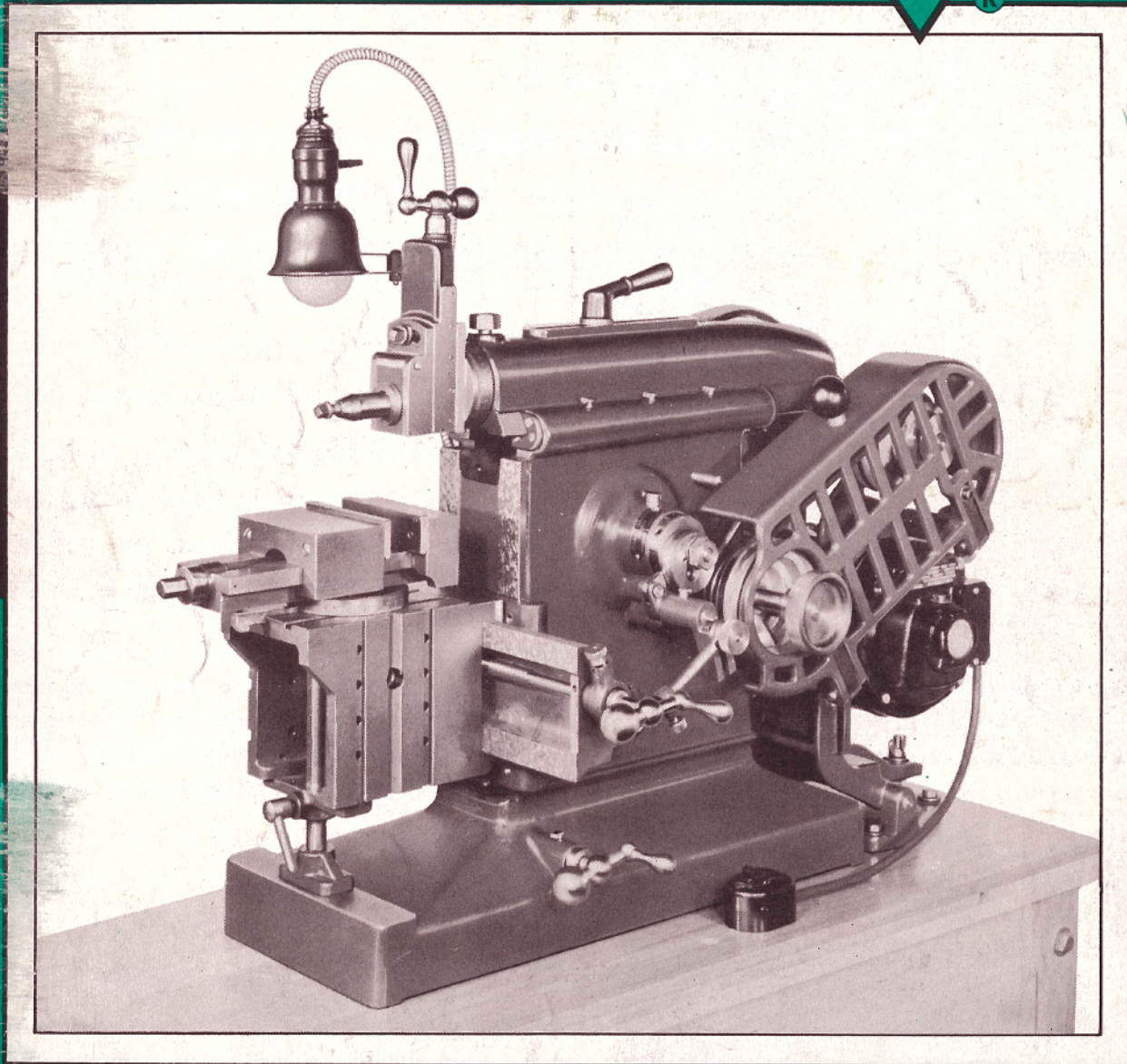


# DELTA-MILWAUKEE

## 7" PRECISION METAL SHAPER

# DELTA MILWAUKEE<sup>®</sup>



DELTA POWER TOOL DIVISION

Rockwell MANUFACTURING COMPANY

MILWAUKEE 1, WISCONSIN



# **DELTA-MILWAUKEE**

## **7" PRECISION METAL SHAPER**

### **"A Precision Machine of a Thousand Uses"**

*Designed for*

**SHOP PRODUCTION WORK . . . TOOL MAKERS . . . MODEL MAKERS . . .  
EXPERIMENTAL DEPARTMENTS . . . MACHINISTS . . . MANUAL TRAINING SCHOOLS . . .  
LABORATORIES . . . TRADE SCHOOLS . . . MOBILE MACHINE SHOPS . . . HOME WORK SHOPS**



**Manufactured by an Organization with Years of Experience  
in Producing Precision Machinery**



Countless jobs can be done accurately, quickly, easily and economically on the Delta 7" Shaper . . . It has the accuracy and operating features of larger shapers.

