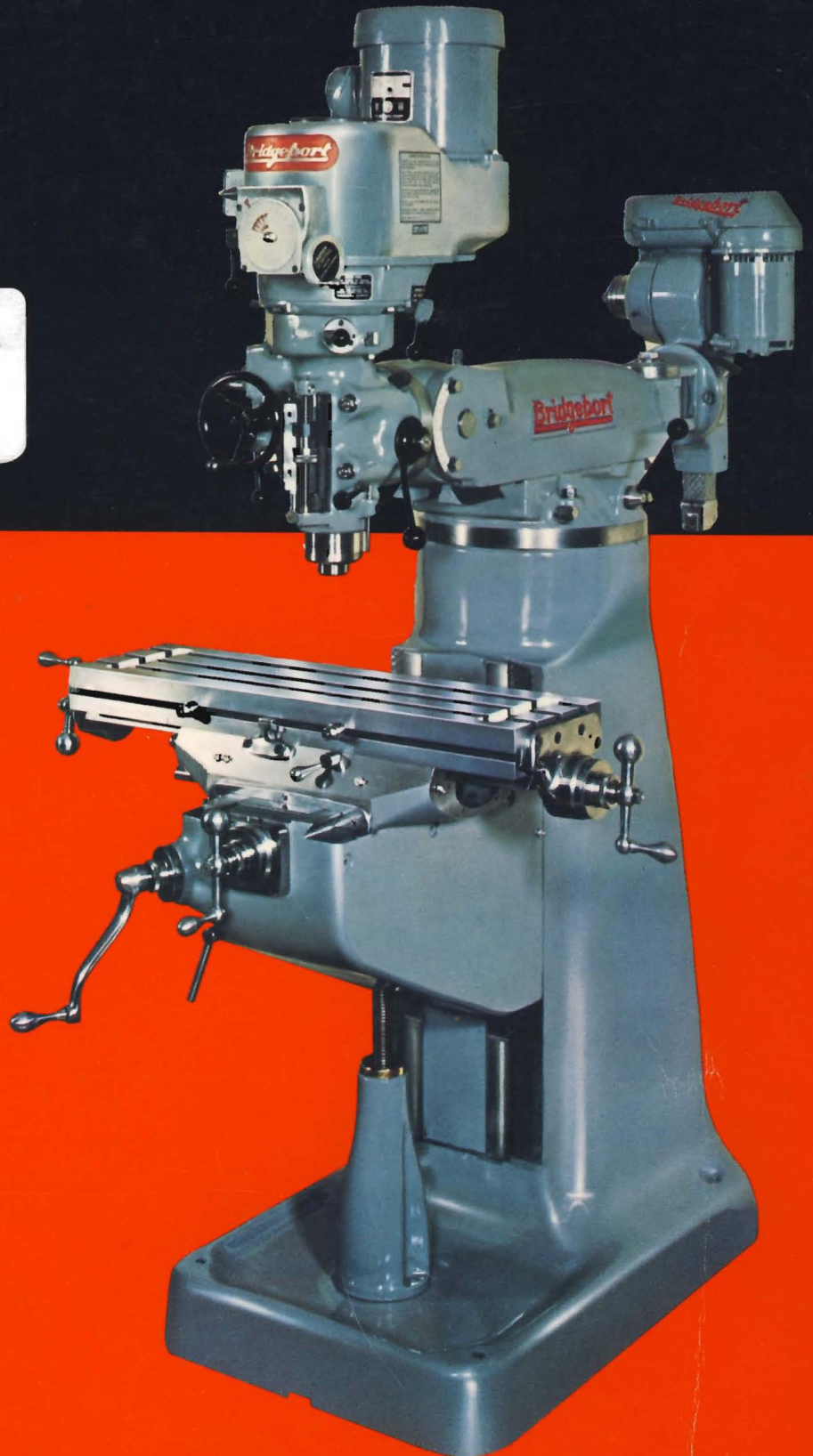


Bridgeport®

Turret Millers • Attachments • Accessories

STERLING MACHINERY EXCHANGE
9310 GARVEY AVE
SOUTH EL MONTE, CA 91733

CATALOG BR68



Turret Millers

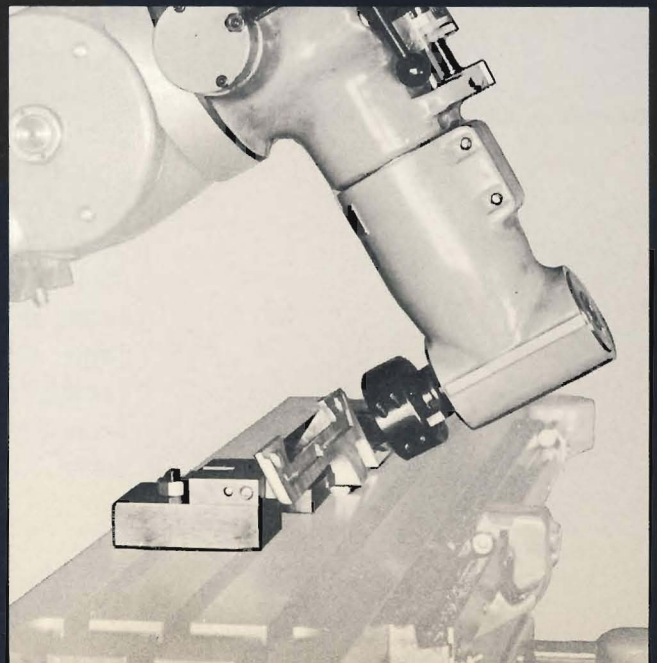
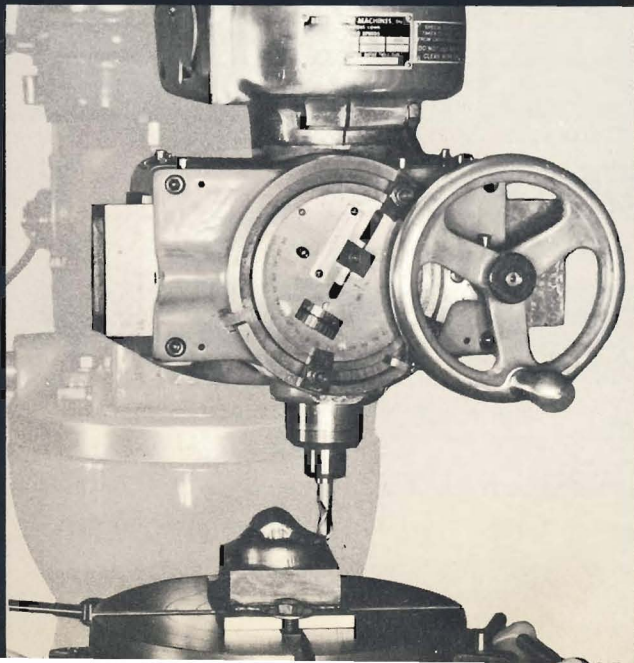
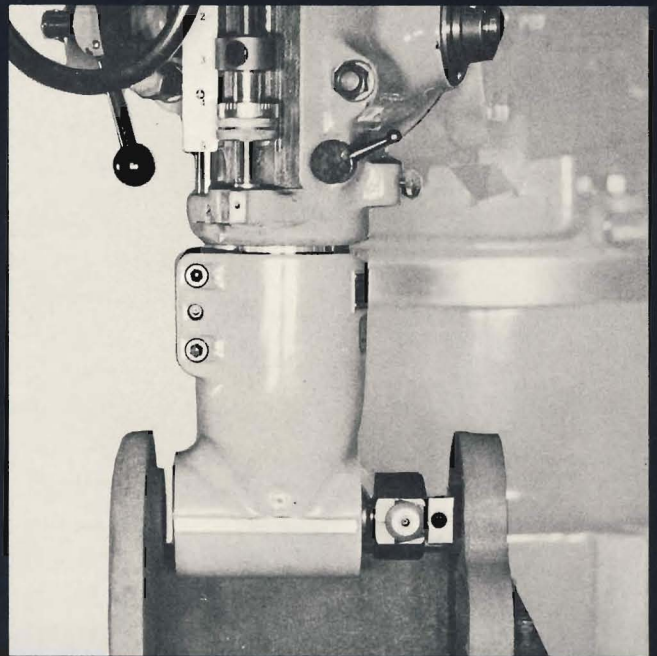
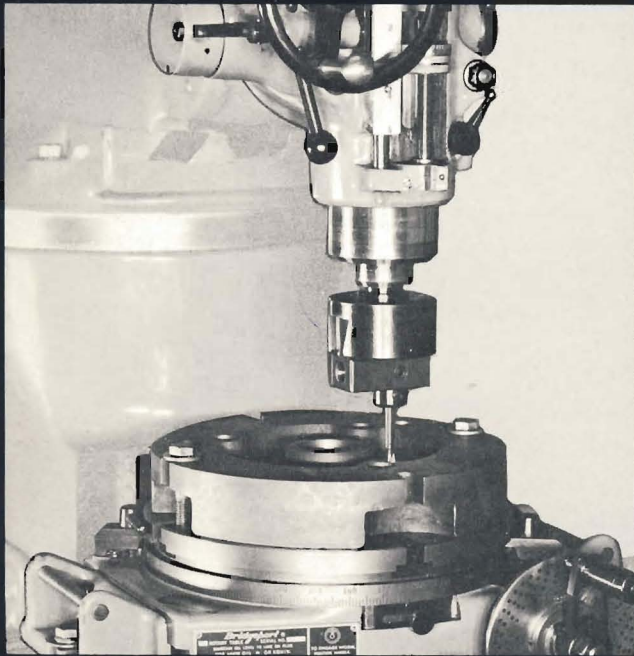
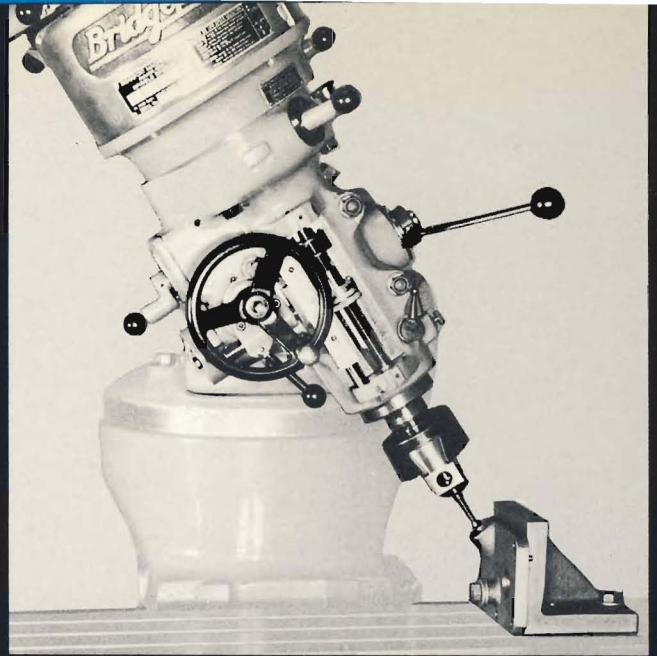
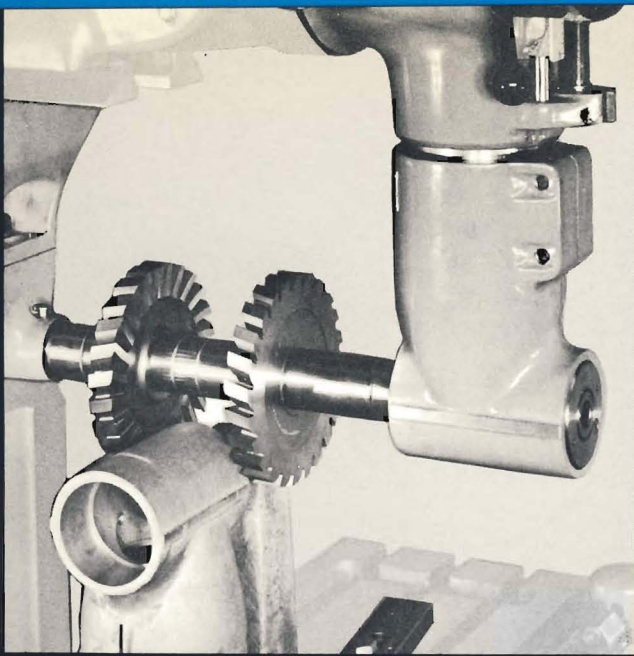
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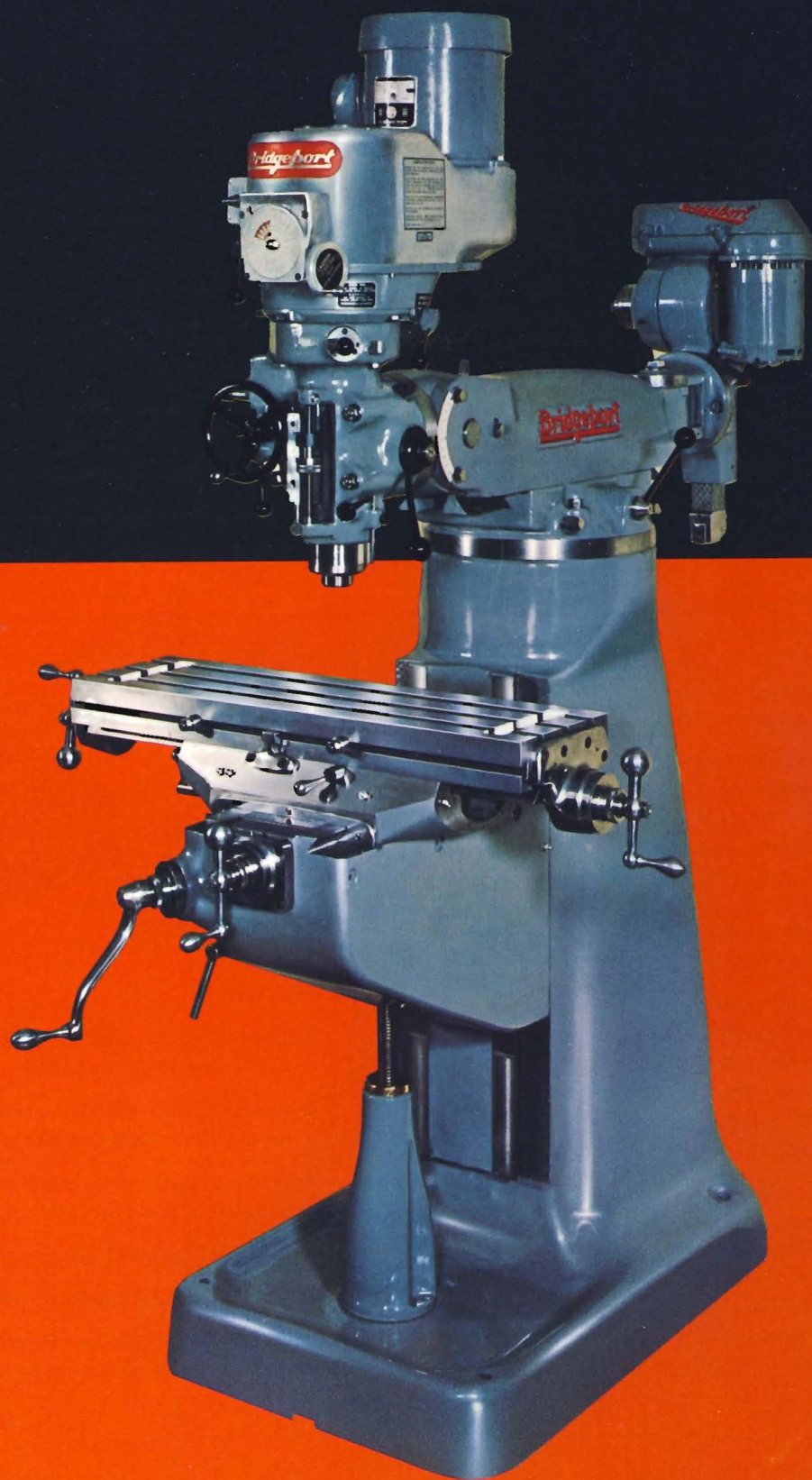
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Bridgeport®

