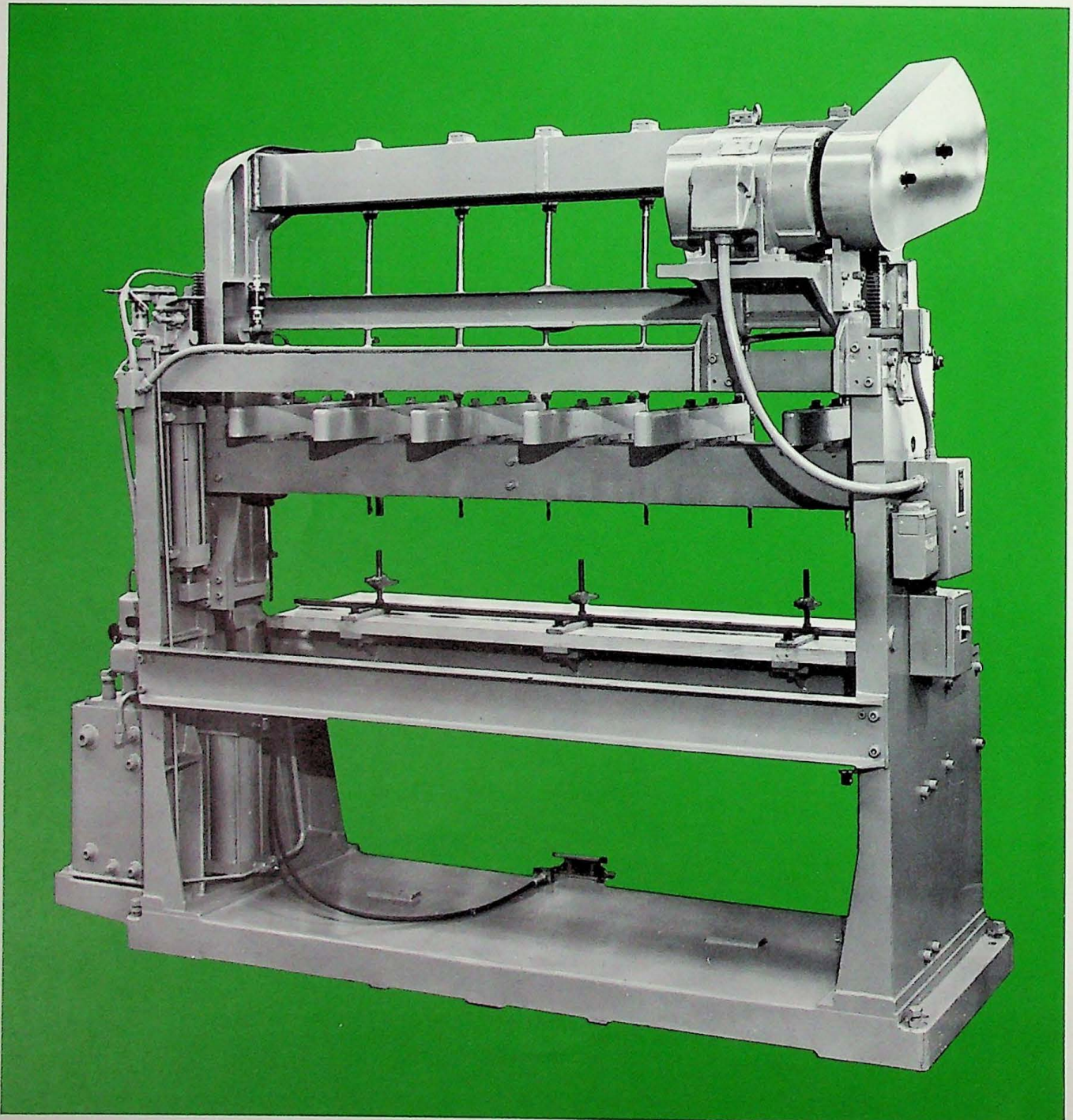
OPEN BACK CONSTRUCTION

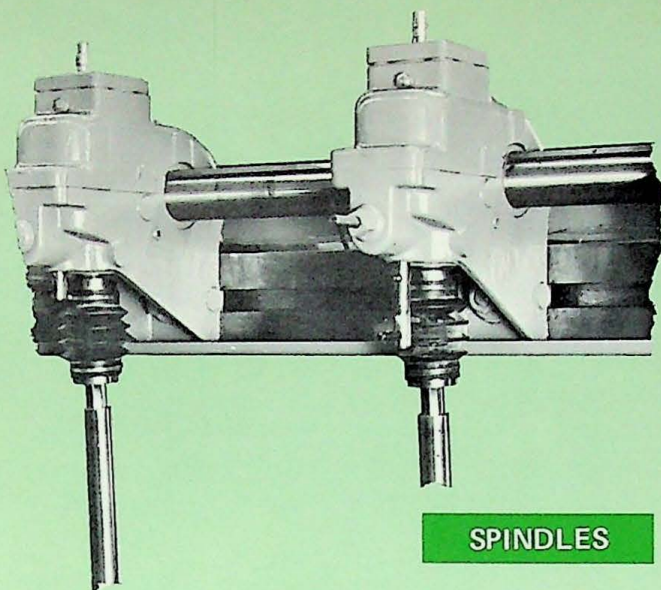
The open back frame construction has many advantages. Large work pieces, such as panels, can extend beyond the rear of the table. Back fence, end stop and holddown stops may be removed when rear offbearing is desired for stacking or automatic conveyance to another area.

Design and location of the end frames permits passage of stock lengths up to the rated length of the machine.

The open back and fixed table of the No. 308 also permits

the use of special attachments. A hopper feeding device with automatic transfer can increase the production potential of the machine. In addition, the stationary table allows the attachment of self-feed horizontal boring units (air or hydraulic). Greenlee can also furnish special tilting spindles for certain angle-boring jobs such as chair seat boring. These units increase the versatility of the No. 308. The company welcomes inquiries and thoroughly investigates individual applications.