This precision machine has proved itself an essential machine tool for day-in and day-out service in handling exacting jobs for industrial plants, the army, navy, air corps, marine corps, mobile machine shops, govern-

ment agencies, laboratories, tool makers and technical schools.

On jobs requiring a stroke of 7" or less, this shaper will enable you to save a lot of time and expense in set-up which would be required for larger shapers. Furthermore, the Delta will enable you to get away from the cost of operating a big shaper on small work.

### **CONSTRUCTION FEATURES of the DELTA SHAPER**

WAYS of the Ram, Tool Head and Front Face of the Main Frame are of the "Vee" Type. They are carefully fitted together and ground and lapped to insure accuracy and long life. These Ways are all gibbed and are provided with adjusting screws to take up any wear that may develop.

TOOL HEAD is adjustable and graduated from 0 to

90° for angle work, and is quickly loosened or tightened by one screw. The down feed screw is provided with a graduated collar for adjustment.

WISE is made of semi-steel and is mounted on the table with a single bolt, and is held in position with a key. The base is graduated for any angle from 0 to 90° on either side of center. Vise jaws have steel insert plates.



**CASTINGS** are made of a close grain semi-steel.

**CROSS RAIL** and **Table Ways** are of the square type on the upper surface and of the "Vee" type on the lower surface, both with suitable gibs for adjustment in case of wear. The **Table** is provided with an adjustable support that bears on the accurately machined surface of the **Main Frame**. This gives an exceedingly rigid construction.

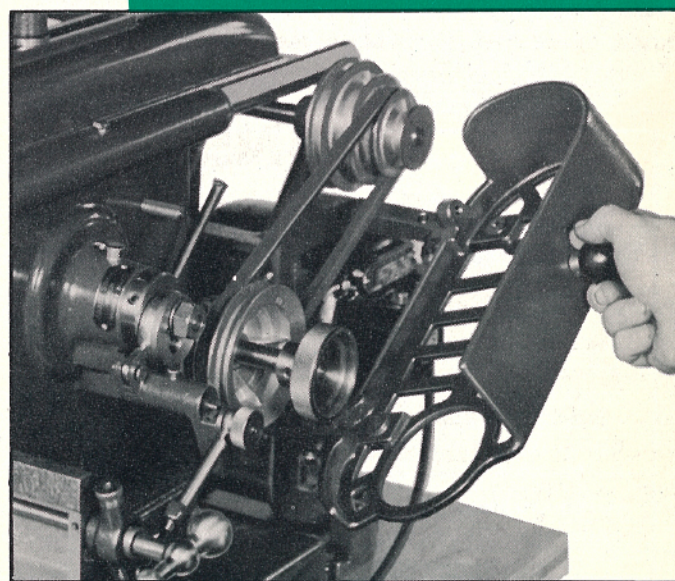
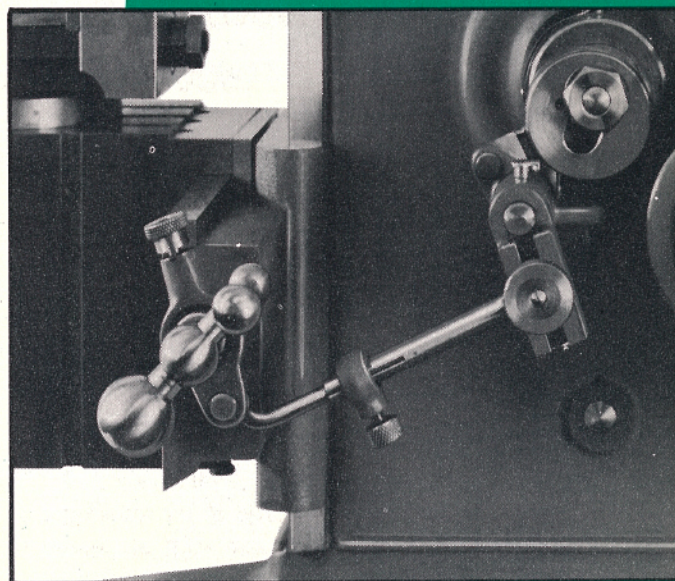
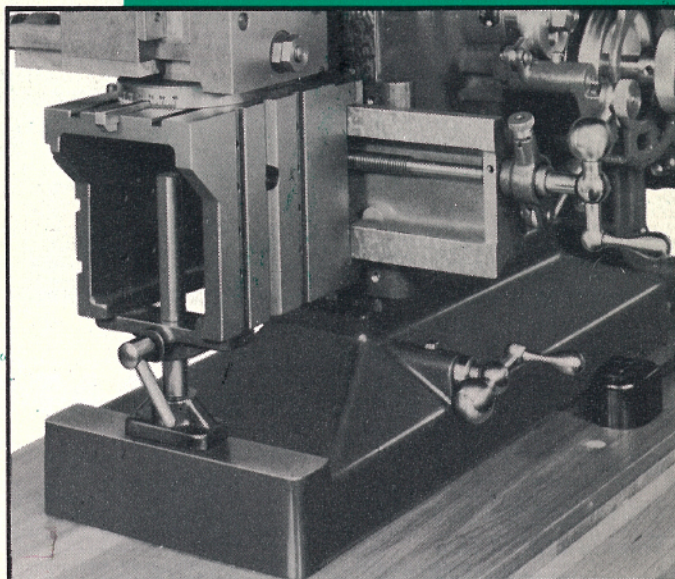
The **Cross Rail Feed Screw** is constructed to provide a safety factor in that the table will run off the **Cross Rail Feed Screw** when it has traveled its maximum length in either direction.

