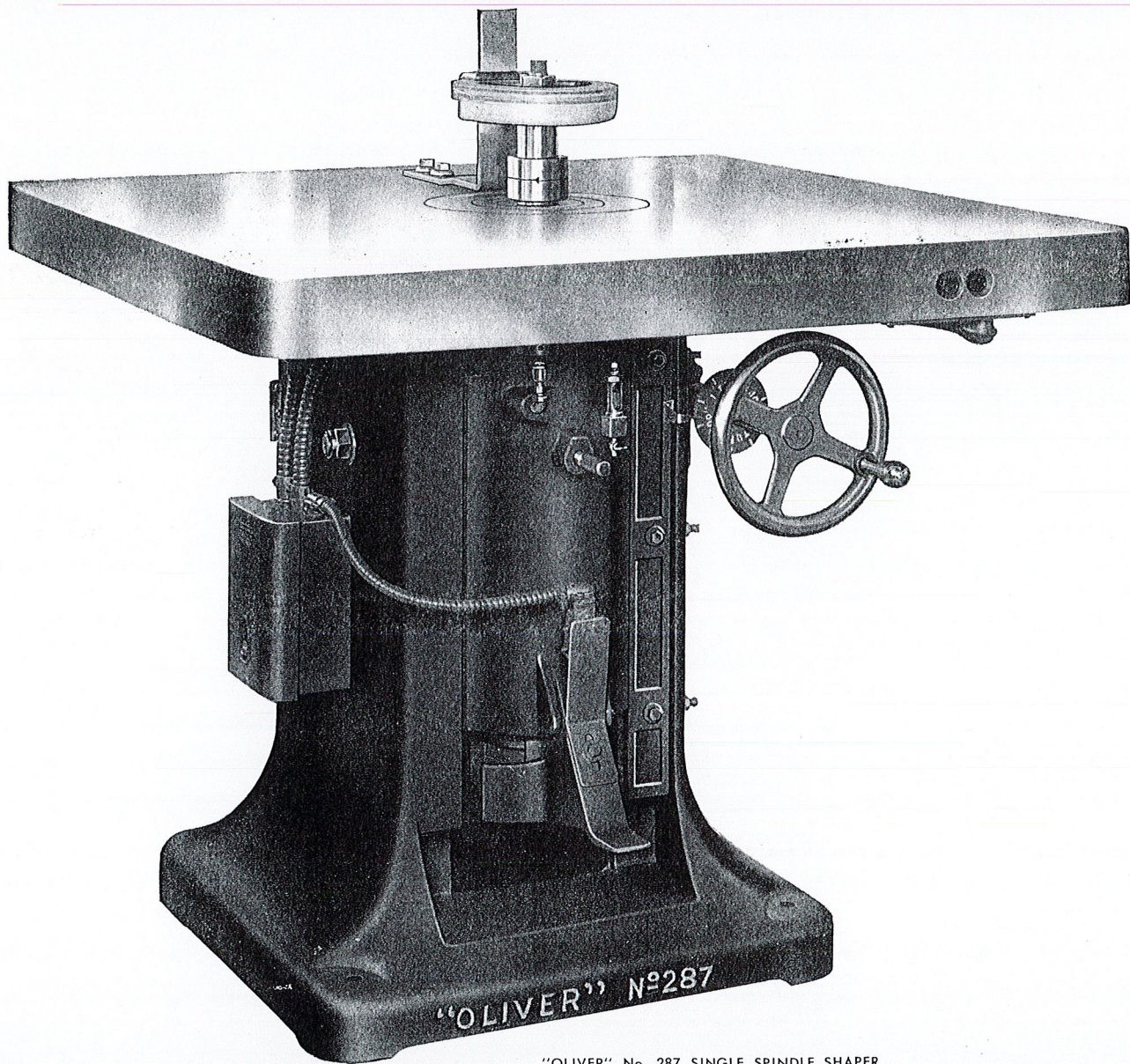


# OLIVER

No. 287

## SINGLE SPINDLE SHAPER



"OLIVER" No. 287 SINGLE SPINDLE SHAPER  
Heavy Column — Sturdy Design.



