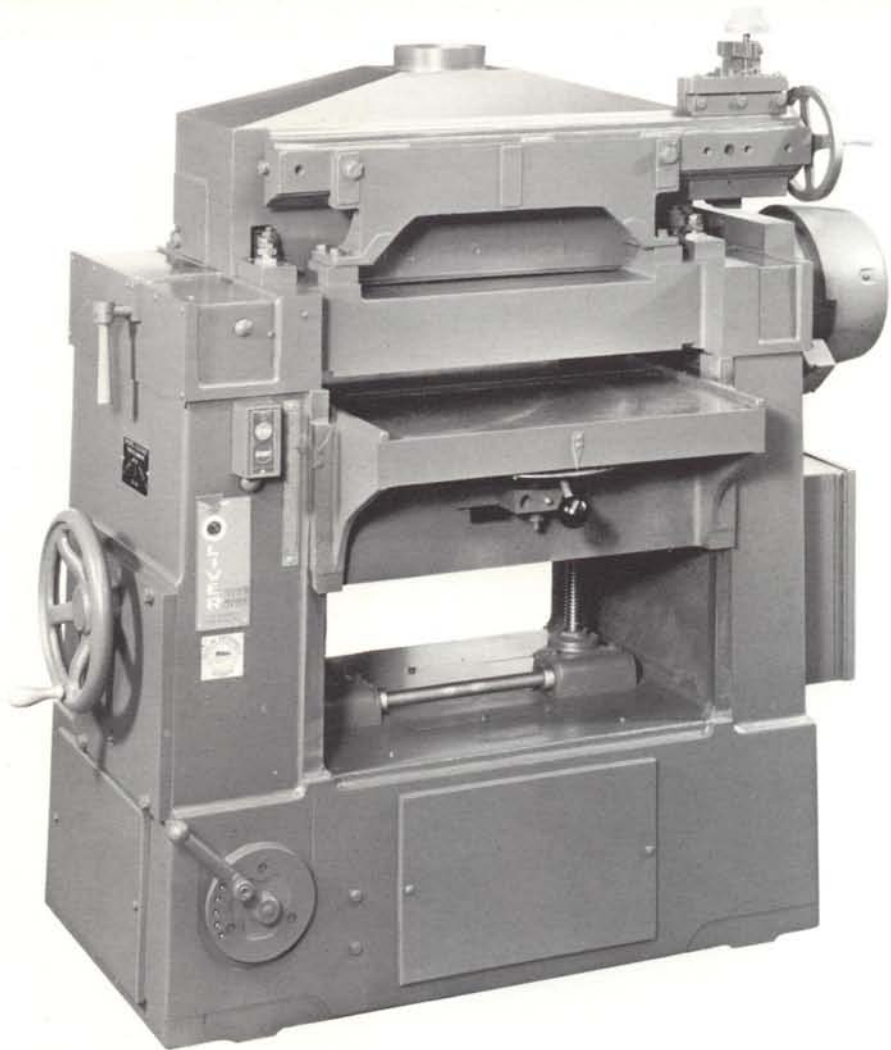




No. 299  
24-inch SINGLE SURFACER

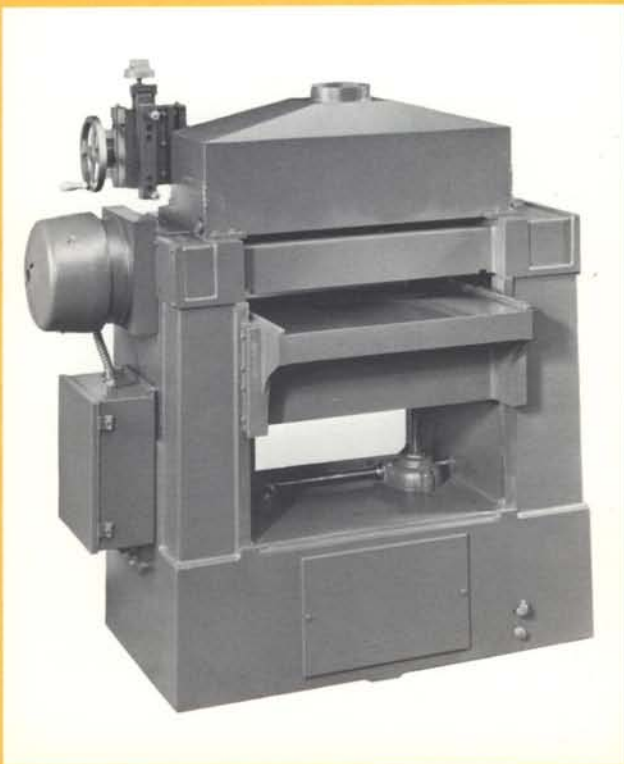


# OLIVER

OLIVER MACHINERY COMPANY, GRAND RAPIDS, MICH. 49504

# Does your surfacer have an I.T.C.H.\* cutterhead?

\*(INSERTED TOOTH CARBIDE HEAD)



Rear view of 299 surfacer with dust hood attached.

The Oliver No. 299 Surfacer will plane stock up to 24 inches wide, up to 8 inches thick at any speed from 20 to 60 feet per minute. Feed speed is controlled by lever located convenient to the operator. Other optional feed speeds are 15 to 45 f.p.m. or 30 to 90 f.p.m.

## BASE

A one-piece, heavy box-type casting, having a three-point floor bearing, forms the base of this surfacer. It assures a base properly aligned to support the table and cutter head yoke. The covers at the front and rear of the base provide ready access to the 1½ h.p. ball bearing feed motor and the V-belt variable speed feed drive. Large, flat, machined vertical ways are properly spaced to provide more than adequate support for the table, and supplement the table elevating screws located on a heavy section midway between the vertical ways. The one-piece casting insures accurate and permanent alignment of all moving parts. It guarantees trouble-free, unexcelled planing.

## CUTTER HEAD YOKE

A one-piece casting is located on the top of the base casting. In this yoke are located both upper rolls, chipbreaker, pressure bar, cutter head, cutter head motor and grinding bar. Perfect and permanent alignment of these parts is insured.

