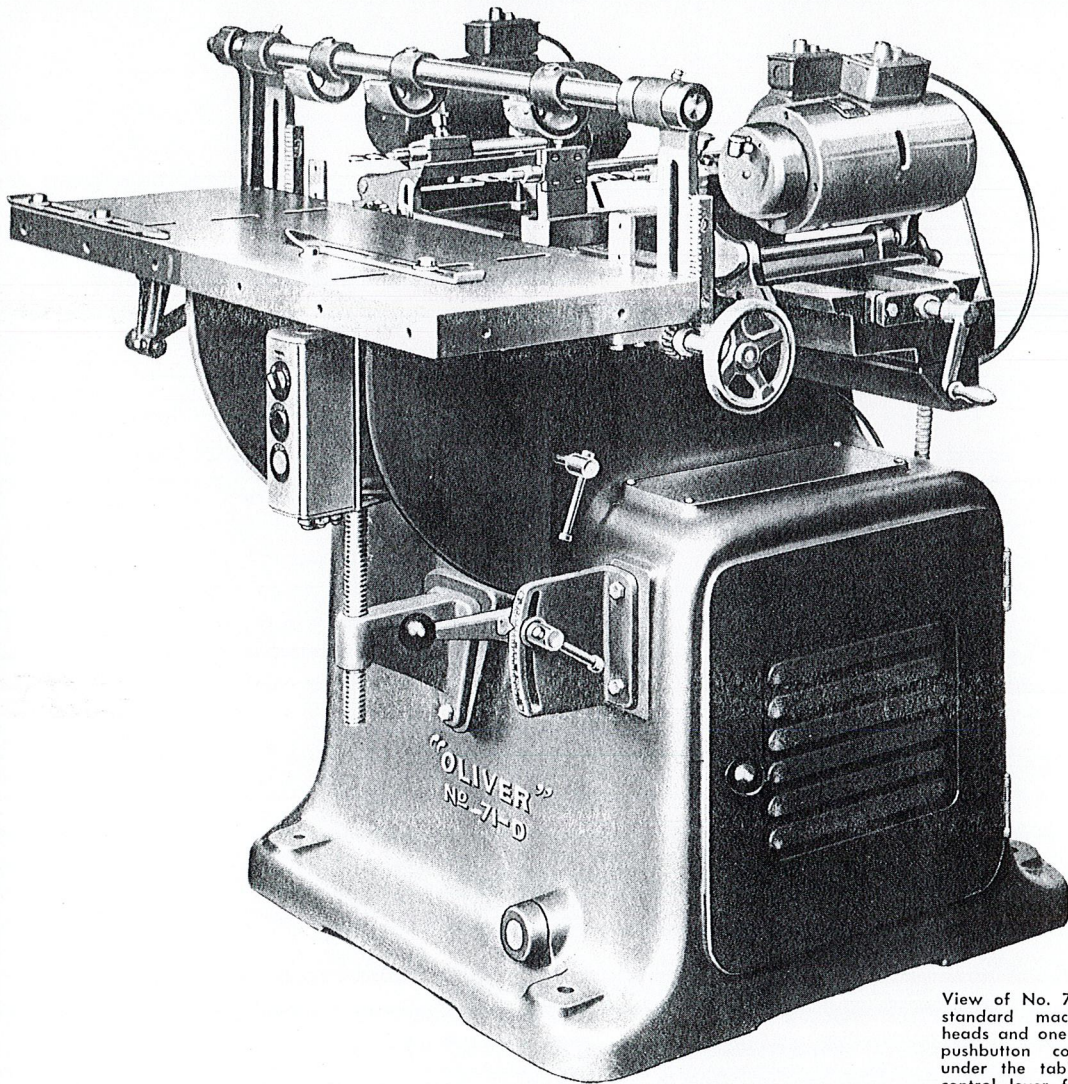




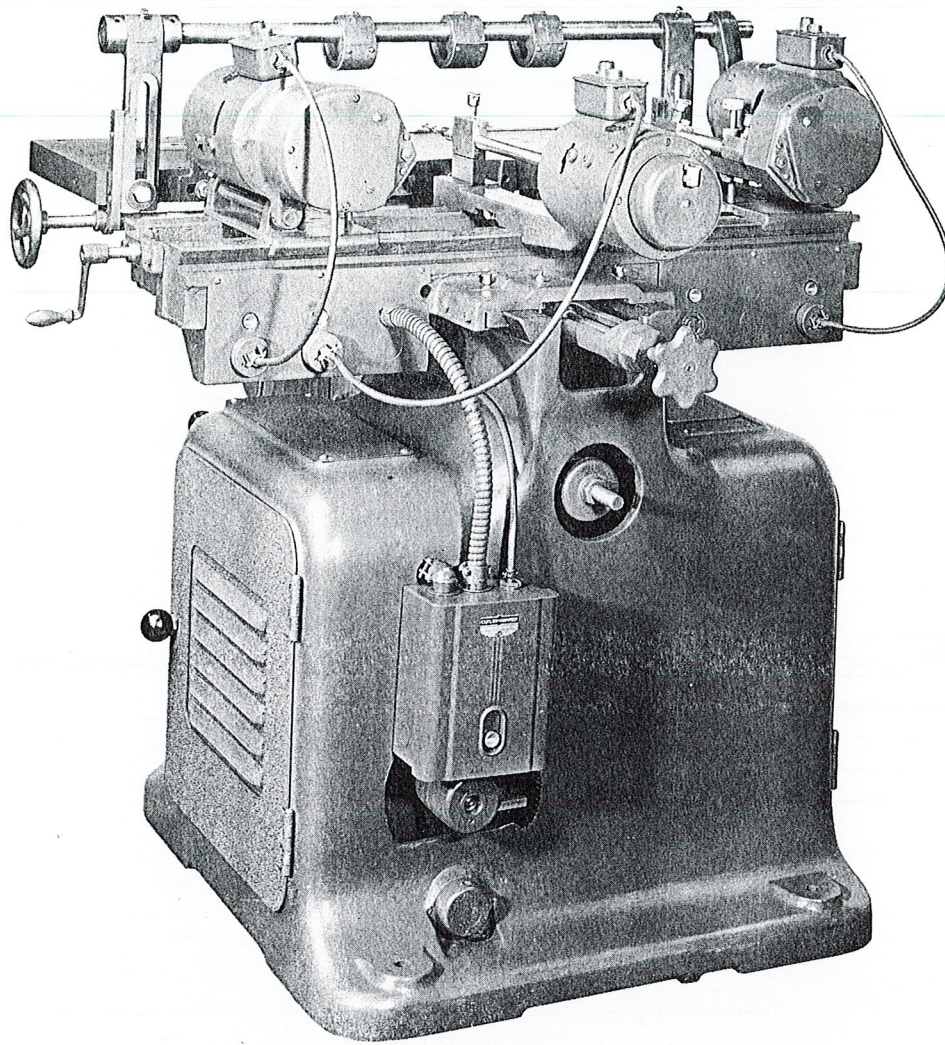
No. 71 HORIZONTAL BORING MACHINES



View of No. 71-D Borer showing the standard machine with two side heads and one center head. Note the pushbutton control station directly under the table, and also the feed control lever for any speed between 8 and 22 strokes per minute.

OLIVER

OLIVER MACHINERY COMPANY, GRAND RAPIDS, MICH. 49504



Rear view of machine showing the totally enclosed fan-cooled head motors. Note the three-pole plug-in stations in the rear of the slide. Only one cable moves while machine is operating. Heavy base encloses all working parts.

The automatic action of this Borer speeds production, reduces costs

CAPACITY

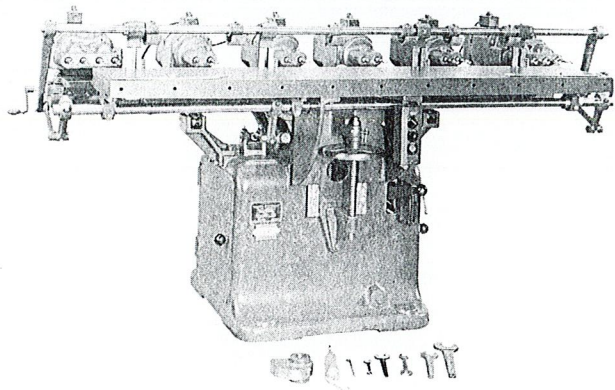
The standard No. 71-D Borer carries one, two or three single or multiple spindle boring heads. It bores holes with distance between centers from $\frac{7}{8}$ -inch to 30 inches. By reversing position of outside spindles holes can be bored up to 42 inches between centers. Two or three extra boring heads can be added.

No. 71-DX Borer has 18 inches extra capacity with 18 inches longer table, slide and clamping parts. Regularly carries as many as four single or multiple spindle boring heads.

