

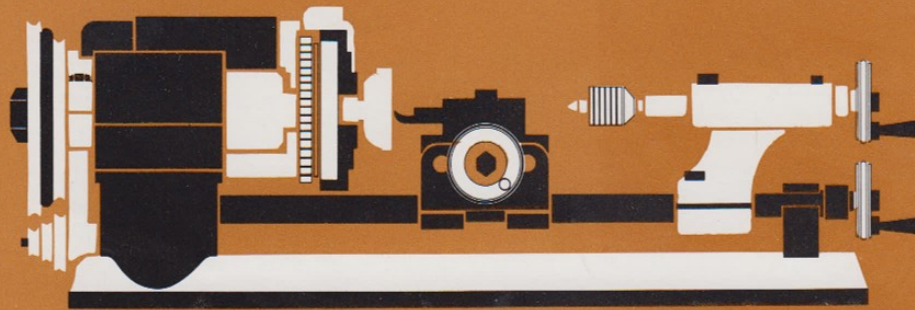
CATALOG NO. UA/72

edelstaal

UNIMAT

5-IN-1 PRECISION MACHINE, ACCESSORIES & ATTACHMENTS

®



This catalog describes a remarkably versatile machine and its special accessories. Together, they form a unique 'machine tool system' capable of most any machining operation for the creation of small precision parts.

A truly ingenious tool that has earned the respect of nearly 100 thousand professional and amateur users.

UNiMAT[®]

(UNIVERSAL MACHINE TOOL)

A COMPLETE MACHINE SHOP IN A BOX

- | | |
|--------------------------------------|--------------------------------|
| 1. Ribbed, Lathe Bed | 10. Face Plate |
| 2. Ball Bearing Headstock Spindle | 11. Lathe Dog |
| 3. Carriage Assembly | 12. Dead Centers (two) |
| 4. Tailstock | 13. Slotted Adapter |
| 5. Ball Bearing Idler Pulley | 14. Spindle-feed Hand Lever |
| 6. Tool Post | 15. Set of Drive Belts |
| 7. 12" Steel Vertical Column | 16. Allen Wrench |
| 8. Vertical Column Headstock Adapter | 17. Headstock Alignment Pin |
| 9. Grinding Wheel Arbor | 18. 40 Page Instruction Manual |
| | 19. Wood Storage Chest |

SPECIFICATIONS

HORIZONTAL

Swing over bed 3"
Swing over cross slide 1-6/10"
Distance between centers 6-9/10"

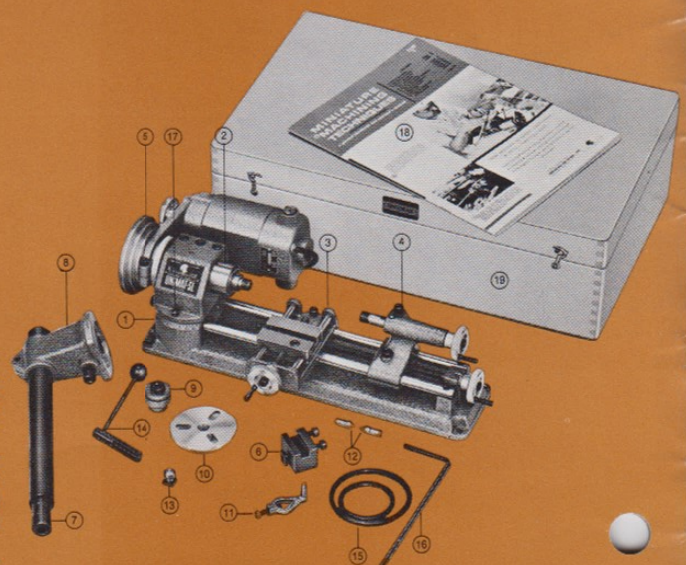
VERTICAL

Spindle nose to cross slide .. 6 1/4"
Drill to center of circle 6 1/8"

COMPONENTS

Headstock rotation 360°
Headstock spindle bore, takes . 1/4"
Headstock spindle feed 5/8"

Tailstock travel 6 1/2"
Tailstock spindle travel 3/4"
Carriage travel 6 1/2"
Cross slide travel 2"
Tool post capacity—(centers standard 1/4" tool bits) 3/8"
Handwheel graduations002"
Motor HP (110V-AC/DC) 1/10
Speed range (11 speeds) 900-7200 rpm.
Accuracy, spindle runout0005"
Over-all dimensions .. 14 1/2" x 4" x 5"
Weight 30 lbs.



No. 1000

Amazingly versatile, remarkably accurate,
UNIMAT is a complete 5-in-1
Precision Metal-working shop!

Now you can do dozens of different machining jobs that ordinarily requires a shop full of costly equipment! With UNIMAT you have a lathe, drill press, tool grinder, milling machine, and polisher—all in one piece of precision equipment. You can do every machine operation your part requires.

Expert machinists recognize UNIMAT as a fine precision engineered metal-working tool. It is especially appreciated by R & D laboratories, prototype and model makers, experimental engineers, camera shops, jewelers, instrument repair shops—and highly prized by the hobbyist who regularly makes his own metal, wood and plastic parts.

Highly accurate, UNIMAT is an all-around machine tool made for industrial experimental workers who demand the best. And attractively priced because of volume sales all over the world.

SPECIAL UNIMAT FEATURES

- Pre-loaded ball-bearing spindle accurate to .0005" (jewelers' lathe precision with heavy cutting power).
- Rotating, revolving, detachable headstock.
- 12" steel column for all vertical set-ups.
- 11-speed outboard belt drive design.
- Motorized, ready-to-run. Continuous duty 1/10 hp motor can be controlled by rheostat or SCR control pack.
- Modern, compact design.
- 6 months guarantee on all machine and electrical parts.

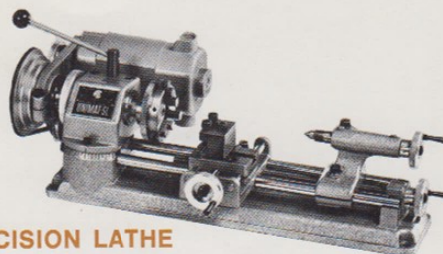
THE VERTICAL VERSATILITY OF 5-IN-1 UNIMAT

With UNIMAT headstock removed and mounted in upright position, the versatile precision lathe becomes a milling machine, a drill press, a surface grinder, etc. and can do many jobs. Change over takes less than a minute upon loosening a single screw!

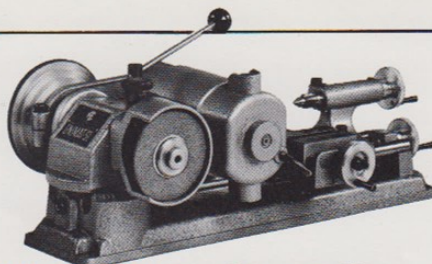
The entire headstock can be swung 360° around the steel column. It can also revolve 360° around its own axis, position and lock solid for work at any angle! The ball-bearing spindle has a $\frac{5}{8}$ " stroke operated by a hand lever under spring tension.

UNIMAT is truly "a complete machine shop in a box" capable of the finest precision work on small parts of metal, wood or plastic. Thousands of scientific laboratories, model making machine shops, instrument makers, jewelry craftsmen, R & D technicians and hobbyists consider UNIMAT their most useful and versatile tool.