**BASE** of the shaper is deep, heavily ribbed and of rugged construction.

**COLUMN**, like the base, is ribbed and reinforced to produce maximum rigidity. Bearing bosses are reamed and honed.

**FEED MECHANISM** is of the reversible and adjustable type. By adjusting the position of the **T-Bolt** in the **Feed Adjusting Lever**, a feed varying from .003" to .018" can be obtained. The stroke is adjusted by loosening the lock nut on the end of the shank near the end of the feed eccentric and then by adjusting the rocker arm block up or down. The proper stroke is indicated by the scale on the rocker arm.

**ADJUSTABLE COUNTERSHAFT** has a 4 step V pulley with separate adjustment for V belt and motor belt. Pulleys and belt can be enclosed behind hinge-type **SAFETY BELT GUARD** for quick change of belt.





# DELTA-MILWAUKEE

## 7" STROKE

### SPECIFICATIONS

#### RAM

Extreme length of stroke.....  $7\frac{3}{4}"$   
 Total length of ram.....  $16\frac{3}{4}"$   
 Length of bearing in main frame...  $10\frac{3}{8}"$   
 Width of bearing in main frame...  $3\frac{5}{8}"$   
 Strokes per minute.... 40, 70, 115, 180  
 Speeds..... 4

#### TABLE

Horizontal travel.....  $9\frac{1}{2}"$   
 Vertical travel.....  $4\frac{1}{4}"$   
 Maximum distance from ram.....  $5\frac{1}{4}"$   
 Minimum distance from ram.....  $1\frac{1}{8}"$   
 Length of top..... 6"  
 Width of top.....  $4\frac{1}{2}"$   
 Depth of table.....  $5\frac{1}{8}"$   
 Cross Feed Range (Reversible)....  
 .....003, .006, .009, .012, .015, .018"  
 Feeds..... 6

#### TOOL HEAD

Vertical travel.....  $3\frac{1}{4}"$   
 Size of tool holder.....  $\left\{ \begin{array}{l} \frac{3}{8}" \times \frac{7}{8}" \text{ for } \frac{1}{4}" \text{ tool bit} \\ \frac{3}{8}" \times \frac{3}{4}" \text{ for } \frac{3}{16}" \text{ tool bit} \end{array} \right.$   
 Diameter of Tool Head.....  $2\frac{5}{8}"$

#### WISE

Width of jaws..... 4"  
 Depth of jaws..... 1"  
 Maximum opening.....  $4\frac{1}{4}"$   
 Height of Vise over table.....  $2\frac{5}{8}"$

#### POWER APPLICATION

Adjustable Countershaft having 4 step V pulley with separate adjustment for V belt and motor belt. NOTE: Belt Guards extra.

#### MOTOR RECOMMENDATIONS

$\frac{1}{3}$  H.P. single phase motor or repulsion induction motor with overload switch.

#### SHAPER AND COUNTERSHAFT BENCH MODEL

Length..... 30"  
 Width..... 18"  
 Height..... 24"  
 Weight less motor, approx... 175 lbs. net  
 $\frac{1}{3}$  H.P. motor..... 28 lbs. net

#### CATALOG LISTING

**No. 27-100 Delta 7" Precision Metal Shaper, Bench Model,** Complete with swivel vise and wrenches, including 4-step V-pulley, adjustable counter shaft, motor driven pulleys, 2 V-Belts, adjustable lamp and switch. (Belt Guards, and Motor, extra.) Prox. Wt. 225 lbs.