Turret Millers



model

BR2J

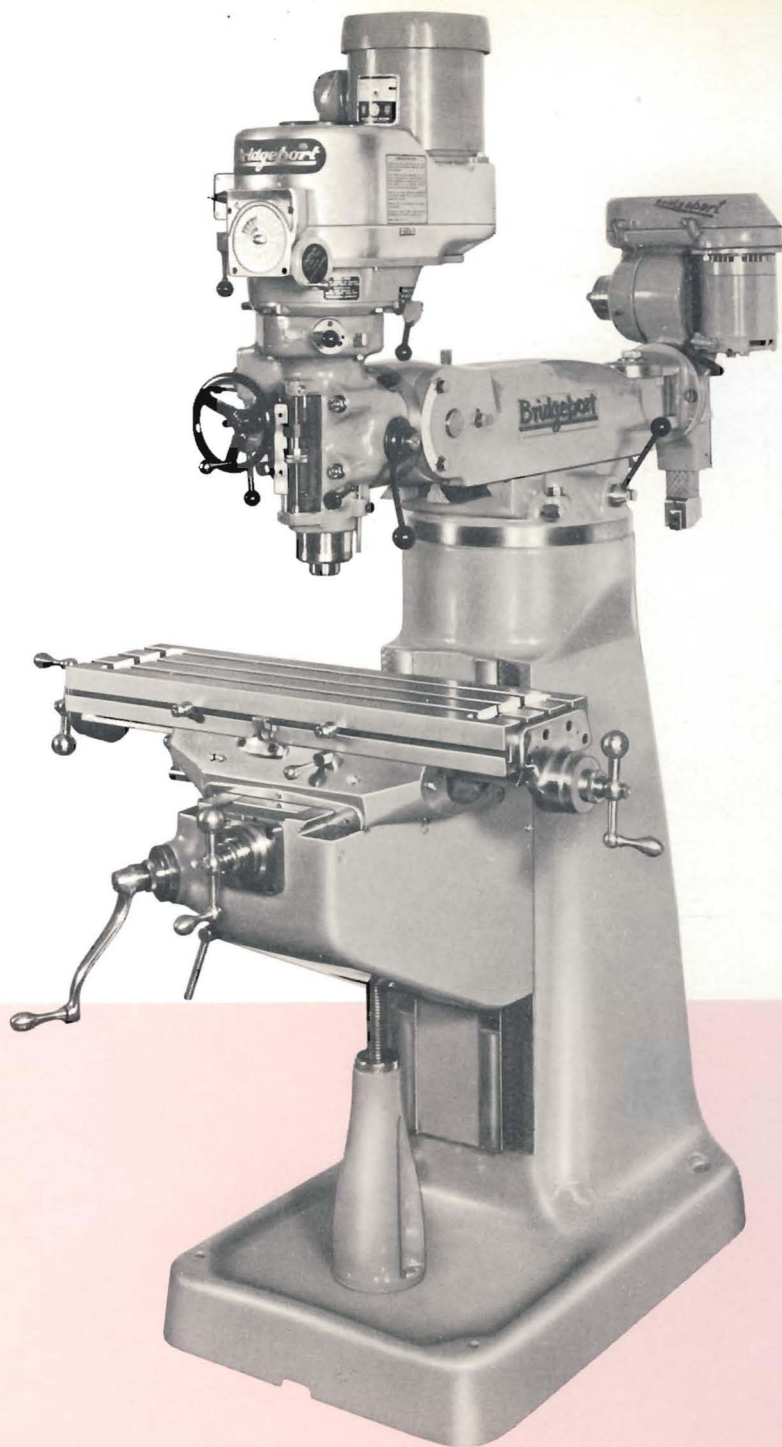
*1½ h.p.
turret miller*

Bridgeport's Model BR2J is a heavy-medium duty machine equipped with a model 2J variable speed milling, drilling and boring head as standard equipment.

However, with the use of a combination of Bridgeport head attachments, the capacity of the machine includes right angle milling, drilling and boring as well as vertical. Profiling, slotting, churning, flycutting and jig boring can also be accomplished.

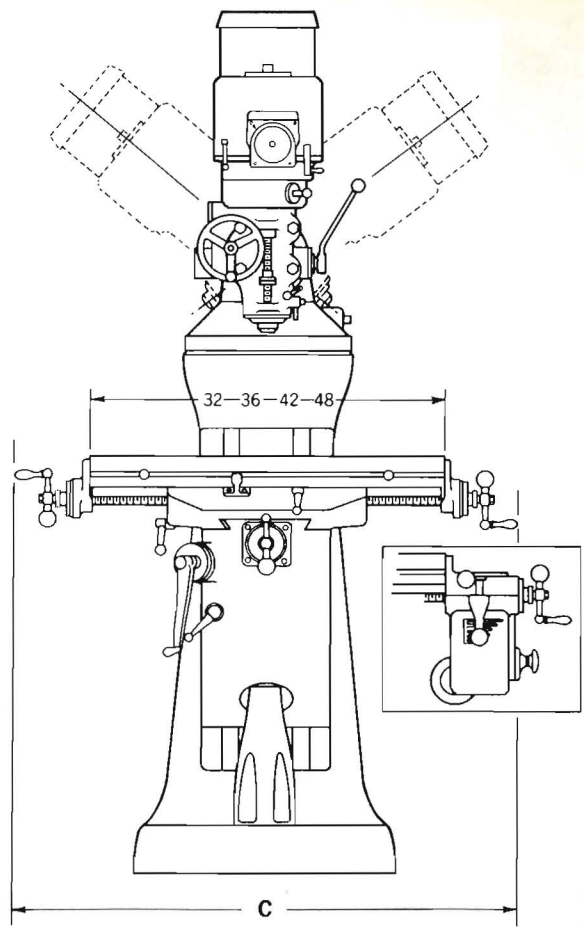
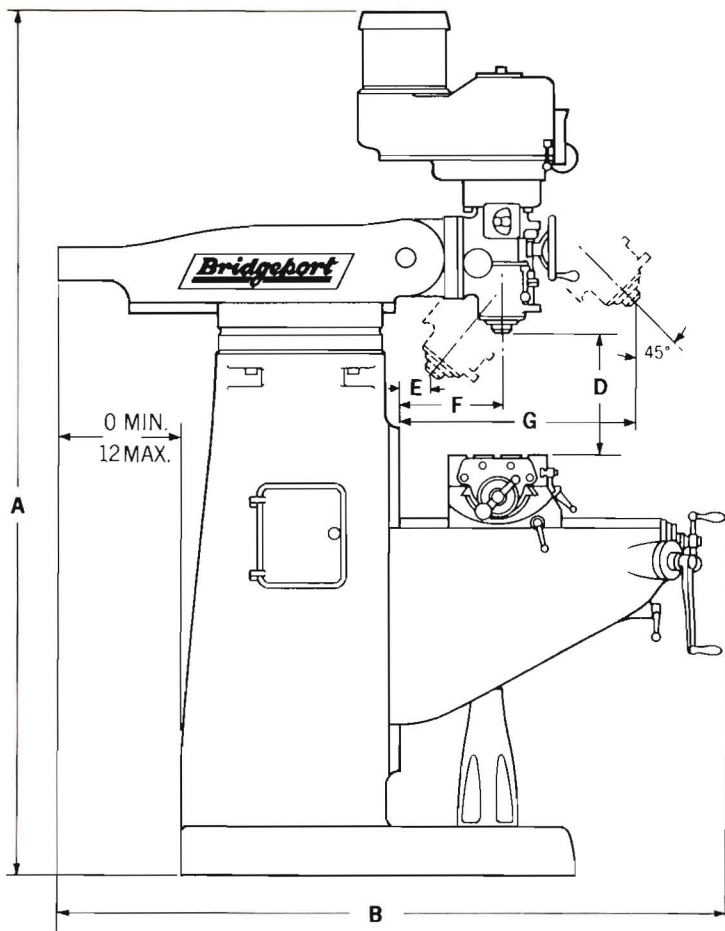
Angles in all planes are set through worm gear controls. Ram type construction permits movement of head over the table without rechecking the squareness of the spindle.

In and out movement of the ram, through rack and pinion, is effortless. The rear end of the ram has a regular swivel adapter for mounting additional heads, giving angular settings in both vertical and horizontal planes.



FEATURES

- Expanding dovetail locks ram and turret into one unit to prevent vibration.
- Column, knee and table are constructed with extra wide ways and taper gibs for maximum rigidity.
- All operation controls are at the operator's fingertips; graduated dials are extra large for easy reading.
- Anti-friction bearings are used throughout the machine.
- Worm and gear controls are used for angular settings of head.
- Wick feed lubrication distributes oil to all spindle bearings and moving parts by means of a flush system.



SPECIFICATIONS in inches

MODEL 9BR2J

MODEL 12BR2J

TABLE LENGTHS	32	36	42	48	32	36	42	48
LONGITUDINAL TRAVEL — manual	20	24	30	36	20	24	30	36
LONGITUDINAL TRAVEL — power feed	16½	20½	26½	—	16½	20½	26½	—
CROSS TRAVEL	9	9	9	9	12	12	12	12
VERTICAL TRAVEL OF KNEE	16	16	16	16	16	16	16	16
A OVERALL HEIGHT	82 ³ / ₁₆	82 ³ / ₁₆	82 ³ / ₁₆	82 ³ / ₁₆	82 ³ / ₁₆	82 ³ / ₁₆	82 ³ / ₁₆	82 ³ / ₁₆
B OVERALL DEPTH	58 ³ / ₄	58 ³ / ₄	58 ³ / ₄	58 ³ / ₄	63	63	63	63
C OVERALL WIDTH	65½	69½	75½	81½	65½	69½	75½	81½
D MIN. DISTANCE	0	0	0	0	0	0	0	0
MAX. DISTANCE	18½	18½	18½	18½	18½	18½	18½	18½
E MIN. DISTANCE	0	0	0	0	0	0	0	0
MAX. DISTANCE	12	12	12	12	12	12	12	12
F MIN. DISTANCE	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄
MAX. DISTANCE	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄
G MIN. DISTANCE	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄
MAX. DISTANCE	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄

MODEL "2J" VARIABLE SPEED HEAD

SPINDLE SPEEDS — infinitely variable from 60 to 4200 R.P.M.

POWER FEED per spindle revolution — .0015 .003 .006

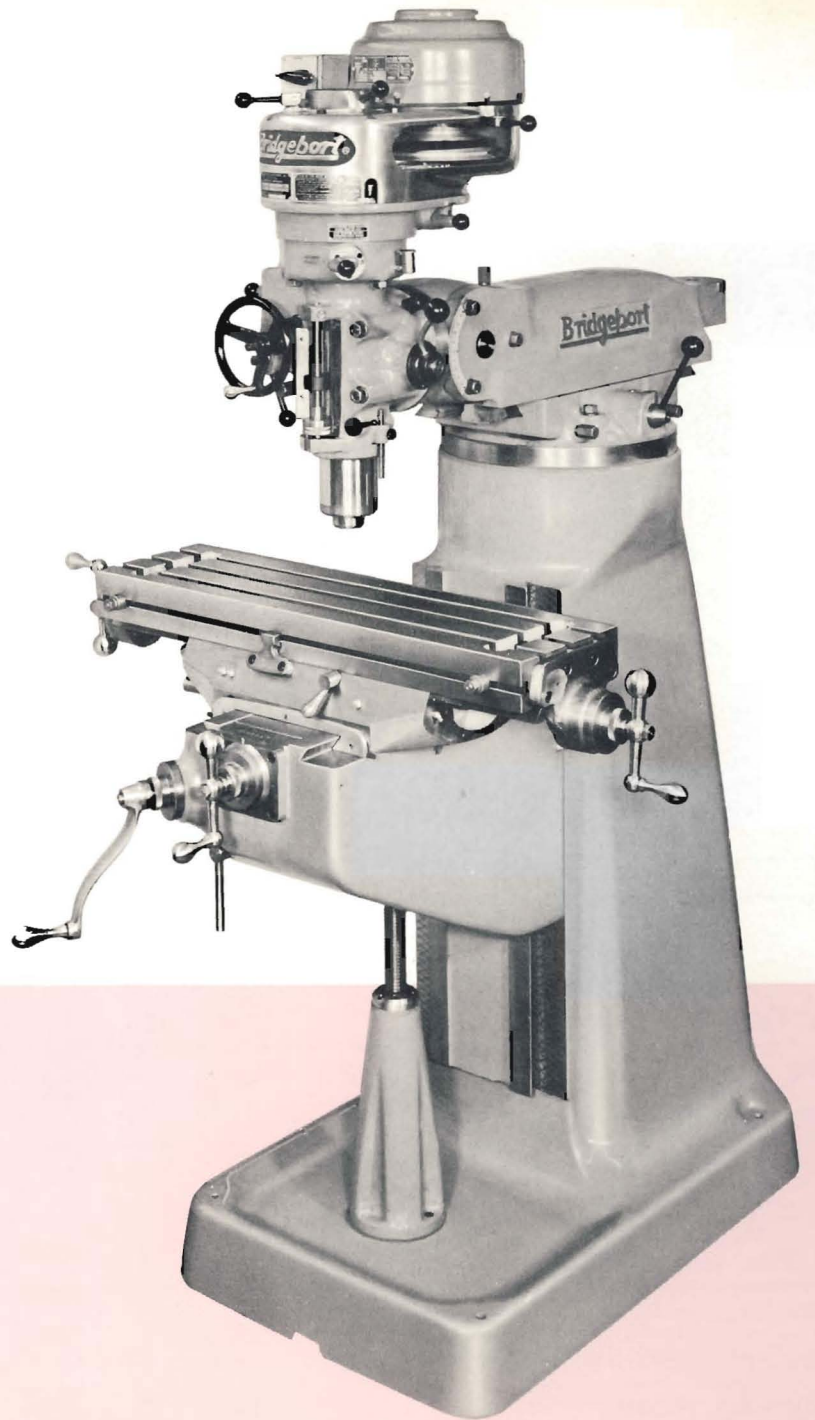
SPINDLE — R-8 taper

COLLET CAPACITY — ¾

QUILL TRAVEL — 5

model
BRJ

1 h.p.
turret miller



Bridgeport's Model BRJ is a heavy-medium duty machine equipped with a model "J" milling, drilling and boring head as standard equipment.

