



DELTA
MILWAUKEE

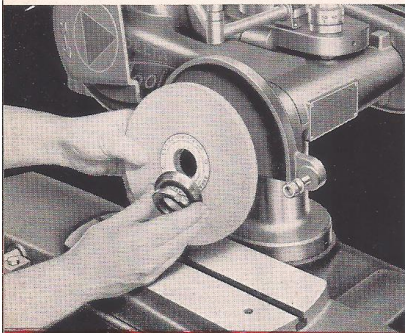
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New

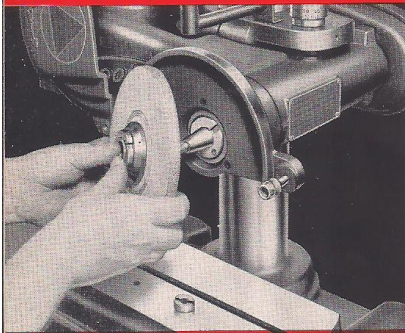
CHIP-BREAKER GRINDER

BIG—SOLID—ACCUR

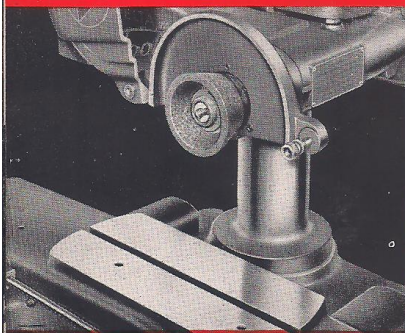
NEW DELTA-Milwaukee CHIP-BREAKER GRINDER HAS MANY ADVANTAGES



By loosening the large nut, one flange of the wheel adapter may be removed, allowing the wheel to be replaced. The adapter itself remains on the spindle held by the small nut. Maximum wheel size is 7" in diameter, 1 1/4" hole.



The wheel after it is trued, together with the adapter, may be easily removed by loosening the small nut. This saves redressing of wheels—saves time and prolongs the wheel life. Extra adapters are available so that complete wheel assemblies can be kept on hand.



Cup wheels too, can be used. Minimum diameter is 3 1/2" by 1 1/2" wide. These wheels can also have individual adapters so that they can be replaced without additional truing or dressing.

ALL of the best features of good grinder design are incorporated in this New Chip-Breaker Grinder plus many exclusive improved features not found in units costing many times as much.

ACCURATELY BUILT GRINDER

The Chip-Breaker Grinder is an accurate machine designed for the grinding of the chip-breaker groove in carbide tipped tools. It also is used for grinding form tools, thread chasers and other units which must be accurately ground. The Univise holds the tool at any conceivable angle and through its unique construction it can be accurately reset at a moment's notice so that the tool or part may be reground at precisely the same angles as originally set. This saves time, wheel wear, eliminates bothersome and often inaccurate measurements.

CAN ALSO BE USED AS SURFACE GRINDER

By simply removing the Univise, the grinder may be used as a regular surface grinder, which thus increases the usefulness of this machine in both the large and small shop.

This machine also is heavy and big. Its weight of 700 lbs. gives it solidity, which helps in producing accurate work.

Study the features of this remarkable Chip-Breaker Grinder—compare it with any similar machine, and you will be surprised at its performance and remarkably low price.

HEAVY, WELL-DESIGNED SPINDLE

Great attention has been paid to the details of the spindle—the heart of any good grinder. The spindle is extra long with bearings at either end, widely spaced. The forward bearing at the wheel end is a large surface, precision taper bearing of design usually found in only much more expensive grinders. A take-up is provided to eliminate all play. The rear bearing is a sealed-for-life ball bearing for which DELTA-Milwaukee machines are famous.

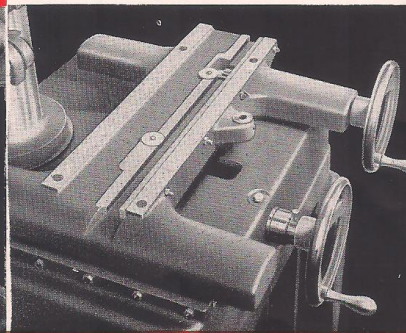
UNIQUE WHEEL ADAPTER

The mounting of the wheel on the spindle is unique in that the grinding wheel itself mounts into a two-piece adapter. The wheel is clamped into the adapter by means of a large nut. The adapter itself is held to a ground taper seat on the spindle by means of a small nut. Thus

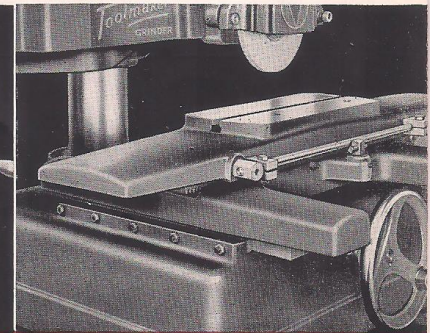
the wheel itself may be removed by loosening the large nut, or if desired, the wheel together with the adapter can be removed. The advantage of this is that when a wheel has once been trued up, by removing it with the adapter, it can be replaced and will run true without any further dressing.