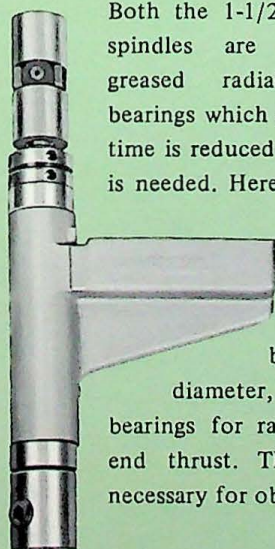
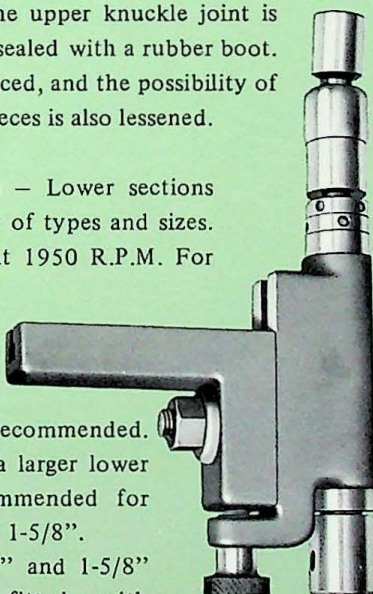


Top Drive Units – Each spindle has an enclosed roller and ball-bearing top drive. This assembly, including steel-to-bronze spiral drive gears, are housed together and remain in perfect mesh, facilitating setup. A shifter rod with lock pin is provided on each drive housing to disengage the drive when any spindle is not in use. Power is transmitted by a double-keyed shaft between upper and lower knuckle joints. The upper knuckle joint is packed with grease and sealed with a rubber boot. Maintenance time is reduced, and the possibility of grease damaging work pieces is also lessened.

Lower Spindle Sections – Lower sections are available in a variety of types and sizes. Standard spindles run at 1950 R.P.M. For average requirements, where closer than 1-1/2" centers are not necessary, the 1-1/2" lower spindle section is recommended. A similar unit, having a larger lower knuckle joint, is recommended for minimum hole centers of 1-5/8".