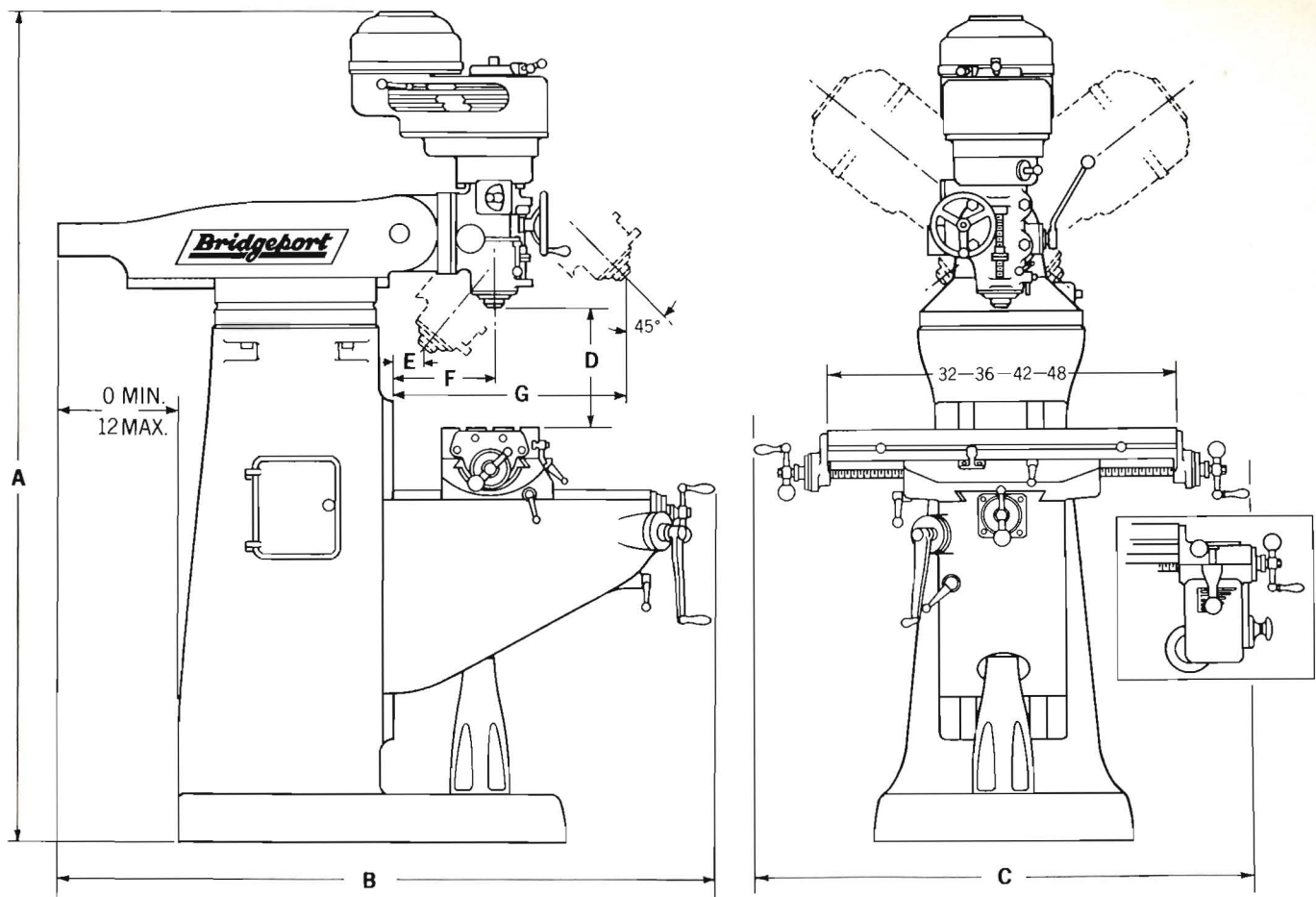
However, with the use of a combination of Bridgeport head attachments, the capacity of the machine includes right angle milling, drilling and boring as well as vertical. Profiling, slotting, churning, flycutting and jig boring can also be accomplished.

Angles in all planes are set through worm gear controls. Ram type construction permits movement of head over the table without rechecking the squareness of the spindle.

In and out movement of the ram, through rack and pinion, is effortless. The rear end of the ram has a regular swivel adapter for mounting additional heads, giving angular settings in both vertical and horizontal planes.

FEATURES

- Expanding dovetail locks ram and turret into one unit to prevent vibration.
- Column, knee and table are constructed with extra wide ways and taper gibs for maximum rigidity.
- All operation controls are at the operator's fingertips; graduated dials are extra large for easy reading.
- Anti-friction bearings are used throughout the machine.
- Worm and gear controls are used for angular settings of head.
- Wick feed lubrication distributes oil to all spindle bearings and moving parts by means of a flush system.



SPECIFICATIONS in inches

	MODEL 9BRJ				MODEL 12BRJ			
TABLE LENGTHS	32	36	42	48	32	36	42	48
LONGITUDINAL TRAVEL — manual	20	24	30	36	20	24	30	36
LONGITUDINAL TRAVEL — power feed	16½	20½	26½	—	16½	20½	26½	—
CROSS TRAVEL	9	9	9	9	12	12	12	12
VERTICAL TRAVEL OF KNEE	16	16	16	16	16	16	16	16
A OVERALL HEIGHT	77 ⁷ / ₁₆	77 ⁷ / ₁₆	77 ⁷ / ₁₆	77 ⁷ / ₁₆	77 ⁷ / ₁₆	77 ⁷ / ₁₆	77 ⁷ / ₁₆	77 ⁷ / ₁₆
B OVERALL DEPTH	58 ³ / ₄	58 ³ / ₄	58 ³ / ₄	58 ³ / ₄	63	63	63	63
C OVERALL WIDTH	65½	69½	75½	81½	65½	69½	75½	81½
D MIN. DISTANCE	0	0	0	0	0	0	0	0
D MAX. DISTANCE	18½	18½	18½	18½	18½	18½	18½	18½
E MIN. DISTANCE	0	0	0	0	0	0	0	0
E MAX. DISTANCE	12	12	12	12	12	12	12	12
F MIN. DISTANCE	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄	6 ³ / ₄
F MAX. DISTANCE	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄	18 ³ / ₄
G MIN. DISTANCE	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄	8 ³ / ₄
G MAX. DISTANCE	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄	20 ³ / ₄

MODEL "J" HEAD

SPEEDS, R.P.M. — 80	135	210	325	660	1115	1750	2720
POWER FEED per spindle revolution —	.0015	.003	.006				

SPINDLE — R-8 taper

COLLET CAPACITY — ¾

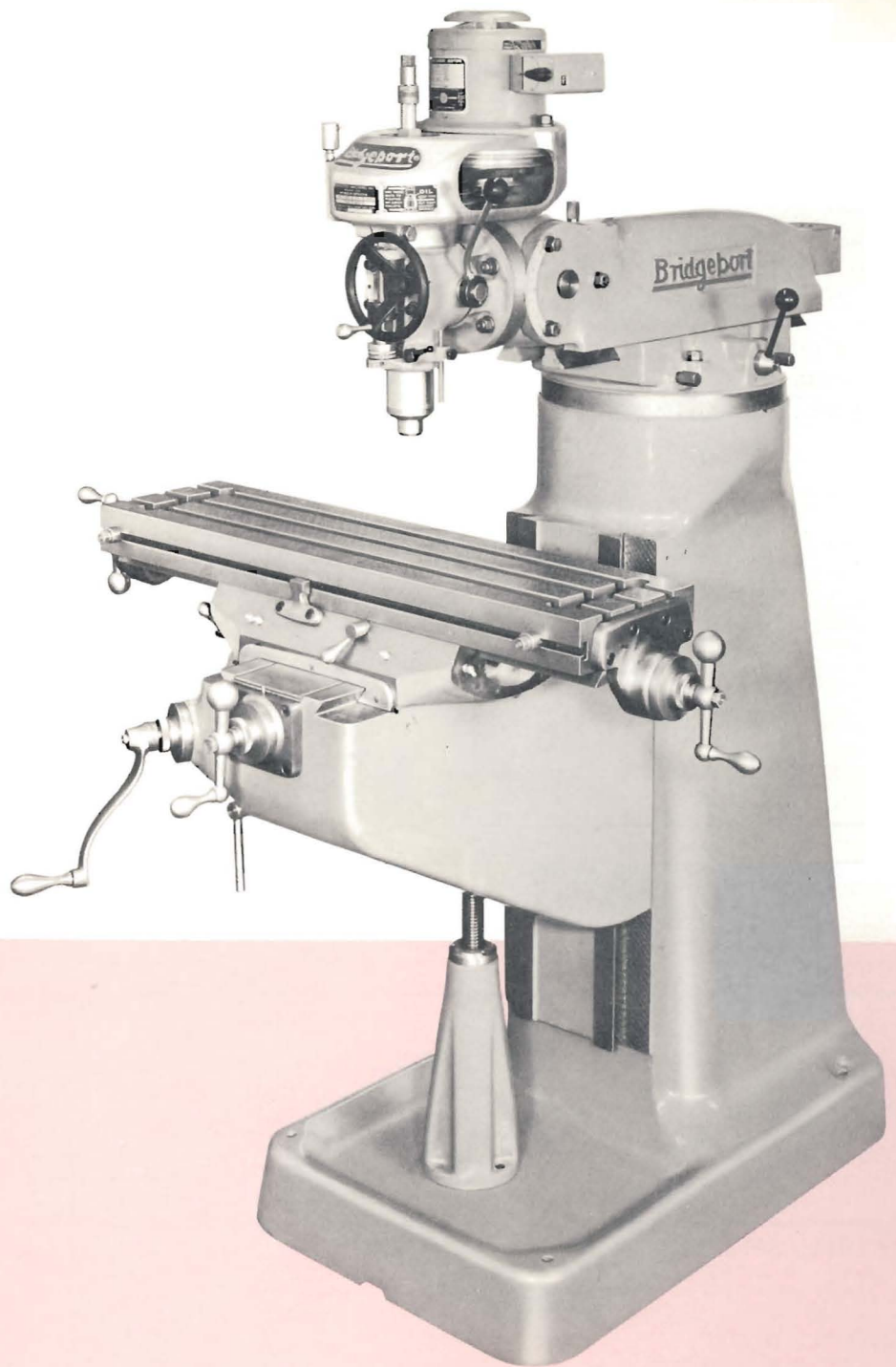
QUILL TRAVEL — 5

model

BRM

1/2 h.p.

turret miller



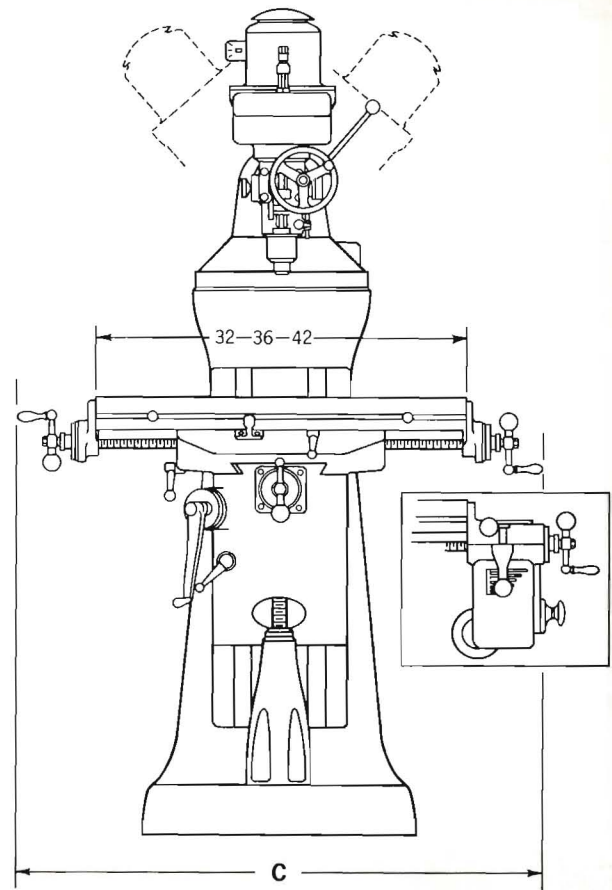
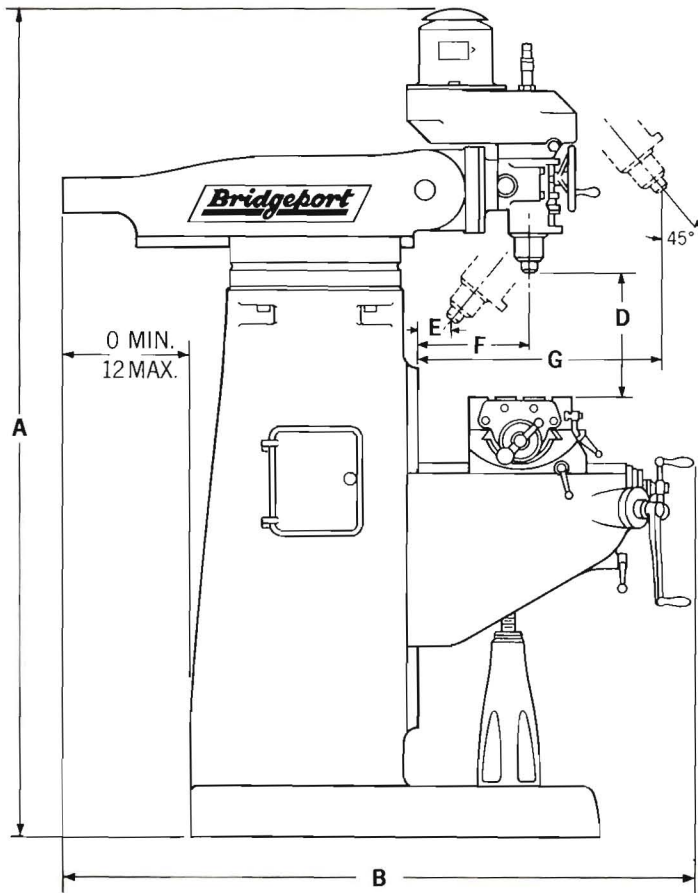
Bridgeport's Model BRM turret miller is a medium-light duty machine which has a thousand and one applications in machine shops, job shops, experimental labs, maintenance and repair shops, and even home workshops.

This machine is a Basic Bridgeport "chassis" equipped with a Model "M" Master milling head, which has all the accuracy and advantages of the larger "J" head except that it is rated at 1/2 H.P., and does not have power down feed to quill.

In addition to vertical and horizontal milling, this machine can handle all types of machining operations including drilling, boring, jig boring, churning, shaping, flycutting, profiling and slotting.

FEATURES

- Column, knee and table are constructed with extra wide ways and taper gibs for maximum rigidity.
- Anti-friction bearings are used throughout.
- Convenient location of all controls makes for less operator fatigue, faster production.
- Ram moves in and out easily through rack and pinion.
- Worm and gear controls are used for angular settings of head.
- Table, knee and saddle locks located in front of machine for convenience.



SPECIFICATIONS in inches

MODEL 9BRM

MODEL 12BRM

TABLE LENGTHS	32	36	42	48	32	36	42	48
LONGITUDINAL TRAVEL — manual	20	24	30	36	20	24	30	36
LONGITUDINAL TRAVEL — power feed	16½	20½	26½	—	16½	20½	26½	—
CROSS TRAVEL	9	9	9	9	12	12	12	12
VERTICAL TRAVEL OF KNEE	16	16	16	16	16	16	16	16
A OVERALL HEIGHT	75	75	75	75	75	75	75	75
B OVERALL DEPTH	58¾	58¾	58¾	58¾	63	63	63	63
C OVERALL WIDTH	65½	69½	75½	81½	65½	69½	75½	81½
D MIN. DISTANCE	½	½	½	½	½	½	½	½
MAX. DISTANCE	20¼	20¼	20¼	20¼	20¼	20¼	20¼	20¼
E MIN. DISTANCE	0	0	0	0	0	0	0	0
MAX. DISTANCE	12	12	12	12	12	12	12	12
F MIN. DISTANCE	7½	7½	7½	7½	7½	7½	7½	7½
MAX. DISTANCE	19	19	19	19	19	19	19	19
G MIN. DISTANCE	8	8	8	8	8	8	8	8
MAX. DISTANCE	20	20	20	20	20	20	20	20

MODEL "M" HEAD

SPEEDS, 1200 R.P.M. MOTOR — 275 425 700 1050 2100 4250

SPEEDS, 3600 R.P.M. MOTOR — 950 1350 2200 3250 6500 12000

SPINDLE — No. 2 Morse Taper;
7 B&S Taper; or B-3 Taper

COLLET CAPACITY — ⅛ — ½

QUILL TRAVEL — ¾

Chrome Plated Ways – (Optional Feature)

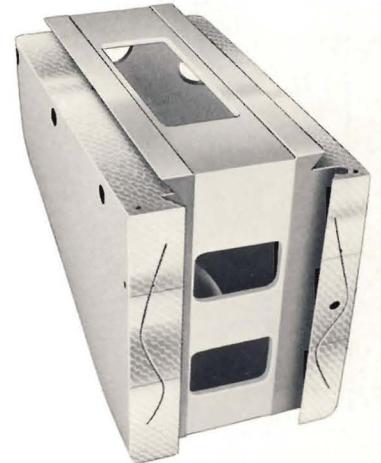
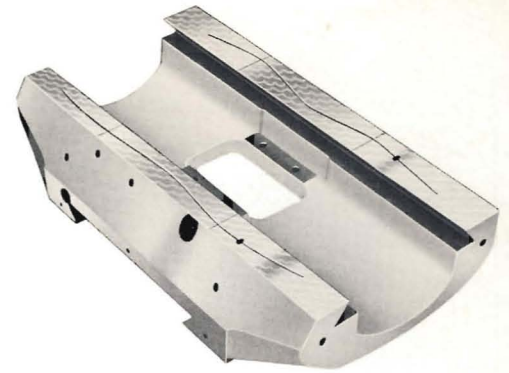
To maintain as far as possible the inherent accuracy and sensitivity of Bridgeport Millers, the exclusive feature of chrome plated ways is offered to users of our machines.

