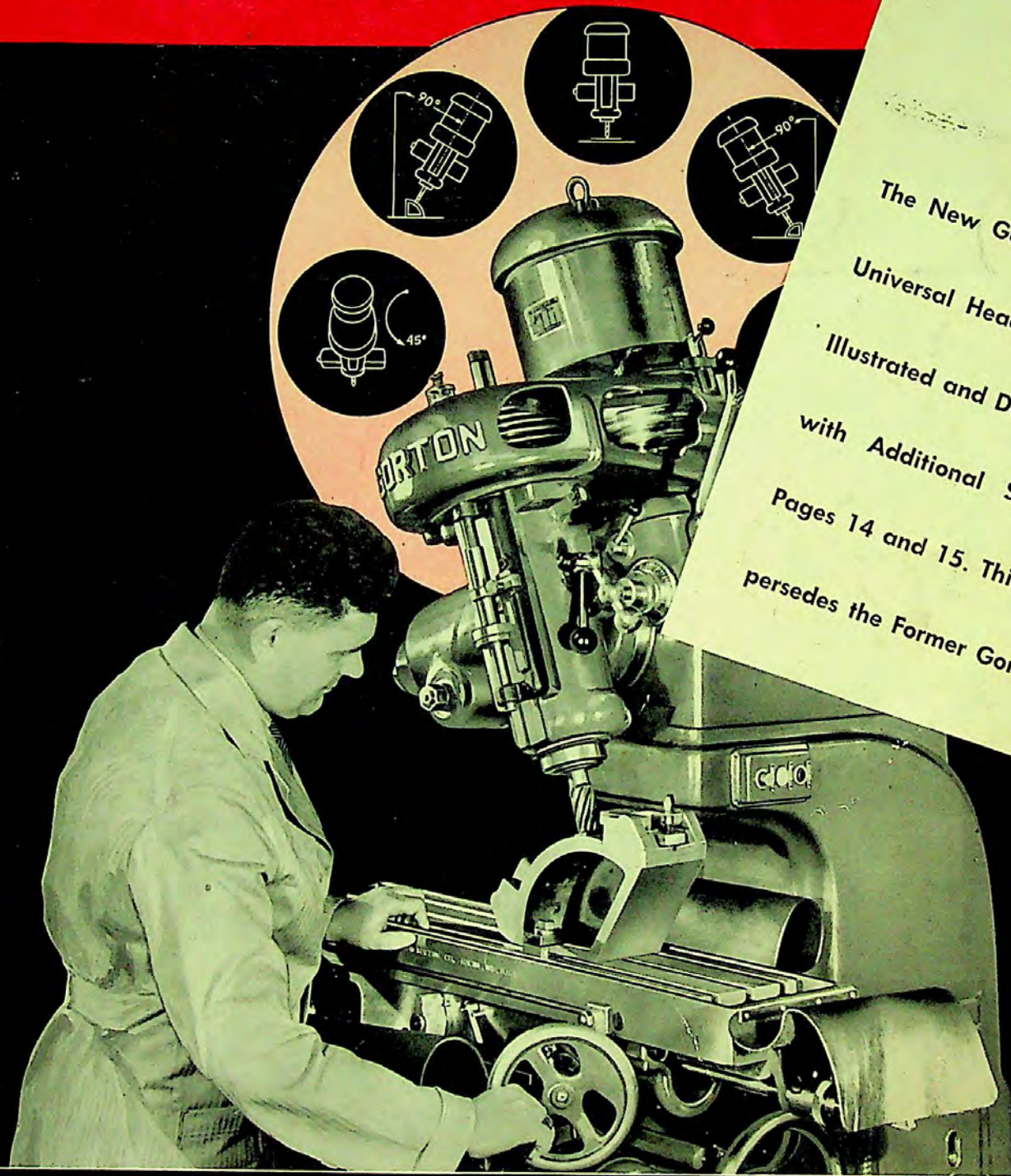


GORTON *Super-Speed* **MILLING MACHINES**

ADJUSTABLE RAM-KNEE TYPE

Vertical and Universal Heads



NOTICE!

The New Gorton 0-16A Vertical or Universal Head Milling Machine Is Illustrated and Described on Page 4 with Additional Specifications on Pages 14 and 15. This Machine Supersedes the Former Gorton 8-D.

GEORGE GORTON MACHINE CO.

RACINE, WISCONSIN, U. S. A.

CATALOG 1400-H

GORTON VERTICALS

THREE Machines in ONE—
Vertical Mill . . . by Router
Tracer Machine . . . by Router
(with Added Equipment)

Designed for tool room and light, high precision production, Gorton Vertical Milling Machines—Adjustable Ram and Knee type—offer unsurpassed operating convenience—versatility—adjustable capacity—accuracy—highest speeds in milling—and smooth finish comparable to grinding, reducing finishing time.

At left and below—two views of model 8½ D Vertical Mill, one of three sizes available.

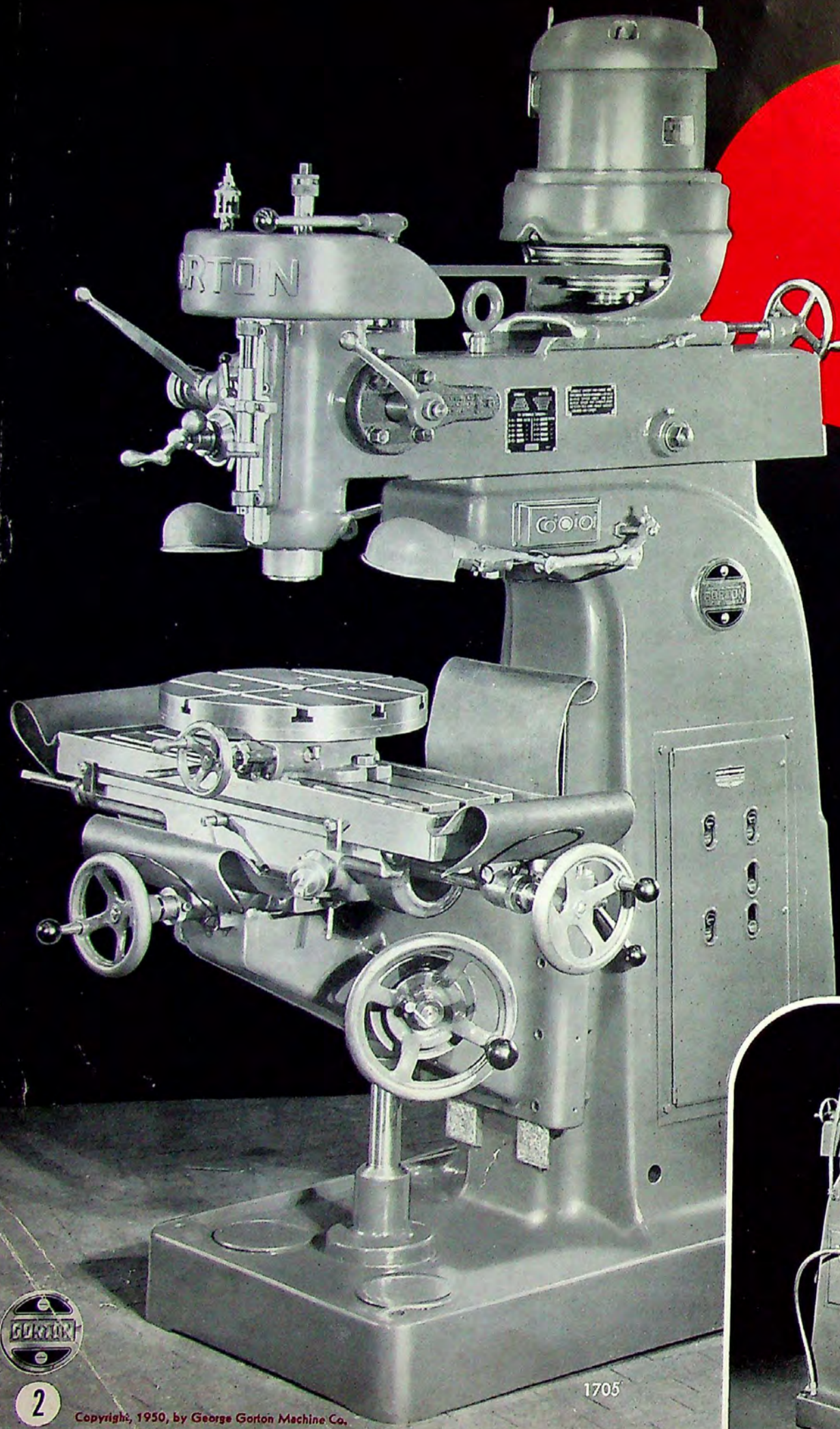
GORTON UNIVERSALS

TWO Machines in ONE—
Angle Mill . . . and Vertical Mill
(with Standard Equipment)

Designed to handle a wider range of Angular and Vertical Milling operations—in one set-up.

For tool room and light, high precision production—Gorton Universal Head Milling Machines offer the operating convenience . . . accuracy . . . speeds . . . and smooth finish of Gorton fixed Verticals—with the extra versatility of the Universal Head, mounted on the Gorton Adjustable Ram, giving double cross feed capacity.

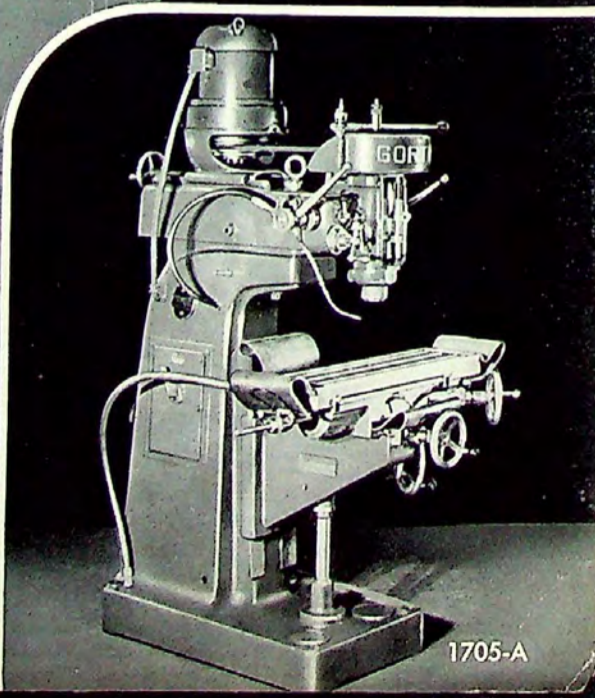
At right and below—two views of model 8½ D Universal. (Larger 9-J column with 8½ D Universal Head, available at extra cost.)



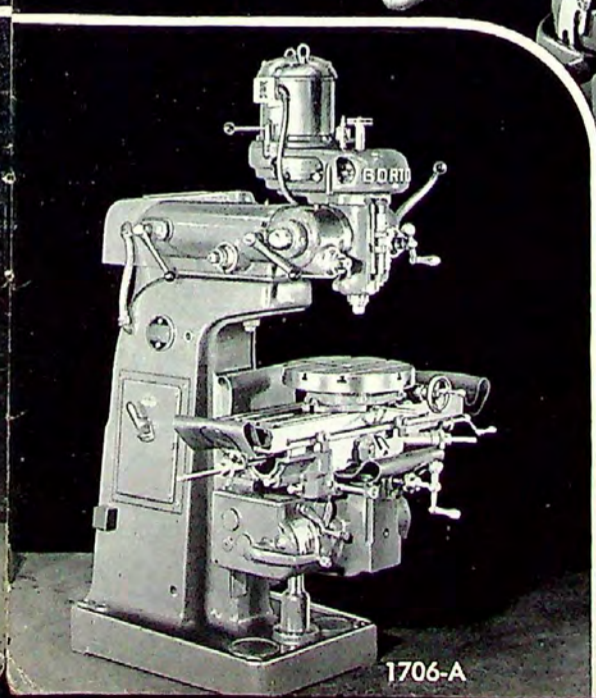
2

Copyright, 1950, by George Gorton Machine Co.