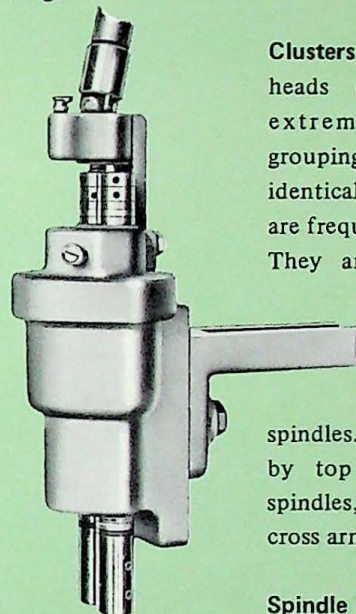
Both the 1-1/2" and 1-5/8" spindles are fitted with greased radial-thrust ball bearings which are sealed at one end. Maintenance time is reduced because a minimum of lubrication is needed. Here again, the possibility of damaged work pieces due to oil or grease stains is minimized.

Spindles for 1-1/4", 1" or smaller minimum centers can be furnished. Because of reduced diameter, these lower sections have bronze bearings for radial loading and ball-bearings for end thrust. They should be used only when necessary for obtaining close hole centers.



Spindles having 1/2" diameter sockets with set screw fastening are normally furnished for use with straight-shank tools. However, other socket sizes are available, as well as collet-type chucks and tapped sockets for screw-shank drills.

Lower spindle sections of all sizes can be furnished in either the rigid or adjustable type. The adjustable type, preferred because of its 2" screw vertical adjustment, provides convenient, individual control in setting each boring tool to the exact depth. It is particularly valuable when counterboring or in setting resharpened tools of varying lengths.



Clusters – Special cluster spindle heads can be furnished when extremely close-center hole groupings are required or where identical patterns of hole spacing are frequently used.

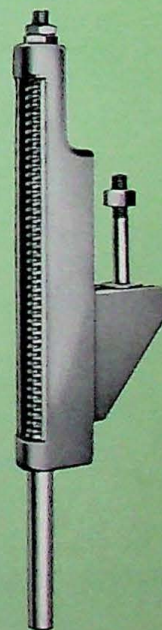
They are built to suit customer requirements. The work pattern determines the arrangement of the spindles. Cluster heads are driven by top drive units of standard spindles, and extend from standard cross arm supports.

Spindle Cross Arm Supports –

Lower spindle sections extend from slotted cross arm supports, which are carried on deep cross channels of the machine frame. Each arm, locked in place by two clamp blocks and bolts, is slotted for 12" cross adjustment and can be positioned at any desired angle. Several spindles can be mounted from one arm when boring holes in groups.



Spindle Hold-Downs – Plunger type spring hold-downs are used to hold the work piece to the table during the boring operation and while the bits are being withdrawn. Usually two to four are required depending upon the size and type of material being bored. They are easily attached, adjusted and removed. Extra-range hold-downs can be supplied when the machine is used for deep drilling.