FINE ADJUSTMENTS

The spindle is mounted in the heavy bracket which also carries the motor. Rapid vertical adjustment of the wheel to the work is effected by means of an Acme thread screw and large handwheel at the top of the column. When close to the work, final fine adjustment is made by a micrometer screw, the micrometer having wide graduations for close settings. The bracket is clamped to the column by means of a strong, positive hand clamp.



The table rides on accurate ways fitted with adjustable gibs so that all play due to wear can be eliminated. Note the oil wicks. Ways are over-long so that the table is always firmly seated—it never "hangs".



This shows the take-up gib on the traverse adjustment of the table. Table traverse is smooth and positive. The 6 1/2" traverse adjustment is actuated by Acme screw.

ATE

COLUMN ROTATES 360°

The column too, has many special features. It is of one piece construction, cast of hi-tensile iron, accurately ground to close tolerances. A steel gib guides the bracket yoke so that it is always in perfect alignment. The entire column, together with the bracket may be rotated 360°—an outstanding advantage of this grinder. Single nut clamps the column in place.

SMOOTH OPERATING TABLE

The table is smooth operating with conveniently located control wheels. It has long ways so that the table rides solidly on the ways. Gibs are provided so that all play due

to wear can be eliminated assuring accurate operation at all times.

Longitudinal table travel is effected with a rack and pinion—maximum travel is 13½". Convenient adjustable stops limit the table travel. Traverse adjustment is made with an Acme thread and screw. A micrometer collar on the traverse, with wide graduations, permits accurate settings. The table is provided with a 0.4375" T-slot and ¾" bolts for clamping fixtures or a magnetic chuck in place.

These are but a few of the most obvious advantages of this new grinder. Its low cost enables wider use of this kind of grinder in all types of shops where accurate grinding must be done.

SPECIFICATIONS OF THE TOOLMAKER CHIP-BREAKER GRINDER

Maximum length that can be ground 13½". Maximum width that can be ground 6". Maximum space under 7" wheel to table 9½". Minimum diameter of cup wheel with standard guard in place 3½". Maximum diameter of wheel 7". Wheels must have 1¼" hole. Wheel, diamond wheel dresser or light attachment not furnished with machine. Table surface 5¼" x 13". Traverse feed, one graduation is .001". Maximum vertical adjustment of wheel by means of micrometer is ¾", each graduation is .0005". A 1750 R.P.M. Motor with a 7" wheel produces a surface speed of 5600 Feet Per Minute. For dimensions and specifications of Univise, see last page.

No. 24-205 Toolmaker Chip-Breaker Grinder (for 1425 and 1725 R.P.M. Delta Motors) with cast iron legs, wheel adapter, holder for wheel dresser, No. 49-115 V-belt, two-step, motor pulley with ½" bore, Univise and coolant attachment. Without Wheel, Motor or Switch.

Shipping Weight 690 lbs. CHIPA

ACCESSORIES

Secure Diamond Wheels from your regular wheel source.

No. 24-805 Diamond Wheel Dresser. Shipping Weight ½ lb. SURGD

No. 24-815 Light Attachment complete for attaching to separate 115V single phase line. Shipping Weight 8 lbs. SURGL

No. 24-816 Extra Wheel Adapter for 1¼" bore wheels. Arranged to fit on tapered spindle for holding up to ½" wide wheels and arranged with extra washer so a 3½" x 1½" cup wheel may be used. Shipping Weight 2 lbs. SURGA

No. 49-115 Replacement V-belt. Shipping Weight 1 lb. BELTV

MOTORS RECOMMENDED

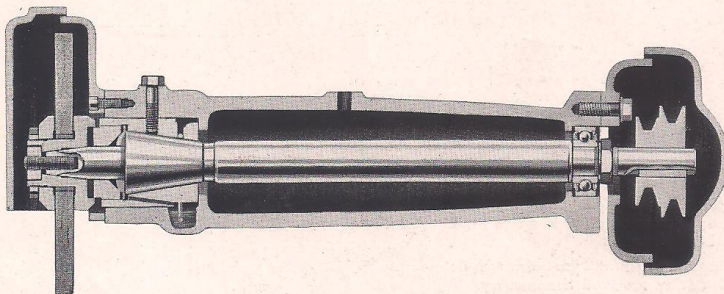
The cast iron motor cover furnished with machine will cover any 6" frame Delta Motor and most 6 to 7" frame motors of other manufacture. The motor bracket is arranged with holes for fastening any 6" Delta motor, but ample pads are provided so holes can be drilled to suit other makes. When it is necessary to use larger frame motors of other makes the motor cover can be omitted without effecting other parts of machine or its efficiency.