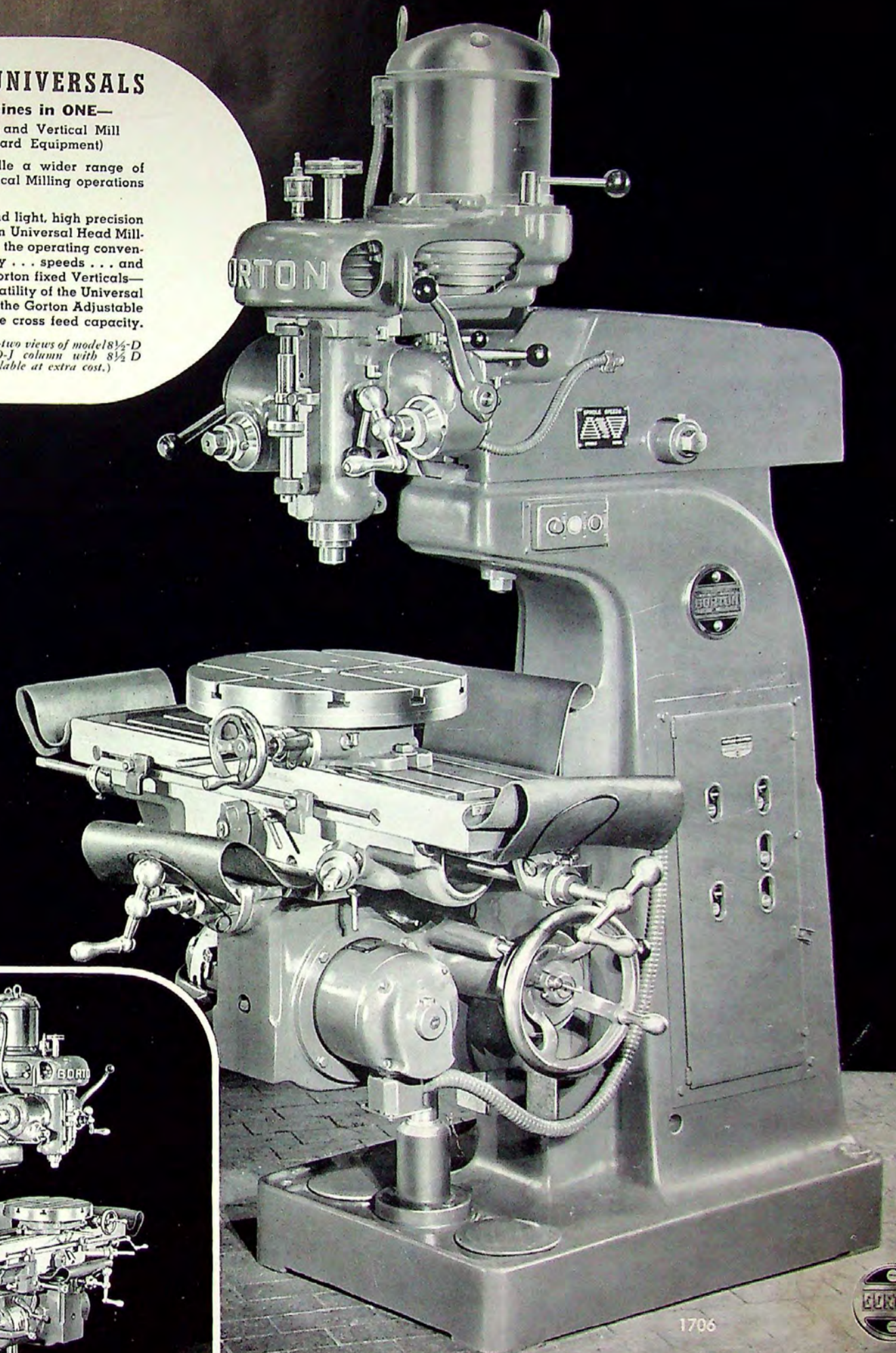
1705



1705-A

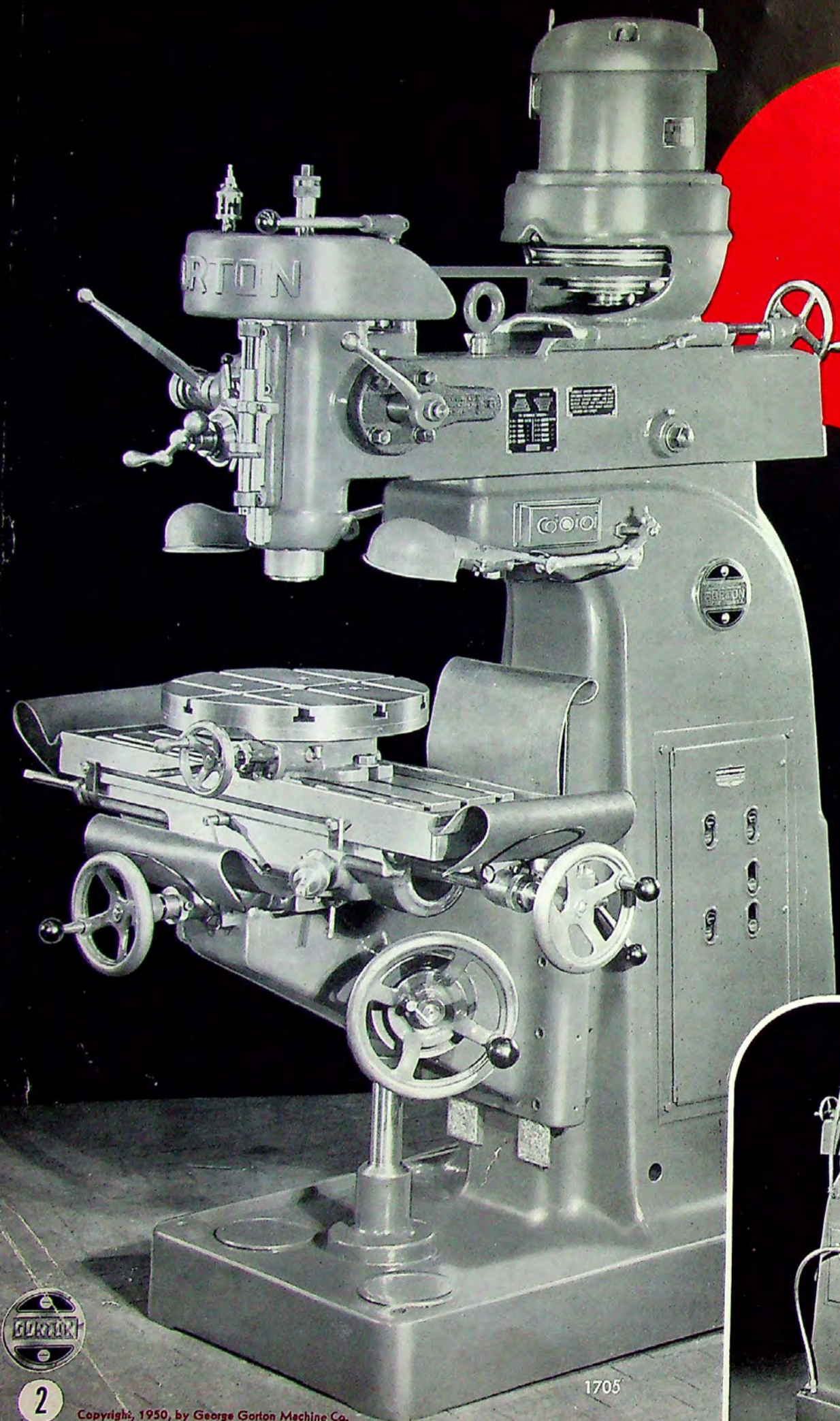


1706-A



3

1706



GORTON VERTICALS

THREE Machines in ONE—
 Vertical Mill . . . by Router
 Tracer Machine . . . by Router
 (with Added Equipment)

Designed for tool room and light, high precision production, Gorton Vertical Milling Machines—Adjustable Ram and Knee type—offer unsurpassed operating convenience—versatility—adjustable capacity—accuracy—highest speeds in milling—and smooth finish comparable to grinding, reducing finishing time.

At left and below—two views of model 1705-D Vertical Mill, one of three sizes available.

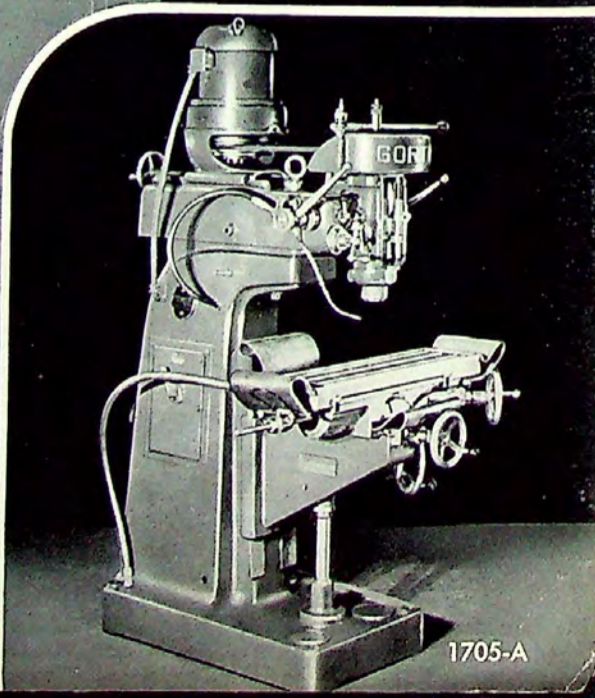
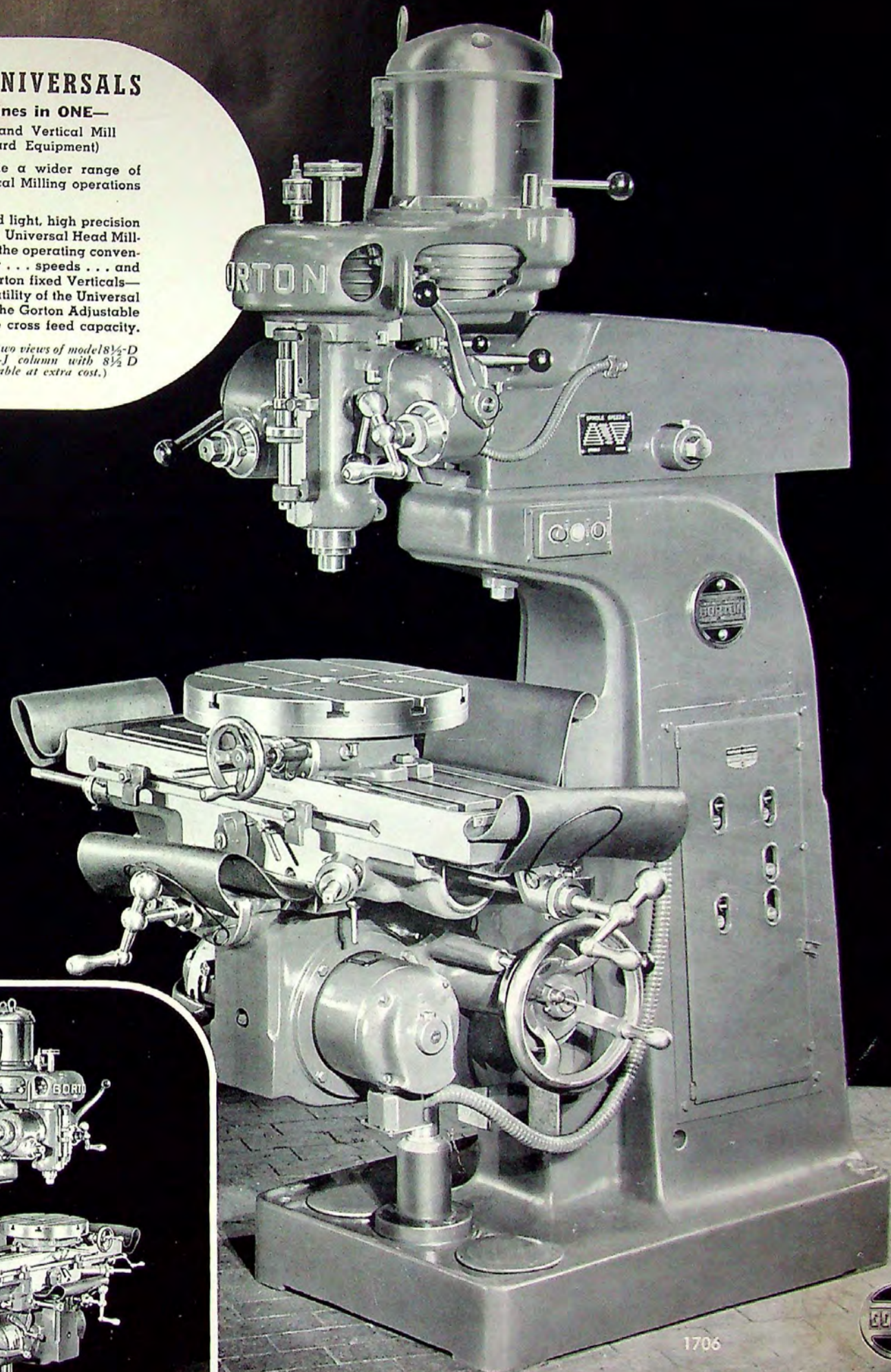
GORTON UNIVERSALS

TWO Machines in ONE—
 Angle Mill . . . and Vertical Mill
 (with Standard Equipment)

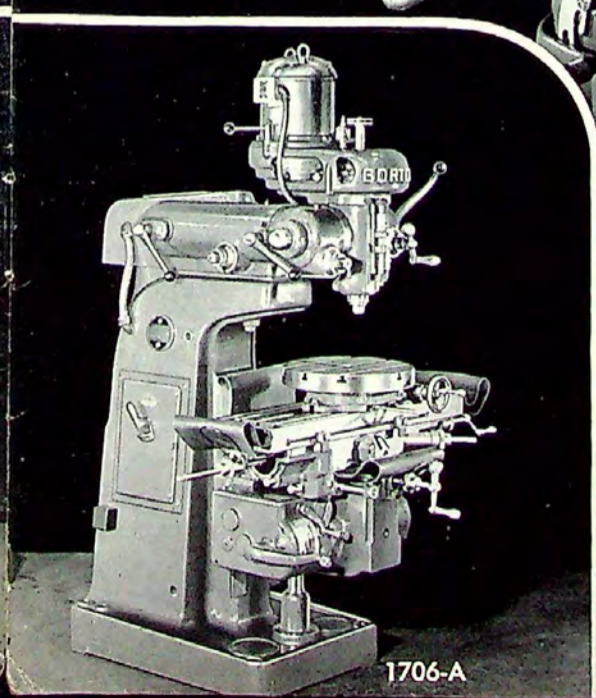
Designed to handle a wider range of Angular and Vertical Milling operations—in one set-up.