**OLIVER MACHINERY COMPANY, GRAND RAPIDS 2, MICHIGAN, U.S.A.**

## INTRODUCTION

The "Oliver" No. 287 High Speed Ball Bearing Shaper is designed primarily for shops requiring all the advantages, efficiency and ruggedness of a real precision machine with all the modern and latest improvements. It will produce with speed and accuracy the very best class of rabbetting, grooving, fluting, routing or shaping found in any first-class furniture, table, chair, desk, cabinet, or similar wood working factories.

## COLUMN

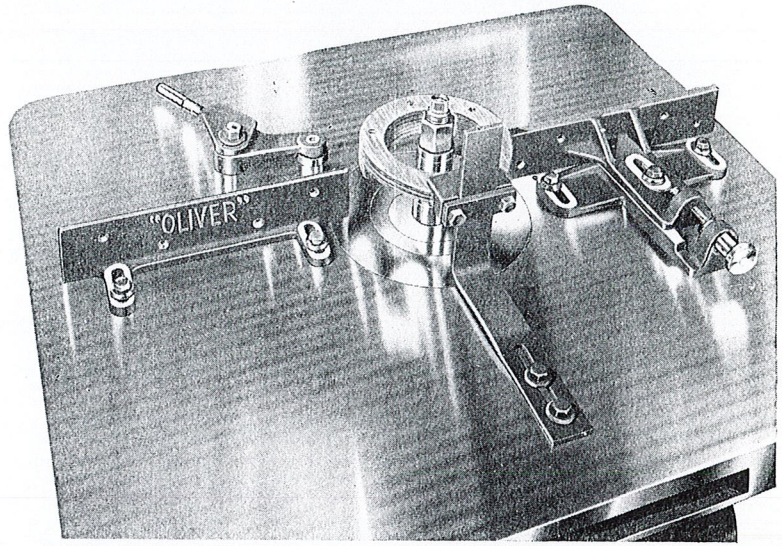
A single casting of semi-steel, box shaped with heavy rib reinforcements with a flanged base 27" by 26". In the center of this column are the dovetailed adjustable gibbed ways which support the yoke, motor and spindle unit. These ways are machined and hand scraped to assure a correct sliding fit.

## TABLE

Regular table is 42" square and 36" high from the floor. Center of spindle to front edge of table is 21". Larger tables are furnished for special requirements. It is constructed of semi-steel, heavily cross ribbed, accurately planed and ground to a perfectly smooth finish. Dust chutes are cast under the top integral with the table and prevent the accumulation of dust near the spindle. Two tapped holes in the top hold the shaper guard securely in place. Within reach of the operator near the edge are two large countersunk holes for the visible push buttons that control the motor. A hole 11" in diameter in the center of the table has one ring with 3" diameter center hole. Heavy finished ribs are cast completely around the table. They act as a support for any clamping arrangement necessary for jigs or fixtures.

## SPINDLES

Our new type detachable spindle is used on this shaper. The top is tapered to receive the adapter spindle which is clamped in place by a draw bolt extending through the adapter and screwing into the spindle. The spindle adapter is



Adjustable Guide Fence Unit with Ball Bearing Holdover shown mounted on No. 287-T Table. Also note the "Oliver" Combination Shaper Guard and Hold-Down.

disengaged from the spindle by removing the draw bolt and applying the draw stud, shipped with every machine.

All spindles are ground true and balanced, thereby eliminating vibration, and rotating perfectly true at maximum speed. A large steel pin lock is provided to hold the spindle when setting up.

## BEARINGS AND LUBRICATION

The shaper spindle is mounted on large ball bearings. By removing four cap screws from the retaining ring both bearings and spindle can be lifted through a hole in the table. Large oil reservoirs with an indicator gauge and oil cups thoroughly lubricate these bearings. The spindle has a wick that filters all the oil before it touches the rotating parts which whip the oil into a mist constantly saturating the bearings. This method of oiling positively prevents dust from entering the ball races and is the best known means of lubricating a high speed mechanism.