For a modest cost, Bridgeport can supply machines whose ways are chrome plated at the points of maximum wear:

- **Back of Knee**
- **Column Knee Gib**
- **Top of Knee**
- **Top of Saddle**
- **Saddle Table Gib**

Chrome plate on these parts places a hard wear resistant surface on the paths of vertical, longitudinal and cross travel.

A .002 deposit is made to assure ample wear life, an ideal lubricating surface and the lowest possible co-efficient of friction. Hardness exceeds Rockwell C-70. The chrome plate becomes an integral part of the base casting and does not set up any stresses or strains.



To provide our customers, large or small with the most versatile and flexible turret millers, Bridgeport has designed and developed six working heads.

These heads are supplied in a range of powers and capabilities to handle most of the machining operations required in any machine shop.

All head models can be mounted on the front end of the ram where they can be moved or swiveled to cover all planes and angles in the spectrum.

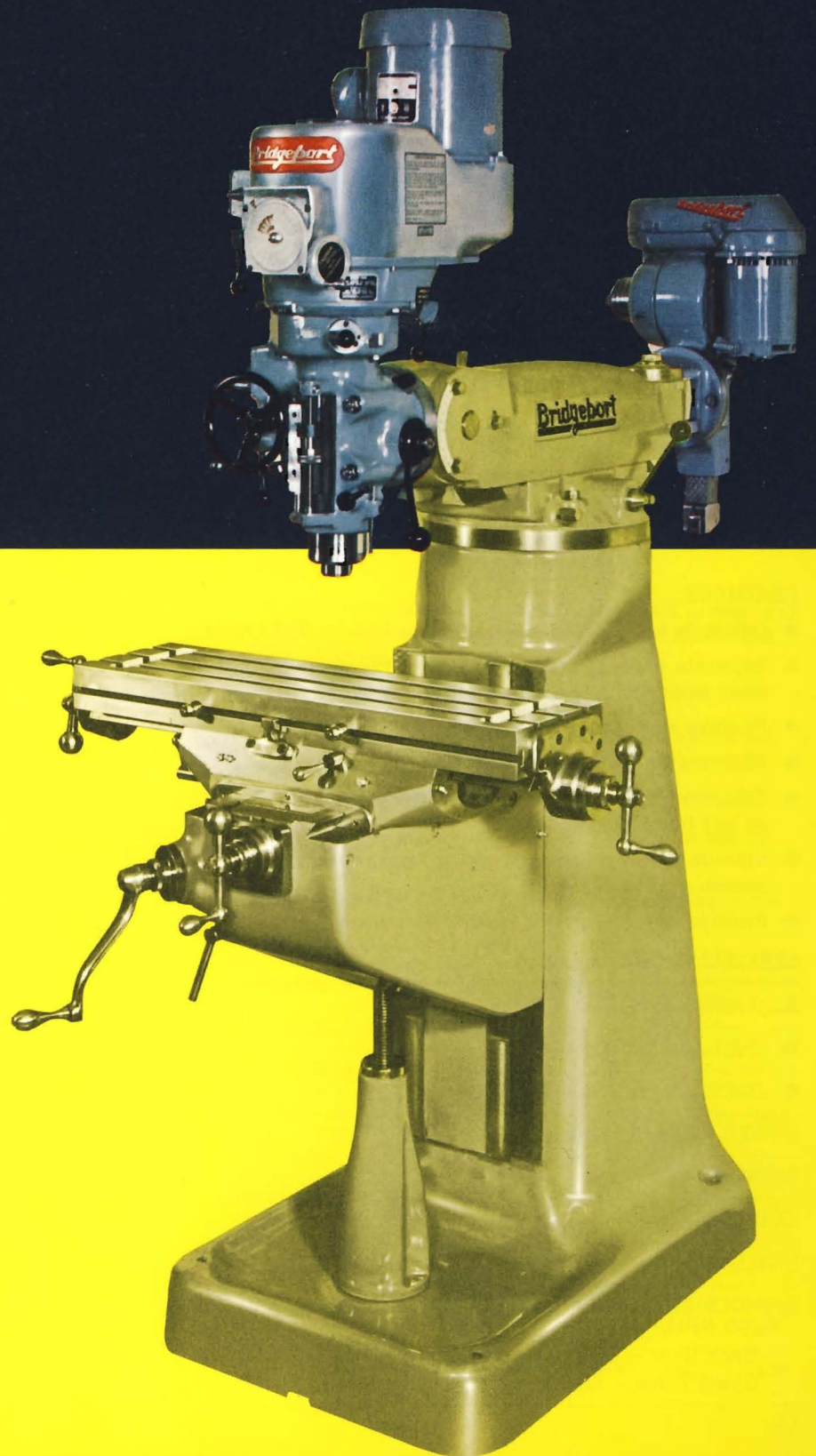
Models M, T and E can be mounted on the rear end of the ram and can be swung around to operate over the table.

FEATURES COMMON TO ALL BRIDGEPORT HEADS

- **Self-contained, can be mounted on other machines.**
- **Spindles are chrome nickel alloy, heat treated and ground.**
- **Spindle housings of high grade semi-steel castings.**
- **Spindle bearings precision preloaded, accurately spaced for maximum radial and thrust capacity.**
- **Oil cup provides lubrication to all spindle bearings.**
- **Dynamically balanced V belt pulleys proportioned for long belt life, positive traction.**
- **Simple adjustment of belt tension through pivotally mounted motors.**

Bridgeport®

Attachments



The Model "2J" 1½ h.p. Variable Speed Drive combines the accuracy and versatility of the well known model "J" with infinitely variable spindle speeds of 60 to 4200 RPM.

It is equipped with power down-feed and up-feed. Angular positioning is obtained through an integral worm and gear.

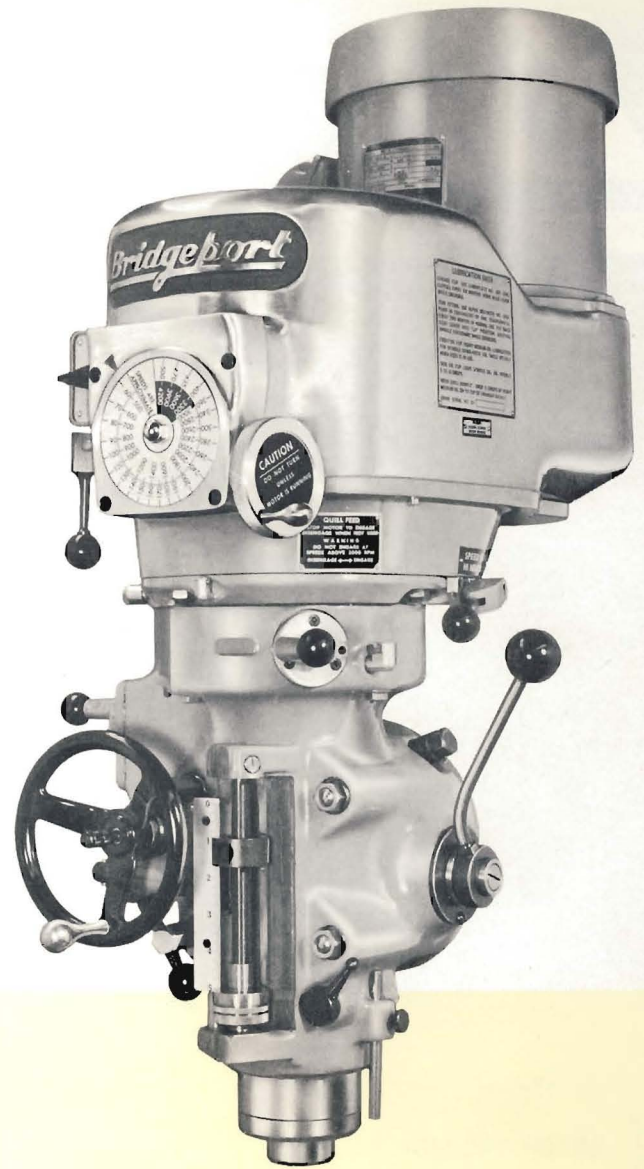
The Model "2J" is designed for continuous duty in the vertical position, but can be modified for continuous horizontal operation.

Extreme sensitivity is provided by a counterbalanced quill and spindle.

model

2J

1½ h.p. variable speed milling, drilling and boring head

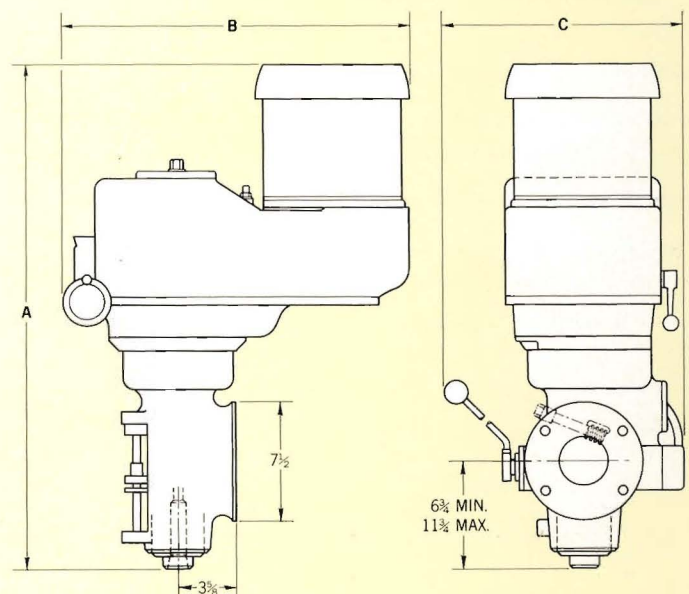


FEATURES

- Infinitely variable spindle speeds of 60 to 4200 RPM.
- Separate manual feed provides for rapid movement of quill, lever operated; slow movement by means of a hand wheel.
- Positive quill lock.
- Micrometer depth stop graduated in thousandths.
- Equipped with reversible switch for right or left hand operation.
- Spindle drive is back geared for maximum use of power.
- Positive two way power feed tripping mechanism.

SPECIFICATIONS in inches

A	OVERALL HEIGHT — 32
B	OVERALL DEPTH — 21¾
C	OVERALL WIDTH — 18
	POWER FEED per spindle rev. — .0015 .003 .006
	SPINDLE — R-8 taper
	COLLET CAPACITY — ¾
	QUILL TRAVEL — 5
	SPINDLE SPEEDS infinitely variable from 60 to 4200 RPM.
	Back Gear — 60 to 500 RPM
	Direct Drive — 500 to 4200 RPM





The Model "J" is the workhorse of Bridgeport's line of heads. It has a combination of power and accuracy unmatched in any other make.

It is equipped with power down-feed **and** up-feed. Angular positioning is obtained through an integral worm and gear.

The Model "J" is designed for continuous duty in the vertical position, but can be modified for continuous horizontal operation.

Extreme sensitivity is provided by a counterbalanced quill and spindle.

model

J

1 h.p. milling, drilling and boring head

FEATURES

- Separate manual feed provides for rapid movement of quill, lever operated; slow movement by means of a hand wheel.
- Positive quill lock.
- Micrometer depth stop graduated in thousandths.
- Equipped with reversible switch for right or left hand operation.
- Spindle drive is back geared for maximum use of power.
- Positive two way power feed tripping mechanism.

SPECIFICATIONS in inches

A OVERALL HEIGHT — 27¼

B OVERALL DEPTH — 19

C OVERALL WIDTH — 18

POWER FEED per spindle rev. — .0015 .003 .006

SPINDLE — R-8 taper

COLLET CAPACITY — ¾

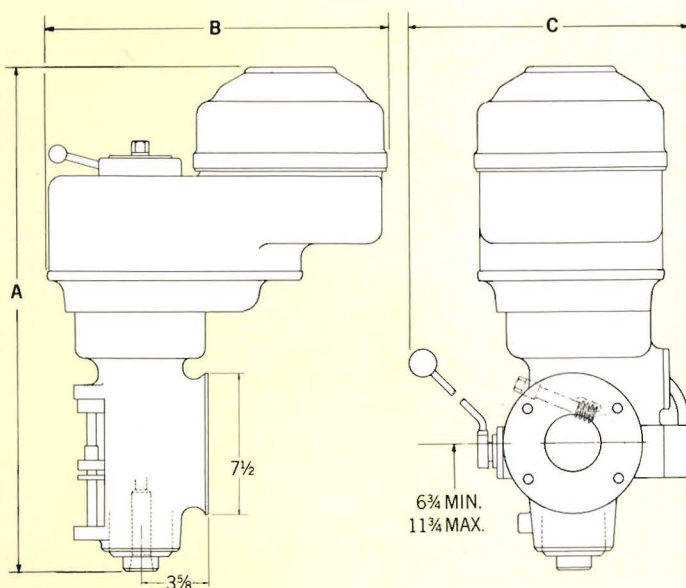
QUILL TRAVEL — 5

SPEEDS, 1800 R.P.M. MOTOR

80 135 210 325 660 1115 1750 2720

SPEEDS, 3600 R.P.M. MOTOR

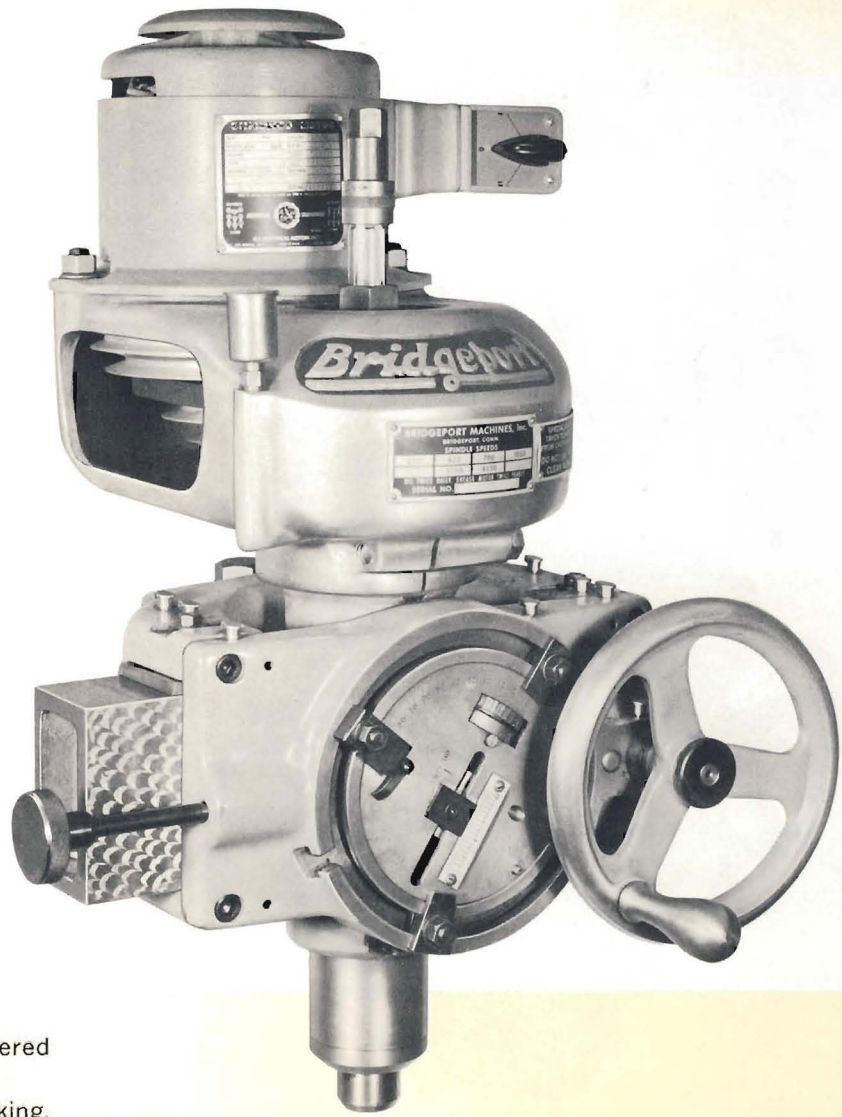
160 270 440 660 1320 2200 3600 5440



model

T

1/2 h.p. churning head



Model "T" churning head was designed and engineered to meet the need for an economical method of eliminating the time consuming hand work in die sinking.

