

OLIVER MACHINERY COMPANY

No. 55

"Oliver" Motor Driven Speed Lathe 12"

(Using Alternating Current)

Adaptation These lathes are designed for educational institutions, factories or government and engineering works. Every part of this lathe is proportioned for service and durability. It will endure hard usage at a very small cost of operation.

Driving Power This is received by belt from a cone pulley which is fastened on the end of the armature shaft of a high grade alternating current motor hung from a bracket secured to the left hand column supporting the bed. The vertical adjustment of the motor bracket keeps the belt tight, doing away with slippage. Having no moving contact and no wearing parts except the two bearings which are ring oiled, the cost of maintenance and repairs is almost nil.

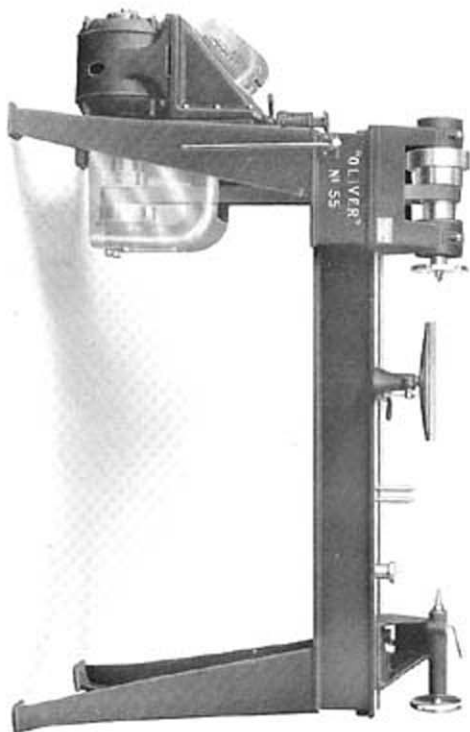
Motor Bracket This supports the motor, and outside bearing for the cone pulley. It is tongued and grooved on the outside of the left column against which it is held with four sliding bolts that play in suitable slots. At the top of the bracket is located the switch—easily accessible. Raising the motor and bracket is done by a quarter turn of the handle at the end of the bed. This releases the belt instantly and enables the operator to start the motor at no load, slackens the belt and makes it easier to shift it to different steps of the cones and provides a method of stopping the lathe for short periods without stopping the motor.

The Bed This is made of cored metal,—very heavy and well ribbed for eliminating vibrations. The portion which receives the head stock is made wider than the remaining part to allow the belt to pass down.

The top of the bed is flat and is so broad that the operator's tools can not work down to get lost among the shavings. Two brackets are fastened on the back of the bed to receive a board for holding tools.

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NO. 55 "OLIVER" A. C. MOTOR DRIVEN SPEED LATHE. Front view.



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Continued

Head Stock

It has a broad base and heavily ribbed bearing stands. All of the metal directly below the cone pulley is cut out, allowing the belt to pass down freely. The head spindle is crucible steel, of large diameter. It is hollow and machine ground true. The end is threaded for face plates and is bored for No. 2 Morse taper shanks. The spindle bearings are fitted with split bronze bushings and ring oiling devices. Wear of the spindle is compensated for by adjusting liners under the caps. Perfect lubrication is maintained by ring oilers, by which oil, from oil wells, is carried to the journals maintaining a constant film of oil on the journals.

Spindle Cone

This is cast iron finished all over to a perfect running balance. It has four steps and is well secured to the spindle. It may be held rigid, while face plates are screwed on or off. The end thrust is well cared for by the ends of the cone pulley pressing against the bronze bushings. End adjustment is made by expanding the cone pulley.

Tail Stock

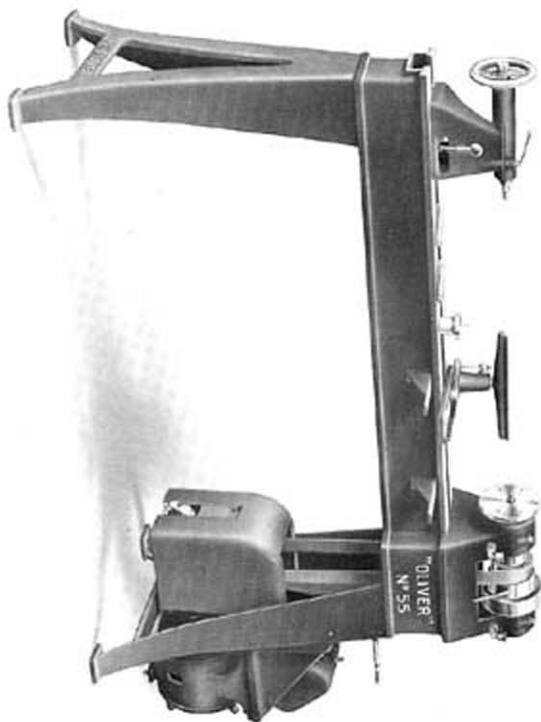
This is of the open side design which permits cutting tools to reach the centers. A hand lever with a shaped concave end piece clamps the tail spindle and a hand lever, clamps the tail stock at any position on the bed. The tail spindle is made of large diameter and is accurately bored to receive No. 2 Morse taper. The end of the hand wheel rod is held in a sleeve, and square threaded into the tail spindle and operates it easily. The tail center may be removed by simply backing up the screw.