## YOKE

Is made of heavy ribbed one-piece semi-steel casting carefully machined and interchangeably fitted in gibbed ways. The hole in the table is large enough to permit the entire yoke or spindle unit to

be lifted out before disassembling. This yoke unit can be adjusted 6" in vertical directions by a hand wheel, shaft and rack with spiral gears enclosed in a tight grease chamber. The foot brake and automatic cut-off switch are attached to the lower end of the yoke. Micrometer dial indicates the vertical movement of the spindle.

## METHOD OF DRIVING

For the requirements of various plants we offer two types of motor drives as follows:

**FIRST.** Motor-on-Spindle (No. 287-D) with 7½ h.p. high frequency ball bearing motor mounted directly on the shaper spindle. This is the most efficient and simplest type, but requires the use of a frequency changer to step up the frequency to 100, 120, or 140 cycles to obtain speeds of 6,000, 7,200 or 8,400 r.p.m. respectively. A speed of 7,200 r.p.m. is commonly used.

**SECOND.** Belt Drive (No. 287-T) is very simple and economical of space. Back of the shaper spindle yoke is suspended a 5 h.p. 3600 r.p.m. Vertical Totally Enclosed Fan Cooled Ball Bearing Motor, in a self-contained adjustable arrangement.

For speeds of 6,000 r.p.m. or less V-Belts are employed. For

speeds greater than 6,000 r.p.m. the spindle is driven with an endless woven belt. Standard speed is 7,200 r.p.m. but higher speeds or two different speeds can be furnished as required.

Write us for special shapers for work in aluminum alloys.

**ELECTRICAL CONTROL – FOOT BRAKE**

All motor driven shapers are equipped with enclosed magnetic switches mounted on the column. Conduit encloses the wiring to motor. A foot-operated combined brake and quick stop switch is mounted at lower end of the spin-

dle yoke; also a stop and start push button switch is mounted underneath the front edge of the table having large countersunk receptacles leaving the push buttons visible.

**FOR NON-FERROUS MATERIALS**

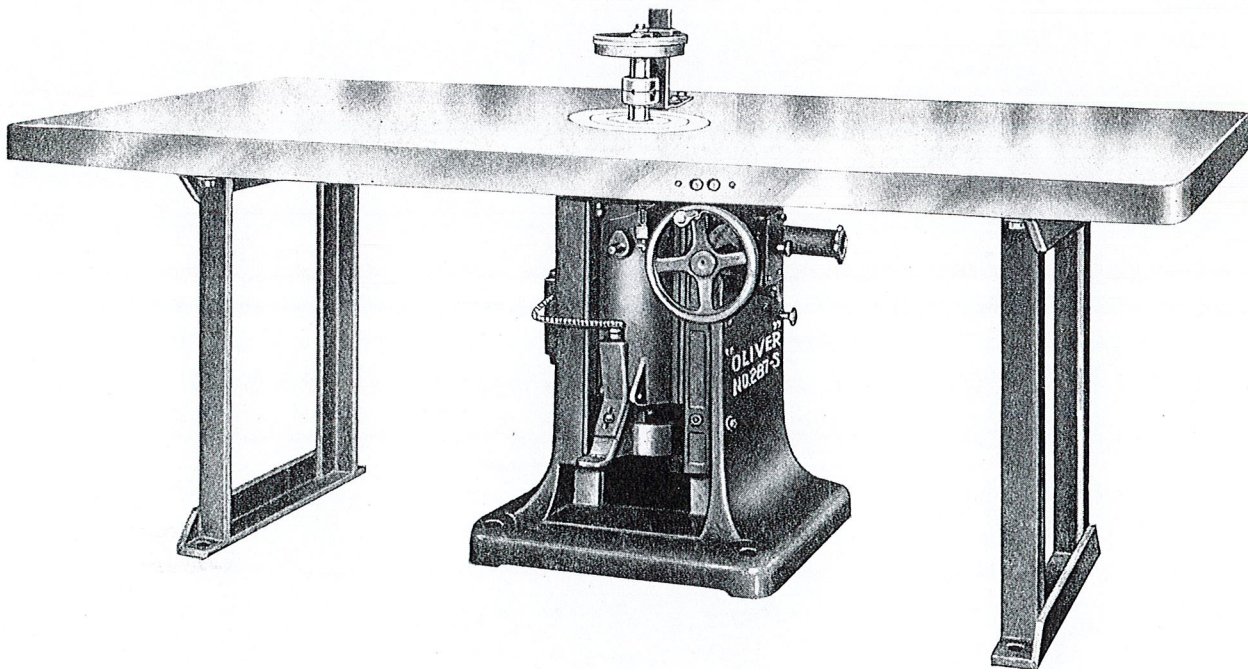
“Oliver” shapers can be furnished on special order at various speeds adapted for special metal work, either with or without lubricant as a coolant. Write us in detail giving us your requirements for a report from our Engineering Department.