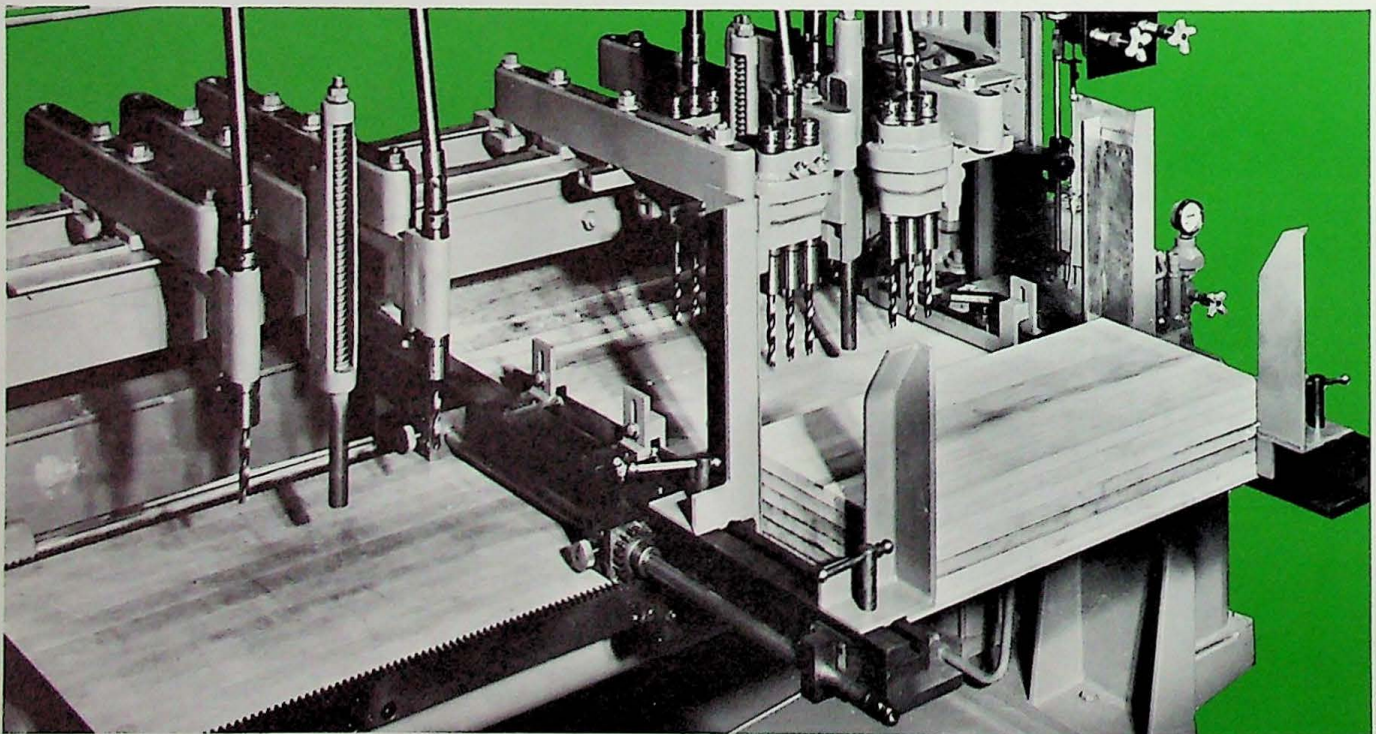


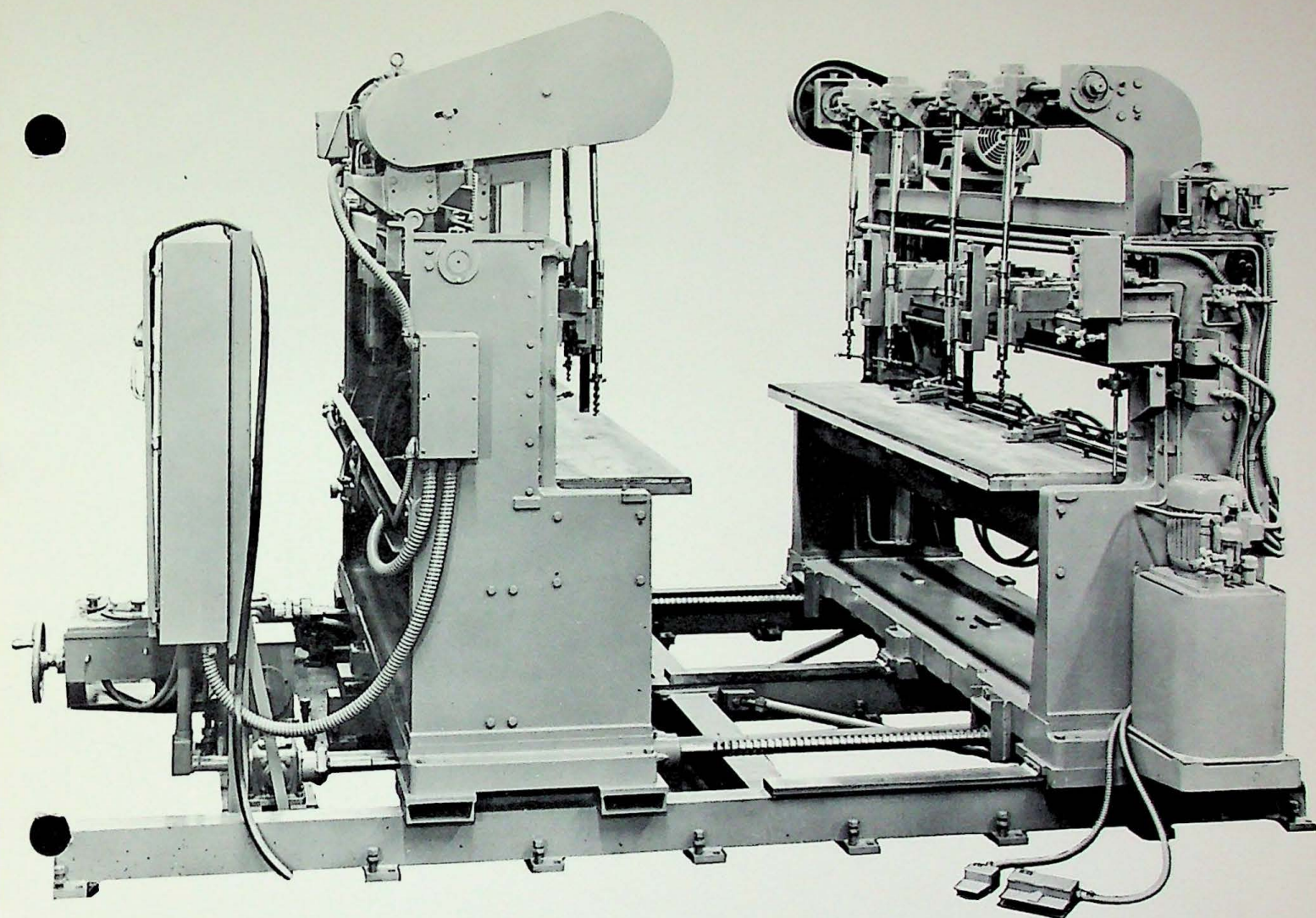
SPECIAL ATTACHMENTS



Angle Boring — Angle boring units are generally used in chair seat boring operations. However, they can be used for various other boring requirements. This unit eliminates one of the largest production snags in most woodworking plants. Accuracy is assured, setups are simplified, and production is increased. In most cases, standard top drive units and cross arm supports can be used with the special spindles.

Hopper Feed — As previously mentioned, the stationary table and open back design of the Greenlee No. 308 makes the addition of a hopper feed and transfer arrangement exceptionally practical. Stock can be transferred automatically from the hopper, to the boring area, and out through the rear of the machine. When desired, relatively narrow stock can be transferred to the rear of the table for return to the operator on angular mounted chute located beneath the table. While irregular shapes and stock that is not of uniform dimensions, do not lend themselves to hopper feeding and transferring, there are numerous types and sizes of stock that can be bored by this accurate, high production method.