**No. 27-120 Cabinet Model,** consisting of No. 27-100 7" shaper with swivel vise and wrenches, 4-step V-pulley, adjustable counter shaft, motor driven pulleys, 2 V-Belts, adjustable lamp and switch; No. 27-860 portable maple cabinet and No. 27-850 belt guards. Without motor. (Wt. 325 lbs.)

#### No. 27-850 Belt Guards

**No. 60-510 Motor**  $\frac{1}{3}$  H.P., 110 Volt, 60 Cycle, 1750 R.P.M. single phase induction motor with overload switch. (Wt. 35 lbs.)

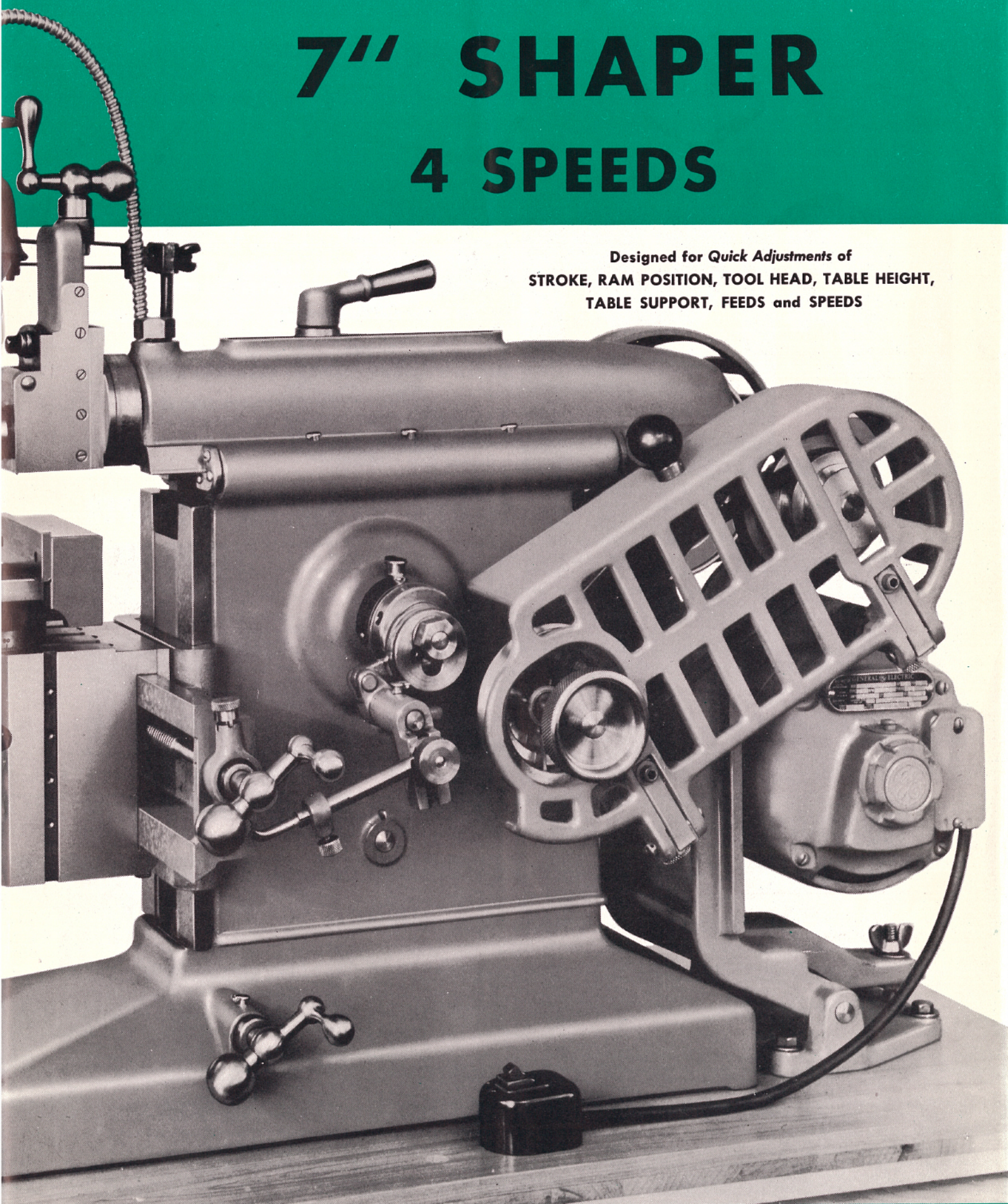
- ACCURATE
- COMPACT
- RUGGED
- POWERFUL
- ECONOMICAL