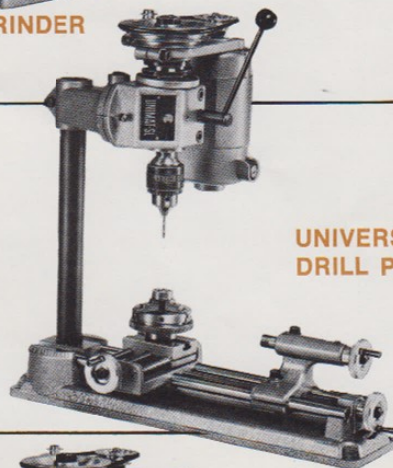
EFFECTIVE JANUARY 1, 1972
THIS SUPERSEDES ALL PRICE
LISTS AND BULLETINS PREVIOUSLY ISSUED
ALL SPECIFICATIONS SUBJECT TO CHANGE
WITHOUT NOTICE



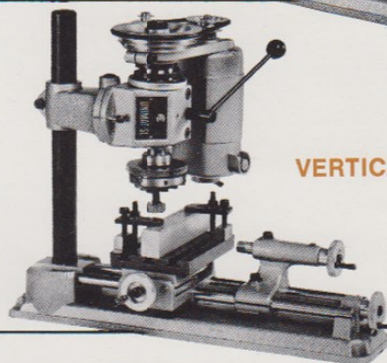
PRECISION LATHE



POLISHER/GRINDER



UNIVERSAL
DRILL PRESS



VERTICAL MILL



SURFACE GRINDER

THE UNIMAT BASIC UNIT

3-JAW UNIVERSAL LATHE CHUCK

No. 1001

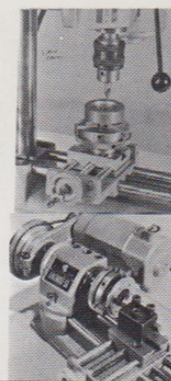
This is a general-purpose precision chuck indispensable for most lathe operations, with a $2\frac{1}{4}$ " capacity. It is a self-centering chuck—all three jaws open and close simultaneously, automatically centering the workpiece.

The chuck is made from solid steel, with scroll and guide grooves precision ground, to guarantee accuracy within .003". The unique design of the jaws permits them to be reversed and eliminates the need for two separate sets of jaws.

The 3-Jaw Chuck screws on either lathe or tailstock spindle.

In addition to its normal use, the chuck is designed to mount on the UNIMAT cross slide by means of a special T-slotted adaptor included with each basic machine. In this manner, the chuck serves as a circular vise, ideal for holding parts solidly for milling and drilling operations. Another use for the chuck is on the Indexing & Dividing Head No. 1260, described on page 10.

The extra mounting versatility of the UNIMAT 3-Jaw Chuck lets you machine work in the lathe, and then mill, drill or divide work, without taking it from the chuck and disturbing its concentricity. Wt. 1 lb.

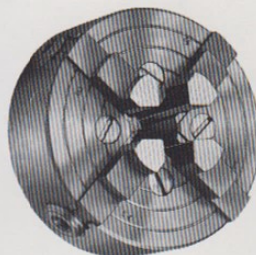


4-JAW INDEPENDENT LATHE CHUCK

No. 1002

Each of the 4 jaws of the $2\frac{1}{4}$ " Independent Lathe Chuck is adjustable individually. Thus, you can chuck square, rectangular, hexagonal and odd-shaped workpieces. You can chuck round parts off-center so that cams and eccentric parts can be made.

Made from cast iron, all 4 jaws reverse, permitting inside or outside grip. The Independent Chuck includes a separate threaded chuck plate (described below) and can be mounted on the lathe and tailstock spindle or UNIMAT cross slide. Wt. 1 lb.

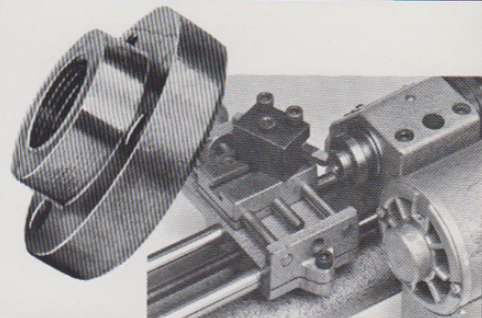


CHUCK & ACCESSORY MOUNTING PLATES

UNIMAT chucks Nos. 1002, 1020 and Polishing Arbor No. 1030 include a separate threaded plate which is supplied over-sized and must be turned down slightly to fit into the back of the chuck or accessory. (This simple machining operation must be performed on the same UNIMAT lathe on which the chuck will be used, to ensure a true and concentric running accessory.)

Additional mounting plates useful for mounting special arbors, chucks or fixture plates onto the UNIMAT lathe spindle are available. Wt. 1 oz.

CHUCK PLATE NO.	FOR MOUNTING ACCESSORY
DB106/139	3-Jaw Universal Lathe Chuck, No. 1001
ZF59/5	4-Jaw Independent Lathe Chuck, No. 1002
DB190/3	Collet Chuck, No. 1020
DB106/139	Polishing Arbor, No. 1030
1261/03	T-Slotted Fixture Plate, No. 1261



SOFT JAWS

You can drill and tap, machine and modify UNIMAT Chuck Jaws to hold special parts and for repetitive machining operations.

SET OF 3 SOFT JAWS

For 3-Jaw Universal Lathe Chuck No. 1001. Wt. 2 oz.

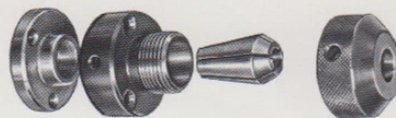
No. DB106-135



COLLET CHUCK, Capacity $\frac{5}{16}$ "

No. 1020

Designed for precision drilling and milling, the special UNIMAT Collet Chuck does not require a drawbar so that the total spindle bore of $\frac{1}{4}$ " is always usable. The chuck body has a precision ground tapered bore to hold collets No. 1021. The collet closing nose-piece grips or releases the collet when tightened. Included is a separate threaded chuck plate. Wt. 8 oz.



STEEL COLLETS $\frac{1}{64}$ " thru $\frac{5}{16}$ "

No. 1021

Edelstaal special double-tapered collets are precision ground to fit Chuck No. 1020. They are alternately split. This permits more flexibility and gives even clamping pressure for greater accuracy without sacrificing strength. Wt. 1 oz.

21 INCH SIZES AVAILABLE

.0135" (for holding #80 drills) plus, $\frac{1}{64}$ $\frac{3}{32}$ $\frac{1}{8}$ $\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{9}{16}$ $\frac{5}{8}$ $\frac{11}{16}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 inch.

16 METRIC SIZES AVAILABLE

From 0,5mm to 8,0mm in 0,5mm steps.

WHEN ORDERING USE CATALOG NO. 1021 AND SPECIFY SIZES OF COLLETS DESIRED

SOFT STEEL COLLETS

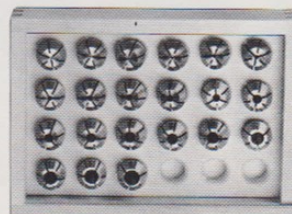
No. 1021/40

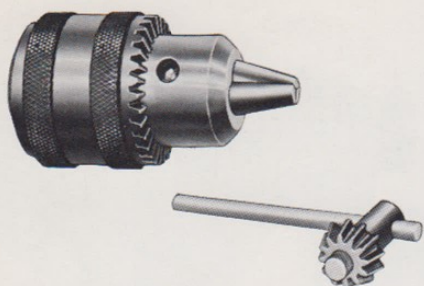
Collets are delivered with pilot hole and are soft so that special sizes can be machined by the UNIMAT owner. Wt. 2 oz.

COLLET CASE

No. 1025

Handsomely finished wood case holds 24 No. 1021 collets. Wt. 8 oz.





JACOBS-TYPE DRILL CHUCK & KEY

No. 1005

The Unimat drill chuck will hold drill bits accurately from a tiny #70 through $\frac{1}{4}$ ". The chuck can also be used for centering small workpieces up to $\frac{1}{4}$ " diameter to within .003" accuracy. In order to grip very small diameter drills the chucks three hardened jaws have very narrow ground faces. The drill chuck screws onto either the lathe spindle, or tailstock spindle. Wt. 6 oz.



T-SLOTTED FIXTURE PLATE

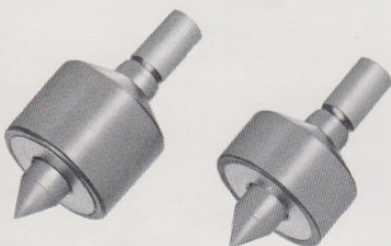
No. 1261

$2\frac{5}{8}$ " workplate has 3 T-slots identical to the slot in the UNIMAT cross slide, and 3 tapped holes for fixture screws. This versatile workplate can be used on UNIMAT in 3 different ways:

1—with mounting plate No. 1261/03 (page 4) it can be threaded onto the UNIMAT lathe spindle (as shown) with workpieces clamped or screwed to its surface.

2—with the T-slotted adaptor that comes with the basic machine, the workplate can be mounted onto the cross slide to clamp parts that are to be milled or drilled. See page 9.

3—workplate fits onto the Index & Dividing Attachment No. 1260 described on page 10. The accessory comes complete with 3 sets of milling clamps No. 1210/02. Wt. 1 lb.