Small die work can be done effectively with the "T" head mounted on a Bridgeport Turret Miller.

This head has an oscillating quill which can move an ordinary die sinking cutter through a circular path either convex or concave to perform both rough and finished churning operations. Radius is adjustable from 0 to 1 3/4".

A quill lock is supplied to lock the quill in a fixed position when conventional milling work is called for.

This head can be operated at right angles to both cross and longitudinal travel of the table.

SPECIFICATIONS in inches

A OVERALL HEIGHT — 27 3/8

B OVERALL DEPTH — 20

C OVERALL WIDTH — 17 3/8

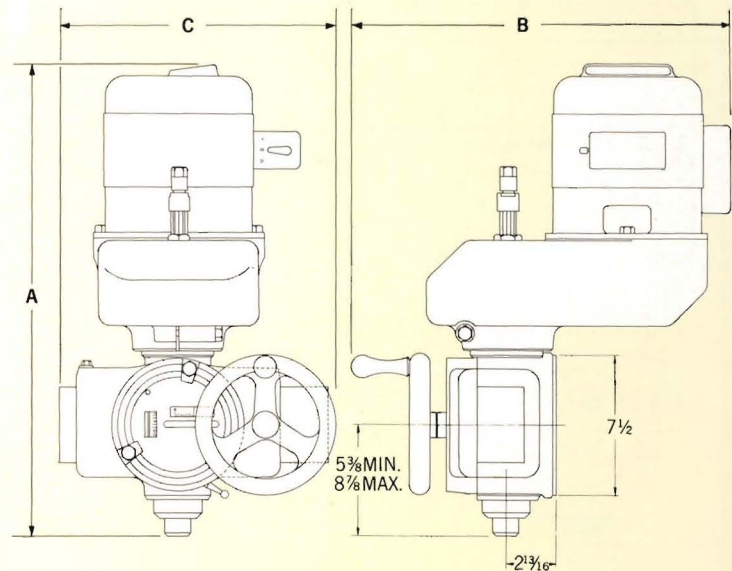
SPINDLE

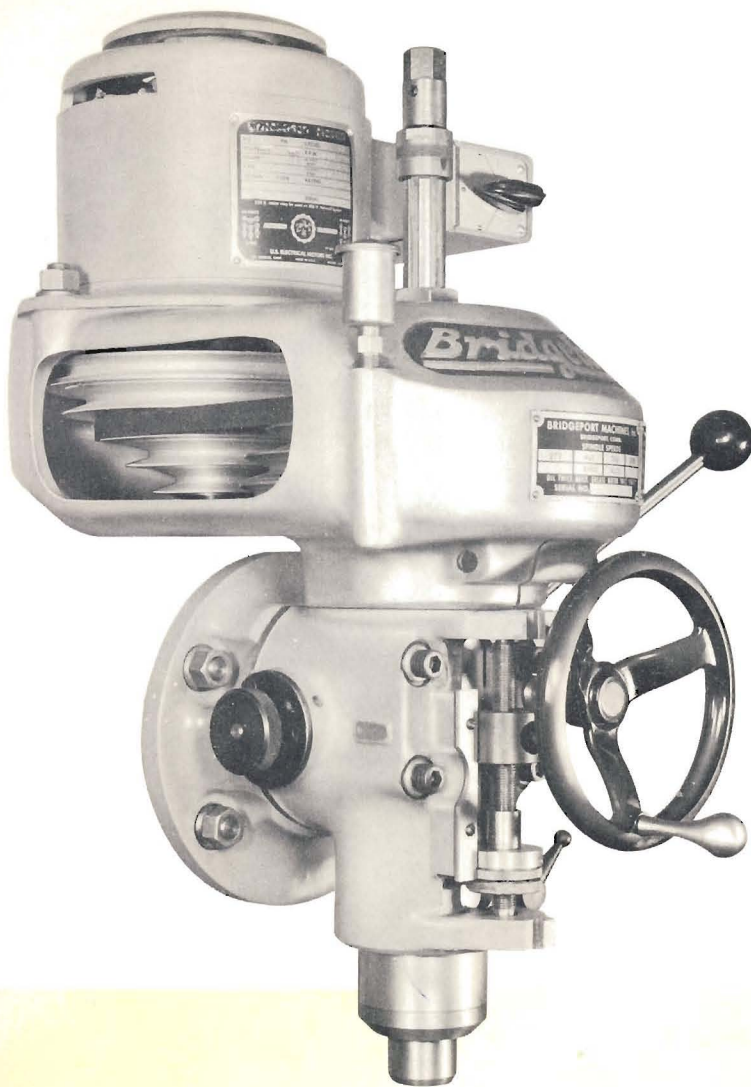
No. 2 Morse Taper; 7 B&S Taper; or B-3 Taper

COLLET CAPACITY — 1/2

SPEEDS, R.P.M.

275 425 700 1050 2100 4250





The Model "M" or Master milling, drilling and boring head is a versatile tool which can be used at all angles without changing the work setup.

It is highly accurate because of a counterbalanced spindle and quill, and provides fine sensitivity, especially for drilling and boring.

This unit can be mounted on the rear end of the rams of BRJ and BRM machines with a swivel adapter and provide angle settings in both planes.

model **M**

1/2 h.p. milling, drilling and boring head

FEATURES

- Positive quill lock.
- Micrometer depth stop graduated in thousandths.
- Rack and pinion feed for drilling and boring.
- Spindle has six splines and is driven by a pulley mounted on separate ball bearings.
- Four bolt mounting assures rigidity.

SPECIFICATIONS in inches

A OVERALL HEIGHT — 21 $\frac{3}{4}$

B OVERALL DEPTH — 17

C OVERALL WIDTH — 12 $\frac{5}{8}$

SPINDLE

No. 2 Morse Taper; 7 B&S Taper; or B-3 Taper

COLLET CAPACITY — $\frac{1}{2}$

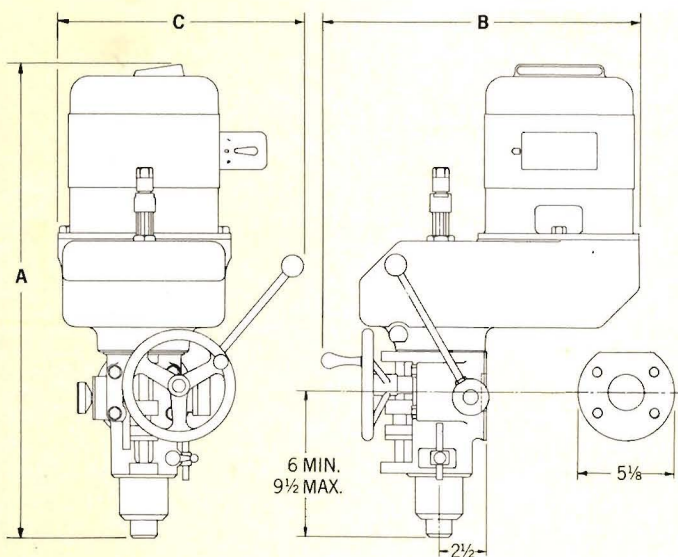
QUILL TRAVEL — 3 $\frac{1}{2}$

SPEEDS, 1200 R.P.M. MOTOR

275	425	700	1050	2100	4250
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SPEEDS, 3600 R.P.M. MOTOR

950	1350	2200	3250	6500	12000
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model

R

1/2 h.p. milling head

Model "R" is a heavier duty milling head provided with large spindle and bearings to give a capacity for heavy cuts.

It is an all round tool which has the power and accuracy to perform a range of milling operations in tool steel and hard-to-machine metals.

SPECIFICATIONS in inches

A OVERALL HEIGHT — $21\frac{3}{16}$

B OVERALL DEPTH — 15

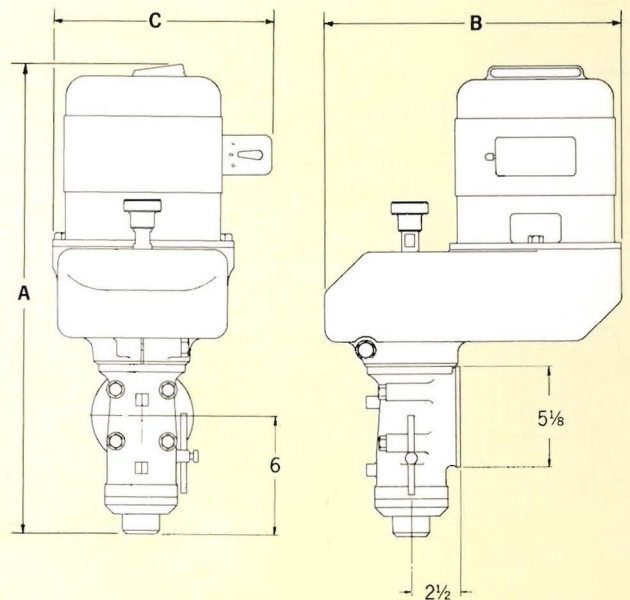
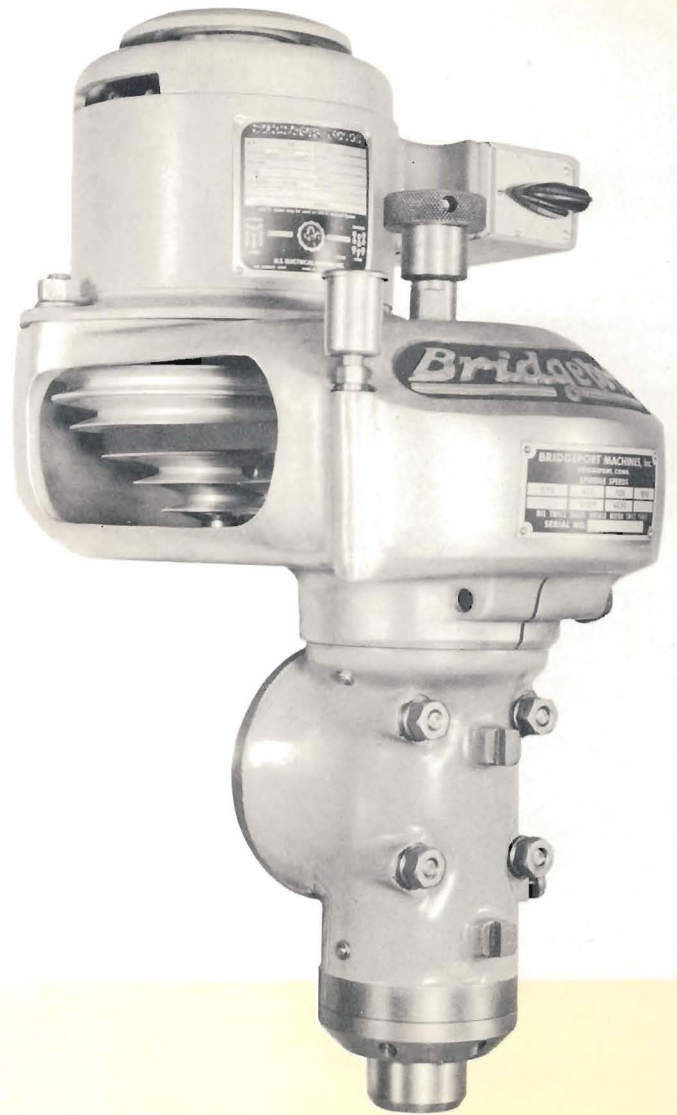
C OVERALL WIDTH — $9\frac{1}{8}$

SPINDLE — R-8 Taper

COLLET CAPACITY — $\frac{3}{4}$

SPEEDS, R.P.M.

275	425	700	1050	2100	4250
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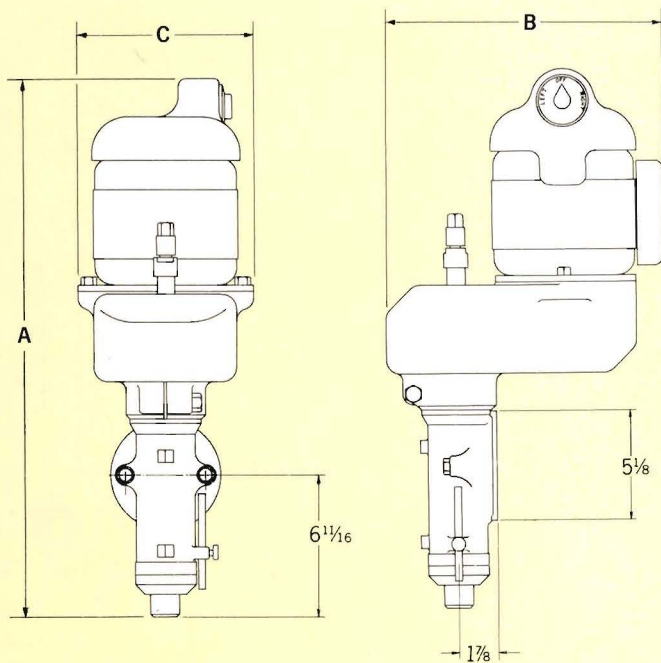


model
C

1/3 h.p. milling head

Model "C" is a light duty milling head which gives accurate performance in materials up to tool steel.

This versatile unit will take cuts up to 1/2". The B-3 collets furnished allow the use of double end mills.