# 7" SHAPER

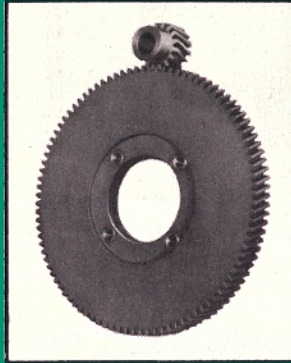
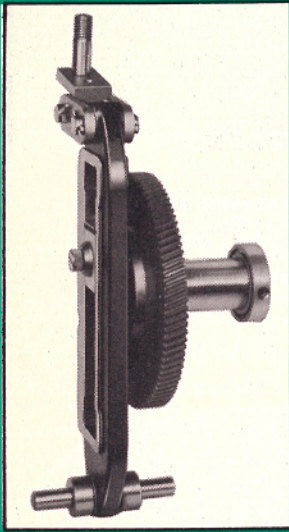
## 4 SPEEDS

Designed for Quick Adjustments of  
STROKE, RAM POSITION, TOOL HEAD, TABLE HEIGHT,  
TABLE SUPPORT, FEEDS and SPEEDS





# CONSTRUCTION FEATURES of THE DELTA SHAPER



BAKELITE BULL GEAR and steel pinion, spiral cut for smooth and quiet operation.

CRANK and BULL GEAR construction closely coupled.

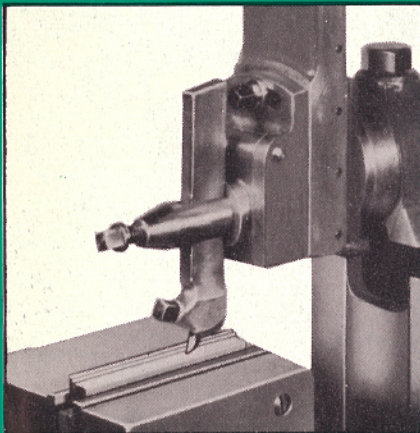
The Drive Shaft is of High Carbon Steel and precision ground.

The Bull Gear is of laminated Bakelite, and the Main Drive Pinion of High Carbon Steel. The teeth of both are spiral cut for extremely quiet running and a smooth operating machine. The Main Gear is easily replaceable in case of wear, and is inexpensive if replacement is required after years of service.

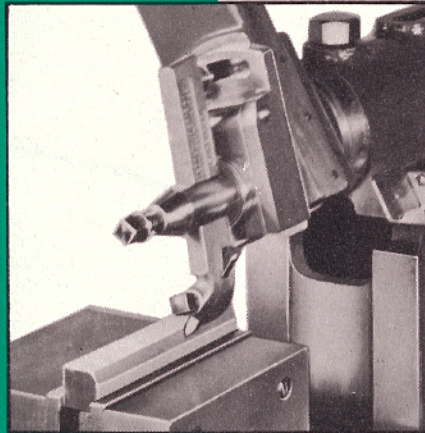
All of the machine shaft bushings are of high grade bronze and are carefully fitted to the shafts. The Rocker Arm Block is made of special bronze to withstand the wear of the rotary and sliding actions.

Oilers of the snap cover type are used on all lubricating points. Felt oil wipers are provided on the front end of the Main Frame and on the upper surface of the Rocker Arm Block.

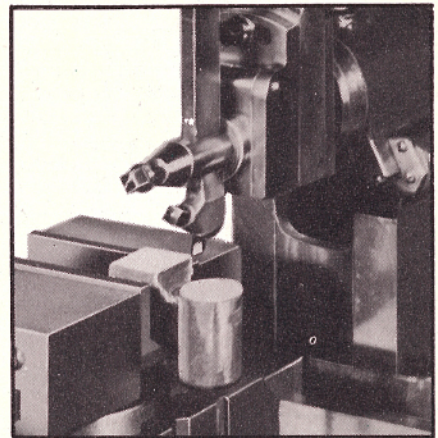
## A Wide Variety of Work Can Be Done on the DELTA SHAPER



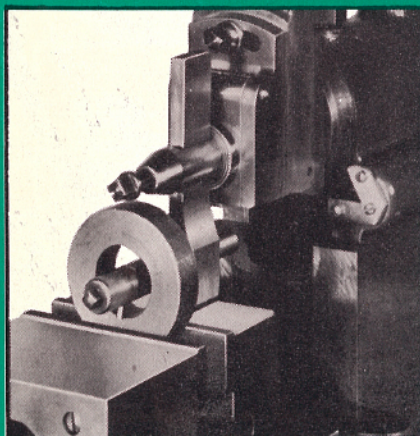
Straight cut on a flat piece of work.