PRECISION BALL BEARING LIVE CENTERS

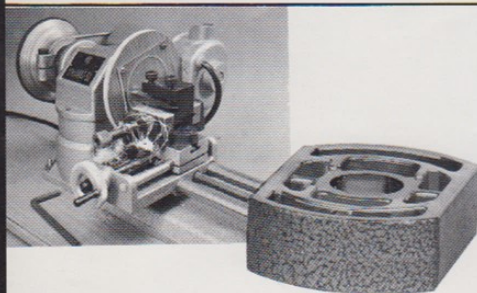
Anti-friction centers aid high speed machining, wood turning and finishing operations. Two UNIMAT precision live centers are available. Live Center No. 1220 has its center point (precision ground to 60°) mounted in a single ball bearing race. No. 1221 Center runs in a double row of ball bearings. This second bearing race gives the center more stability and is recommended for heavier lathe work or continuous duty. Wt. 3 oz.

SINGLE BALL BEARING LIVE CENTER

No. 1220

DOUBLE BALL BEARING LIVE CENTER

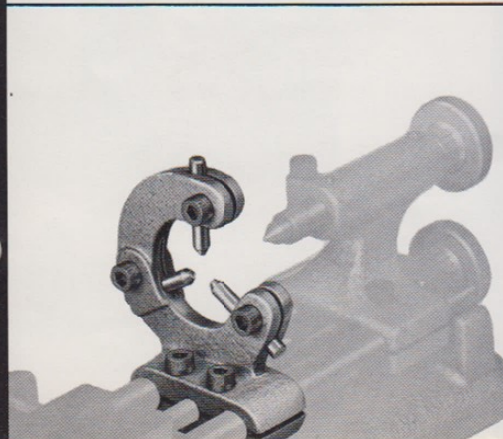
No. 1221



HEADSTOCK RAISING BLOCK

No. 1311

$\frac{3}{4}$ " casting mounts between lathe bed and headstock casting, increasing lathe swing to $4\frac{1}{2}$ ". The block is required for using *Sanding Disc* No. 1330 (page 13) and *Saw Blade* No. 1243 (page 11). UNIMAT Vise No. 1010 (page 8) raises tool post and bit. Wt. 5 oz.



STEADY REST

No. 1040

The UNIMAT Steady Rest is a most useful accessory that clamps anywhere on the lathe bed. It has three replaceable brass jaws that adjust individually to a work capacity of $1\frac{1}{2}$ ". The rest supports tubing or small diameter work and prevents it from collapsing or flexing. It is also used to support the free end of a workpiece that is being end-drilled or faced. A third use extends the 7" work capacity of the UNIMAT lathe: longer workpieces can be handled by removing the tailstock, and, using the steady rest in its place, support the work at the end of the lathe bed. Wt. 1 lb.

CUTTING PRECISION THREADS WITH UNIMAT

THREAD CHASING ATTACHMENT

No. 1270

This attachment is the most ingenious of all UNIMAT accessories. With it you can machine precision threads from 16 thru 56 threads-per-inch, and metric threads from .50 thru 1.50 mm pitch.

Threads are cut by 'copying' directly from a precise interchangeable Master Thread Pattern which has the desired thread pitch machined into it. The pattern fits over the lathe spindle, mounted to either the 3-Jaw Universal Lathe Chuck, No. 1001, or the 4-Jaw Independent Chuck, No. 1002 (page 4). A Chuck is required for all threading operations. A 'Follower' meshes with the Master Thread Pattern and controls the movement of the guide rod and cutting arm assembly, so that the exact same thread is accurately reproduced in the work-piece. The cutting arm is returned to the starting point and the cutting tool bit is advanced slightly. The thread is made by successive cuts, each one a little deeper, until the correct depth is obtained.

The attachment consists of two support castings, a guide rod with spring return, a Follower Holder, a cutting arm assembly complete with an internal tool bit holder, plus a 60° ground Outside Threading Tool Bit, No. 2820/07. Master Thread Patterns and Followers are not included with the attachment, and are available in paired sets as described on page 7. Extra Outside Thread Cutting Tool Bits and Internal Thread Cutting Tool Bits are available.

Proper thread cutting requires very slow spindle speeds, so that Slow Speed Attachment No. 1280 (page 7) or, SCR Motor Speed Controller No. 2998 is recommended. Wt. 3 lbs.

AVAILABLE INCH THREAD PATTERNS AND CORRESPONDING THREAD SIZES

PATTERN (THREADS PER INCH)	NC DIAMETER	NF DIAMETER	WHITWORTH (BSW) DIAMETER
16	3/8"	3/8"	3/8"
18	3/8"	3/8" & 5/8"	3/8"
20	1/4"	3/8" & 1/2"	1/4"
22	not a standard size		
24	#12 (.2160") & #10 (.1900")	3/8" & 3/8"	7/16" & 3/8"
26	not a standard size		(For 1/4" Br. St. Fine)
28	not a standard size	1/4" & #12 (.2160")	not standard
30	not a standard size		
32	#8 (.1640") & #6 (.1380")	#10 (.1900")	5/16"
36	not standard	#8 (.1640")	not standard
40	#5 (.1250") & #4 (.1120")	#6 (.1380")	1/8"
48	#3 (.0990")	#4 (.1120")	5/16"
50	not a standard size		
56	#2 (.0860")	#3 (.0990")	not standard

AVAILABLE METRIC THREAD PATTERNS & CORRESPONDING THREAD SIZES

PITCH	INTERNATIONAL STD. DIAMETER	FRENCH STANDARD DIAMETER
.50 mm.	3 mm.	not standard
.70 mm.	4 mm.	not standard
.75 mm.	4.5 mm.	4 mm. & 4.5 mm.
.80 mm.	5 mm.	not standard
1.00 mm.	6 mm. & 7 mm.	6, 7, 8 & 9 mm.
1.25 mm.	8 mm. & 9 mm.	not standard
1.50 mm.	10 mm. & 11 mm.	10 mm. & 12 mm.

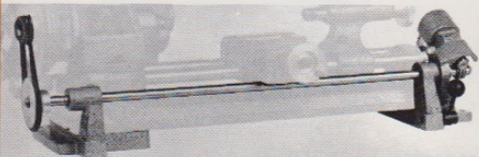
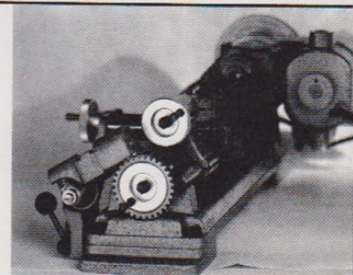
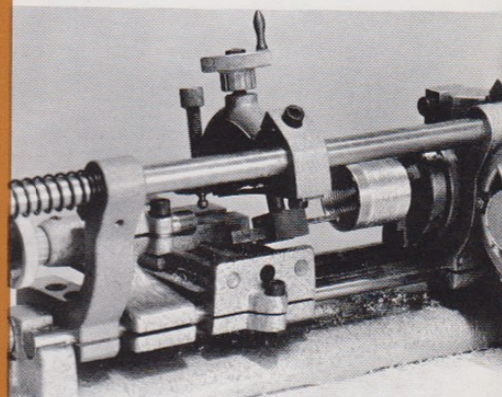
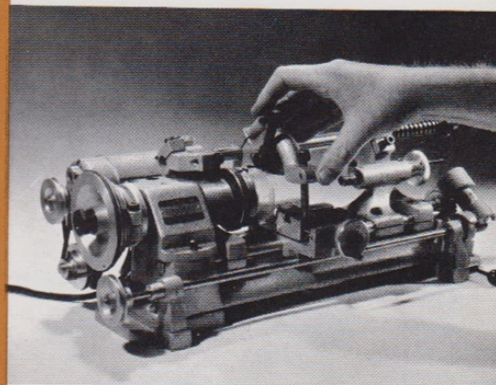
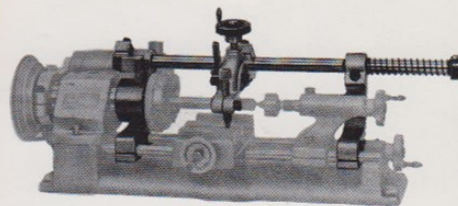
POWER FEED ATTACHMENT

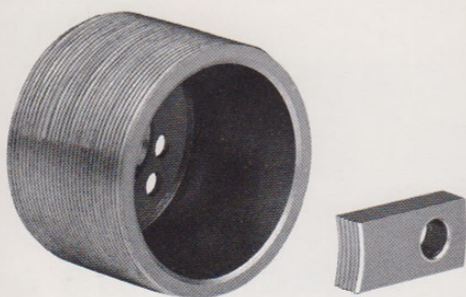
No. 1290

The Power Feed Attachment automatically moves the UNIMAT carriage/cross slide assembly from the tailstock end of the machine towards the headstock. This convenient feature eliminates feeding the cutting tool manually, and provides an even and smooth cutting feed of .0008" per spindle revolution.