SPECIFICATIONS in inches

A OVERALL HEIGHT — 26

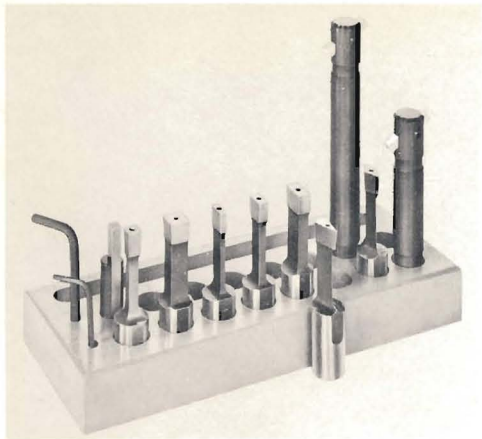
B OVERALL DEPTH — 11³/₁₆

C OVERALL WIDTH — 8³/₈

SPINDLE — B-3

COLLET CAPACITY — 1/2

SPEEDS, R.P.M.
465 675 1000 1500 2140 4250



Shaping Tool Set

For use with Model E head. Consists of seven shaped tools and three standard tool bit holders.

model

E

1/3 h.p. vertical shaping head

The model "E" vertical shaping head can perform a limitless variety of shapes using only standard tool bit holders and tools.

It can be placed in a plane at right angles to the table, or any vertical or compound angle desired.

Strokes from zero to 4" can be dialed in increments of 1/8".

This head can be mounted on the rear end of the ram of Bridgeport's BRJ or BRM machine, to be ready when a shaping job comes up.

SPECIFICATIONS in inches

A OVERALL HEIGHT — $20\frac{13}{16}$

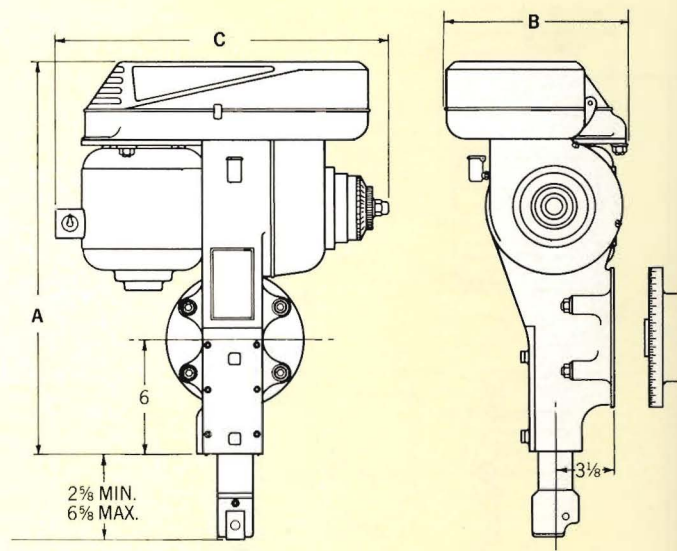
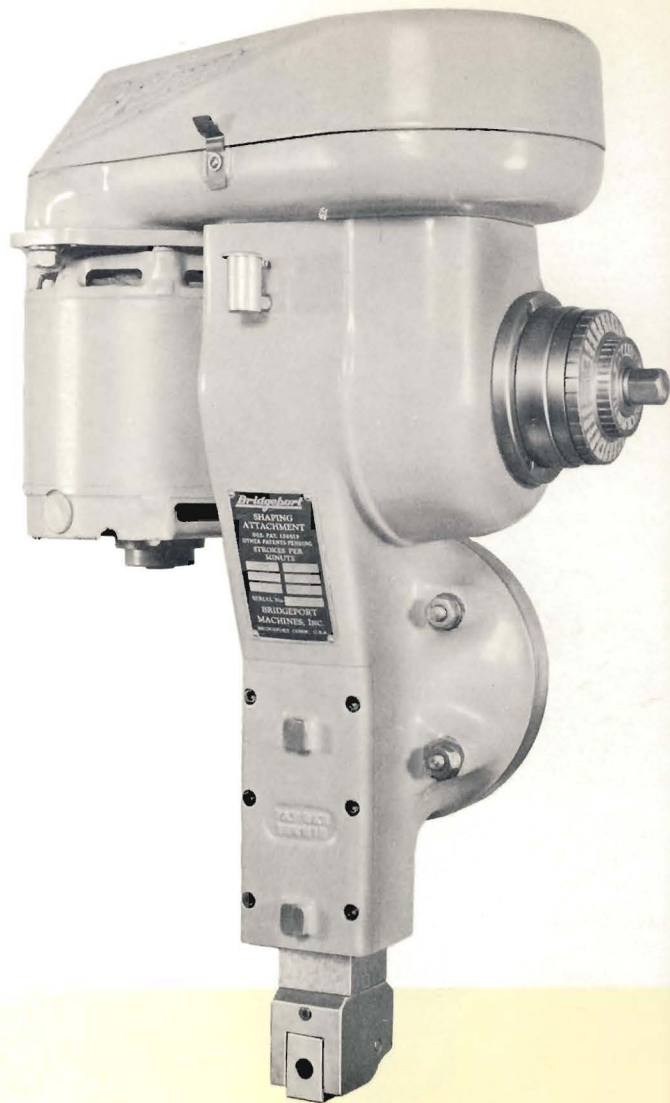
B OVERALL DEPTH — $17\frac{7}{16}$

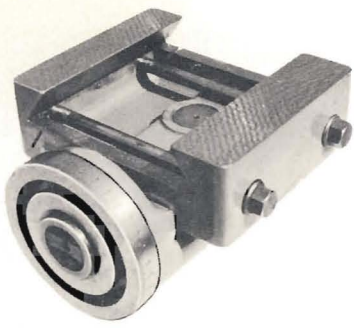
C OVERALL WIDTH — $8\frac{1}{8}$

STROKE — 4

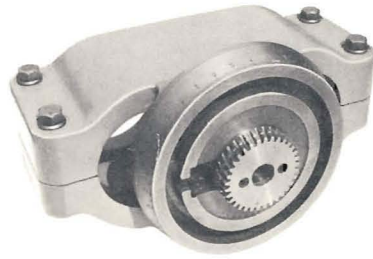
STROKES PER MINUTE

70	100	145	205	295	420
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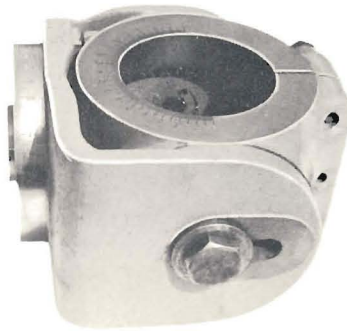
Dovetail Mounting for J and M Heads



Double Overarm for J Heads

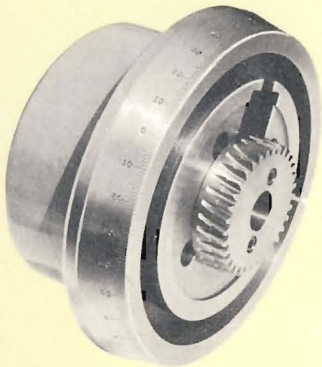


Hand Miller Type B for M Head

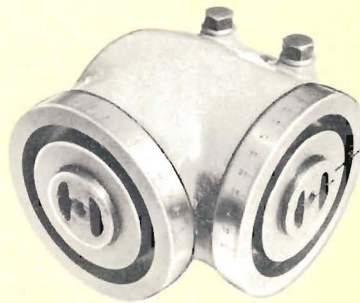


Universal for M Head

***mounting
adapters
for models
M and J heads***



Single Overarm for J Head



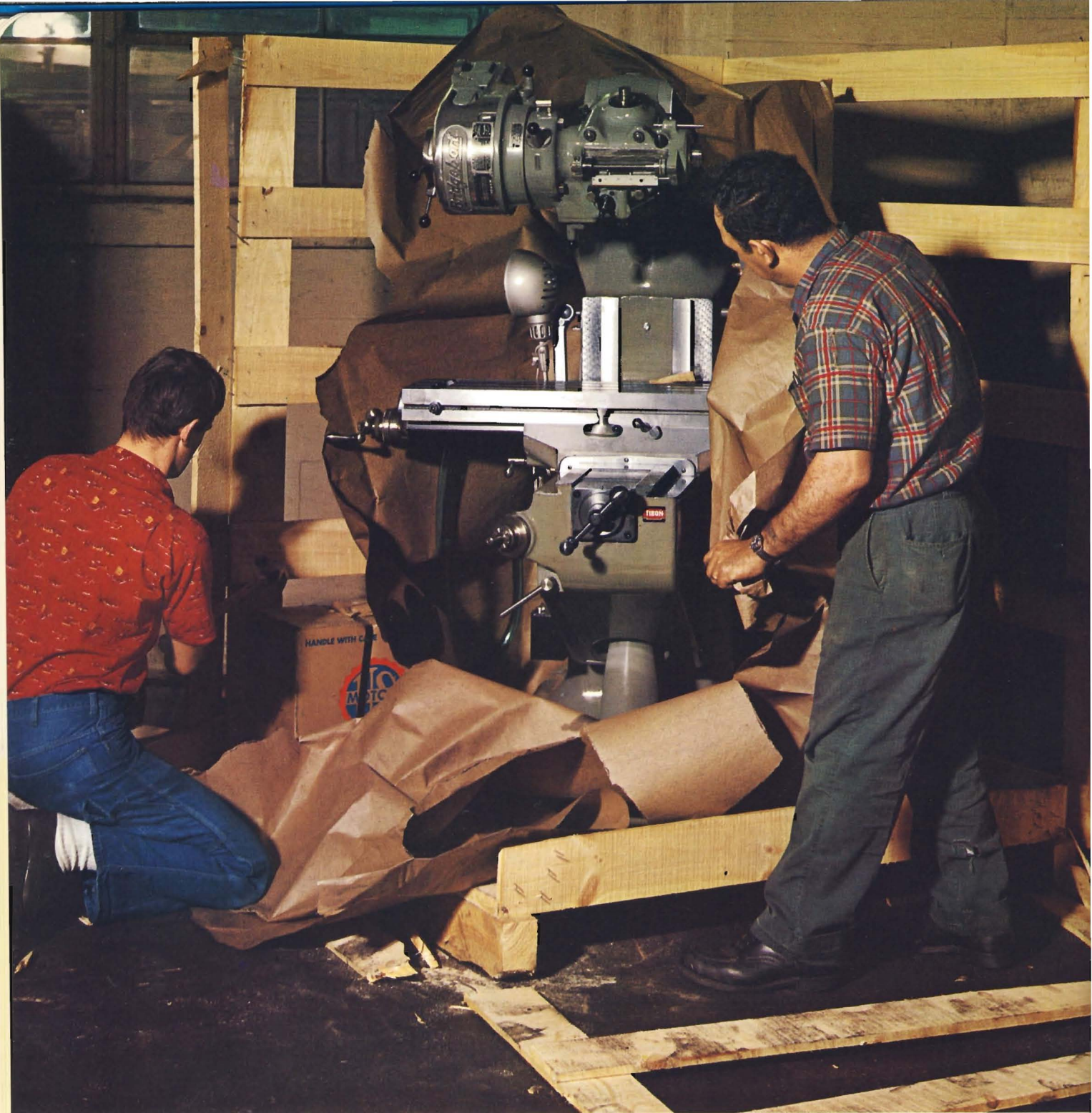
Dual Type for M Head



Hand Miller Type A for M Head



Plate Type for J and M Heads



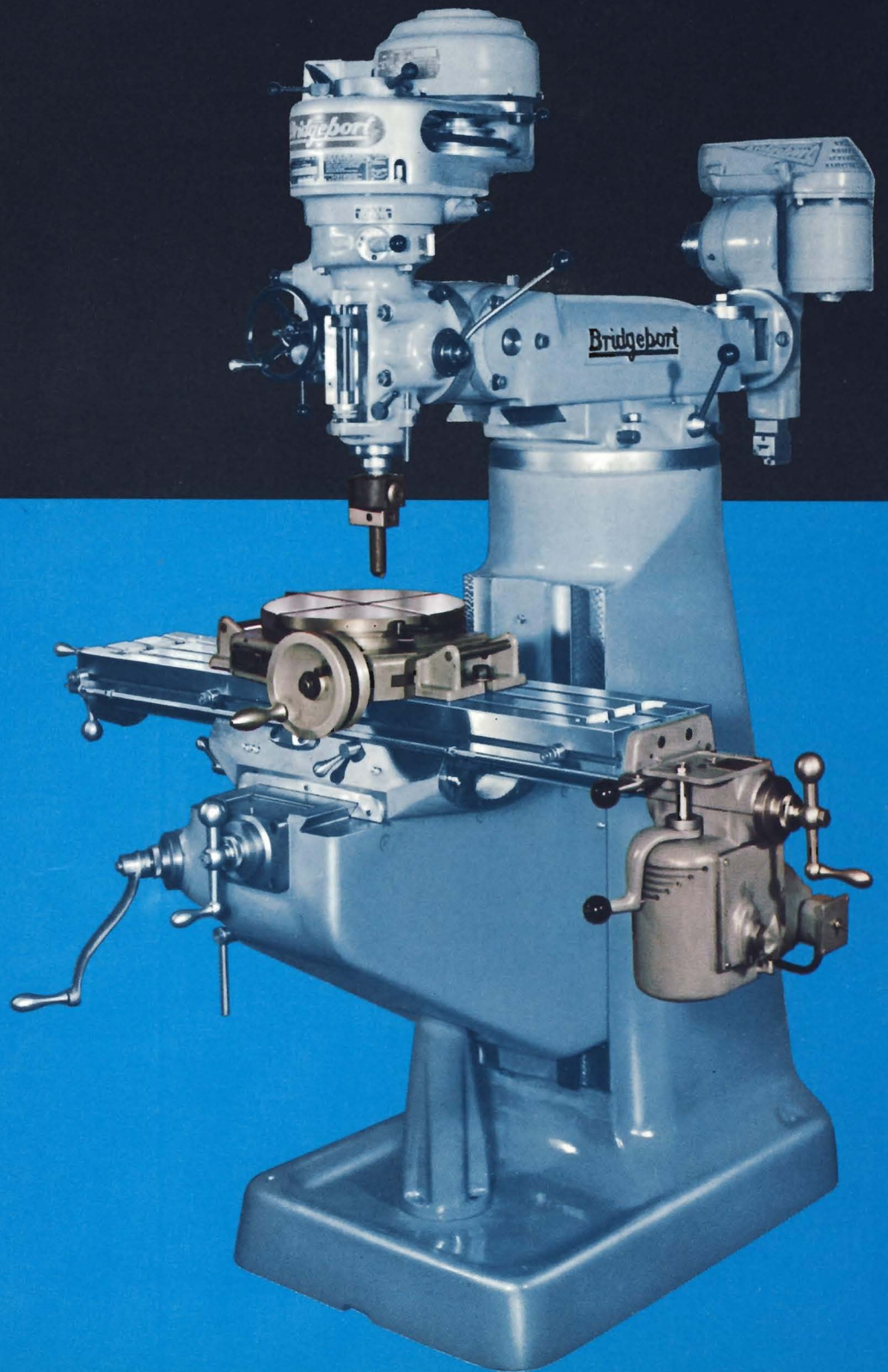
Why wait for a ***Bridgeport***

The world's No. 1 Miller didn't get its reputation by being thrown together. It takes time to build a Bridgeport right, and we don't build them any other way. Why?

Because every part must be accurate to Bridgeport's standard. Every part must be inspected and many are hand fitted. Without this special care the Bridgeport would be just another miller. A Bridgeport is worth its wait in time, money and performance.

Bridgeport[®]

Accessories



Each of the four attachments shown is an integral unit in itself. Cutter spindle and driving spindle are mounted in their own anti-friction bearings.

Mounting on proper head is quick and simple. The attachments slip easily on the quill of the head. Driving spindle or shaft is tightened first; then the right-angle attachment clamping screw is tightened to hold the unit firmly to the quill.



No. 1



No. 2

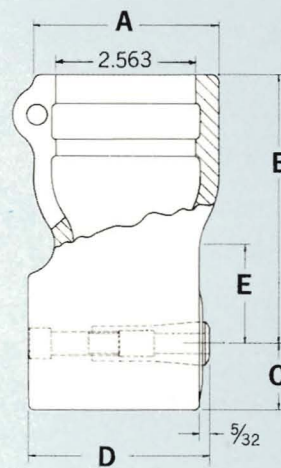
right-angle attachments for model M head

These 90° attachments are designed to increase even further the capacity and flexibility of the Bridgeport equipped with a Model "M" milling head. They are used for horizontal milling, drilling, boring and reaming on light or awkward jobs.