62-610 ½ H.P. Cap. AC. 1725 R.P.M. 110/220 V 60 Cy.

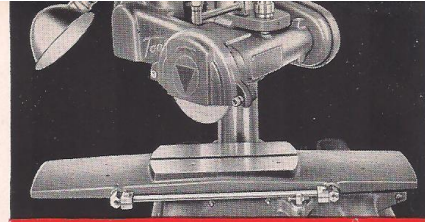
62-620 ½ H.P. Cap. AC. 1425 R.P.M. 110/220 V 50 Cy.

66-320 ½ H.P. 3 ph. AC. 1425-1725 R.P.M. 220/440 V 50/60 Cy.

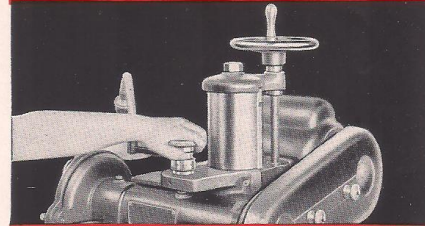
For 3 phase motors use No. 1320 Manual or No. 1329 Magnetic Starter.



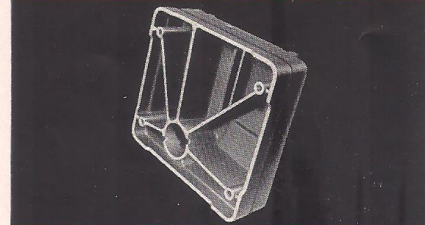
Spindle is precision ground to extremely close tolerances. Bearing at wheel end is large taper bearing and runs in continuous bath of oil. Sealed-for-life ball bearing at pulley end of shaft needs no lubrication and is held in a precision bored seat. Bearings are widely spaced which provides permanent, true alignment. These features contribute to smooth, vibrationless performance which results in accurate work.



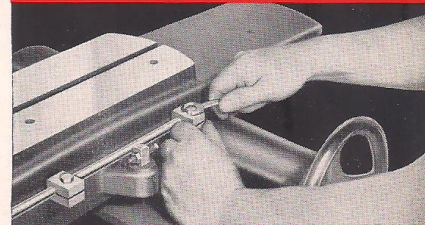
By loosening nut on top of column (see below) entire column and bracket may be revolved 360 degrees. Column is 4" in diameter, of hi-tensile cast iron, normalized and ground to accurate tolerances. Grinder can be supplied with adjustable light.



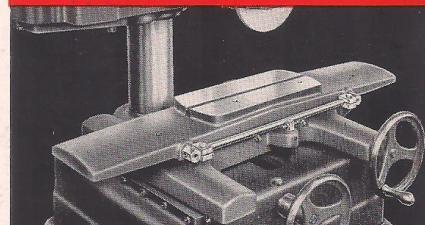
Fast "coarse" adjustment of the bracket carrying the spindle is effected by means of the hand wheel and Acme thread screw. Fine setting is made by the large knurled micrometer hand knob which has graduations of .0005". Note steel gib on column.



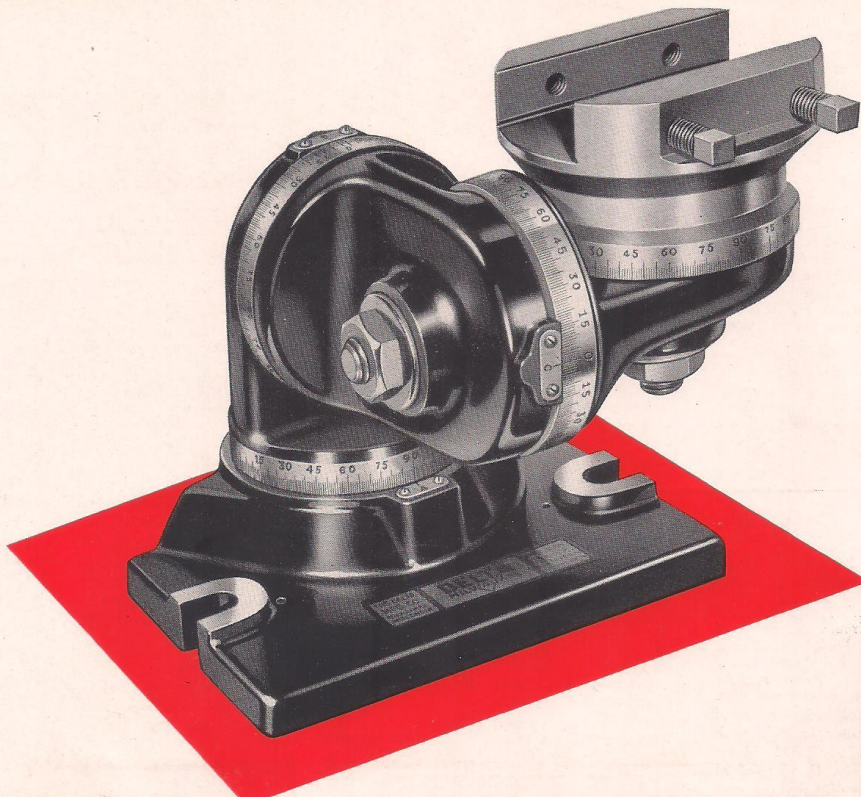
This bottom view of the base shows its extremely heavy construction. Cast of hi-tensile iron, it is normalized and accurately machined. Its heavy ribs assure permanency and rigidity.