## TABLE

The heavily ribbed table is a semi-steel casting. It carries the two lower rolls, providing a fully enclosed space for the roll drive mechanism. The vertical ways with adjustable gibs provide maximum bearing area to mate with the corresponding ways on the main frame. A convenient handwheel operates the two large elevating screws through worm and gear mounted in grease packed, fully enclosed chambers. Screws have ball bearing thrust bearings. Power table hoist unit is an available option.

## FEED ROLLS

Four steel rollers feed the stock through the surfacer. The upper yoke carries a sectional infeed and ground steel out-feed roll. Two rolls are mounted in the table. They are 3½" diameter and spaced at 10½". The sectional infeed roll is made up of twelve 2-inch cast steel corrugated sections mounted on

a steel drive shaft. Each section is spring loaded to provide adequate yield. All rolls have alloy steel sprockets driven by self-lubricating chain. All rolls are mounted on high quality bearings with adequate means of lubrication. The lower table rolls have micrometer adjustment through a lever located beneath the infeed table, convenient to operator.

#### CUTTERHEAD OR CYLINDER

Two types of cutterheads are available. The straight high speed steel three or four knife or the patented Inserted Tooth Spiral head using carbide inserted bits.

The Inserted Tooth head is becoming increasingly popular because it reduces the noise level from that of the straight knife head, and provides a considerably longer time between knife grinds, thus reducing down time for grinding.

#### KNIFE BAR CHIPBREAKER

The chipbreakers are the inserted wedge type made of nickel-chromium alloy steel. One-piece chipbreakers and clamping screws assure long life and maximum safety.