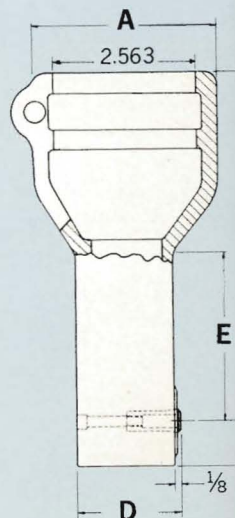
No. 1 and 2 attachments are ideal for milling out pockets and cavities and for rough and finish machining of small or unusual pieces.

SPECIFICATIONS in inches

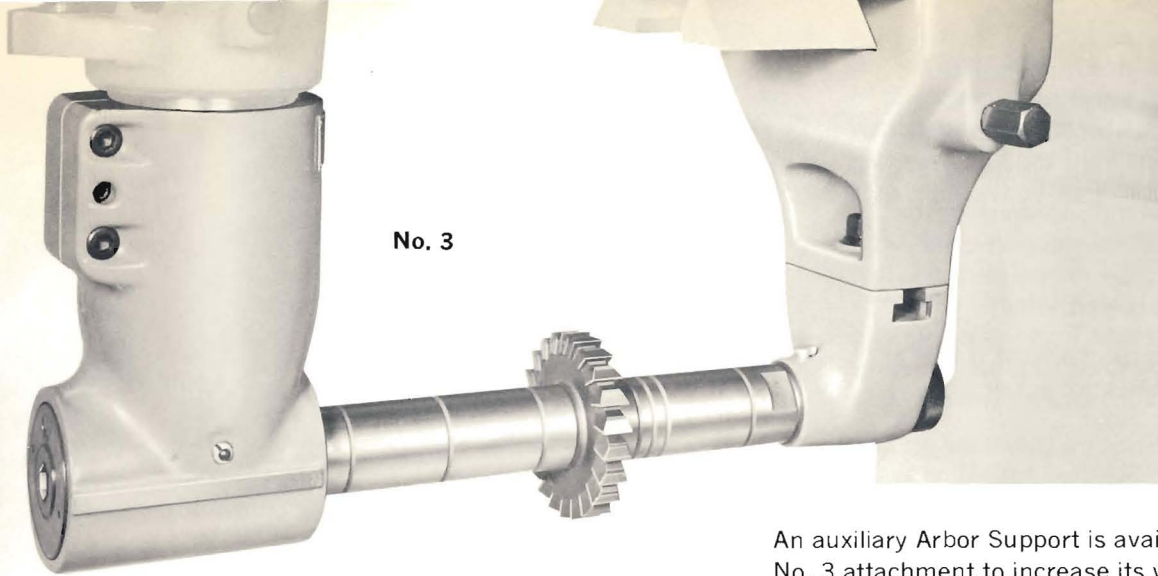
	No. 1	No. 2
A	3 ³ / ₈	3 ³ / ₈
B	5 ¹ / ₁₆	6 ¹ / ₂
C	1 ⁹ / ₃₂	2 ⁷ / ₃₂
D	3 ³ / ₈	1 ¹³ / ₁₆
E	1 ⁷ / ₈	3 ³ / ₁₆
COLLET NO.	B-2	N-2
COLLET CAPACITY	1 ¹ / ₁₆ — 1 ¹ / ₂	1 ¹ / ₁₆ — 1 ¹ / ₄
SPEED REDUCTION	2 to 1	2 to 1
MIN. WORKING SPACE	4	2 ⁵ / ₈



No. 1



No. 2



An auxiliary Arbor Support is available for use with the No. 3 attachment to increase its versatility in horizontal machining operations.



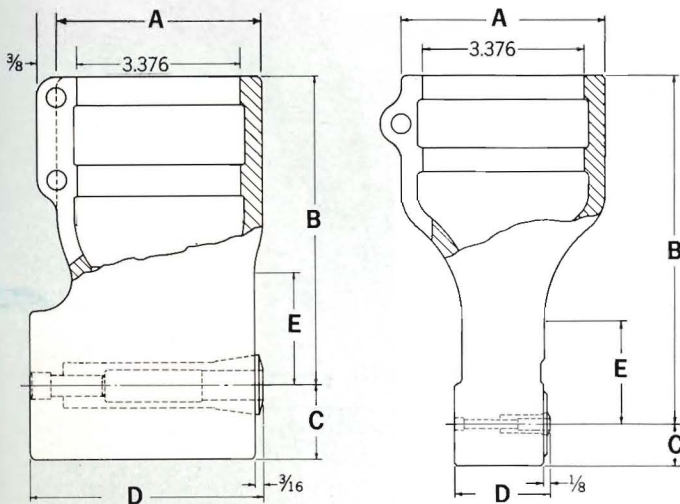
right-angle attachments for model J head

No. 3 and 4 right-angle attachments are designed for use with the Model "J" milling, drilling and boring head.

They can be used for reaming, gear cutting, sawing, slitting, cutting hobs and broaches.

They have hollow spindles to accommodate the standard R-8 tools used with the 1 H.P. "J" head. These units are made with preloaded ball bearings; hardened and lapped spiral bevel gears lubricated by grease.

Both No. 3 and 4 attachments have an aligning pad on either side to provide quick and easy reference and positioning.



No. 3

No. 4

SPECIFICATIONS in inches

	No. 3	No. 4
A	4 $\frac{1}{4}$	4 $\frac{1}{4}$
B	6 $\frac{5}{8}$	7 $\frac{9}{32}$
C	1 $\frac{9}{16}$	2 $\frac{7}{32}$
D	4 $\frac{13}{16}$	1 $\frac{31}{32}$
E	2 $\frac{3}{8}$	2 $\frac{3}{16}$
COLLET NO.	R-8	N-2
COLLET CAPACITY	$\frac{1}{8}$ - $\frac{3}{4}$	$\frac{1}{16}$ - $\frac{1}{4}$
SPEED REDUCTION	4 to 3	2 to 1
MIN. WORKING SPACE	5 $\frac{3}{4}$	2 $\frac{5}{8}$

To supplement the right-angle attachments listed elsewhere, Bridgeport has developed the Quillmaster attachment for use with the models M, T and J heads.

The spindle housing swivels on a plane which is at a 45° angle to the Quillmaster's axis. This allows the "business end" of the Quillmaster to operate in any compound angle from vertical to horizontal.

Any corner with a small radius can be finish milled or chierred to a degree of sharpness not possible by any other method.

For tool and die work the Quillmaster is a must. Moreover, its high speed allows the use of small end mills.

1/8" spring collet and 3/16" solid end mill holder available with the Quillmaster in addition to the 3/16" spring collet furnished.



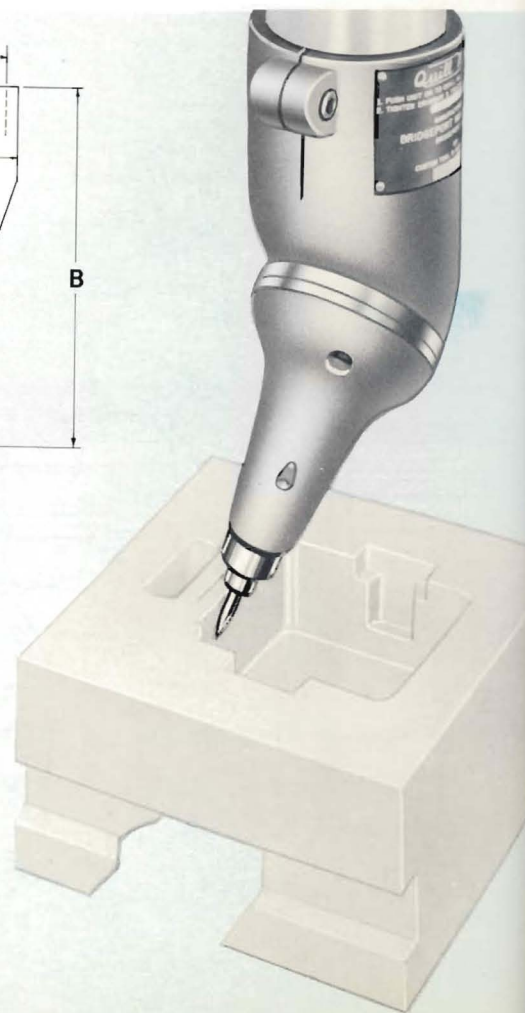
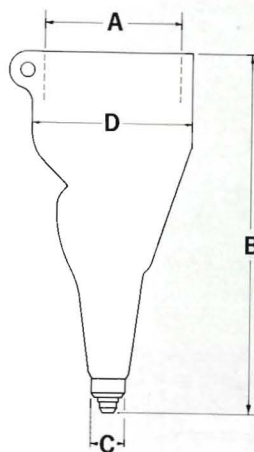
Type JA
for model
J head

Type MA
for models
M and T heads

Quillmaster attachment for models M, T and J heads

SPECIFICATIONS in inches

	MA	JA
A	2 ⁹ / ₁₆	3 ³ / ₈
B	9	9
C	1 ³ / ₁₆	1 ³ / ₁₆
D	4 ¹ / ₄	4 ¹ / ₄
COLLET CAPACITY — 3/16		



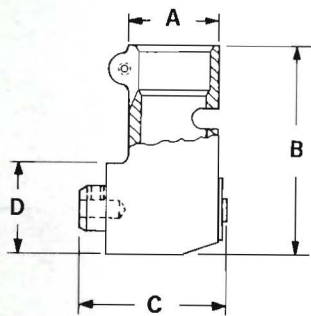


Bridgeport's QRA attachment is a further expansion of the advantages of the Quillmaster. By providing a right-angle attachment for the Quillmaster, we have given the tool and die maker the last word in convenience and flexibility.

The QRA itself can operate in a confined space or hole only 2 inches in diameter, and can operate effectively within 1/2 inch of the wall of the workpiece. It operates with equal ease on the inside or outside of irregularly shaped pieces or castings and is more accurate and sensitive than a dentist's drill.

The QRA attachment is a self contained unit, containing permanently lubricated bearings and gear housing.

QRA attachment for types MA and JA Quillmaster



SPECIFICATIONS in inches

A — 1

B — 2⁵/₁₆

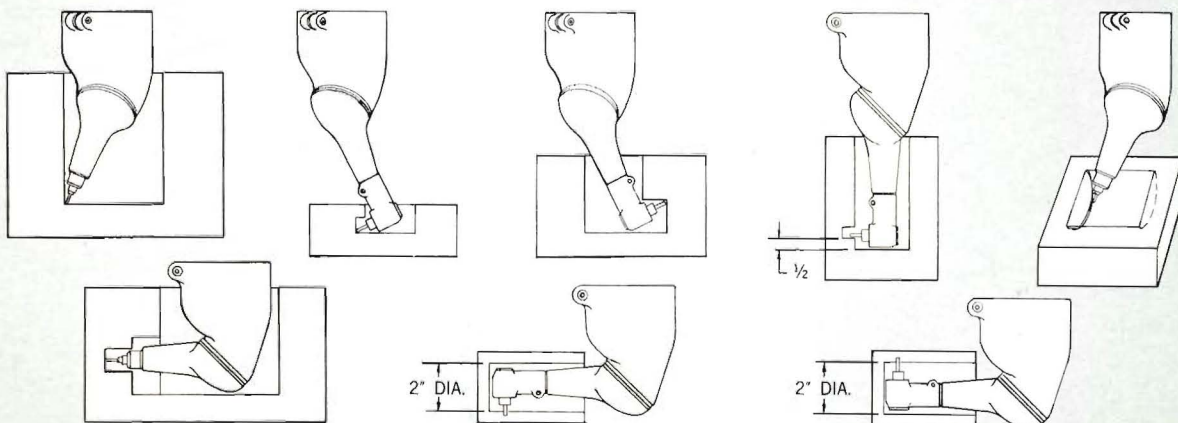
C — 1⁵/₈

D — 1

COLLET CAPACITY — 3/16

MINIMUM WORKING SPACE — 2

Typical applications for the Quillmaster and the QRA attachment:

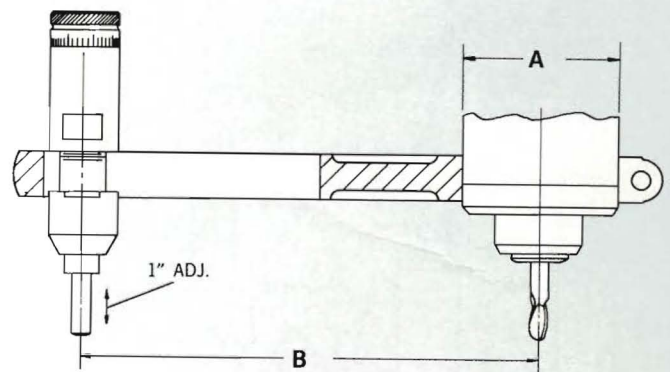
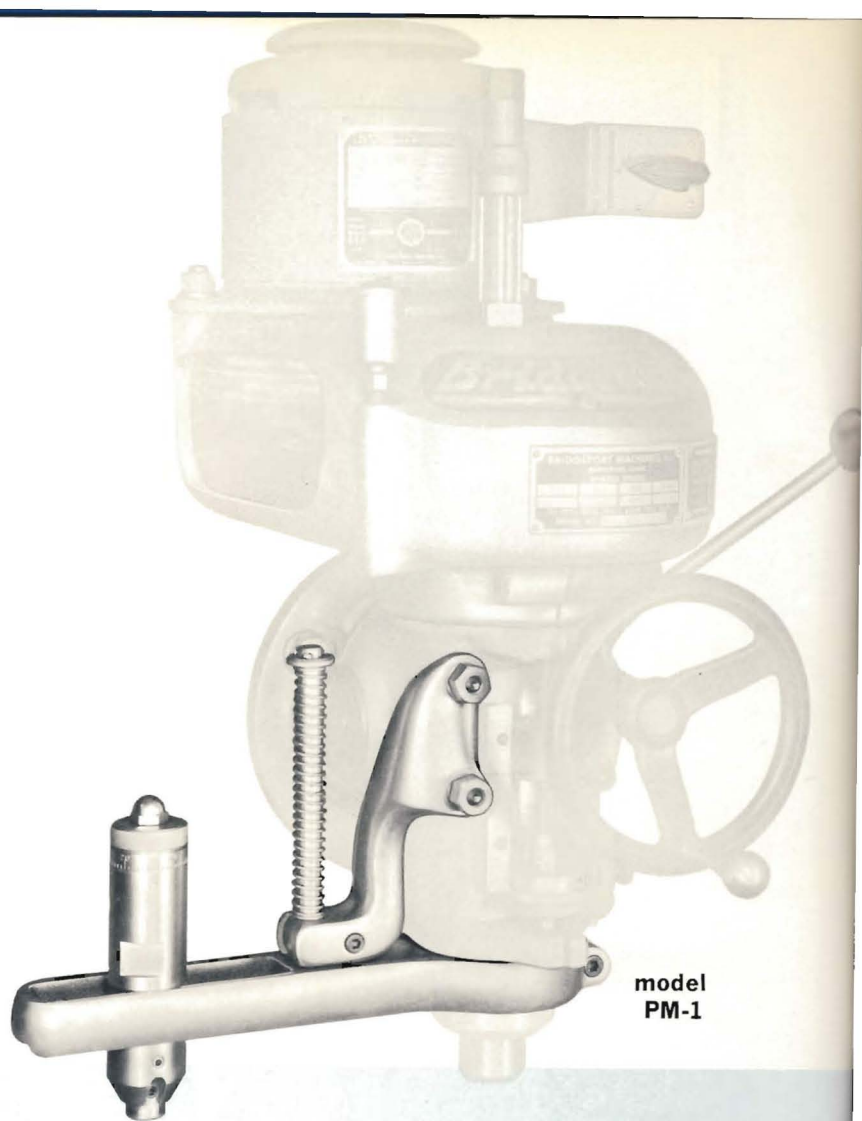