For tool room and light, high precision production—Gorton Universal Head Milling Machines offer the operating convenience . . . accuracy . . . speeds . . . and smooth finish of Gorton fixed Verticals—with the extra versatility of the Universal Head, mounted on the Gorton Adjustable Ram, giving double cross feed capacity.

At right and below—two views of model 8½-D Universal. (Larger 9-J column with 8½-D Universal Head, available at extra cost.)



1705-A



1706-A



2

Copyright, 1950, by George Gorton Machine Co.

1705

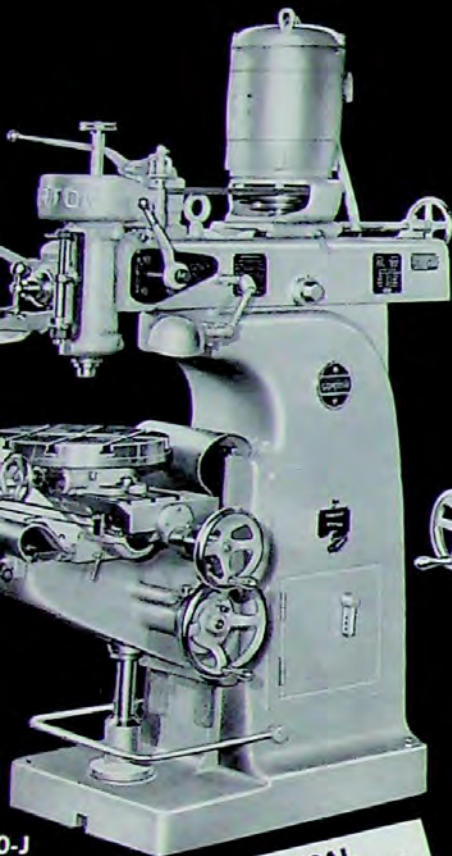


3

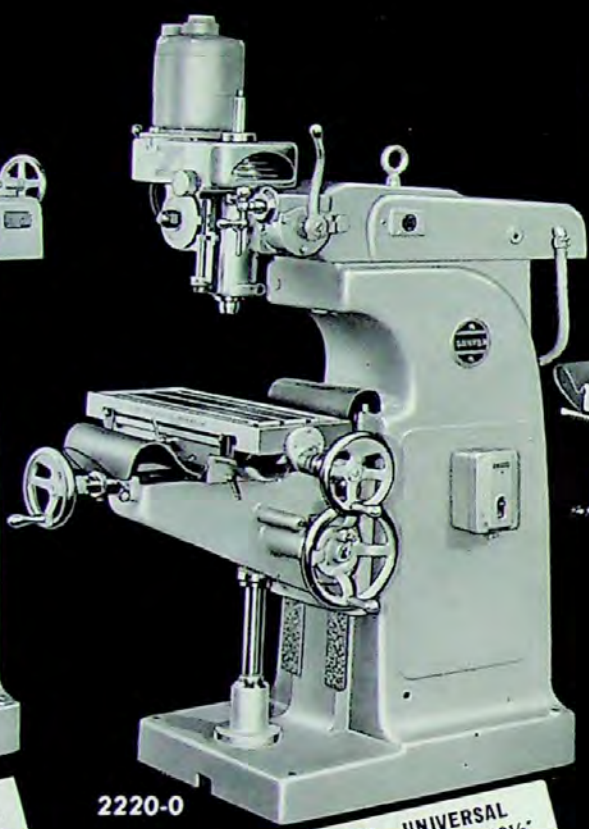
1706

Each **GORTON** Machine Embodies

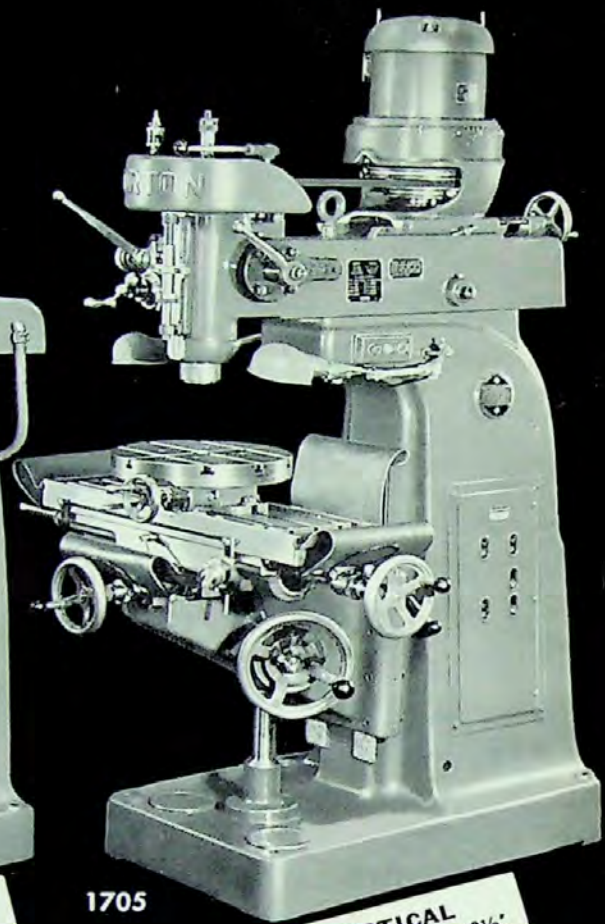
The right size machine for



0-16A VERTICAL
 Table Travel: Cross.....10½"
 Longitudinal.....16"
 Vertical Capacity.....0" to 15"
 Ram Adjustment.....12¼"
 1 H.P.—with
 Gorton Taper Spindle for
 Gorton Collets to ½" dia.



0-16A SWIVEL—UNIVERSAL
 Table Travel: Cross.....10½"
 Longitudinal.....16"
 Vertical Capacity.....0" to 16"
 Ram Adjustment.....9¾"
 ½ H.P.—with
 Gorton Taper Spindle for
 Gorton Collets to ½" dia.



8½-D VERTICAL
 Table Travel: Cross.....10½"
 Longitudinal.....20"
 Vertical Capacity.....0 to 15¾"
 Ram Adjustment.....12¼"
 2 1 H.P.—with
 No. 9 B & S, No. 3 Morse Spindle
 or No. 30 American Standard

0-16A Super-Speed VERTICAL
 Milling Machine (Newest and smallest Gorton Mill), with 2-speed motor providing standard range of 20 spindle speeds with 330 to 6,000 R.P.M. and 660 to 12,000 R.P.M. This machine has all the former Gorton 8-D advantages and conveniences, but features a more rigid column, heavier ram, and improved start-stop-brake lever. Recommended for small, light work demanding utmost sensitivity and top spindle speeds. For detailed specifications, see pages 14 and 15.

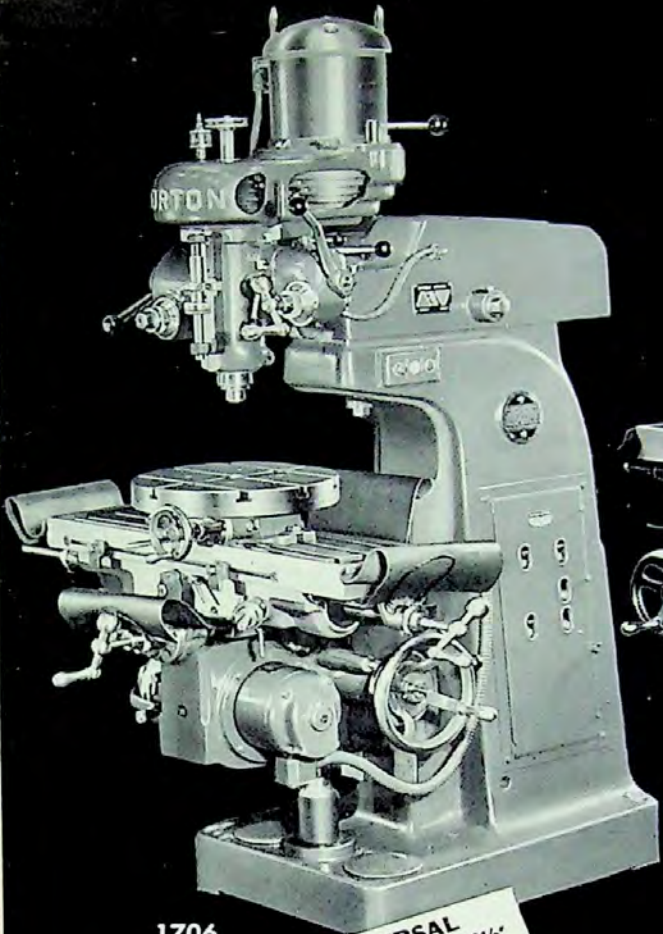
0-16A SWIVEL; UNIVERSAL
 Milling Machine — identical to the 0-16A VERTICAL described at left, but with a newly-designed, compact swivel or universal head (specify either swivel or universal when ordering). This machine has 6 spindle speeds from 300 to 5,000 R.P.M. standard. Can also be furnished at small extra cost with special high speed motor providing 600 to 10,000 R.P.M. Has all the advantages and conveniences of the vertical model plus swivel or universal adaptability. (Swivel model swings 90° left and right; Universal model swings 45° forward and back in addition). See pages 14 and 15.

8½-D Super-Speed VERTICAL
 Milling Machine (medium size) efficiently runs cutters from the smallest sizes to 1" dia. in steel (larger dia. in softer materials). One of most popular machines, covering widest range of vertical milling work. Two-speed motor, recommended, (20 spindle speeds, 250-6000 r.p.m.). For other speed ranges—see Chart, Page 14.
 Supplied with hand or power table and/or spindle feeds. Has No. 9 B & S Taper Spindle (standard). No. 3 Morse spindle or No. 30 American Standard optional at extra cost.