**EQUIPMENT**

The regular equipment includes one detachable spindle with draw bolt and draw stud; one pair of Knife Collars 3” diameter; four filling-in Collars ½”, ¾”, 1” and 2” wide; one table ring, one quick adjustable combination Shaper Guard and hold down; Spindle locking pin, oil level sight gauge and necessary wrenches.

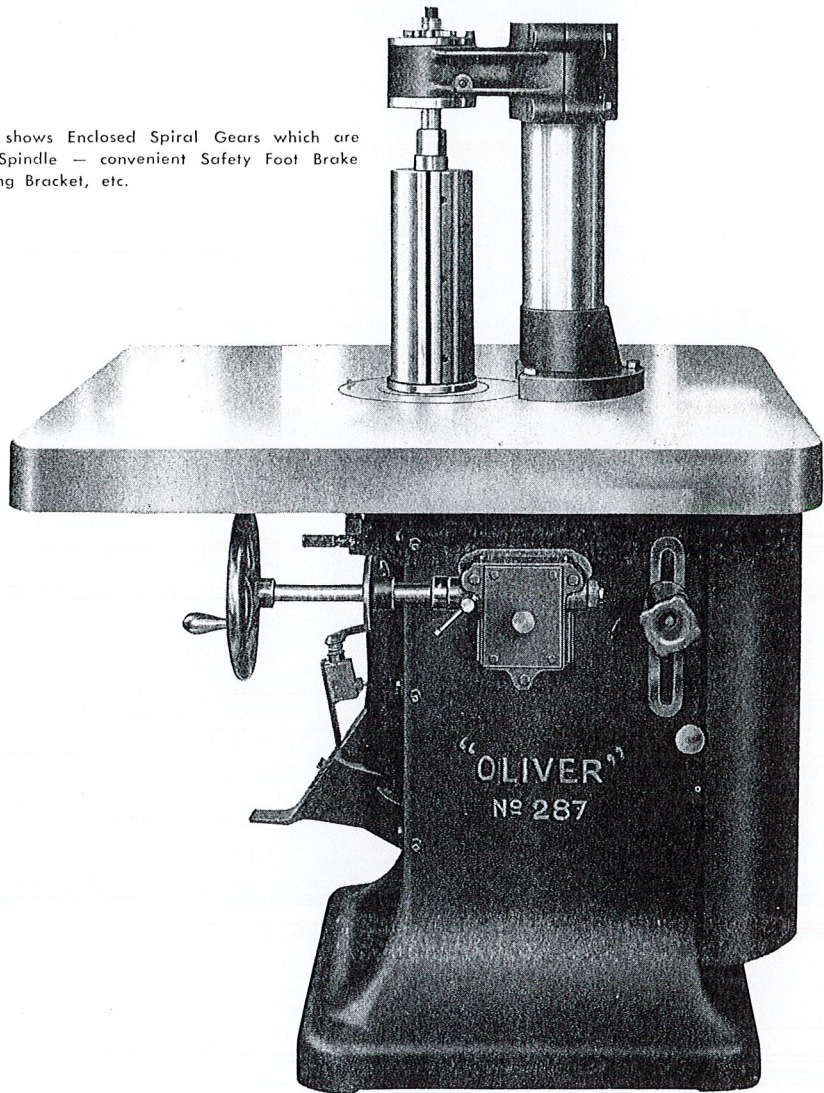
**SPECIAL FEATURES**

1. Oil Mist Lubrication, best known method of high speed machine oiling.
2. Foot pedal control of electric switch and brake, also visible push button countersunk receptacles on edge of table.
3. Entire spindle and yoke unit can be lifted out of column through hole in the table. (287-D).
4. Spindle top tapered, self-centering and detachable.
5. Complete spindle unit with bearings can be removed from yoke, leaving the yoke in the column. (287-T).
6. Completely enclosed spiral gears for spindle elevating mechanism.
7. Dust pockets of large size cast integral with table which prevents the collection of dust back of the spindle.
8. Table is exceptionally large, substantially reinforced and ground smooth.
9. The spindle is perfectly balanced and ground true.



“OLIVER” NO. 287 SHAPER  
with Table 48" x 96"

Side View of this "Oliver" No. 287-T Shaper shows Enclosed Spiral Gears which are attached to Hand Wheel Shaft for Elevating Spindle — convenient Safety Foot Brake — Overhead Supporting Bracket, etc.



**GENERAL DIMENSIONS**

**SPINDLE**

Revolutions per minute,  
 regular .....7200  
 Vertical adjustment ..... 6"  
 Length regular adapter ..... 7<sup>3</sup>/<sub>4</sub>"  
 Length between knife collars ... 4"  