Power is transmitted by belt from the lathe spindle to the drive shaft pulley. The power feed shaft drives worm gears at the tailstock end that mesh with a special handwheel gear assembly. A 1:50 reduction is obtained. A flip of the gear lever engages or disengages the drive to the UNIMAT leadscrew handwheel. Normal manual operation can be selected at any time.

Installation is easy and takes only a few minutes. The attachment does not interfere with any other UNIMAT accessory, and once installed, need not be removed. Wt. 6 lbs.





MASTER THREAD PATTERN & FOLLOWER

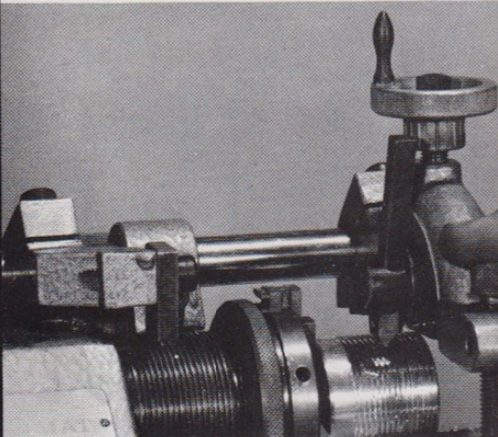
No 1271

The Master Thread Pattern is an accessory to the Unimat Thread Chasing Attachment No. 1270 described on opposite page.

Fourteen of the most commonly used inch thread sizes are available to the UNIMAT owner who wants and needs thread cutting accuracy and flexibility not obtainable with ordinary taps and dies. In addition, 7 metric thread sizes, indispensable for camera, optical and scientific instrument work, are available. Metric pattern 1,0mm is also useful for duplicating the UNIMAT spindle thread which is M12 x 1mm (12mm diameter x 1,0mm pitch), so that special arbors or fixtures can be made by the UNIMAT user for use on his machine.

The Master Thread Pattern mounts onto the lathe chuck with 3 screws and can be quickly interchanged for another size. Either of the UNIMAT lathe chucks, No. 1001 or No. 1002 (page 4) can be used.

The steel pattern comes with its own brass *Follower* which has the corresponding thread cut into it. 21 different patterns are available as listed below:

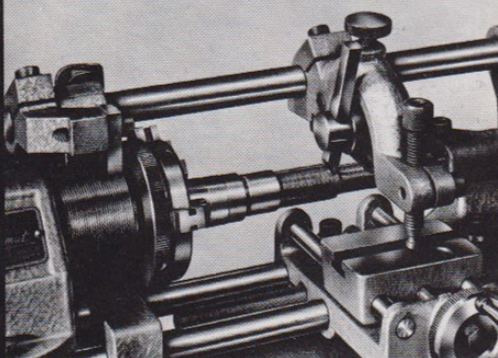


14 MASTER THREAD PATTERNS AVAILABLE FOR CUTTING INCH THREADS

for National Fine (NF), National Course (NC), and British Standard Whitworth (BSW) inch threads:

16, 18, 20, 22, 24, 26, 28, 30, 32, 36, 40, 48, 50, and 56 threads-per-inch. Wt. 4 oz.

WHEN ORDERING, USE PART NO. 1271 AND SPECIFY SIZES DESIRED



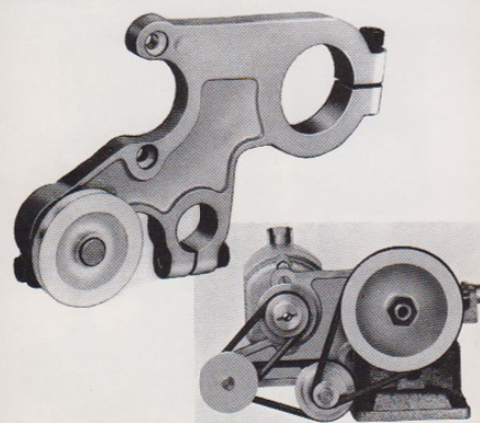
7 MASTER THREAD PATTERNS AVAILABLE FOR CUTTING METRIC THREADS

for International and French Standard metric threads:

.50 ,70 ,75 ,80 1,00 1,25 and 1,50 mm

Wt. 4 oz.

WHEN ORDERING, USE PART NO. 1271 AND SPECIFY SIZES DESIRED



SLOW SPEED ATTACHMENT

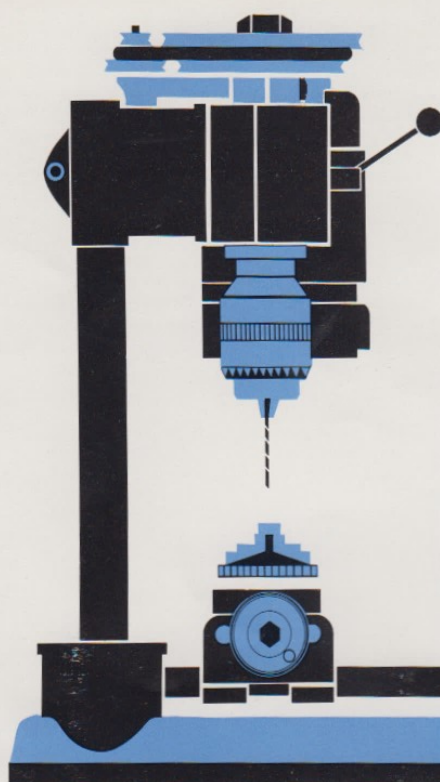
No. 1280

Slower spindle speeds are desirable on UNIMAT when cutting threads, turning down large diameter workpieces, machining tough steels and on many milling and boring operations. The UNIMAT owner has a choice of the Slow Speed Attachment described here, or SCR Motor Speed Controller, No. 2998.

The Slow Speed Attachment reduces speed mechanically, the SCR electronically. Many UNIMAT owners prefer to use both accessories for different types of work.

The Attachment consists of an aluminum motor support casting that replaces the one furnished with the machine, and includes an additional ball bearing idler assembly with pulley. Transmission of power runs from the motor pulley to the slow speed idler, to the original idler, to the lathe spindle pulley.

The attachment does not interfere with any other UNIMAT accessory, and once installed, it need not be removed. Wt. 2 lbs.



ATTACHMENTS & ACCESSORIES FOR VERTICAL MILLING, DRILLING & GRINDING



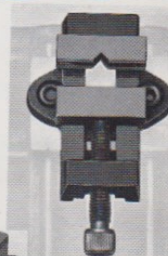
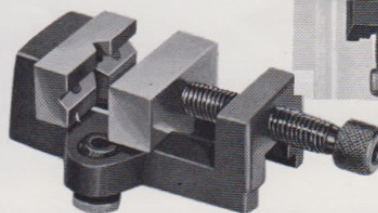
TABLES & VISES & WORKHOLDING DEVICES

MACHINE VISE

No. 1010

This vise is one of the most popular and useful of all UNIMAT accessories. It mounts onto the UNIMAT T-slotted cross slide, or on the T-slotted Milling & Fixture Table, No. 1210 described below.

The vise jaws are precision ground and open to a capacity of $1\frac{1}{8}$ ". The stationary jaw is accurately 'V' milled, both horizontally and vertically, so that round workpieces can be clamped solid for drilling and milling operations. The sturdy drop-forged vise frame assures rigidity and stability during machining operations. Wt. 13 oz.