Features for "Long-Range" Planning

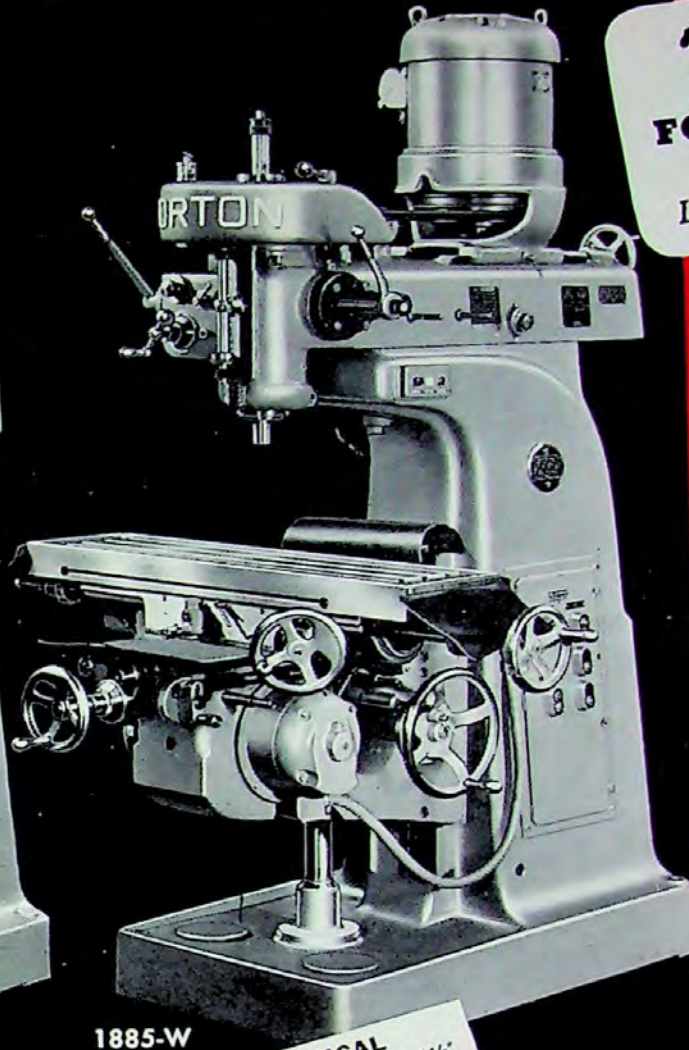
every specialized Milling job

**7 Reasons
FOR BEST RESULTS**
in Tool Room and
Light Production Work-



1706

8 1/2-D UNIVERSAL
Table Travel: Cross.....10 1/2"
Longitudinal.....20"
Vertical Capacity.....0" to 15 3/4"
Ram Adjustment.....12 1/4"
1 1/2 H.P. — with
No. 9 B & S, No. 3 Morse Spindle
or No. 30 American Standard



1885-W

9-J VERTICAL
Table Travel: Cross.....11 1/2"
Longitudinal.....24"
Vertical Capacity.....0" to 17 1/2"
Ram Adjustment.....12 1/4"
3 over: 1 1/2 H.P. — with
No. 10 B & S, No. 4 Morse Spindle
or No. 40 American Standard

- 1 EXTRA RANGE—
with ADJUSTABLE RAM
- 2 CONVERTIBLE—
to DUPLICATING
- 3 UNIVERSAL HEADS—
for ANGULAR MILLING
- 4 INTERCHANGEABLE
ASSEMBLY UNITS—
"Built to Your
Specifications"
- 5 CONVERTIBLE—
to JIG-BORING
- 6 SUPER PRECISION
SPINDLES
- 7 MINIMUM
FLOOR SPACE—
Compactly Designed

8 1/2-D Super-Speed UNIVERSAL HEAD

Milling Machine (medium size) efficiently runs cutters from 1" dia. in steel, (larger dia. in softer materials). Combines wide versatility of Gorton 8 1/2-D Verticals, with ability to perform Angular Milling at one set-up—provided by the Gorton Universal Head, mounted on the Adjustable Ram. Covers a wide range of work with two-speed motor, recommended, (12 spindle speeds, 200-5600 r.p.m.). For other speed ranges—see Chart on Page 14.

Supplied with hand or power table feed, hand feed only to spindle. Other features same as 8 1/2-D Vertical at left.

9-J Super-Speed VERTICAL

Milling Machine (large size) operates to capacity, cutters up to 1 1/2" dia. in steel, and larger hard alloy cutters in softer materials. We recommend two-speed motor equipment, giving 14 spindle speeds (250-4000 r.p.m.) or (133-2666 r.p.m., extra low range). Single speed motors giving 7 spindle speeds in choice of three intermediate ranges are also available.

Can be bought with either hand or power table and/or spindle feeds (cross and longitudinal). Has No. 10 B & S Taper Spindle (standard). No. 4 Morse Spindle or No. 40 American Standard optional at extra cost.

and Remember
**SPEEDS UP TO
12,000 r.p.m.**

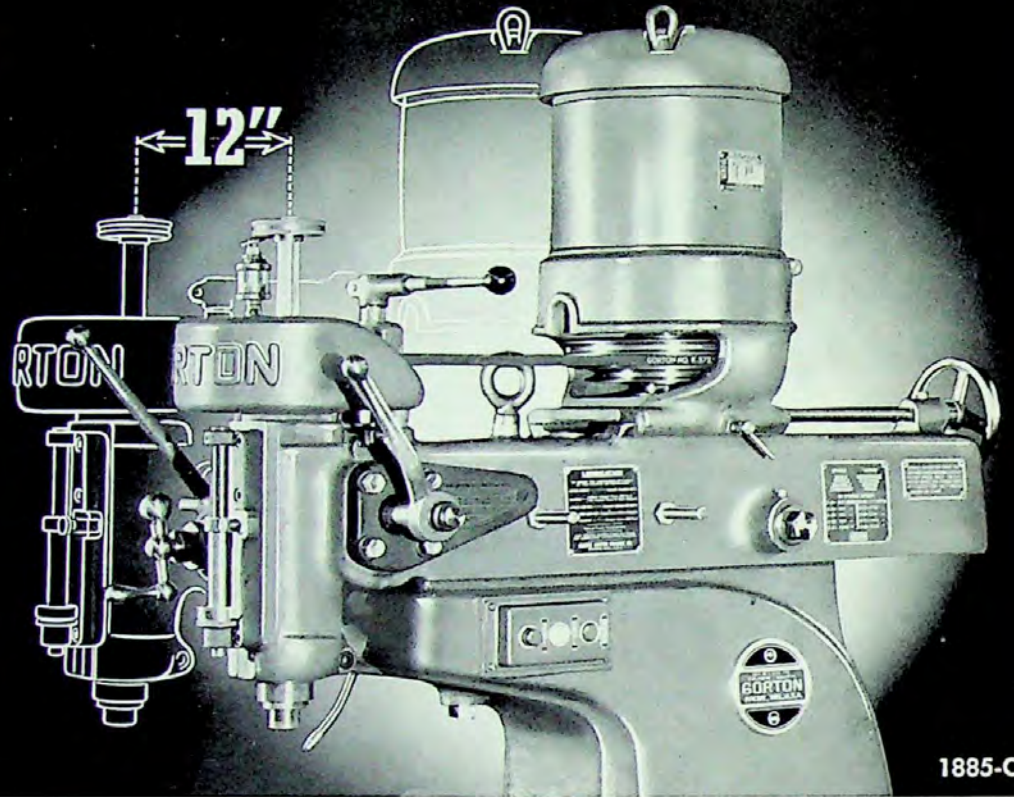
HIGHEST
SPINDLE SPEED
in MILLING!

VERSATILITY for
"LONG RANGE"
 PLANNING

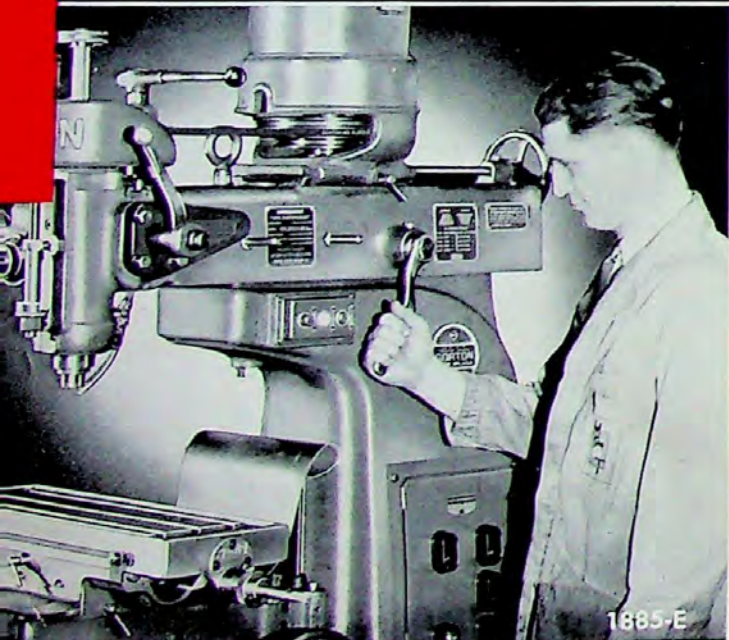
TWO Most Widely Features

ADJUSTABLE RAMS

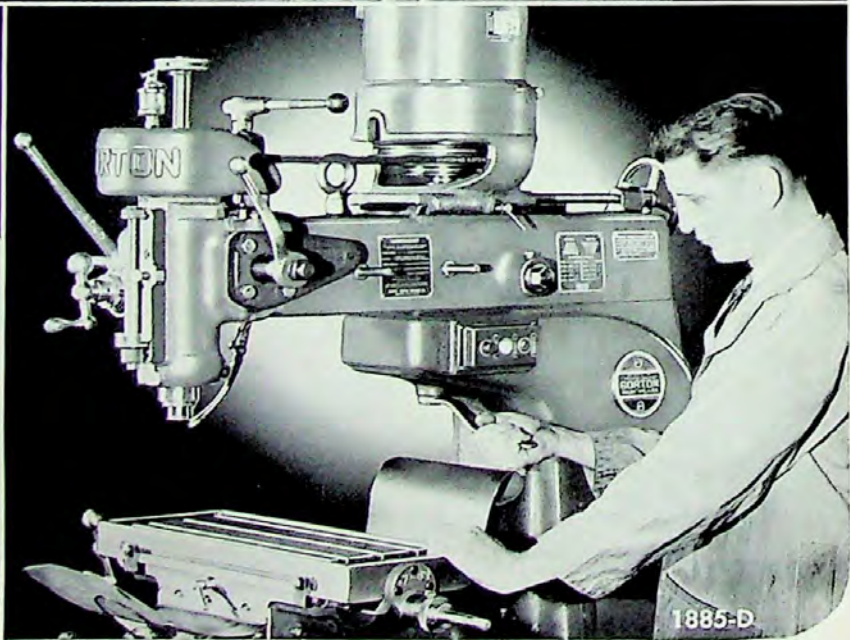
The adjustable ram is one of many features giving exceptional versatility to Gorton Super-Speed milling operations. Adjustable movement of 10" to 12" (See Specifications, page 15) provides extra capacity. This feature is built in on all models 0-16A, 8½D and 9-J Gorton Milling Machines, both Vertical and Universal Head and Gorton Duplicators.



1885-C



1885-E



1885-D

ADJUSTING RAM in Forward Position—Showing how Ram is adjusted by simple rack and pinion to *ANY intermediate position* between "extreme extended" and "fully retracted" position (where Ram is close-up to column). The quick adjustment of the Gorton Ram *exactly* to any forward position desired—permits location in most convenient operating position—saves set-up time.

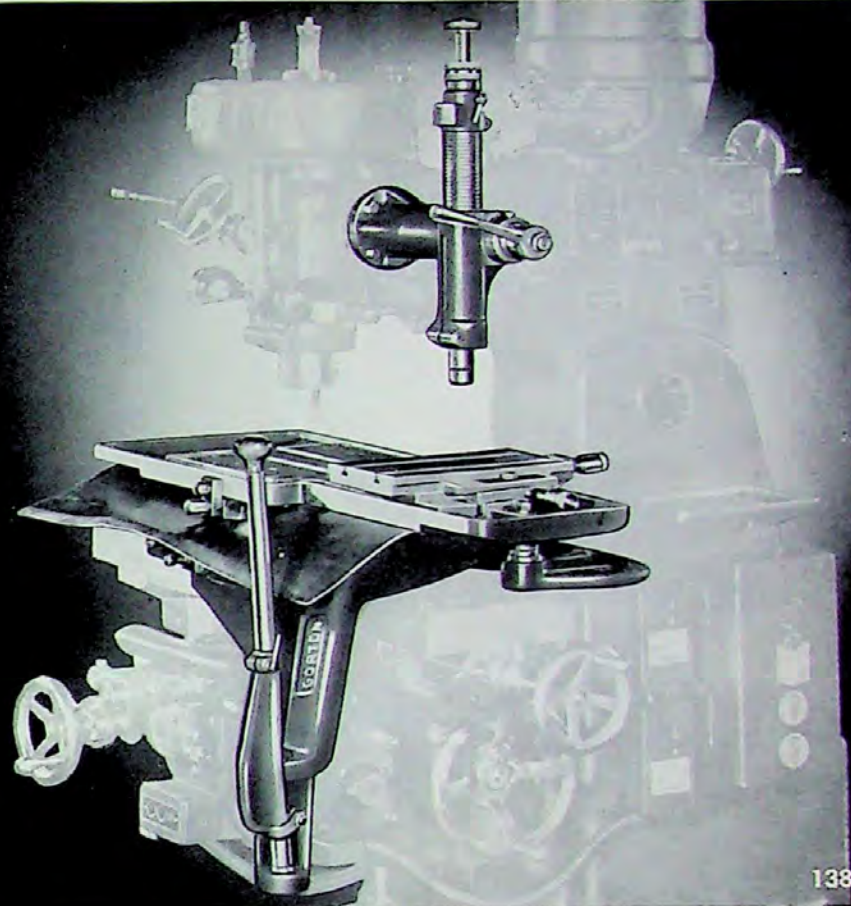
CLAMPING RAM in Extreme Extended Position—When extended full 10" to 12" (see page 15), the Adjustable Ram *doubles the table cross feed* saving extra set-ups on large work. On small and medium size work, Ram is normally adjusted at the "half-way extended" position. Ease of changing Ram position permits milling at different locations over a wide range without re-setting work.