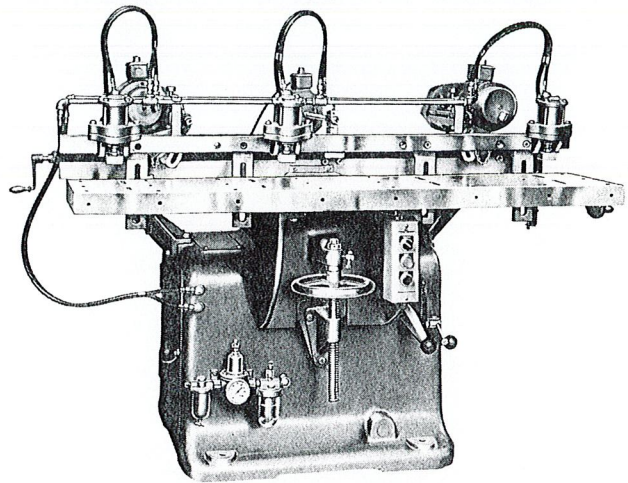
No. 71-DXL Borer carries as many as six boring heads. Can bore holes on 72-inch centers between two outside spindles.

ELECTRICAL DATA

The No. 71 Boring machines are completely motorized. All motors have ball or roller bearings. Each single spindle head has its individual motor. The side heads are geared to the motor, all gears running in oil. The center and intermediate heads have motors mounted directly on the spindles with ball bearing thrust bearings. A separate motor drives the hold-down clamps and feed mechanism. A single push button station, conveniently located, starts all or any combination of motors. If one motor is overloaded, all motors stop, and start again only after resetting the relay. Motors are also protected against low voltage or single phasing. A switch is mounted on each motor. Individual cords with twist-lock plugs are attached to receptacles at rear of slide.



Front view of No. 71-DXL Borer showing six special heads for boring 16 holes in door stiles. Note the push-button control station under the table.



Front view of No. 71-DX Borer. Air clamps shown are available at extra cost if desired.

This eliminates the flexing of all but one cord. The No. 71-D is regularly equipped with four receptacles, and the No. 71-DX and No. 71-DXL with six.

TABLE

The table of the No. 71-D measures 15 x 39 $\frac{3}{4}$ inches. The No. 71-DX table measures 57 $\frac{3}{4}$ inches long; the No. 71-DXL table 76 inches. Table is stationary during the boring operation, but can be raised or lowered 9 inches with large handwheel, with locking screw on right hand side of knee.

METHOD OF OPERATION

The Oliver Horizontal Boring machine operates at speeds limited only by the ability of the operator to handle stock. With this machine an unskilled operator can turn out twice as much work as a skilled operator with foot-power, hand-clamp machines. This increased speed of automatic operations cuts production time.

The operator places the stock in position on the table. The automatic hold-down clamps it securely. The traveling carriage with boring heads comes forward automatically, and bores the holes. Then the operator removes the finished piece from the table, places a new one in position, and the operation is repeated.

SPINDLES

All spindles run at 3600 r.p.m. They are made of nickel steel. The spindle bearings are bronze with laminated shims to compensate for wear. Ball bearings carry the forward and backward thrust.

AUTOMATIC CLAMPING

The cams are timed to operate just ahead of the feed. The cam and mechanism to regulate clamping is enclosed to keep it free from chips and dirt. The clamps are actuated by a cam with quick release. An adjustable compression spring regulates the pressure to hold the stock rigidly in place without marring it. The clamps are adjustable to accommodate varying thicknesses of wood. Clamping capacity of the No. 71-D under the shoes is 5 inches. The clamping shoes are adjustable horizontally on the rod, and are leather covered so they will not mar the work. Usually one shoe is set over each boring bit.

AIR CLAMPS

Automatic air clamps can be furnished in place of the eccentric clamps for a slight additional charge. Clamping capacity under air clamps is 5 inches.

AUTOMATIC FEED

The boring spindles and motors are mounted on the sliding carriage to move forward and backward on machined and hand-scraped ways. The feed, driven by the same motor that runs the clamps, is timed for boring to start immediately after stock is clamped in place. A cam in the cast iron column gives the carriage a steady forward motion and quick return. The rate of feed is adjustable from 8 to 22 strokes a minute for various types of work. Feed control is located at front of machine. The stroke is adjusted for boring varying depths by the small handwheel at rear of machine. The fixed depth is maintained by the long forked locknut.

FEATURES

1. Automatic clamping of wood relieves operator of firing work.
2. Automatic power-feed lessens fatigue of operator, increases production.
3. Table and work remain stationary to reduce waste motions of operator.
4. Quick return of feed and quick release of clamp give ample time to operator to remove work, permitting high rates of feed.
5. Single push button in front controls all motors. A selector switch marked "inch-run" permits using start button as an inching button when setting up work.
6. Safety panel at rear of slide protects each motor from overload and undervoltage. If one motor stops, they all stop.
7. Each boring head driven by totally enclosed, fan-cooled motor.
8. Cast iron table is accurately machined with tapped holes to fasten forms.
9. Standard machines bore holes as close as $\frac{7}{8}$ -inch, as far apart as 30 inches, between centers; by reversing the two outside sideheads, 42 inches between centers.
10. Extra boring head easily added.
11. Spindles of side heads can be adjusted vertically to bore staggered holes, but have taper pin location for accurate permanent horizontal location.
12. All parts and units interchangeable with gibs and laminated shims to compensate for wear.