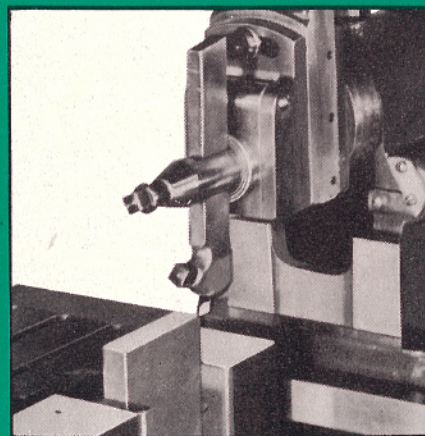
Angular cut on the edge of a piece of work.



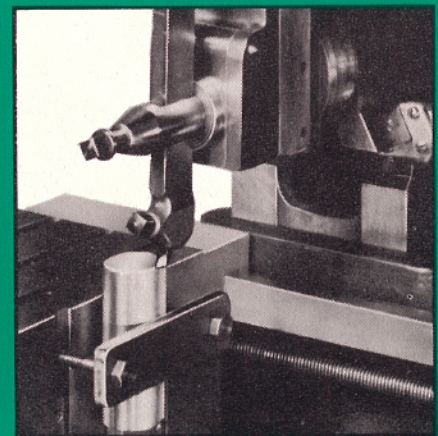
Set-up for a part placed in vise ready for machining.



Set-up for cutting internal key ways.



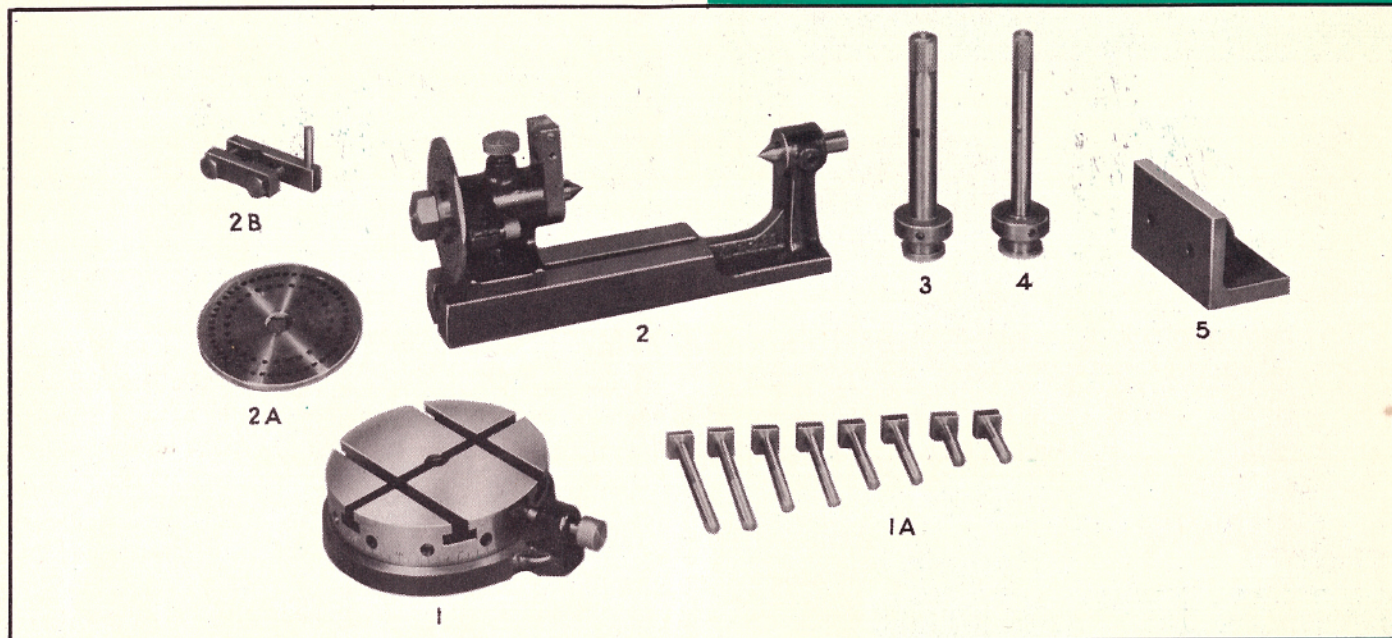
Squaring up the end of a piece of work held in vise.