Adaptable Milling Machine Embodied *in-One-Machine*

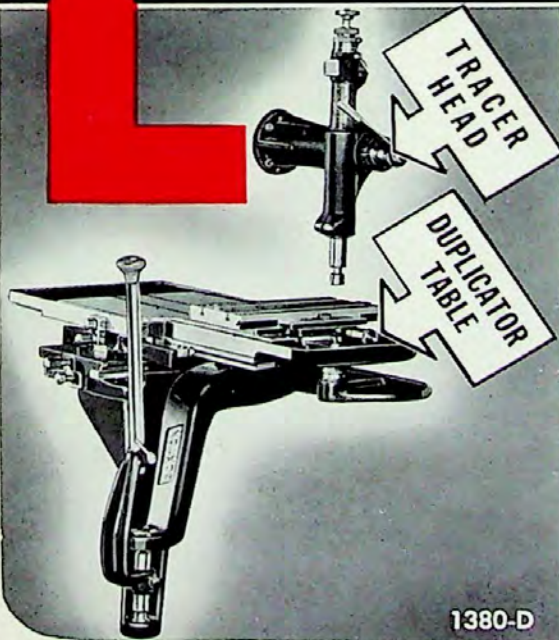
CONVERTIBLE TO DUPLICATING

From MILLING MACHINE
to DUPLICATOR in 5 Minutes

Only Gorton offers this change-over feature. Simply by adding a Gorton Tracer Head and Sensitive Duplicator Table (as shown at right), Gorton O-16A, 8½D and 9-J Millers can be converted into Duplicators for duplicating of all kinds of dies and molds. Also for production profiling. Duplicator Table is easily removed, changing machine back to a standard Miller.



1388-B



1380-D



1315-B

TRACER HEAD—Easily bolted to any Gorton Miller. Enables doing difficult Radii Milling, some Profile Milling, simple Duplicating.

DUPLICATOR TABLE—Extremely sensitive—movable in any direction on precision ball bearing tracks, manually controlled by a single lever. Quickly mounted or detached in 5 minutes.

Tracer Head or Duplicator Table may be purchased separately.

TWO MACHINES FROM ONE—Showing how a Gorton Vertical Mill converted with Tracer Head and Duplicator Table—produces an exact duplicate die by manual Tracer-Control from an original, or built-up master. Operating time and labor cost is greatly reduced—more accuracy is obtained—the most complex patterns can be duplicated within exceptionally close tolerances.

and
**Speeds
up to
12,000
R.P.M.**

CHOICE OF MANY
SPEED RANGE COMBINATIONS
See Specifications
on Pages 14 and 15.

For more information on
Duplicating—see Gorton
Duplicator Bulletin.

WHY

GORTON *Super Speed*

Millers Have Long

Patents Applied for, Pending or Granted, Cover Features Incorporated in all Gorton Machines in this book.

Silent V-belt drive—direct to spindle. Dynamically-balanced drive pulley, steel forging.

Hand wheel for changing V-belt position and tension.

Pad for foot treadle mechanism (optional at extra cost).

Coolant discharge line.

Extension studs on both sides for attaching accessories (lamps, etc.).

Heavy leather chip guards.

New flush-type disconnect switch.

Squared ends on screws for handwheels or cranks.

Coolant return line.

Coolant pump chamber cover.

New design, box type knee with solid top and internal bracing.

Base on all models has oil rim and large strainers for draining coolant to Tank in base. Tank accessible for cleaning from strainer holes and back.

Milled floor pads.

Spline drive. Anti-backlash mechanism in drive takes up all play in splines to eliminate tool marks on work when taking light finishing cuts. Inside felts seal spindle and drive bearing from dust—wipe and lubricate splines.

New spindle brake lever for quick-action braking. Johns-Manville replaceable molded brake shoes.

Quick-action manual spindle feed lever.

Clutch control for engaging quick-action lever or worm feeds of spindle.

Spindle worm feed crank with large dial, graduated in thousandths.

Lower spindle sleeve bearing has hardened steel bushing, ground inside and out. Compressible to take up wear.

Cutter spindle and sleeve—Chrome manganese alloy steel—Hardened and ground, inside and out. Spindle mounted on large precision ball bearings and supported at three points. No end play. Maximum eccentricity at spindle nose .0002"

Table clamp.

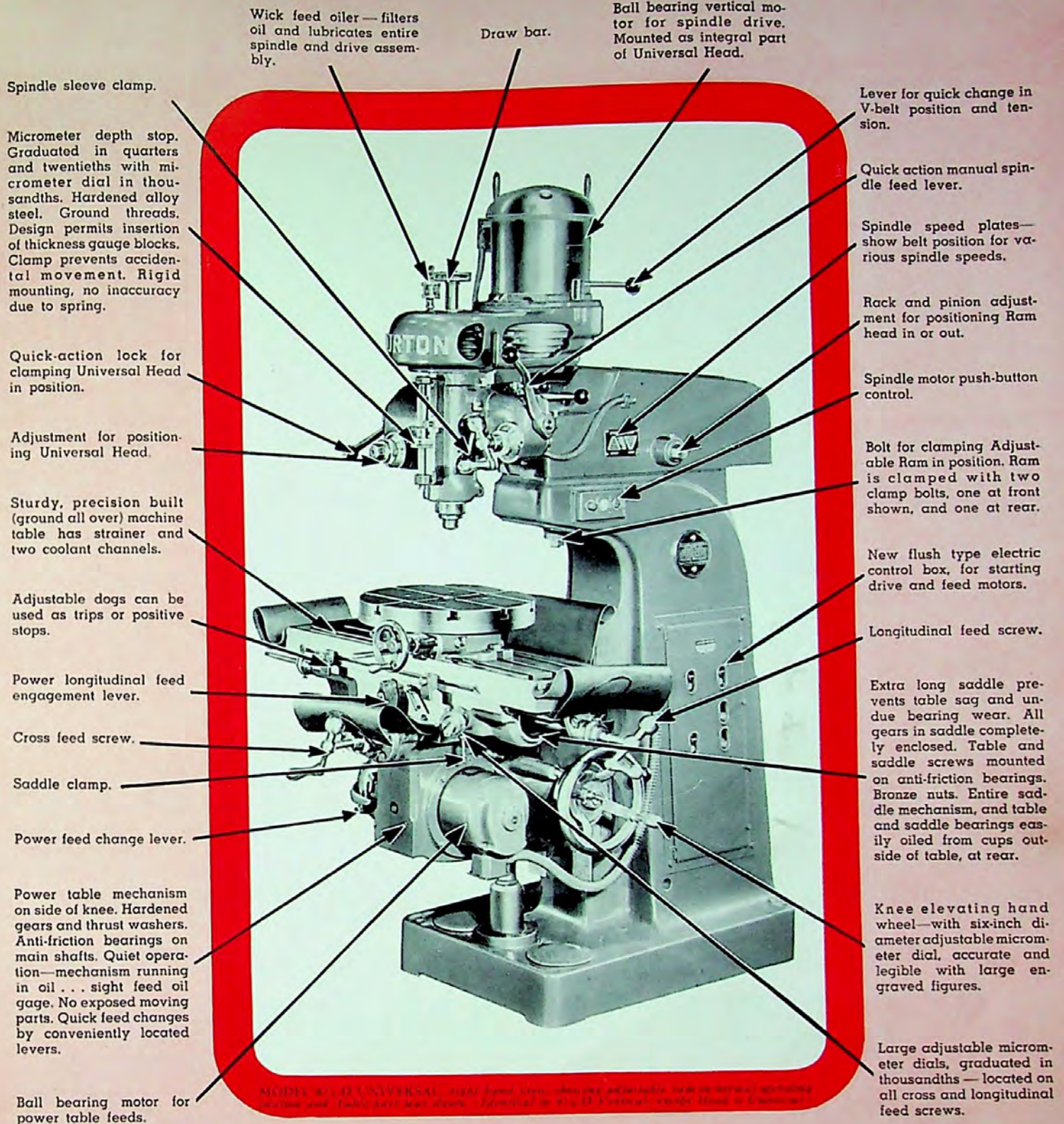
Single piece vertical screw. Long wearing. Accurate. Easy movement. Completely shielded in all positions. Does not extend below base.

MODEL #14 D VERTICAL, left hand view, showing Adjustable Ram and Table in normal operating position. Identical to #14-D Universal, except Head is Fixed Vertical.

SIX TIME-SAVING GORTON OPERATING CONVENIENCES—

- (1) All Controls Centrally Located so operator can use them without changing position. . . .
- (2) More Accurate Settings—large, easy-reading Micrometer Dials on all feed screws. Dial and Micrometer depth stop on spindle—all at front. . . .
- (3) Sensitive Cutter Feed Control—Adjustable to your "feel"—with Cutter Spindle Spring Compensator. . . .
- (4) Faster Cutter Changes—long spindle brake lever, easy to reach, stops spindle in seconds, locks it—cutters changed 30% quicker easier. . . .
- (5) Extra Range Quickly—without additional cost or floor space—with Adjustable Ram—Raising Blocks, etc. . . .
- (6) Super Precision Spindle—Insures true-running cutters—minimum cutter breakage.