Hand Feeding Carriage

This may be furnished with this lathe. The apron has a wide support on the front. A hand wheel operates it freely in either direction. It is constructed with cross feed and compound swivel rest. When furnished with carriage the tail stock is provided with a set-over device to be used in taper turning.

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NO. 55 "OLIVER" A. C. MOTOR DRIVEN SPEED LATHE. Rear view.



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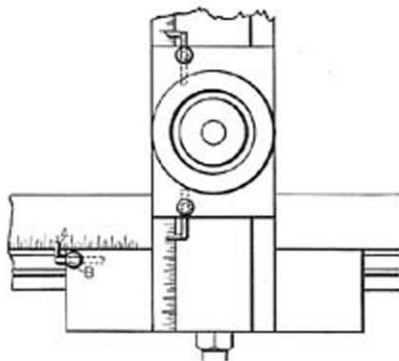
"Oliver" Motor Driven Speed Lathe. 12"

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Compound Swivel Tool Rest

This consists of a cross feeding device and tool rest supported by two circular plates, graduated and so made as to permit the use of the tool on angular lines.

Graduations for Carriage



The top of the bed and the guide of the cross slides are accurately graduated by sixteenths and are provided with pointers that may be adjusted to any mark. This arrangement enables the operator to turn work to a definite length or depth without having to "fit and try."

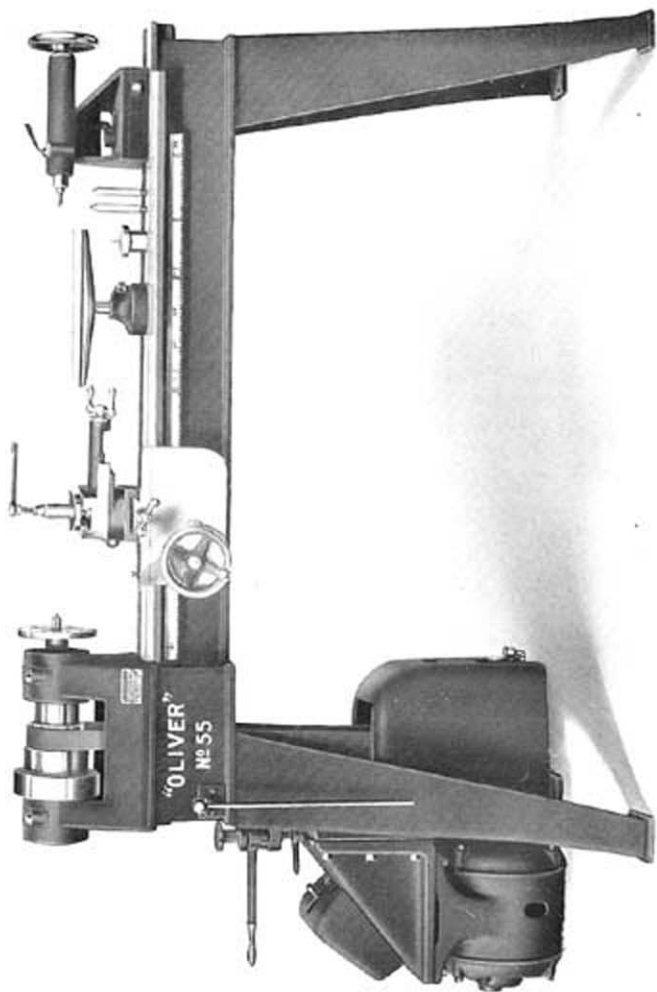
Hand Tool Rest

This is strong and durable, has a turned shank of large diameter and is adjustable to varying heights. The rest holder is secured at any position on the bed. To provide a smooth and rigid bearing for hand tools, a ridge is milled out about 1" from the front edge to act as a guide to the operator in turning cylindrical work. The rest socket is fitted with a powerful clamping device which provides a uniform pressure on the rest shank. Hand turning in connection with the carriage is easily performed by replacing the regular tool holder with a specially designed hand tool rest which may be fastened on the carriage almost instantly.