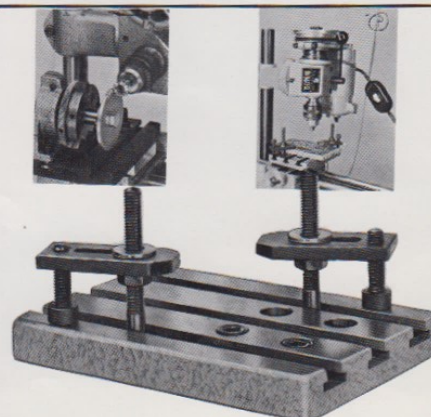


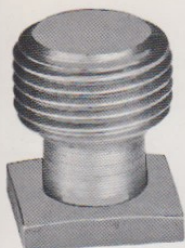
MILLING & FIXTURE TABLE

No. 1210

This extremely useful accessory measures 5" x 3", and has 3 T-slots, precision milled down its entire length for convenient mounting of fixture T-studs and clamps. The table mounts onto the UNIMAT cross slide in any of 8 different positions and is an ideal surface for clamping large castings, odd-shaped workpieces or round stock, for any milling or drilling operation. With T-slots identical to the UNIMAT cross slide T-slot, Machine Vise, No. 1010, and Indexing Head No. 1260, can be mounted on the table.

The table comes complete with mounting hardware, plus 2 sets of T-studs with clamps and nuts (No. 1210/02). Additional T-stud sets can be ordered. See page 9. Wt. 2 lbs.



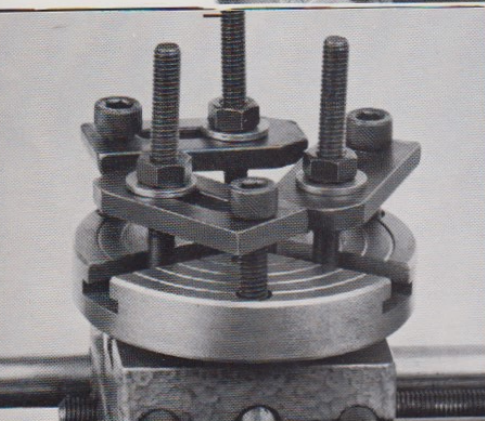


T-SLOT ADAPTOR SCREW... A BONUS FEATURE THAT DOUBLES THE VALUE OF MANY UNIMAT ACCESSORIES...

Included with every UNIMAT basic machine is a special adaptor. It fits the T-slot in the UNIMAT cross slide, and has the same thread as the UNIMAT lathe spindle. Thus, you can take any UNIMAT lathe spindle accessory (such as faceplate, lathe or collet chucks) and mount the accessory onto the UNIMAT cross slide!

As a result, lathe and collet chucks offer extra versatility as precision circular vises, ideally suited for chucking and clamping workpieces for machining in the UNIMAT Vertical Set-Up.

Although included with each basic machine, many UNIMAT owners like to have a few extra adaptors on hand for convenience's sake. They are separately available as, T-Slot Adaptor, No. 105 / 05 wt. 1 oz.

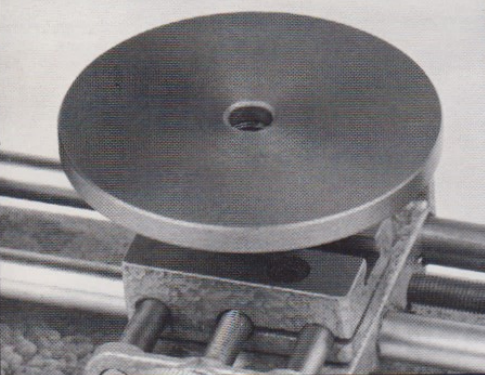


Here are UNIMAT accessories that you can set-up on the cross slide with this adaptor.

T-SLOTTED WORK & FIXTURE PLATE

No. 1261

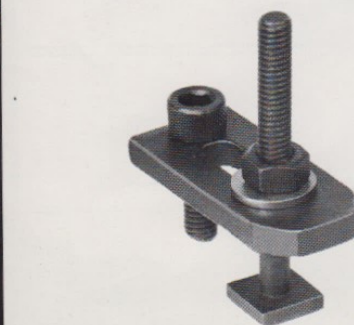
Here is another use for this versatile work plate also described on pages 5 and 10. With Mounting Plate No. 1261/03 (page 4) and the T-slot Adaptor described above, the work table can be easily secured to the UNIMAT cross slide. There, it makes an ideal fixture plate for clamping all kinds of workpieces for any milling or drilling operations. See pages 5 and 10 for other uses. Wt. 1 lb.



DRILL PRESS TABLE/SANDING DISC

No. 1330

This is another UNIMAT accessory that gives you extra built-in versatility. Here, the large 3 1/2" round plate is shown set-up as a drill press table, a practical base for any drilling operation! Using the T-slot adaptor mentioned above, it mounts easily and securely onto the UNIMAT cross slide. The cast plate is ribbed for extra strength and is also used as a Sanding Disc. See page 13. Wt. 4 oz.



T-STUD & CLAMP, SET OF 2 EACH

No. 1210/02

T-stud fits T-slot in UNIMAT cross slide, No. 1210 Milling & Fixture Table, and No. 1261 Work & Fixture Plate. Set consists of one 2" long T-stud, stud nut and washer, milling clamp and screw.

T-NUTS (6 to a package)

No. 14/06

Fits all UNIMAT standard T-slots. Also see Set of 15 Allen Head Screws, page 15. Wt. 1 oz.

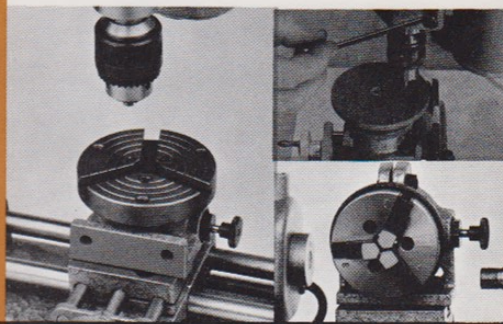
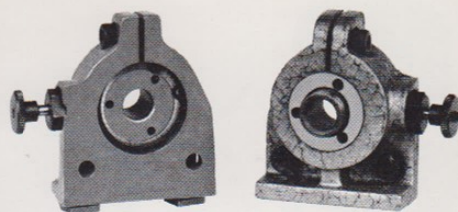
INDEXING & DIVIDING ATTACHMENT

No. 1260

The Indexing & Dividing Attachment divides a circle into even segments. It enables you to drill and bore at precise radial distances, to mill gear teeth, to make splines and keyways, and to do a wide variety of radial layout work.

Work can be clamped to accessory T-Slotted Work & Fixture Plate No. 1261 (described on pages 5 and 9) or, in the UNIMAT 3-Jaw Universal Lathe Chuck No. 1001 described on page 4, mounted directly onto the dividing head.

The index head mounts on the UNIMAT cross slide in either of two different ways: with its spindle axis *horizontal* or *vertical*. Mounted on the accessory Milling Table No. 1210 (page 8) additional mounting flexibility can be obtained. Wt. 1 lb.



SNAP RING REMOVER

No. 1264

Special plier designed to remove snap rings in Indexing Head No. 1260. Wt. 3 oz.

No. 1003

Special plier designed to remove snap rings in lathe chucks No. 1001 and No. 1002. Wt. 3 oz.

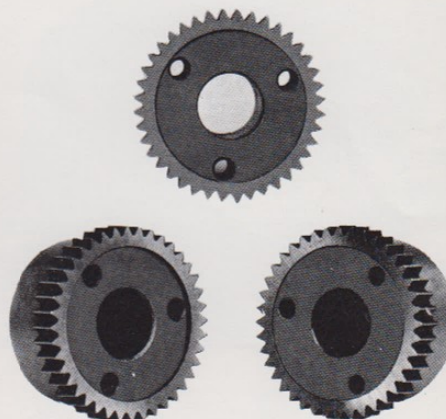


INTERCHANGEABLE INDEX PLATES

The heart of the attachment is an interchangeable steel index plate that determines the combination of divisions obtainable. The 48 division plate No. 1263/48 is included with the attachment. An index pin control knob lets you engage the accessory work plate or mounted lathe chuck precisely at every 15 degrees. A single Allen head screw locks it solid. Thus you can rapidly divide the circle into 2, 3, 4, 6, 8, 12, 24 or 48 equal spacings; a feature useful in making tools and sharpening them. Other index plates are available separately. See the Index Plate Chart for the various divisions obtainable. Index plates are interchanged by removing a snap ring. A special tool, No. 1264, is available for added convenience.