Accurate Life . . . Extra Flexibility . . . Operating Ease

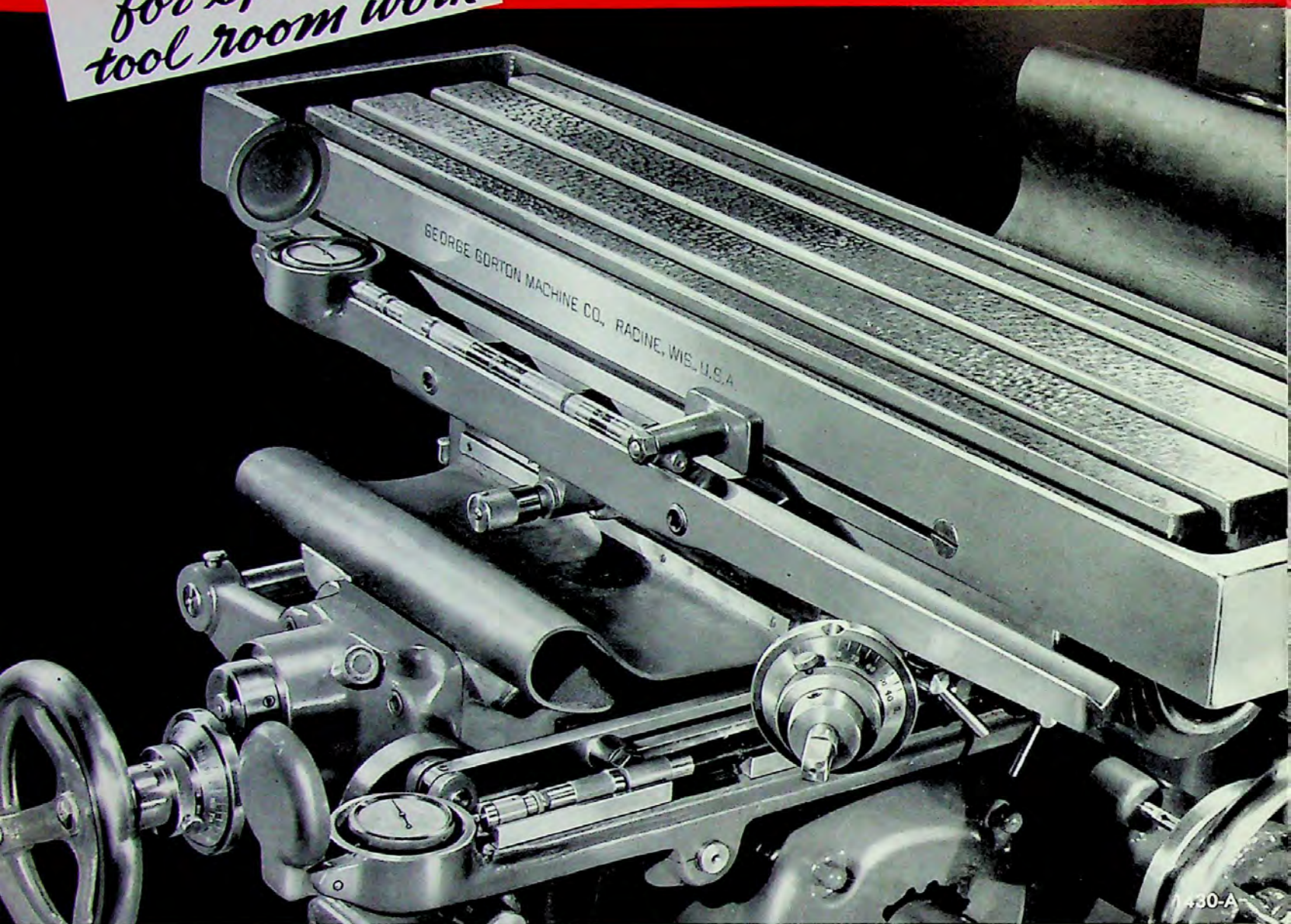


THESE 10 REFINEMENTS INSURE GORTON DEPENDABILITY—

- (1) Close-grained nickel semi-steel castings—Normalized and Seasoned. (Tensile strength in excess of 50,000 lbs.) . . .
- (2) Heat treated alloy steel gears.
- (3) Spline shafts and integral keys. . .
- (4) Shielded pulleys, feed screws, and covered ways; felt seals and wipers—protect mechanism from dirt, chips.
- (5) Vital parts alloy steel, hardened and ground . . . simple adjustments for wear. . .
- (6) Taper gibs throughout, and large bronze nuts—provide sure and accurate adjustment for table and saddle screws. . .
- (7) Columns cast in one piece—heavy section with rigid internal bracing and solid top.
- (8) Dynamically balanced spindle drive. . .
- (9) Anti-friction bearings throughout. . .
- (10) Accurately scraped surfaces.

in **ADDITION**
for special
tool room work

GORTON JIG-
All Machines Ruggedly
you consistently close



CLOSE-UP OF GORTON 9-J SUPER-SPEED VERTICAL, equipped with END MEASURING RODS AND DIAL INDICATORS, (identical equipment as furnished with Pratt & Whitney Jig Borers.) Scraped Table shown is part of the SPECIAL ACCURACY built into machines at extra cost, when furnished as Jig Borers.

INCREASE UTILITY OF ANY GORTON MILL at Comparatively Little Cost

RECOMMENDED EQUIPMENT—for all Gorton models 8½-D, 9-J—Vertical and Universal Head Mills
Furnished Standard, reading in inches. (Metric equipment reading to 1/50 m/m, optional at slight extra cost.)

END MEASURING RODS AND DIAL INDICATORS—(Same as supplied on Pratt & Whitney Jig Borers.) Found most satisfactory, for exceptionally close work. Set of 9 End Measuring Rods, 2 Inside Micrometers, in Wood Box; 2 Dial Indicators 2½" dia. Reading directly to .0001", with necessary troughs for holding—ready to be mounted on machine. (With Rods in place, Power Table Feeds cannot be engaged.) For complete set, order Code WYBFO.

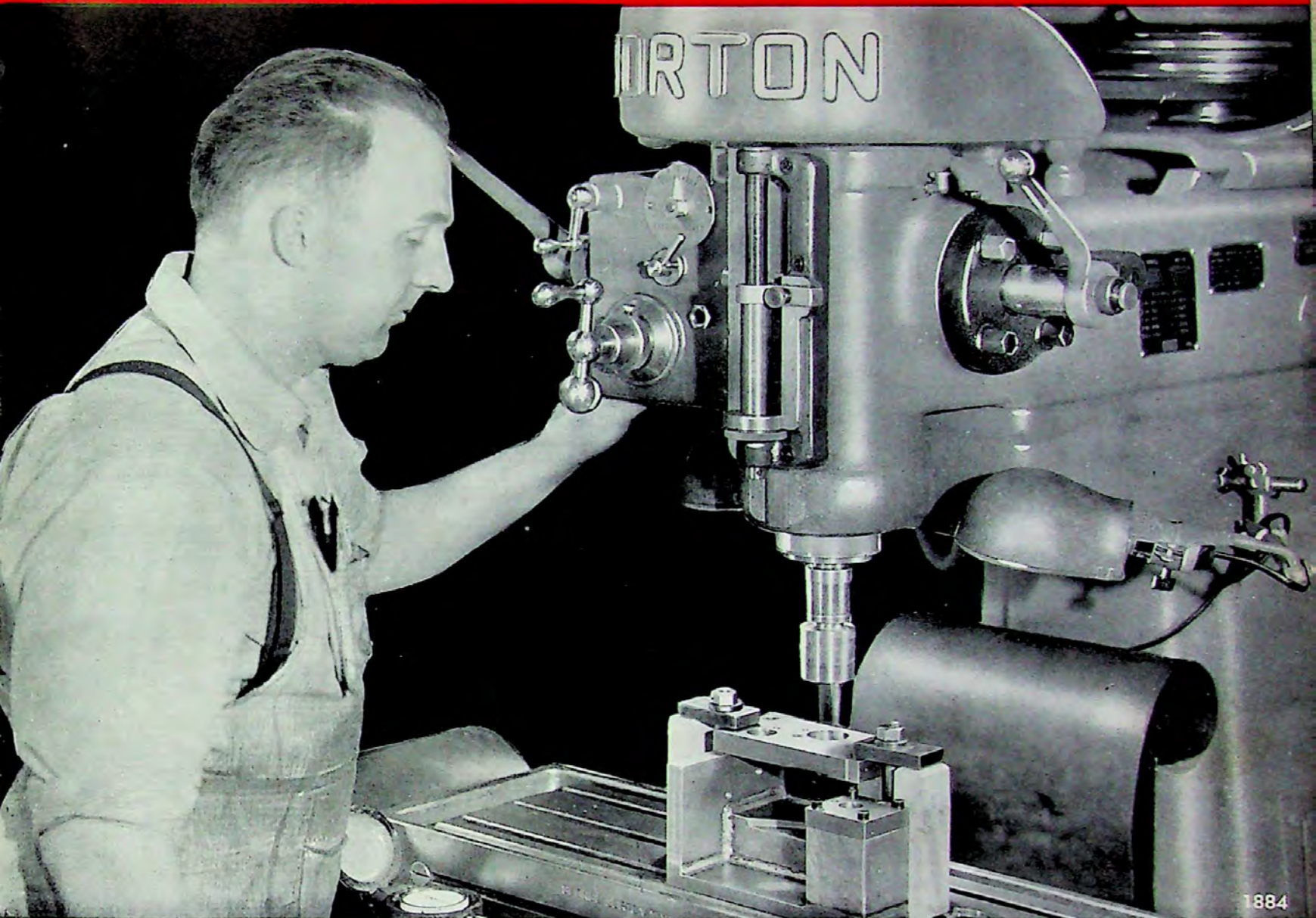
PRECISION SCREWS—Good for occasional work to close limits. Settings cannot be as accurate as with above equipment, but finer adjustments can be made than with standard equipment. Longitudinal and Cross Feed Table Screws, guaranteed not to exceed .0005" accumulated error per foot. Furnished on all machines, if desired, at extra cost.

SPECIAL ACCURACY—The standard limits to which Gorton Milling machines are normally made, makes them ideal for Tool Room work. For work to extremely close tolerances, any Gorton machine can be built to special fine limits, with scraped table, etc., when specified at extra cost. Order **SPECIAL ACCURACY**—for 8½-D: Code, WYHAH; for 9-J, WYHHA.



BORING EQUIPMENT

Built . . . Sensitive Quills Assure
Tolerances— *Extremely Fast on small Holes*



GORTON 9-J VERTICAL MILL, equipped with POWER SPINDLE FEED 707-3, for Boring as well as Drilling, this Power Spindle Feed is recommended in addition to the Measuring Equipment on opposite page.

The IDEAL COMBINATION—Auxiliary Jig Borer and Mill

Particularly Fast on BORING and DRILLING Small Holes—over Larger Areas

Because:

- 1 • Extremely High Spindle Speeds—(up to 12,000 r.p.m.)
- 2 • Sensitive "Feel" when Drilling or Feeding by Hand
- 3 • Coverage of Large Work at One Set-up, with Adjustable Ram
- 4 • Convenience—All Controls and Dials within Arm's Length

POWER SPINDLE FEED 707-3, Infinitely Variable by Dialing — (shown above) available for 8½-D or 9-J Verticals—recommended for high speed, small hole drilling, especially jig boring. Complete self-contained unit: ¼ h.p. motor, feed control box, and variable speed control for infinitely variable feed range, 0 to 4" per minute, in compact housing—interchangeable with Hand Feed unit. Built-in clutch for disconnecting feed drive to spindle.

3-Way Operation—1) hand feed, with large lever shown at left; 2) hand feed, with micrometer dial reading from hand wheel at lower center; or 3) power feed, with automatic depth stop. Knurled dial at hub of control lever, graduated, for setting exact boring depth desired. Reversing lever (not shown) controls direction of spindle feed, up or down. Order 707-3, stating A.C.: voltage, phase, cycles; or D.C. voltage. Code WYEMN.



1884

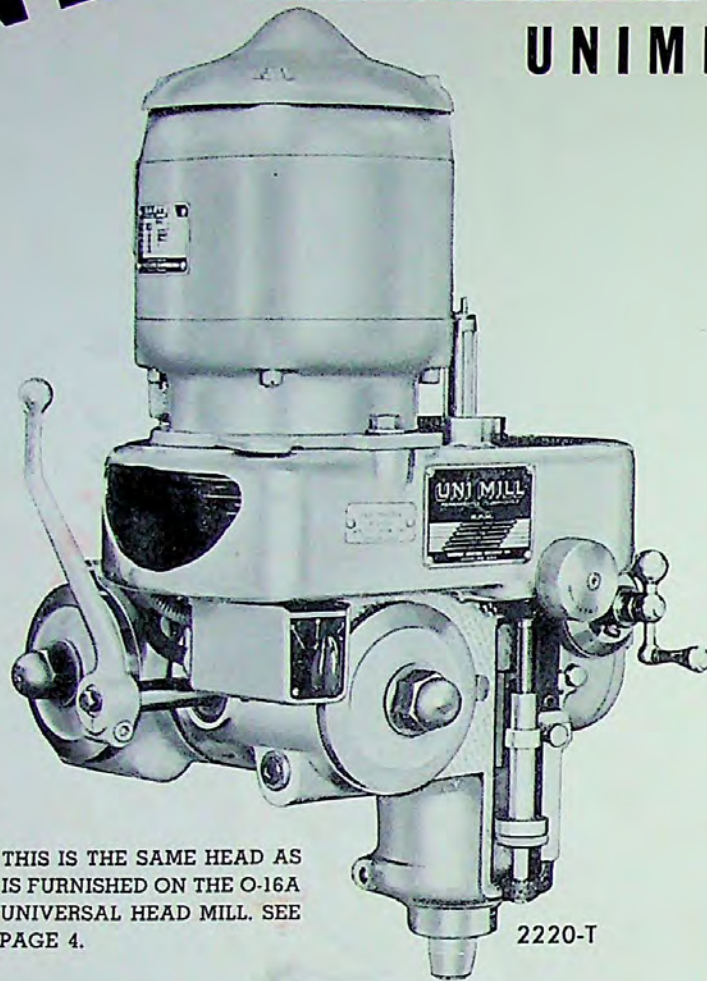
NEW

GORTON

Time-Saving

Optional

UNIMILL UNIVERSAL HEAD



THIS IS THE SAME HEAD AS IS FURNISHED ON THE O-16A UNIVERSAL HEAD MILL. SEE PAGE 4.

2220-T

Here is a new, lightweight, precision universal head which gives you quick, easy angular settings and provides spindle speeds to 10,000 R.P.M., designed for overarm mounting on any milling machine.

Features: For increased economy and convenience of operation are features such as—double-purpose positive spindle brake for rapidly stopping spindle and locking it while changing cutters—spindle quill lock clamps spindle at desired position for setting-up and milling operations—screw-type spindle depth stop graduated in thousandths for rapid, positive and accurate setting of cutter depth—simple, trouble-free quick action belt positioning and tension adjustment—quarter turn of clamp nut releases swivel joints for adjustment—safety clamps at each swivel joint overcome accidental slipping of head—joints have large oversize face-clamping surfaces and husky $\frac{7}{8}$ " diameter clamping studs—head is graduated 45° left, 90° right (swivels 360° parallel to table) and 45° front and back at right angle to table—TRACER SPINDLE No. 1158-1 available for die and mold duplication—ALL these features add up to more rigidity—greater accuracy—simplicity of operation—versatility.