Machining end of round piece of work held in "V" groove on side of table.



# EXTRA EQUIPMENT FOR DELTA 7" SHAPER



**Figure 1**—DELTA 4" ROTARY TABLE is furnished with 3 "T" slots on its surface, and is provided with 8 "T" headed bolts (Fig. 1A) varying from 1" to 2½" long. Table has 12 index holes and is graduated 360° for indexing. May be mounted on the top work surface of the table of the machine or on the side of the table. Invaluable for spacing slots or other work that requires equally divided cuts.

**No. 27-890 4" Rotary Table For Use With Delta 7" Precision Metal Shaper** This table has a work surface of 4" diameter and has three "T" slots on the face for clamping and holding a variety of parts that require slotting, etc. There are eight "T" headed bolts furnished with this Rotary Table ranging in length in pairs of from 1" to 2½".

**Figure 2**—DELTA INDEX CENTERS have a capacity between centers of 5" and a swing of 3".

This unit can be mounted on the working surface of the table and is equipped with centers and index plate so that parts may be machined with equally spaced slots or surfaces; and can be used in cutting many types of gears. This unit is furnished with 2 index plates (Fig. 2A) for divisions of from 2 to 48 spaces. A dog (Fig. 2B) for holding the work is included.

**No. 27-880 Index Centers For Use With Delta 7" Precision Metal Shaper** These Index Centers have a capacity of 5 inches between centers and a 3-inch swing and are provided with two index plates so that almost any division between 2 and 48 is obtainable, as well as a dog for holding the work.

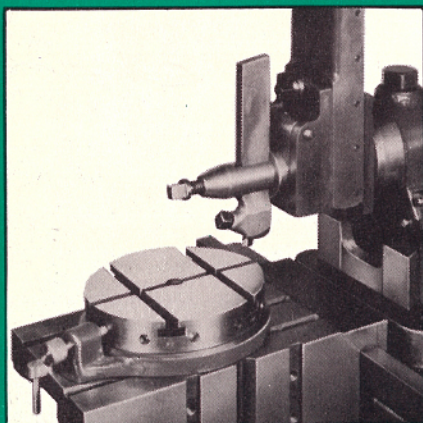
**Figures 3 and 4** show the DELTA KEY WAY CUTTING TOOLS . . . These tools are mounted in place of the regular tool holder and are used for cutting internal key ways or similar work. No. 3 is ⅝" in diameter; No. 4 is 7/16" in diameter.

**No. 27-900 Round Keyway Tool Holders, 7/16" diameter.** For inside work, such as keyways and slotting.

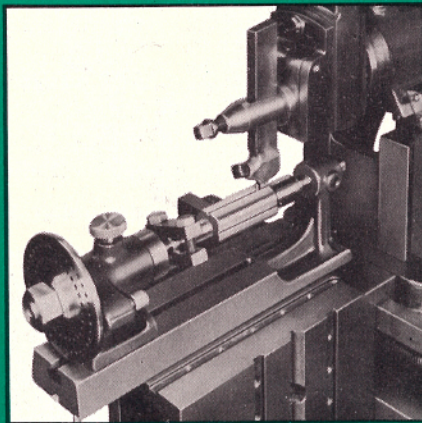
**No. 27-901 Round Keyway Tool Holders, ⅝" diameter.** For inside work, such as keyways and slotting.

**Figure 5** shows the 3"x2"x2" ANGLE PLATE which is mounted on either the side or top of the table. This plate is very useful when working on odd shaped pieces that cannot be held in the vise.

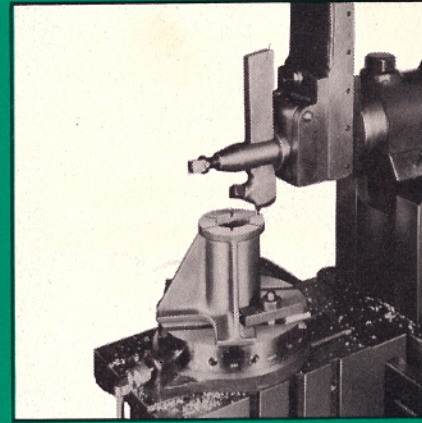
**No. 27-895 Angle Plate** This angle plate is of great value for irregularly shaped work and can be clamped to the top or the side of the table through the holes provided.



DELTA Rotary Table is easily mounted on the work table of the machine.



The DELTA Index Centers mounted on the table of machine.