INDEX CHART

CAT NO.	DESCRIPTION	GIVES DIVISIONS OF:
1263/30	Index Plate, 30 Divisions	2,3,5,6,10,15,30
1263/36	Index Plate, 36 Divisions	2,3,4,6,9,12,18,36
1263/40	Index Plate, 40 Divisions	2,4,5,8,10,20,40

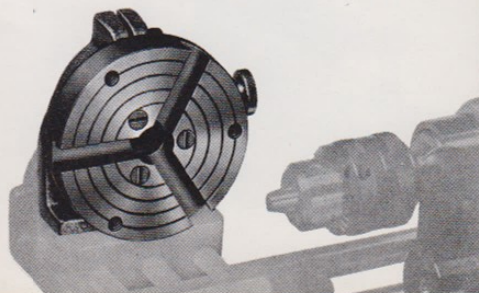


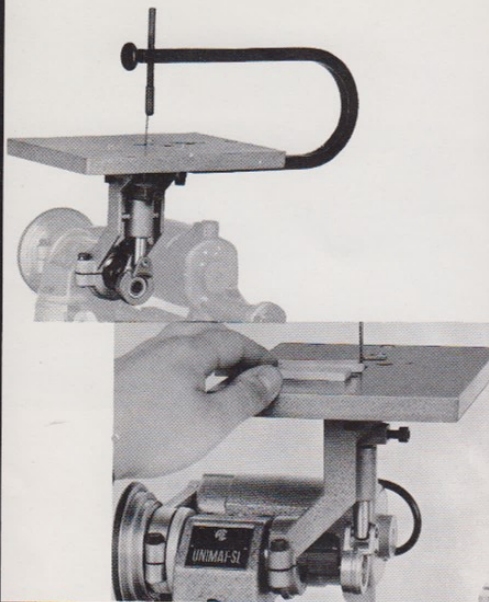
T-SLOTTED WORK & FIXTURE PLATE

No. 1261

This versatile 2 5/8" cast iron plate has 3 different uses.

1. As lathe spindle fixture plate (see page 5).
2. As cross slide work plate (see page 9).
3. As dividing table. In this third use the plate is mounted directly onto the indexing head, so that work to be divided can be securely and conveniently clamped. The accessory comes with 3 sets of studs and clamps, No. 1210/02, described on page 9. Wt. 1 lb.





PRECISION SAWING ON YOUR UNIMAT...

COMBINATION 8" JIG SAW & SABRE SAW

Jig Saw Operation:

No. 1080

This useful attachment combines jig saw and sabre saw in one unit. With jewelers blades, extremely clean and accurate cuts .020" wide can be made. Unit mounts onto lathe spindle housing in seconds. The 8" throat permits sawing to center of 16" circle. Sturdy rectangular table is 6 x 8". The jig saw overarm features a grooved adjustable rod that is both blade guide and work hold-down. It also supports fragile blades, reducing breakage to a minimum. The blade is shielded for added safety.

Sabre Saw Operation:

Overarm comes off quickly by removing two Allen head screws, and unit is set for sabre sawing. Blade chuck takes all standard sabre saw blades to cut any size of work maneuverable on the table.

UNIMAT's 11 drive belt positions offers the right speed choice for cutting metal, synthetics and wood.

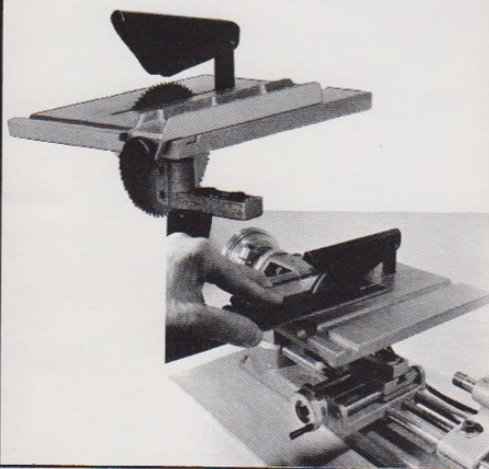
A variety of jig saw and sabre saw blades are available. See below. The No. 1080 saw attachment comes complete with one dozen No. 1083 assorted jig saw blades. Wt. 6 lbs.

JIG SAW BLADES

Blade No.	Type Material	Thick.	No. Teeth per inch	Quantity	Wt.
1081	metal cutting	.020"	15	1 dozen	1/4 oz.
1082	wood cutting	.032"	12	1 dozen	1/4 oz.
1083	Assorted	—	—	1 dozen	1/4 oz.

SABRE SAW BLADES

Blade No.	Type Material	Thick.	No. teeth per inch	Quantity	Wt.
1085	metal cutting	.053"	25	1 blade	1/8 oz.
1086	wood cutting	.054"	9	1 blade	1/8 oz.
1087	plastic cutting	.059"	13	1 blade	1/8 oz.



CIRCULAR SAW ATTACHMENT

No. 1240

Designed for precision sawing of small metal, wood and plastic parts too difficult or impossible to saw accurately on larger machines. The 6 x 8" table is slotted for Mitre Gauge No. 1244 described below. Height adjusts to permit a maximum depth of cut of 1" with large saw blade No. 1243, and up to 1/2" with smaller blades No. 1241 and 1242 below. You can also use the circular saw table as a sanding table. See page 13.

The attachment includes a sliding fence that locks in alignment with a single knurled screw, and a saw arbor that must be turned down a few thousandths on the owner's own machine to assure a dead-true running blade. Additional arbors are available to permit permanent mounting of different blades.

ORDER No. DB106. A splitter and blade guard complete the attachment.

HEADSTOCK RAISING BLOCK NO. 1311 (described page 5) is required to let large blade No. 1243 clear the lathe ways. The raising block is not needed with the smaller blades No. 1241 and 1242.

SLOTING SAW BLADES

Blade No.	Type Material	Blade Dia.	Thick.	Bore	No. of Teeth	Depth of Cut	Wt.
1241	metal cutting	2 1/2"	.031"	.638"	96	1/2"	1 oz.
1242	wood cutting	2 1/2"	.053"	.638"	40	1/2"	1 oz.
1243	wood cutting	3 3/4"	.054"	.638"	72	1"	2 oz.



MITRE GAUGE

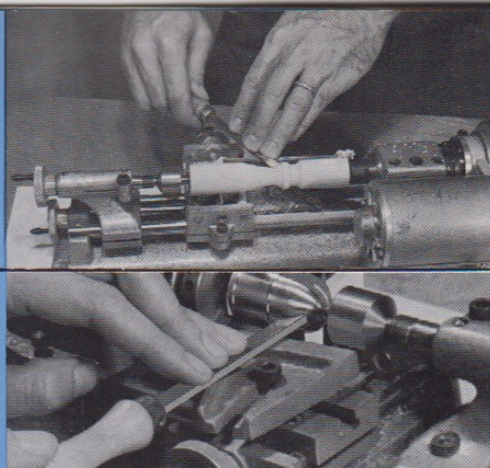
No. 1244

Accessory to Circular Saw Attachment No. 1240 for precision sawing or sanding operations. The mitre gauge head is calibrated to 45° in either direction, and is drilled for attaching a wood facing or the work itself. The head can be mounted in two places on the mitre gauge bar. Wt. 10 oz.



WOOD TURNING ON THE UNIMAT LATHE

Turning wood, synthetics and light metals can be done with hand-held tools, which allow a certain freedom in shaping the workpiece. To control hand-held tools and chisels properly, a tool steady rest is required. UNIMAT offers two types: a simple rest, No. 1201, and an adjustable rest, No. 1202 (below).



STEADY FOR WOOD-TURNING

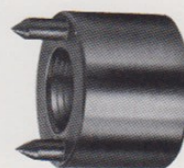
No. 1201

A good support for wood turning in close quarters, or grinding and sharpening hand-held tool bits. Its long slot permits the 2" rest to be positioned freely on the UNIMAT cross slide. See wood-turning chisels, Wt. 5 oz.

SPUR DRIVE CENTER

No. 1205

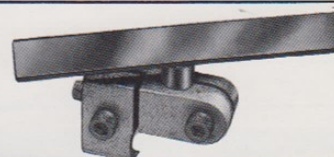
2-pronged center threads onto UNIMAT lathe spindle. Its sharp prongs bite into wood or soft materials, driving the workpiece to be machined. Wt. 2 oz.