Spindle: The Unimill features precision anti-friction bearings permanently grease-sealed. Lubricant will not leak out even with head set to extreme angles. Six spindle speeds—300, 525, 925, 1625, 2850, 5000 R.P.M. standard. Speeds to 10,000 R.P.M. available at extra cost. Standard spindle takes Gorton taper collets to $\frac{1}{2}$ " shank diameter. Other tapers at extra cost. Single V-belt drive, $\frac{1}{2}$ h.p. high torque, reversible motor including reversing switch. Spindle feed 3 inches.

Electrics: Price applies to 110, 220, 440 or 550 volt, 1, 2 or 3 phase, 50 or 60 cycle alternating current only. Other electrical specifications must be submitted to factory for approval and pricing.

Price: No. 1109-1 UNIMILL, code word YEWUX, with six spindle speeds 300-5000 R.P.M., complete with motor, switch, overarm adapter (specify style and size of overarm), draw-bolt, belt and necessary wrenches. Approximate net weight 145 lbs. (Shipping weight depends on style and size of adapter required.)

For price, see Gorton Small Tools and Accessories Catalog.

NEW DOUBLE-DUTY TOOLGRIND

FITS ANY TOOL AND CUTTER GRINDER

Now you can make your present tool grinder do "double duty." Mount this new Gorton Double Duty Toolgrind on your present tool grinder table and you are set up to accurately grind an endless variety of end mills, die-sinking and engraving cutters.

The Gorton Double Duty Toolgrind will grind single or multiple flute, square, conical or ball nose, straight or taper cutters with either straight or spiral flutes—any angle, radius or diameter can be ground and with any degree of clearance.

Completely universal—tilting spindle—compound cross-slides with micrometer dials graduated in thousandths—adjustable tooth rest with micrometer dial for multi-flute grinding—base graduated 360 degrees—index dial with plunger with provisions for 1, 2, 3, 4 or 5 flutes—dust sealed anti-friction bearing spindle and collet sleeve—adjustable stop dogs—pivot-center locking arm—simple, positive adjustments for wear.

The Double-Duty Toolgrind takes standard Rivett 4NE collets up to and including $\frac{3}{8}$ " dia., and special collet sleeves to and including 1" dia.

No. 1108-1 Gorton Double-Duty Toolgrind. Code Word WYWUC, approximate shipping weight 60 lbs. For price see Gorton Small Tools and Accessories Catalog.



2212-B



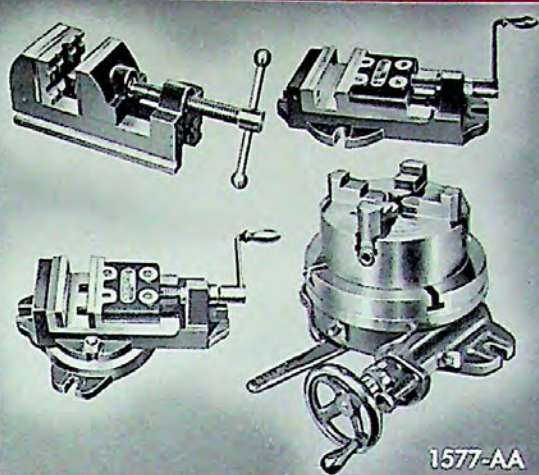
Equipment Can Be Quickly Installed



1517-QQ

CUTTER SET 709-1

51 ASSORTED END MILLS with Handy Holding Rack—These 51 different sizes and styles of straight shank high speed steel end mills—sizes from $\frac{1}{16}$ " to $\frac{1}{2}$ " long—give you the cutter you need when you need it. With these cutters close at hand you have an economical means of testing a variety of sizes and styles to determine the best cutter for your job. 51 assorted end mills with holding rack complete. Order, Code WUZIO.



1577-AA

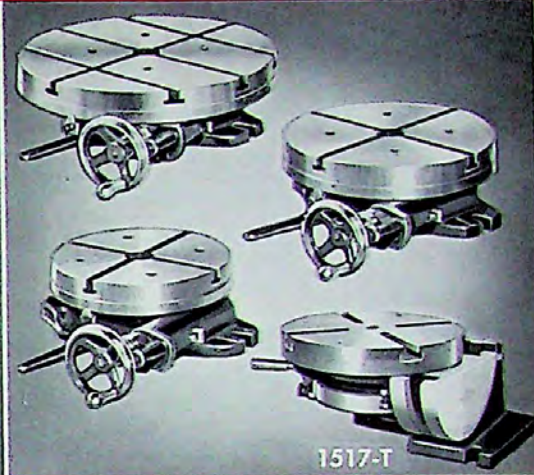
GORTON MACHINE VISES

AVAILABLE IN 3 MODELS—Save set-up time on all kinds of milling jobs. Easily clamped to machine table. Flanged Swivel Vise can be doubly useful for milling at any angle or on horizontal plane. Order: Flange Machine Vise (over 2 1/2") Code WY10A; Flanged Machine Vise (over 2 1/2") Code WY10B; Flanged Swivel Vise (over 2 1/2") Code WY10C.

UNIVERSAL CHUCK 585-1

PROVIDES A UNIVERSAL HOLDING METHOD—(Shown at lower right, above). For all types of irregularly shaped work. Furnished with two sets of three jaws and a special face plate 8" dia. for attaching to Universal Rotary Table. Hand-lit parts, hardened steel bearings, jaws tested for accuracy. Order Code VOGESIT.

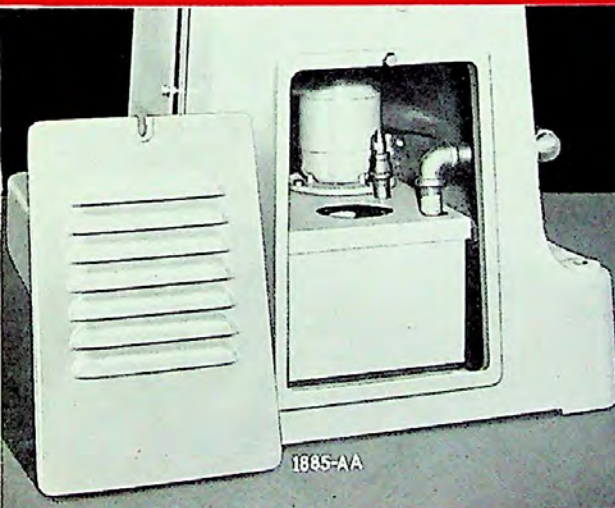
For prices on above see Gorton Small Tools and Accessories Catalog



1517-T

ROTARY TABLES

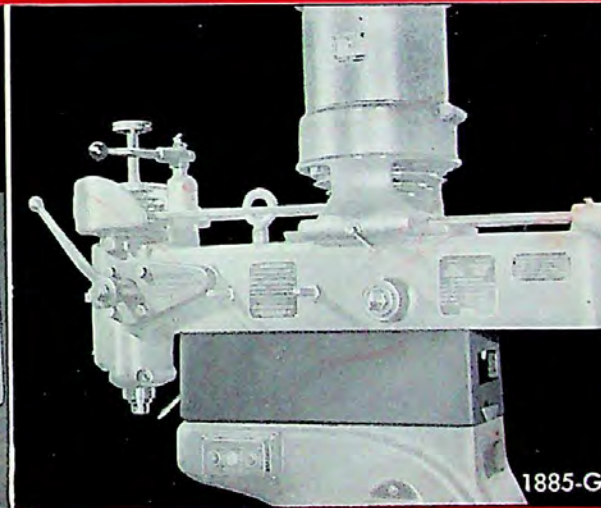
BUILT TO EXTREME ACCURACY—Indexing to 5 minutes of arc... table parallel to 0002". Available in 3 sizes—5", 8", 10", 12", 15". Three sizes shown 10", 12" and 15" for production or tool room work. 60 turns of hand wheel equal one complete revolution. Tables graduated in degrees. Hand wheels graduated to 5 minutes. 10" Table order Code WYFIB; 12" Table, Code WYOLF; 15" Table, Code TESTU DINAL.



1885-AA

COOLANT PUMP

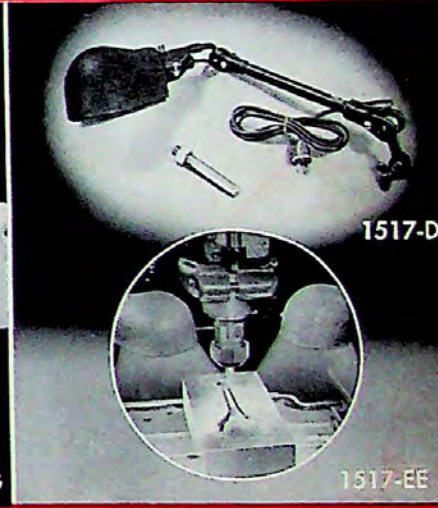
BUY A COOLANT PUMP READY FOR IMMEDIATE USE—This Gorton, self-contained, motor-driven Coolant Pump 469-3 is provided with discharge and return lines and all fittings, including convenient shut-off, completely fitted at the factory, or ready to install in your machine. For field installation in O-16A, 8 1/2-D or 9-1, be sure to specify serial number of your machine. When ordering, specify coolant pump assembly 469-3 or Code YIMOR.



1885-G

RAISING BLOCKS

TO HELP YOU ACCOMMODATE EXTRA LARGE WORK—Special Raising Blocks can be furnished for all models of Gorton Milling Machines to raise the Adjustable Ram 5" or higher than its normal position on the column, increasing maximum distance from cutter spindle nose to table, without interfering with extension of Adjustable Ram. To order, specify O-16A, 8 1/2-D or 9-1 and Size 6" standard. (Larger or smaller sizes can be supplied, special to order.)



1517-D

1517-EE

MACHINE LAMPS

ELIMINATE SHADOWS OVER YOUR WORK—By using a pair of new Gorton, improved Machine Lamps. Clamp bracket with 3/8" hole fits extension studs for quick attachment without drilling holes in machine. New type switch, impervious to chips. Neoprene cord and socket are oilproof. Fiber shield over shade prevents burns. Furnished complete with socket switch plug and wiring. Order, Code TETRAEDER. (Specify if for O-16A or O-16A.)

For additional information and prices on these items and other Time-Saving Equipment see Gorton Small Tools and Accessories Catalog.



S P E C I F I C A T I O N S

RECOMMENDED MOTORS

Two Speed Motor equipment, giving double the range of speeds obtainable with single speed equipment, is highly recommended for all machines to increase usefulness and efficiency at only slight additional cost. Either single or two-speed vertical motors can be furnished.

MOTOR MOUNTINGS

Ball bearing motors for both spindle and table are built into all machines at the factory. These motors are mounted by means of a turned fit on the cover end bracket. We prefer to furnish motors in makes on which we have standardized. When other motors are furnished, a special charge may be necessary for special mounting.

STARTERS

To insure correct types and adequate overload protection for motors, we prefer to furnish this equipment at the factory. Magnetic type controls for spindle motors are standard equipment with conveniently located push-button stations. For feed and coolant motors, manual type controls, mounted on column, are supplied.

WIRING

All prices cover machines complete with motors and starters. Flamenol or equivalent wiring in large heavy conduit is concealed in column where possible. Disconnect Switch is standard on Models 8½-D and 9-J.