EQUIPMENT

Regular equipment includes three motorized spindle heads, automatic hold-down clamp, feed motor, push button remote starting switch, individual cut-out switches for each motor, wrenches, one set of three screw shank brad point dowel bits $\frac{3}{8}$ -inch diameter, starters and internal wiring.

SPECIFICATIONS

CAPACITY

- $\frac{7}{8}$ -inch to 30 inches — 71-D
- $\frac{7}{8}$ -inch to 48 inches — 71-DX
- $\frac{7}{8}$ -inch to 72 inches — 71-DXL

TABLE

- 15 x 39 $\frac{3}{4}$ inches — 71-D
- 15 x 57 $\frac{3}{4}$ inches — 71-DX
- 15 x 76 inches — 71-DXL

CLAMPING

Automatic mechanical — cam operated. One clamp for each boring head.

AUTOMATIC FEED

Table and work piece is stationary. Boring heads move forward and backward by cam action. Powered by a 1 H.P. motor, Rate of feed 8 to 22 strokes per minute.

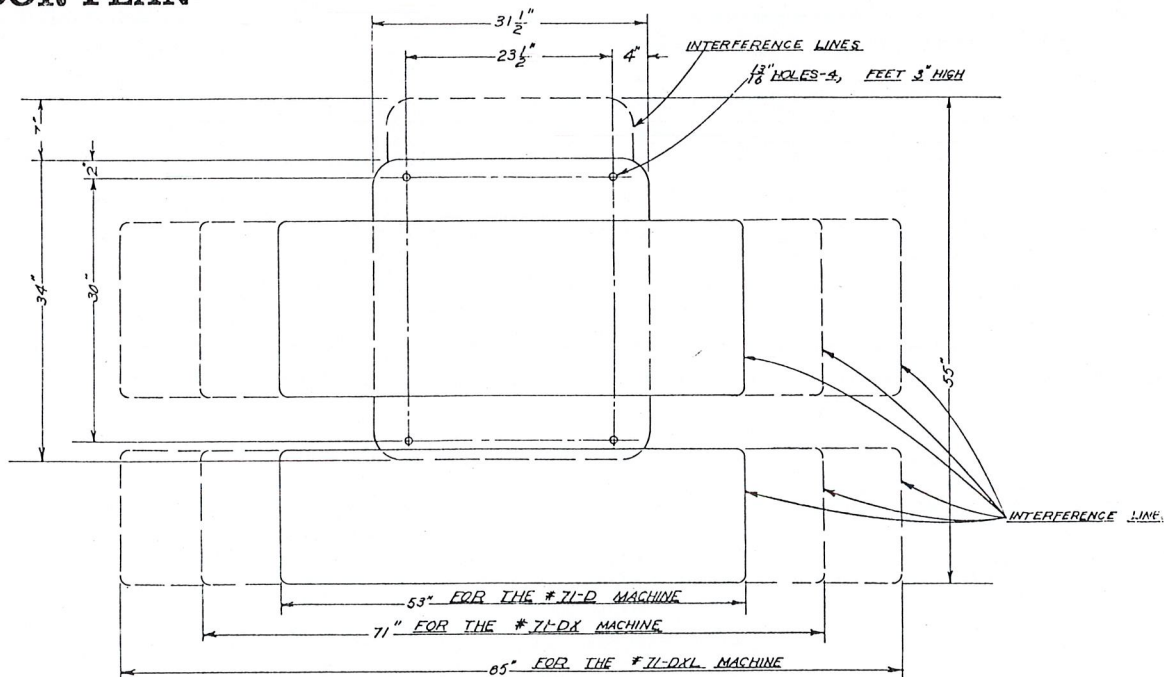
STROKE

Length 2 $\frac{1}{4}$ inch standard.

OPTIONAL FEATURES

- Air clamps
- Mortising head
- Wide selection of boring heads
- Stroke lengths — 3 $\frac{1}{4}$, 4 $\frac{1}{4}$ inch

FLOOR PLAN



(Specifications are subject to change without notice.)

OLIVER MACHINERY COMPANY, GRAND RAPIDS, MICH. 49504