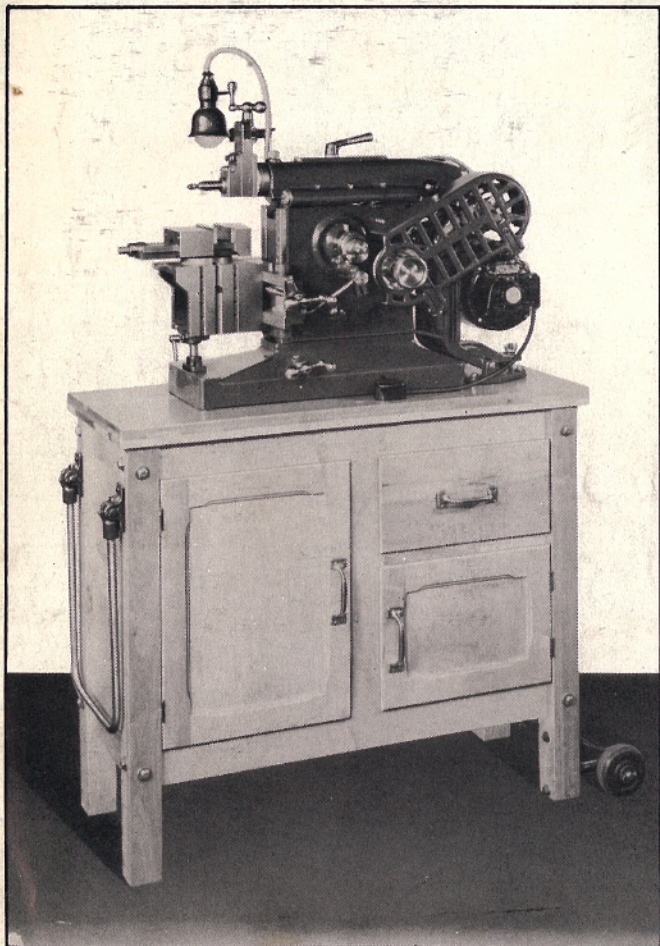
Slotting operation on small casting mounted on rotary table.



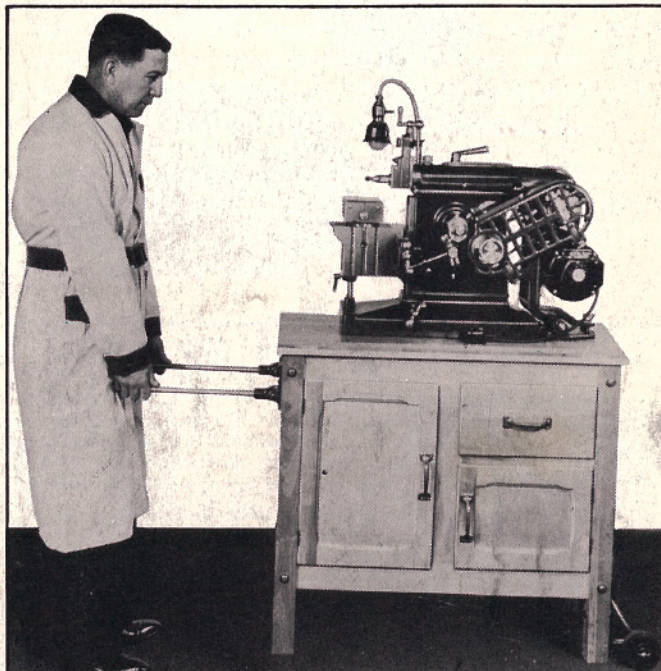
# PORTABLE CABINET

*available as optional equipment*

## ENABLES DELTA SHAPER to be MOVED ABOUT the SHOP



PORTABLE CABINET MODEL  
SHAPER AND COUNTERSHAFT ON CABINET



THE SHAPER MOUNTED ON PORTABLE CABINET  
CAN BE ROLLED TO THE MECHANIC'S WORK  
BENCH, SAVING STEPS and TIME.

PORTABILITY of the DELTA Shaper mounted on a portable cabinet is a definite advantage to many users. Shaper can be rolled from one job to another. It can be brought right up to the machine or bench where man is working—thus saving wasted steps and time.

Standard Cabinet (illustrated) is made of selected seasoned maple, with natural varnished finish. Sturdily constructed. Provided with casters and a folding handle for convenient portability. When not being moved from one place to another, all four legs rest firmly on floor.

Cabinet is constructed with a large, easy sliding drawer, and has two cabinets in its base for storage of tools and accessories.

**No. 27-860 Portable Cabinet Base** for DELTA 7" Precision Metal Shaper. Made of selected seasoned maple, with natural varnished finish, with casters and folding handle for convenient portability, one large drawer and 2 cabinets for storage of tools and accessories. Length 36", width 22", height 32". Prox. Wt. 135 lbs.