ADJUSTABLE T-BAR TOOL REST

No. 1202

The accessory clamps onto the UNIMAT lathe bed way. The T-bar is 4 3/4" long, and can be adjusted in height or angle. It is ideal for wood turning, machining light metals and synthetics with hand-held tools. Wt. 1 lb.

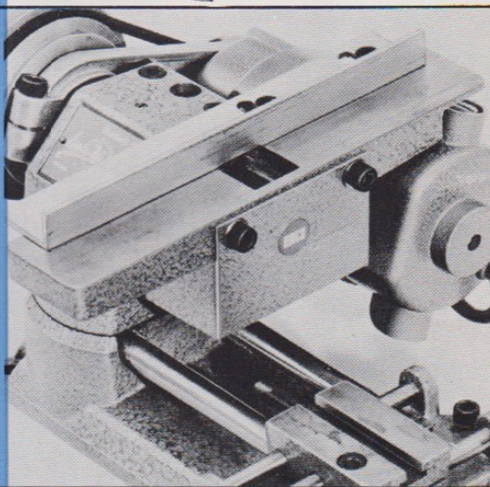


PLANER ATTACHMENT

No. 1050

Planes glass-smooth surfaces on wood and hardboard up to 1" wide in a single pass. The cutter mounts on the machine spindle and can be operated at the higher UNIMAT speeds. Depth of cut is adjustable. The cutter is a steel block, precision ground to razor keenness. Table size is 8" x 2". Also included is a 7" fence, adjustable to 1/2". The UNIMAT Headstock Raising Block, No. 1311 (page 5) is required.

EXTRA PLANER CUTTER, No. 1051

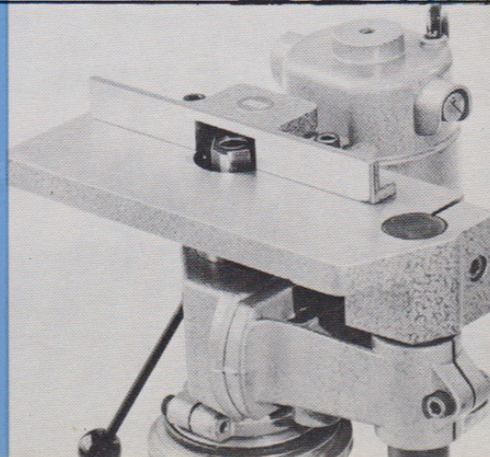


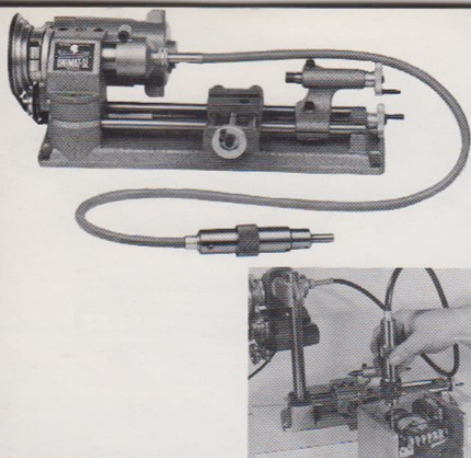
JOINTER ATTACHMENT

No. 1060

With UNIMAT set-up in vertical operating position, the jointer can be quickly mounted onto the upright column. The steel block cutter (included) threads onto the machine spindle and runs at any of the UNIMAT speeds. Activating the rack and pinion feed of the headstock spindle, easily adjusts the depth of cut. Fence and blade guard are also adjustable. Table size is 7 3/4" x 3 1/8"

EXTRA JOINTER CUTTER, No. 1061





FLEXIBLE SHAFT

No. 1250

The UNIMAT Flexible Shaft is 45" long, and greatly extends the versatility and range of the UNIMAT to include many operations that cannot be performed on the machine itself. Polishing, deburring, carving, engraving, routing, sanding, machine filing, sawing and grinding are among the most important.

The shaft itself is ruggedly built with a steel core on the inside, surrounded by a flexible steel sheathing, encased in a durable plastic mantle on the outside.

The shaft features a knurled hand-piece with a precision-built ball-bearing spindle similar in design and construction to the UNIMAT lathe spindle. With the same identical thread, all UNIMAT lathe chucks, drill chucks, collet chucks, polishing arbors, grinding wheel and saw arbors can be mounted on the shaft.



WIRE WHEEL BRUSHES

Brass and steel wire wheel brushes are ideal for cleaning and polishing metal parts. The flexible wire is perfect for polishing Rounded Surfaces, in corners and other tight areas. The 1 5/8" wheels are mounted on 6mm arbors. They can be used, mounted in lathe, drill or collet chuck—on the UNIMAT lathe, or in the Flexible Shaft No. 1250, above. Wt. 2 oz.

WIRE WHEEL BRUSH, brass

No. 1150

WIRE WHEEL BRUSH, steel

No. 1151



POLISHING ARBOR

No. 1030

Tapered, serrated arbor is used to mount cloth wheels and felt polishing discs, for extra high-finish polishing. The arbor includes a separate threaded mounting plate to assure a true running arbor. See page 4. Wt. 8 oz.



FELT POLISHING DISCS

Soft, hi-density felt polishing discs are perfect for polishing rouges and compounds to give work a fine, mirror-bright finish. The discs come in 3 different sizes and mount on Polishing Arbor No. 1030 described above. Wt. each 1 oz.

SET OF 3 FELT POLISHING DISCS

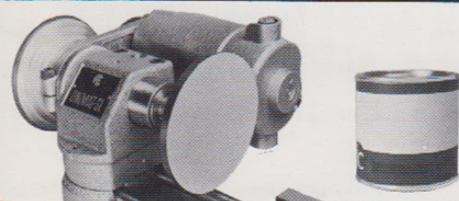
No. 1034

Consists of the following:

Felt Disc, 1 1/2" x 5/16"

Felt Disc, 2" x 3/8"

Felt Disc, 2 3/4" x 5/8"



ABRASIVE PAPER DISC, 100 grit

No. 1334

ABRASIVE PAPER DISC, 80 grit

ABRASIVE PAPER DISC, 60 grit

ABRASIVE DISC CEMENT

The 3 1/2" cut-to-size abrasive paper discs are glued to the sanding disc with special UNIMAT cement. Hot water removes them.

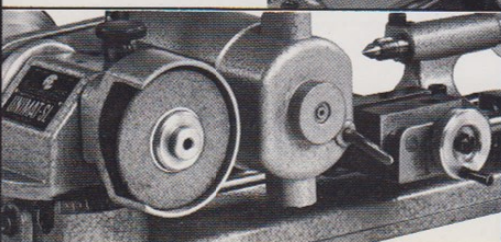


SANDING DISC / DRILL PRESS TABLE

No. 1330

The 3 1/2" ribbed casting is used as a Sanding Disc, or as a Drill Press Table as shown on page 9. Used as a sanding disc, Headstock Raising Block, No. 1311 is required, to give the UNIMAT spindle extra clearance over the bed ways.

A variety of abrasive paper discs, are described below. In disc sanding operations, the versatile UNIMAT Circular Saw Table No. 1240, page 11, does double duty as an excellent work surface as shown here.



GRINDING WHEEL GUARD

No. 1115

This protective casting takes grinding wheels up to 2 5/8". See Nos. 2841/01-03,

A large thumb screw quickly clamps the guard to the UNIMAT spindle, and protects you from grinding particles or chips. When grinding, always use the Grinding Wheel Guard, together with Safety Goggles. You only have one pair of eyes! Wt. 12 oz.

"WW" TYPE WATCHMAKERS' LATHE SPINDLE & ACCESSORIES...

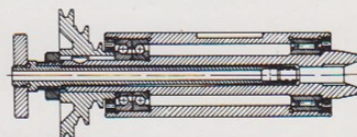
You can equip your UNIMAT with a special accessory spindle made to watchmaker's lathe spindle specifications that will take all standard "WW" collets and tooling.

This Watchmaker Spindle, Type "WW," No. 2800 is different from the regular UNIMAT lathe spindle; it is more accurate—guaranteed to run-out within .00039"; it features precision roller bearings in the front, and a matched pair of radial thrust ball bearings in the rear. It doesn't have a spindle nose thread. Collets and accessories fit inside and are held in place by a threaded drawbar that is inserted from the rear.