Equipment

This consists of one spur center $\frac{3}{4}$ ", one cup center $\frac{1}{2}$ ", two conical centers $\frac{3}{4}$ ", one rosette chuck $2\frac{1}{2}$ ", one face plate 6", one hand tool rest with rest holder, one center rod and one suitable endless belt placed in position. When lathes are ordered with carriage, instead of the regular hand tool rest and clamp spoken of above, a specially designed hand tool rest is furnished for use on the carriage in addition to the swivel tool rest.

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NO. 55 "OLIVER" ALTERNATING CURRENT MOTOR DRIVE SPEED LATHE
12-inch swing. View showing hand feeding carriage

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No. 55

"Oliver" Motor Driven Speed Lathe 12"

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General Dimensions

Head Stock	12 $\frac{1}{4}$ " long and 10 $\frac{1}{2}$ " wide on the bottom. Spindle 15 $\frac{1}{2}$ " long over all, 1 $\frac{3}{8}$ " diameter. Hole through spindle $\frac{5}{8}$ " diameter. Speed of spindle 700, 1465, 2130, 2975 revolutions per minute. Cone on spindle four steps—3 $\frac{11}{16}$ ", 4 $\frac{3}{16}$ ", 4 $\frac{5}{8}$ ", 6 $\frac{1}{2}$ " diameter, 1 $\frac{3}{4}$ " face. Width of belt 1 $\frac{1}{2}$ ". Distance from floor to center of spindle 46". Front bearing 3" long, 1 $\frac{1}{2}$ " diameter. Rear bearing 3" long, 1 $\frac{3}{8}$ " diameter.
Tail Stock	7" long, 6" wide: Spindle 8" long, 1 $\frac{1}{4}$ " diameter. Adjusting screw, 8 threads to the inch. Spindle bearing 8" long. Traverse of spindle 4". Amount of set-over 1"—Provided with lathes having carriage.
Carriage	Travel of carriage on bed, 36 $\frac{3}{4}$ " on a 5' bed. Travel of cross feed 6 $\frac{1}{2}$ " and compound rest 3 $\frac{1}{2}$ ". Bearing on bed, 10". Tool Post Slot 2" x 1 $\frac{13}{16}$ ".
Bed	Length 48" and 60" regular. Width, 6 $\frac{5}{8}$ ". Depth, 6 $\frac{1}{4}$ ". Height, floor to top of bed, 32".
Floor Space	24" wide and 5' long for a bed 4' long.
Motor	Alternating current motor, $\frac{1}{2}$ H. P. Speed 1700 revolutions per minute.
Drive	Motor cone, four steps 2 $\frac{5}{8}$ ", 4 $\frac{3}{4}$ ", 5 $\frac{1}{4}$ ", 5 $\frac{7}{16}$ " diameter. 1 $\frac{3}{4}$ " face.
Motor Bracket	Rise per quarter turn of handle, $\frac{5}{8}$ ". Contact ways on column 9" long, 10 $\frac{1}{2}$ " wide. Base for receiving motor 11 $\frac{1}{4}$ " long, 7" wide. Maximum adjustment to take up belt stretch $\frac{3}{8}$ ".
Capacity	Swing over bed 12". Swing 36" between centers on a 5' bed. Swing over hand tool rest 9" and over carriage 9 $\frac{1}{2}$ ".

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Continued

CODE, WEIGHT, ETC.

Machines with plain bed

Code	No.	Swing	Capacity Between Centers	Domestic Weight	Foreign Weight	Measurement in Cubic Feet
Encore	55-A	12"	24"	485	585	40
Encyst	55-B	12"	36"	530	630	41

Machines with hand feeding carriage fitted with compound Swivel rest

Endon	55-C	12"	36"	610	710	44
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Motor Data

We are prepared to furnish alternating motors of any voltage and cycles, either single or polyphase. The Lathes are so constructed that we can introduce any type of standard motor that may be desired. We do not endorse or recommend all types of motors and when other than our selected types are used we do not assume any responsibility as to their working satisfactorily. We call attention to this because there seems to be a desire on the part of some to dictate the type of motor to be used. We always guarantee the product we recommend.

In ordering No. 55 Lathes keep in mind that this lathe is designed for ALTERNATING CURRENT electric power, and therefore to furnish the right kind of a motor, it is absolutely necessary that you give us the correct VOLTAGE, PHASE AND CYCLES of your local power.