 Diameter of adapter ..... 1<sup>1</sup>/<sub>4</sub>"  
 Driving Belt, width ..... 2<sup>1</sup>/<sub>2</sub>"

**COLLARS**

3" grooved collars ..... 3"  
 2" grooved collars optional ..... 2"  
 Filling-in-Collars, one each,  
 sizes ..... 1/2", 3/4", 1", 2"

**TABLE**

Size (larger if desired) ....42" x42"  
 Front edge to spindle (Std.) .21"  
 Height from floor .....36"  
 Hole in table, diameter .....11"

**TABLE RING**

Number of rings .....1  
 Hole in center .....3"

**FLOOR SPACE**

.....42" x42"

**HORSE POWER**

Recommended h.p. at 60 cycle...5  
 Larger motor for special work.

**CODE, WEIGHT, ETC.**

CODE	MACHINE DESCRIPTION	WEIGHT CRATED	IN POUNDS BOXED	CUBIC FEET
Falof	No. 287-D — "Oliver" Motor-on-Head Single Spindle Shaper with 7 <sup>1</sup> / <sub>2</sub> h.p., 7200 r.p.m., 3 phase, 120 cycle, 220 or 440 volt motor .....	1350	1700	64
Faloh	No. 287-T "Oliver" Motor Driven Single Shaper with Endless Woven Fabric Belt Motor Drive, 7200 r.p.m. regular but any reasonable speed desired from 4800 to 8400 r.p.m. ....	1400	1800	64

**EXTRAS**

Falis	Long Detachable Spindle without collars.	Falop	Filling Collars (1/2", 3/4", 1", 2" long).
Fana	Large Table, 42" x 48".	Faliv	Chuck 1/2" capacity, screws into spindle.
Fanao	Large Table, 48" x 96" with two supporting legs.	Falot	High Speed Shaper Steel. Any width desired, 3/8" to 4".
Falon	Knife Collars (2" or 3" diameter).	Fanan	Lubricant Guard or Oil Drain Assembly for machines used for cutting soft metal parts.
Fanam	Adjustable Guide Fence.		



**OLIVER MACHINERY COMPANY**  
**Grand Rapids 2, Michigan, U.S.A.**

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