#### SECTIONAL CHIPBREAKER

The steel sectional toes are 2 inches wide. Each toe is loaded with a helical spring, and has an independent lift of  $\frac{1}{4}$  inch. The group of toes, mounted on a steel bar, swing up and away from the cylinder when greater movement than that of the independent toes is necessary. The entire assembly swings out of position when knives are ground.

#### PRESSURE BAR

A semi-steel, heavy section pressure bar is located back of the cutter head. The pressure bar can be easily removed from the machine without disturbing any other part of the mechanism.

#### KNIFE GRINDING AND JOINTING DEVICE

A heavy, U-type section bar is attached to the cylinder yoke. A gibbed slide, having long ways mounted in permanent position on the bar, is moved along the bar by screw and hand-wheel. The slide has a plate to carry both the jointing stone and grinding motor. It accurately and quickly grinds the knives.

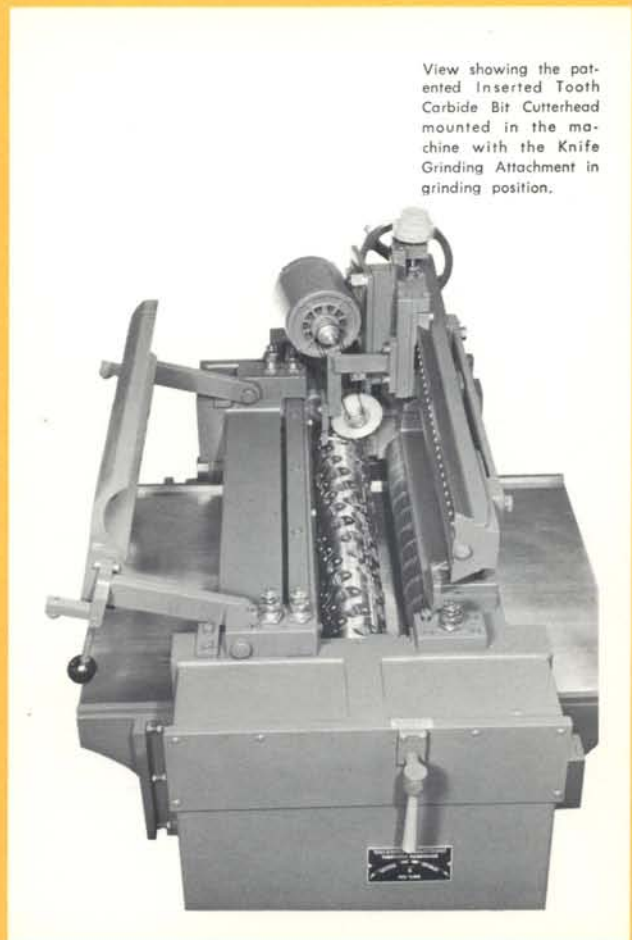
When grinding or jointing is completed the device remains at end of bar. Vertical adjustments of the grinder and jointing stone are made by micrometer screw.

The grinding unit has constant speed ball bearing motor with cord and switch. It has V-belt drive to a straight face emery grinding wheel. The cylinder can be locked in position when grinding the knives.

When used with the carbide bit cutterhead, the grinding unit is modified to use a diamond grinding wheel and the jointing attachment is not required.

#### CONTROL

Electrical and mechanical controls are centralized at operator's left. Motors have overload and low voltage magnetic type control. Operation of brake lever disconnects both cutter head and feed motors, quickly stops the cylinder. The feed motor starts with cylinder motor.



View showing the patented Inserted Tooth Carbide Bit Cutterhead mounted in the machine with the Knife Grinding Attachment in grinding position.



Sectional upper infeed roll showing the positive drive, fool-proof construction.

### BEARINGS

All rotating parts of this surfacer are mounted on finest ball bearings of adequate capacity.

### LUBRICATION

All revolving parts are mounted on ball bearings or oilite bushings. Separate grease fittings are used on independent bearings when required.