Readily accessible clamp blocks and set screw allow accurate setting of longitudinal table travel. Maximum travel is 13½". Removal of block holding set screws allows table to be completely removed.



General view of table arrangement. Adjustable stops limit longitudinal travel of table. Micrometer with wide graduations on traverse feed assures accurate settings. T slot in table fitted with two T clamp bolts.



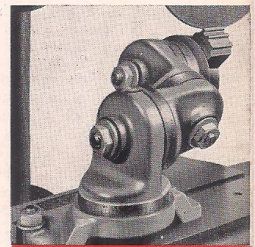
UNIVISE THE FIRST TRULY UNIVERSAL VISE FOR GRINDING, DRILLING AND MILLING

The Univise is a heavy, rigid, massive vise completely universal so that it can be set at any angle desired. It is composed of four separate parts, each of which can be rotated and independently set so that there are four separate distinct planes of adjustment. This means that any angle desired can be easily and readily obtained.

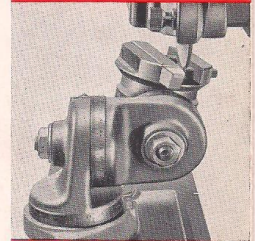
It means also, that for duplicate grinding that the vise can be returned exactly to its original setting. There is no guess-work, no trial and error methods of getting the proper angle or setting. You can be sure, even with green help, that the settings are going to be correct.

Each part has a circular scale of 360 degrees. Each station is marked so that by making a record of the setting of each scale it is impossible to make an error. Thus settings can be made direct from the blue-print without fuss or bother. Two of the parts rotate a full 360 degrees. It is $5\frac{1}{4}$ " high, 6" wide and $7\frac{1}{4}$ " long. Jaws take up to $1\frac{1}{2}$ " tools. Fits any surface or tool grinder. Has detachable keys on base which can be removed to permit use on drill press or other machine without table slots, or on a magnetic chuck.

No. 24-902 Complete Univise as illustrated. Shipping Weight 14 lbs...CHIPV

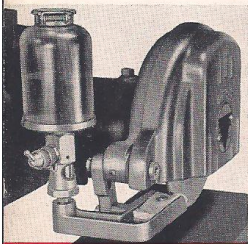


A difficult angular set-up easily and quickly done by means of the Univise.



Carbide tool is firmly held for accurate, efficient grinding.

EFFICIENT, COOLANT ATTACHMENT....

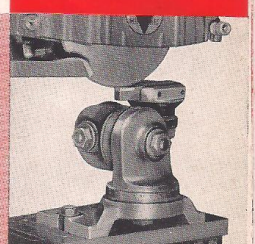
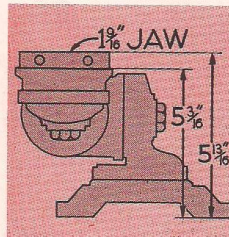


No. 24-906 coolant attachment which provides just the proper amount of coolant to keep wheel cool.

The coolant attachment is an added feature. Resinoid bonded diamond wheels used for chip-breaker grinding must be cool while grinding to prolong wheel life and efficiency. The coolant attachment provides just the proper amount of coolant for this purpose. The drop-feed is adjustable to regulate the amount of coolant which is brought to the wheel by means of a wick. This wick also helps keep the wheel clean.

The attachment is easily adjusted to different size wheels and can be easily and quickly removed if necessary.

No. 24-906 Complete coolant attachment as illustrated. Shipping Weight 5 lbs.....CHIPC



Univise can be mounted on top of magnetic chuck as illustrated.

THE DELTA MANUFACTURING COMPANY
600 E. VIENNA AVE.

Form AD-237

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