Two Special 8-Foot No. 308 Boring Machines arranged on a common base for boring of skids. The machines can be used individually for smaller parts. The right hand moveable

machine can be opened to a maximum of 60" between spindles. Adjustment is fast and extremely accurate.

SPECIFICATIONS

The No. 308 Gang Borer is made in 6 and 8 foot lengths.

Machine Size	6 Foot	8 Foot	Spindle motor HP	7-1/2 to 20
Actual boring area	12" x 78"	12" x 102"	(Special power requirements available)	
Table top	20" x 78"	20" x 102"	Minimum and maximum distance from spindle nose to top of table	4" to 16"
Floor space	44" x 110"	44" x 134"	Spindle stroke adjustment	1" to 12"
Spindle capacity-Maximum	23	30	Cross adjustment of spindles	12"
Weight (Net)	4800	6500	Minimum and maximum rate of spindle feed, inches per minute	0 to 165"
	Complete with 8 spindles and 10 HP drive motor	Complete with 10 spindles and 15 HP drive motor	Spindle strokes per minute	0 to 36
(The following specifications apply to all machines)			Hydraulic feed motor HP	2
Spindle RPM	1950		Reservoir oil capacity	16 Gal.
			Maximum overall height	8 Ft.
			Distance table top to floor	36"



GREENLEE BROS & CO

2136 12th St., Rockford, Ill. 61101 U.S.A.

A Unit of Ex-Cell-O Corporation 