### MOTOR DRIVE

The cylinder or cutter head is driven by a  $7\frac{1}{2}$  h.p., 3600 r.p.m. T.E.F.C. motor. For three phase A.C. this motor is mounted directly on the cylinder shaft and held in a housing bolted to the top yoke. For single phase the cylinder motor is mounted at the end of the cylinder and coupled to it. The feed motor is  $1\frac{1}{2}$  h.p., 1800 r.p.m. mounted in the base of the machine but easily accessible.

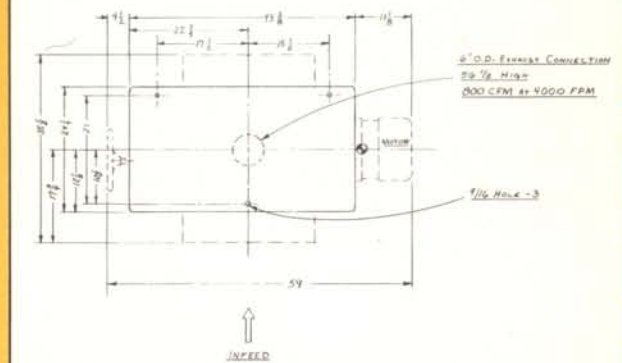
### STANDARD EQUIPMENT

Cutterhead motor is  $7\frac{1}{2}$  h.p., 3600 r.p.m. for three phase, 60 hertz, 230 or 460 volts. The feed motor is  $1\frac{1}{2}$  h.p., 1800 r.p.m. totally enclosed fan cooled. Magnetic control with push button station. Micrometer adjustment for lower feed rolls. Shaving hood with 6" outlet. Knife grinding attachment for single phase, 60 hertz, 115 volts. Knife setting block and set of knives. Hand brake to stop cutterhead is interconnected to electrical control to cut off power supply.

### OPTIONAL EQUIPMENT

10 h.p. cutterhead motor. Power hoist for raising and lowering table. 4-knife straight knife cutterhead. Inserted Tooth Carbide Bit cutterhead. 15 to 45 or 30 to 90 f.p.m. feed speeds.

### FLOOR PLAN



### SPECIFICATIONS

SIZE: 24" x 8"

#### MOTORS

Cylinder —  $7\frac{1}{2}$  h.p., 3600 r.p.m.  
Feed —  $1\frac{1}{2}$  h.p., 1800 r.p.m.  
Knife Grinder —  $\frac{1}{3}$  h.p., 1800 r.p.m.

#### CONTROL

Full magnetic control with overload and low voltage protection.

#### FEED WORKS

Reeves variable speed — 20 to 60 f.p.m.

#### TABLE

24" wide, 35 1/2" long.  
Screw mechanism to raise or lower.

#### CAPACITY

Planes stock up to 24" wide.  
Planes stock up to 8" thick.  
Planes stock as short as 11".

#### CYLINDER

Circular safety type.  
3-knife standard.  
4 1/4-inch cutting circle.

#### BASE

One-piece casting for rigidity and perfect alignment.

#### FEED ROLLS

Two lower rolls 3 3/8" diameter.  
Upper outfeed roll 3 5/8" diameter.  
Upper infeed roll is sectional — twelve 2-inch wide sections.  
All rolls fitted with precision ball bearings.  
All rolls power driven.  
Single lever micrometer adjustment of lower rolls.

#### CHIPBREAKER

Sectional type.  
Twelve 2-inch wide sections — 1/4" independent lift.

#### No. 299 MOTOR KNIFE

#### GRINDING ATTACHMENT

1/3 h.p. ball bearing motor with V-belt drive.  
Jointing attachment included.

#### EQUIPMENT

Motors and control, completely wired.  
One set of knives.  
Shaving hood, 6" outlet.  
Micrometer adjustment for lower rolls.  
Knife setting block.  
Motor Knife Grinding and Jointing attachment.

SHIPPING WEIGHT: 3000 pounds

(Specifications are subject to change without notice.)

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