WATCHMAKER SPINDLE, TYPE "WW" No. 2800

Interchanges with regular UNIMAT lathe spindle, for use with "WW" type collets and accessories listed here. This spindle is offered as an accessory to UNIMAT only, and CANNOT be substituted in place of the regular threaded spindle. Regular UNIMAT chucks and accessories made to thread on the standard UNIMAT lathe spindle can be adapted to the Watchmaker Spindle with lathe chuck arbors 2814/01 & 02. below.

"WW" ACCESSORIES DESCRIBED HERE ARE FOR USE ON WATCHMAKER SPINDLE No. 2800 ONLY AND WILL NOT FIT THE REGULAR UNIMAT SPINDLE.



REGULAR SPINDLE



WATCHMAKER SPINDLE

PRECISION "WW" STEEL COLLETS No. 2803

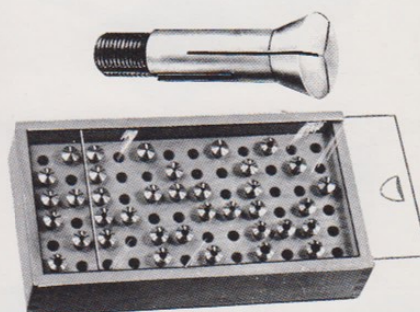
These precision collets are made to fit the UNIMAT Watchmaker Spindle, Type WW, No. 2800. 8 inch sizes and 72 metric sizes are available individually

from 0,1mm, thru 7,2mm, in 0,1mm steps.

1/32, 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, & 1/4"

COLLET CASE FOR 40 COLLETS wt. 8 oz. No. 2806

COLLET CASE FOR 72 COLLETS wt. 12 oz. No. 2807



LARGE BORE COLLETS No. 2808

Special collets feature large capacity. Bore depth is 8mm. 8 bore sizes are available, from 7.0mm thru 14.0mm, in 1.0mm steps. When ordering, give collet number and size desired. Wt. 2 oz.



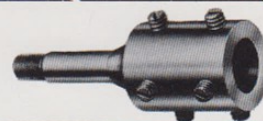
PRECISION DRILL CHUCK, TYPE "WW" No. 2801

Swiss made to fit Watchmaker Spindle Type "WW" only. Drill chuck capacity is 0 to 4mm. Chuck includes special mounting arbor for drawbar spindle.



JUMBO CHUCK No. 2802

Ideal for chucking larger parts. Chuck has a 16mm capacity to a depth of 20mm. 8 screws clamp workpiece securely. Wt. 4 oz.



"WW" STYLE ARBORS FOR WATCHMAKERS SPINDLE ONLY

BLANK ARBOR No. 2811

Unhardened 1/2" arbor can be freely machined to adapt tools and fixtures for use in watchmakers spindle. Wt. 3 oz.



GRINDING WHEEL ARBOR No. 2812

Designed to mount small grinding wheels into watchmakers spindle. Arbor diameter is 3/8". Wt. 2 oz.



SLITTING SAW ARBOR No. 2813

Arbor holds saw blades and milling cutters with a 1/2" mounting hole. Wt. 3 oz.



LATHE CHUCK ARBORS

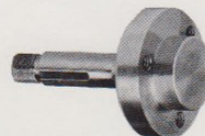
Special mounting arbors adapt the UNIMAT 3-Jaw Universal Chuck, No. 1001, and the 4-Jaw Independent Chuck, No. 1002, for use with the Watchmaker Spindle No. 2800. Wt. 2 oz.

No. 2814/01 Arbor, for 3-Jaw Universal Chuck

Wt. 2 oz.

No. 2814/02 Arbor, for 4-Jaw Independent Chuck

Wt. 2 oz.





MAINTENANCE ACCESSORIES FOR YOUR UNIMAT MACHINE

SET OF POLYURETHANE DRIVE BELTS

No. 70

Hundreds of special polyurethane fibres are woven to provide UNIMAT with heavy-duty, long lasting drive belts. Set consists of a small belt (connecting motor and idler pulleys) and large belt (for idler to headstock pulley connection). Wt. 2 oz.

POWER FEED RUBBER BELT

No. 50/02

SET OF 15 UNIMAT ALLEN-HEAD SCREWS

No. 600

Most assembly screws on UNIMAT and its accessories are 6mm diameter. This set provides the user with extra screws of varying lengths. Set includes 3 each: 12, 15, 20, 25, & 30mm long screws. Wt. 5 oz.

HI-QUALITY PRECISION BEARING GREASE

Esso, EP No. 1—a special grease formulated for use with high precision needle, roller and ball bearings.

3 oz. size: No. 2890

1 lb. size: No. 2891

TOUCH UP PAINT

No. 2893

Keep your UNIMAT equipment looking new and clean. Specify color GREEN. Wt. 4 oz.



UNIMAT TAP & DRILL SETS & DIES

Taps and dies are available to reproduce special metric threads used on UNIMAT. Useful for making special arbors, fixtures, screws, etc. Tap set includes the correct sized drill, both of which are ordered under a single catalog no. and price. For external threads, precision dies are available. Reference chart indicates correct thread for various UNIMAT parts.

UNIMAT Part	Thread Size	Drill Size	Tap & Drill Cat. No.	Wt.	Die Cat. No.	Wt.
Lathe & Tailstock spindles	M 12 x 1	10.8mm	2870/12	6 oz.	2871/12	2 oz.
Carriage & Cross feed screws	M 8 x 1, Left.	6.7mm	2870/08	4 oz.	2871/08	2 oz.
Drawbar of WW Spindle No. 2800	M 6.83	1 3/4"	2870/68	4 oz.	2871/68	2 oz.
UNIMAT Allen-head Screws	M 6	5.0mm	2870/06	4 oz.	2871/06	2 oz.
UNIMAT Set Screws	M 4	3.3mm	2870/04	4 oz.	2871/04	2 oz.

A NEW CONCEPT IN MACHINE TOOL VERSATILITY...

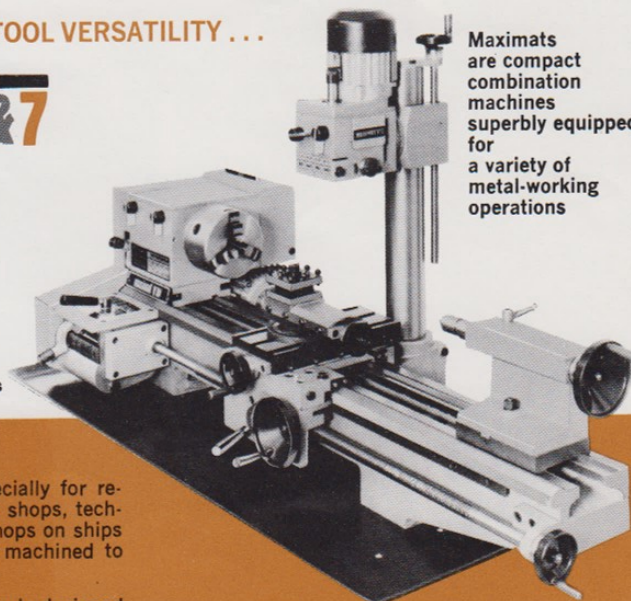
MAXIMAT V-10 & 7

Precision Screw-Cutting Lathe, Vertical Mill & Universal Drill — in one, compact unit!

10" swing, 26" centers or 7" swing, 18" centers

Here are ideal machines designed especially for research and engineering labs, instrument shops, technical schools, maintenance and repair shops on ships and trucks — wherever parts must be machined to micrometer accuracy.

Maximat offers two main choices: the newly designed V-10 pictured here and the smaller model 7 which does not have the quick change box feature and is not as powerful.



Maximats are compact combination machines superbly equipped for a variety of metal-working operations

For complete details on both Maximat machines, please request Catalog No. M 10-7/69, and Catalog No. MA/69 on Maximat accessories.

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MINIATURE MACHINING TECHNIQUES No. 68 \$1.00

Completely illustrated 40 page handbook pictures and describes every machining operation that can be performed on UNIMAT. Excellent instruction for the amateur. With this booklet anyone can quickly turn out intricate parts in metal, plastic or wood. A short and valuable illustrated how-to-do-it book that demonstrates the versatility and practical application of UNIMAT's many different set-ups.

Manual is supplied with each UNIMAT—or you can get a copy for \$1. Look it over before you buy a UNIMAT if you wish, and be convinced that UNIMAT will do all you expect.



edelstaal

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