MOTOR AND SPINDLE SPEED RANGE CHART (DC or AC 25-50-60 Cycles)

SPINDLE Speed RANGES	0-16A VERTICAL		0-16A SWIV. UNIV.		8½-D VERTICAL		8½-D UNIVERSAL		9-J VERTICAL	
	60 cycles and D.C.	25 and 50 cycles	60 cycles and D.C.	25 and 50 cycles	60 cycles and D.C.	25 and 50 cycles	60 cycles and D.C.	25 and 50 cycles	60 cycles and D.C.	25 and 50 cycles
SINGLE SPEED SERIES										
MOTOR:			½ h.p.— 1800 r.p.m.	½ h.p.— 1500 r.p.m.	2/1 h.p.— 900 r.p.m.	2/1 h.p.— 750 r.p.m.	1½ h.p.— 900 r.p.m.	1½ h.p.— 750 r.p.m.	3 over 1½ h.p.— 900 r.p.m.	3 over 1½ h.p.— 750 r.p.m.
Low			6 speeds 300-5000 r.p.m.	6 speeds 250-4166 r.p.m.	10 speeds 250-3000 r.p.m.	10 speeds 210-2500 r.p.m.	6 speeds 200-2800 r.p.m.	6 speeds 160-2320 r.p.m.	7 speeds 250-2000 r.p.m.	7 speeds 210-1670 r.p.m.
MOTOR:					1½ h.p.— 1200 r.p.m.		1 h.p.— 1200 r.p.m.		2 h.p.— 1200 r.p.m.	
Medium					10 speeds 333-4000 r.p.m.		6 speeds 260-3700 r.p.m.		7 speeds 333-2666 r.p.m.	
MOTOR:			½ h.p.— 3600 r.p.m.	½ h.p.— 3000 r.p.m.	1½ h.p.— 1800 r.p.m.	1½ h.p.— 1500 r.p.m.	1 h.p.— 1800 r.p.m.	1 h.p.— 1500 r.p.m.	2 h.p.— 1800 r.p.m.	2 h.p.— 1500 r.p.m.
High			6 speeds 600-10000 r.p.m.	6 speeds 500-8332 r.p.m.	10 speeds 500-6000 r.p.m.	10 speeds 420-5000 r.p.m.	6 speeds 400-5600 r.p.m.	6 speeds 330-4660 r.p.m.	7 speeds 500-4000 r.p.m.	7 speeds 420-3340 r.p.m.
TWO SPEED SERIES										
MOTOR:	1 h.p.— 1800/900 r.p.m.	1 h.p.— 1500/750 r.p.m.			2 h.p.— 1200/600 r.p.m.	2 h.p.— 1000/500 r.p.m.			3 h.p.— 1200/600 r.p.m.	3 h.p.— 1000/500 r.p.m.
Low	20 speeds 330-6000 r.p.m.	20 speeds 275-5000 r.p.m.			20 speeds 166-4000 r.p.m.	20 speeds 140-3340 r.p.m.			14 speeds 133-2666 r.p.m.	14 speeds 110-2200 r.p.m.
MOTOR:	1 h.p.— 3600/1800 r.p.m.	1 h.p.— 3000/1500 r.p.m.			2 h.p.— 1800/900 r.p.m.	2 h.p.— 1500/750 r.p.m.	1½ h.p.— 1800/900 r.p.m.	1½ h.p.— 1500/750 r.p.m.	3 h.p.— 1800/900 r.p.m.	3 h.p.— 1500/750 r.p.m.
High	20 speeds 660-12000 r.p.m.	20 speeds 550-10000 r.p.m.			20 speeds 250-6000 r.p.m.	20 speeds 210-5000 r.p.m.	12 speeds 200-5600 r.p.m.	12 speeds 160-4660 r.p.m.	14 speeds 250-4000 r.p.m.	14 speeds 210-3340 r.p.m.
TABLE FEED MOTOR—(giving standard table feeds on p. 15)					¼ h.p.— 1125 r.p.m.	¼ h.p.— 1425 r.p.m.	¼ h.p.— 1125 r.p.m.	¼ h.p.— 1425 r.p.m.	½ h.p.— 1125 r.p.m.	½ h.p.— 1425 r.p.m.

STANDARD EQUIPMENT FURNISHED

0-16A Super-Speed Vertical, Swivel or Universal

- 1—Spindle Collet
- 1—Spindle Belt
- 1—Draw-in Rod
- 1—Set of Necessary Wrenches
- 1—Instruction and Parts Book
- 1—Accessories Catalog

8½-D Super Speed Vertical

- 1—Draw-In Rod
- 1—Collet Adapter 702-1 with No. 9 B&S or No. 3 Morse shank and hole for Gorton Spring Collets
- 1—Collet Adapter Draw-In Rod
- 1—Endless Spindle Drive Belt
- 1—Set of necessary wrenches
- 1—Instruction & Parts Book
- 1—Accessories Catalog

9-J Super Speed Vertical

- 1—Draw-In Rod
- 1—Collet Adapter 472-1 with No. 10 B&S or No. 4 Morse shank and hole for Gorton Spring Collets
- 1—Collet Adapter Draw-In Rod
- 1—Endless Spindle Drive Belt
- 1—Set of necessary wrenches
- 1—Instruction & Parts Book
- 1—Accessories Catalog

	0-16A Vertical	0-16A Swiv. Uni.	8½-D Vertical	8½-D Universal	9-J Vertical
Longitudinal feed	16"	16"	20"	20"	24"
Cross feed	10½"	10½"	10½"	10½"	11½"
Adjustable Ram movement (adjustable in and out)	12¼"	9¾"	12¼"	12¼"	12¼"
Combined cross feed of table and Adjustable Ram	22¾"	20¼"	22¾"	22¾"	23¾"
Distance from center of cutter spindle to column throat (minimum to maximum)	11½" to 23¾"	11¼" to 21"	14½" to 26¾"	14½" to 26¾"	14½" to 26¾"
CAPACITY Minimum to maximum distance cutter spindle nose to top of table.. Can be increased 6" (or more) for all machines. (See Raising Blocks, page 13.)	0" to 15"	0" to 16"	0" to 17"	0" to 18"	2" to 19½"
Maximum distance spindle nose to floor (with spindle up)	41½"	42¾"	48"	49"	48"
Vertical feed of cutter spindle	3"	3"	3½"	3½"	3½"
Vertical feed of knee	13"	13"	14½"	14½"	14"
With ram and table all way out, front of table is in line with spindle axis	Yes	Yes	Yes	Yes	Yes
Width of column face	8½"	8½"	9¾"	9¾"	9¾"
Length of table bearing in saddle	17"	17"	26"	26"	30"
Working surface	9"x 24"	9"x 24"	9"x 29"	9"x 29"	10½"x 35"
TABLE Overall size	9"x 24"	9"x 24"	9"x 34"	9"x 34"	10½"x 41"
T-Slots (number and size)	three ½"	three ½"	three ½"	three ½"	three ½"
Distance between T-Slots	2½"	2½"	2½"	2½"	2¾"
Number of feeds			12	12	12
TABLE FEEDS Inches per minute (.6", .8", 1.1", 1.5", 2.3", 3", 4", 5.5", 8", 11", 15", 20")6" to 20"	.6" to 20"	.6" to 20"
Feeds .6" to 20" STANDARD—Faster or Slower Feeds can be furnished, special to order. AUTOMATIC TABLE REVERSING MECHANISM—for longitudinal on all models, at extra cost.					
SPINDLE (Alloy steel, hardened and ground. Precision ball bearings.) Gorton and B & S Tapers, standard. Morse tapers optional at extra cost.	Gorton Collets to ½" dia.	Gorton Collets to ½" dia.	No. 9 B & S No. 3 Morse No. 30 Amer- ican Std.	No. 9 B & S No. 3 Morse No. 30 Amer- ican Std.	No. 10 B & S No. 4 Morse No. 40 Amer- ican Std.
SPINDLE FEEDS POWER FEED—707-3 (see p. 11) available for 8½-D and 9-J verticals only			Power Spindle Feed available		Power Spindle Feed available
FLOOR SPACE For all Adjustable Ram and Table positions. Height is with motor..			63½" front to back x 55¼" wide x 71" high	55" front to back x 72" wide x 78" high	65" f to b x 76" w x 87" h

LUBRICATION: Spindle—Sight feed oil cup. Table Feed Gear Box—Sight level oil cup. Other Bearings—Grease and oil cups.

Adjustable Dials: Graduated in thousandths on all feed screws.

ON ALL MODELS

Metric Screws and Dials: Machines, when specified, furnished equipped with feed screws, micrometer collars, dials, depth stop, etc., reading in metric measurements without extra charge.

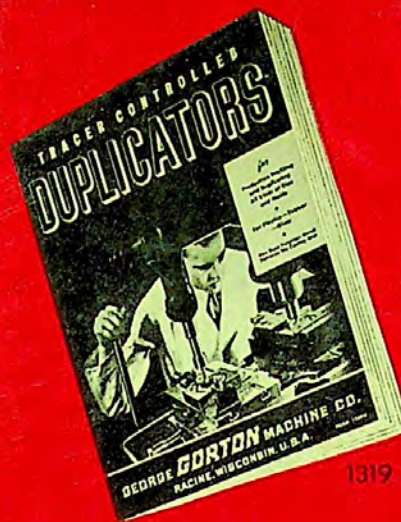
SHIPPING DATA

MACHINE	Net wt. with motors and starters	Gross wt. boxed for domestic shipment	Gross wt. boxed for foreign shipment	Approx. size box	Approx. cu. ft.
0-16A Super-Speed Vertical	1876 lbs.	2420 lbs.	2566 lbs.	56" high x 44" x 71"	101.2
0-16A Swivel or Universal	1565 lbs.	1965 lbs.	2165 lbs.	56" high x 44" x 71"	101.2
8½-D Vertical or Universal with power feed table	2500 lbs.	3000 lbs.	3700 lbs.	73" high x 60" x 58"	158
8½-D Vertical or Universal with hand feed table	2300 lbs.	2800 lbs.	3200 lbs.	76" high x 60" x 58"	158
9-J Vertical or Universal with power feed table	3400 lbs.	4000 lbs.	4800 lbs.	84" high x 72" x 64"	224
9-J Vertical or Universal with hand feed table	3100 lbs.	3735 lbs.	4500 lbs.	84" high x 72" x 64"	224

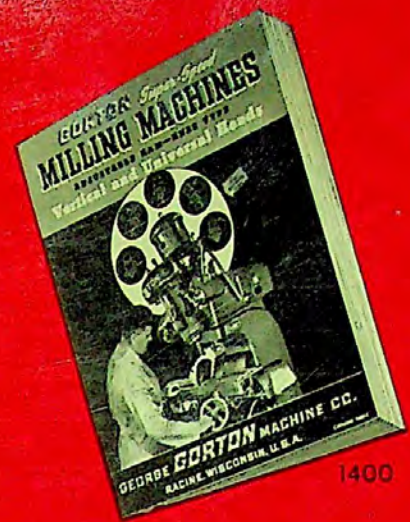




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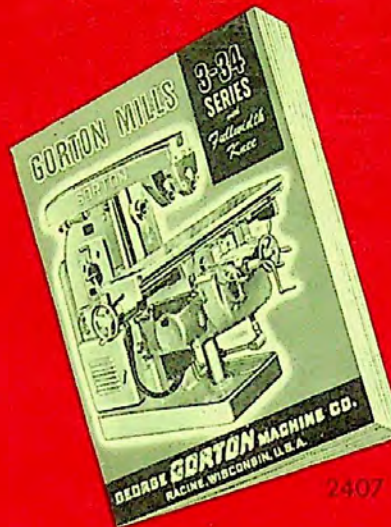
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1400



2321



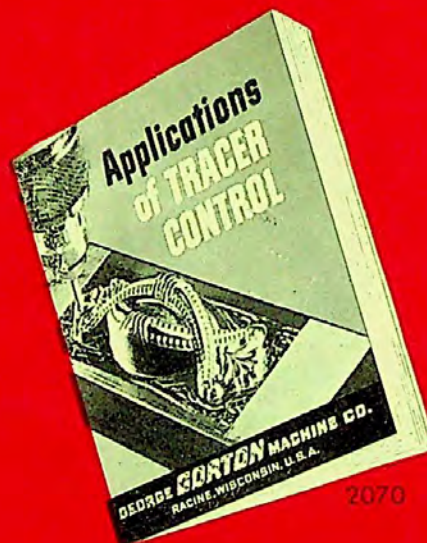
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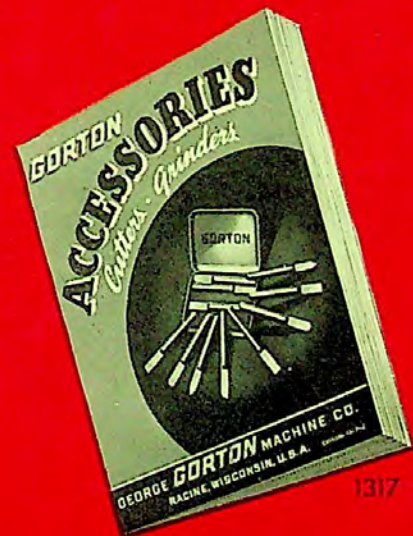
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1309



2070



1317



WRITE FOR YOUR COPY TODAY

The bulletins and catalogs illustrated above provide specific and complete information about Gorton machines, copy type, and accessories. Required bulletins will be sent to you direct or from nearest dealer on letterhead request.

AUTHORIZED DEALERS IN ALL PRINCIPAL CENTERS

GEORGE GORTON MACHINE CO., RACINE, WISCONSIN, U. S. A.