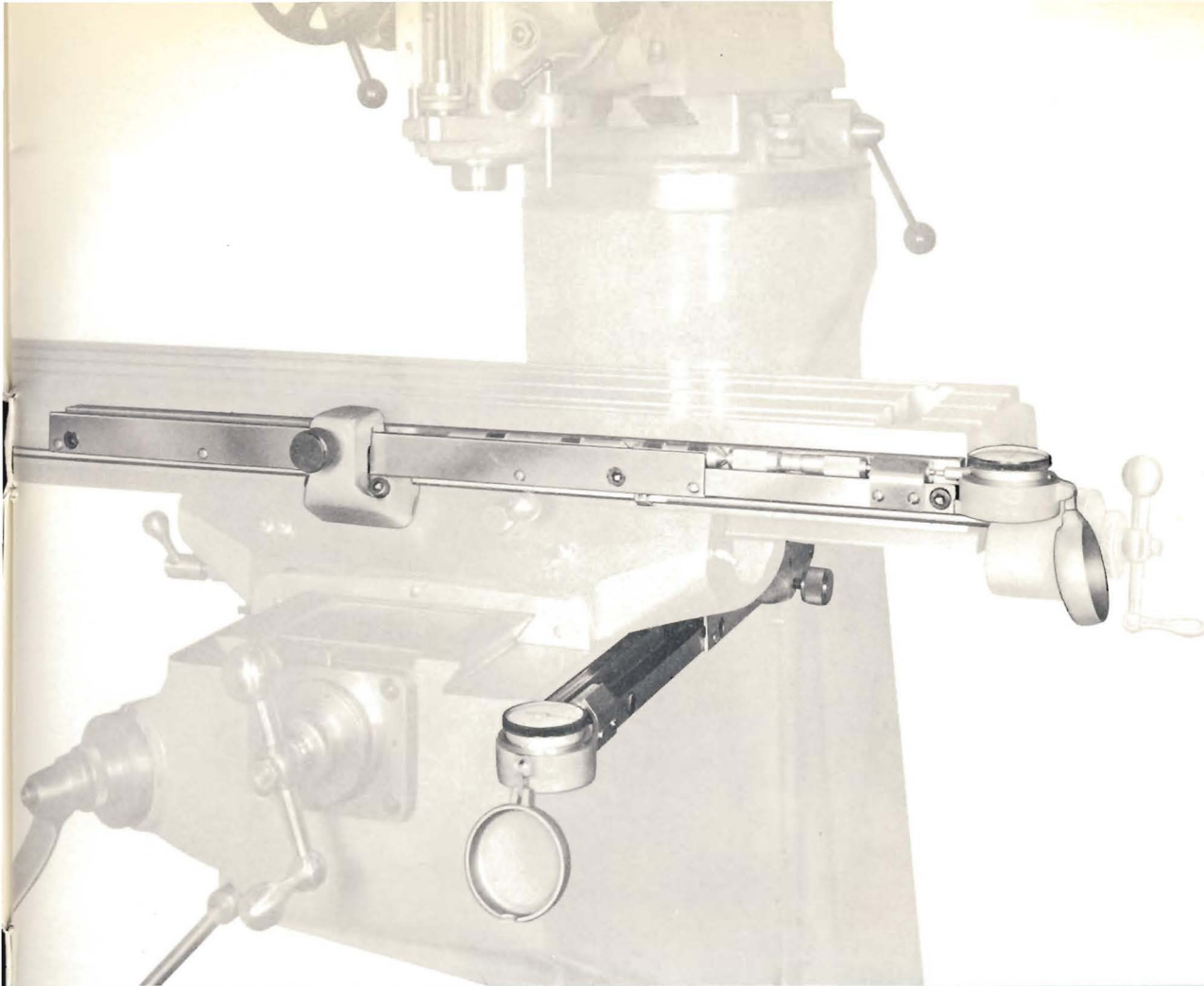
**profiling attachments
for models
M and J heads**

These attachments are designed for use in tracing and duplicating work and are ideal when irregularly shaped dies and molds are involved.

SPECIFICATIONS in inches

	PM-1 for model M head	PJ-1 for model J head
A	2 ⁹ / ₁₆	3 ³ / ₈
MAX.	9	10
B	5 ¹ / ₈	5 ¹ / ₄
MIN.		





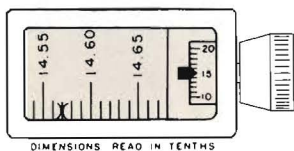
measuring attachment

The Bridgeport measuring attachment is designed to provide the utmost accuracy in the coordinate location of holes. Its precision has been proven more than satisfactory in a multiplicity of toolroom jobs all over the world.

Accuracy is controlled entirely by end measures, inside micrometers and dial indicators.

In use, the table and saddle are located separately by combinations of end measure for even inches, an inside micrometer for fractions of an inch, and a dial indicator reading for ten thousandths of an inch.

When extremely precise operations are being performed, the conventional table and saddle locks are not used. Clamping is done by special reed type clamps which do not transfer stresses to these members.



optical measuring system

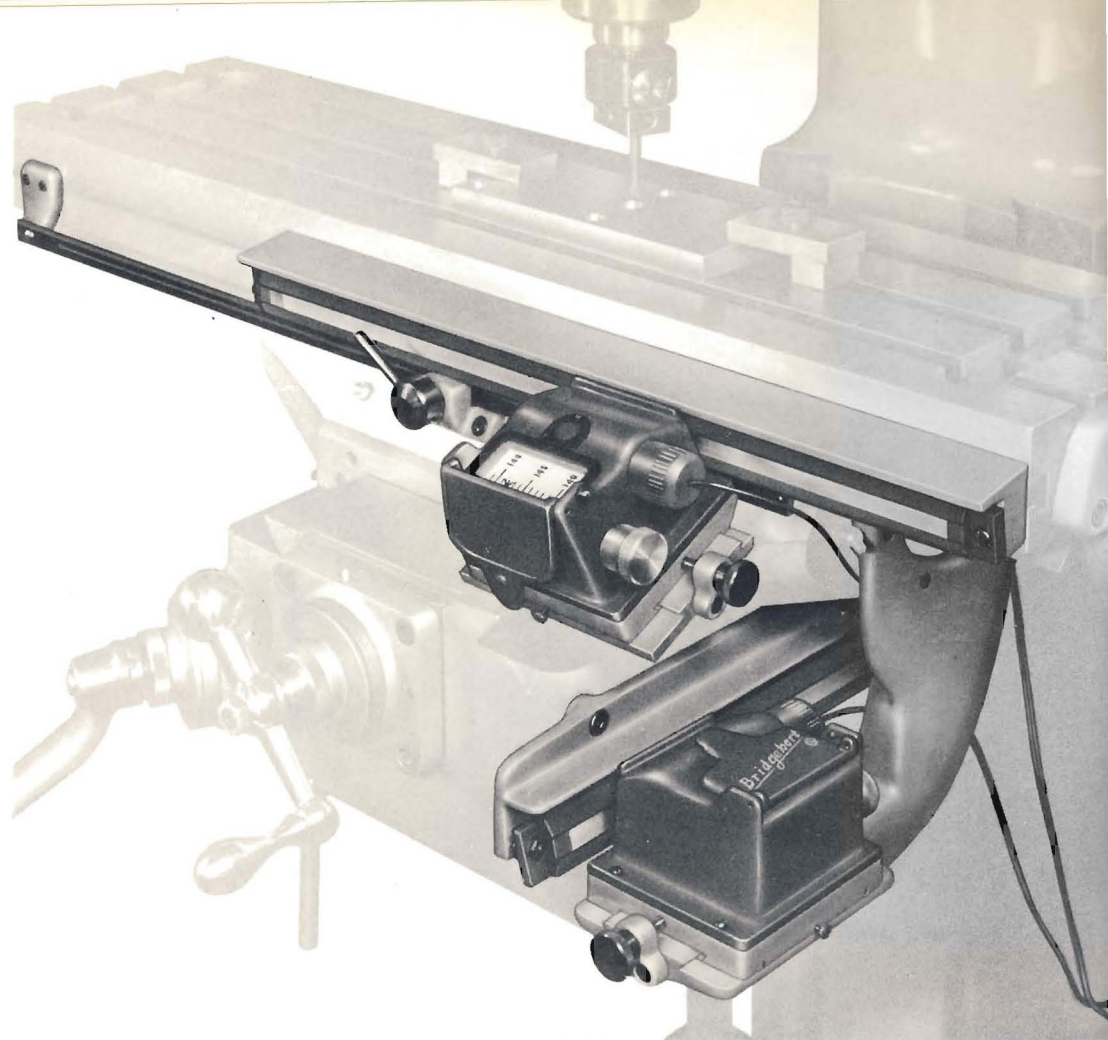
The Bridgeport Optical System is a quick, accurate, dependable method of locating machine work tables without danger of wear and consequent inaccuracy.

In the Bridgeport system, no mechanical contact is involved, and there are no parts to be handled.

Mathematical calculations are not required because with the Bridgeport Optical Measuring System figures are read on the scale exactly as they appear on the working drawing. The operator is required only to read a single line which appears on an accurate scale calibrated every .010". Vernier estimates are eliminated.

Installation is quick and easy with the majority of mounting holes already in place on standard Bridgeport millers.

Operation is trouble-free. Both the scale and the unit are sealed against foreign matter, and the scales are permanently covered with glass. Distortion-free clamps keep sliding members in position.



FEATURES

- Easily accessible setting knob.
- Jump-proof table clamp.
- Automatic light switch.
- Catch fork system of direct digit reading.
- Set up adjustment for even inches.
- Sensitive parts sealed and protected.
- Neoprene chip guard provided.

SPECIFICATIONS in inches

LONGITUDINAL TRAVEL — 20

CROSS TRAVEL — 9 or 12

MAGNIFICATION — 17x

READING ACCURACY — .0001, direct

LATERAL ADJUSTMENT — 1



The coolant system for Bridgeport machines is enclosed within the column of the machine, using the base as an oil or coolant reservoir. Coolant is supplied to the work piece or table through a flexible hose and nozzle, and floods the working area through a flushing system. Bridgeport's coolant system can be installed on new machines or on those already in use very easily through a door in the column of the machine. In the latter case it is supplied as a complete package ready for field mounting.

coolant systems

Spraymist Coolant Systems . . .

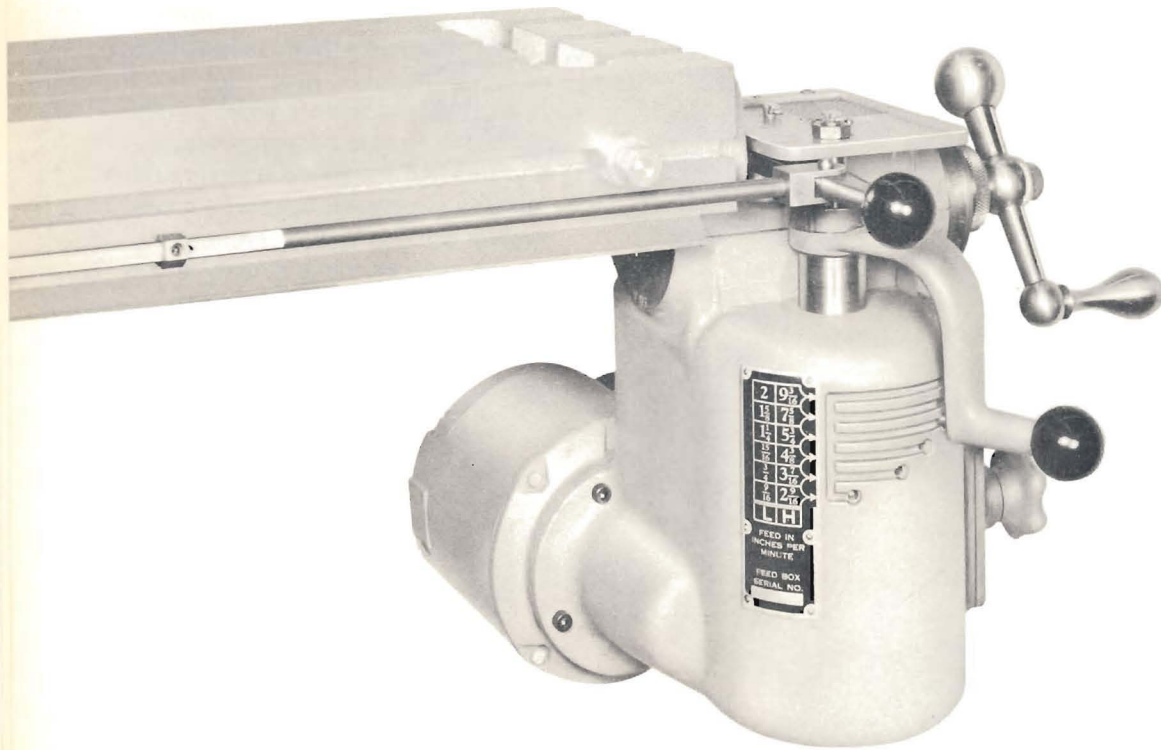
Spraymist directs a pressurized mist of coolant where the tool contacts the work and heat is generated. Heat is instantaneously dissipated as the mist evaporates. Work finishes are improved, rejects reduced . . . no splash or spill on machine, operator or floor. Spraymist makes possible operation of machines at higher speeds and feeds for increased production.



lubrication system

Metered Lubrication . . .

This lubricating system develops a pressurized flow of oil that produces a uniform film of lubricant on every bearing surface. The amount of oil supplied to all bearings is precisely controlled to meet specific requirements. This one-shot Lubricating System can accurately deliver minute quantities of oil to one bearing . . . while delivering much greater amounts to another. The precision operation of the system assures proper lubrication with a minimum volume of oil.



power feed unit

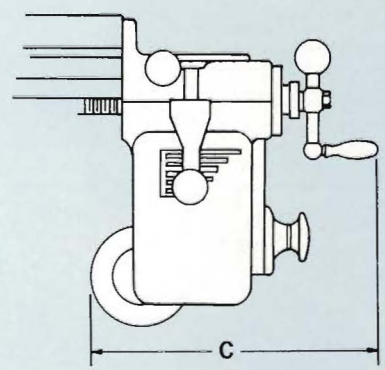
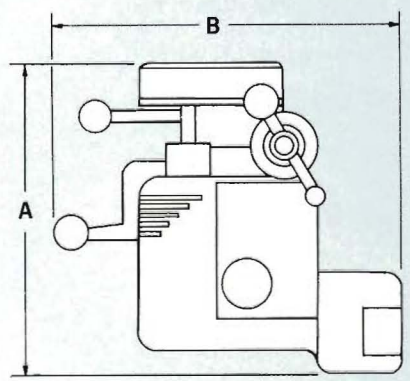
The power feed unit can easily be installed on any Bridgeport Turret Miller to give a selection of 12 longitudinal table feeds from $\frac{9}{16}$ " to $9\frac{3}{16}$ " per minute in geometric progression. This unit is compact and self-contained, and can be mounted on existing machines easily and quickly.

The feed box is equipped with an overload release which disengages the feed when the tool is under undue stress. Once the load is released, the power unit resumes operation. The power unit can be used on all tables except the 48" model.

SPECIFICATIONS in inches

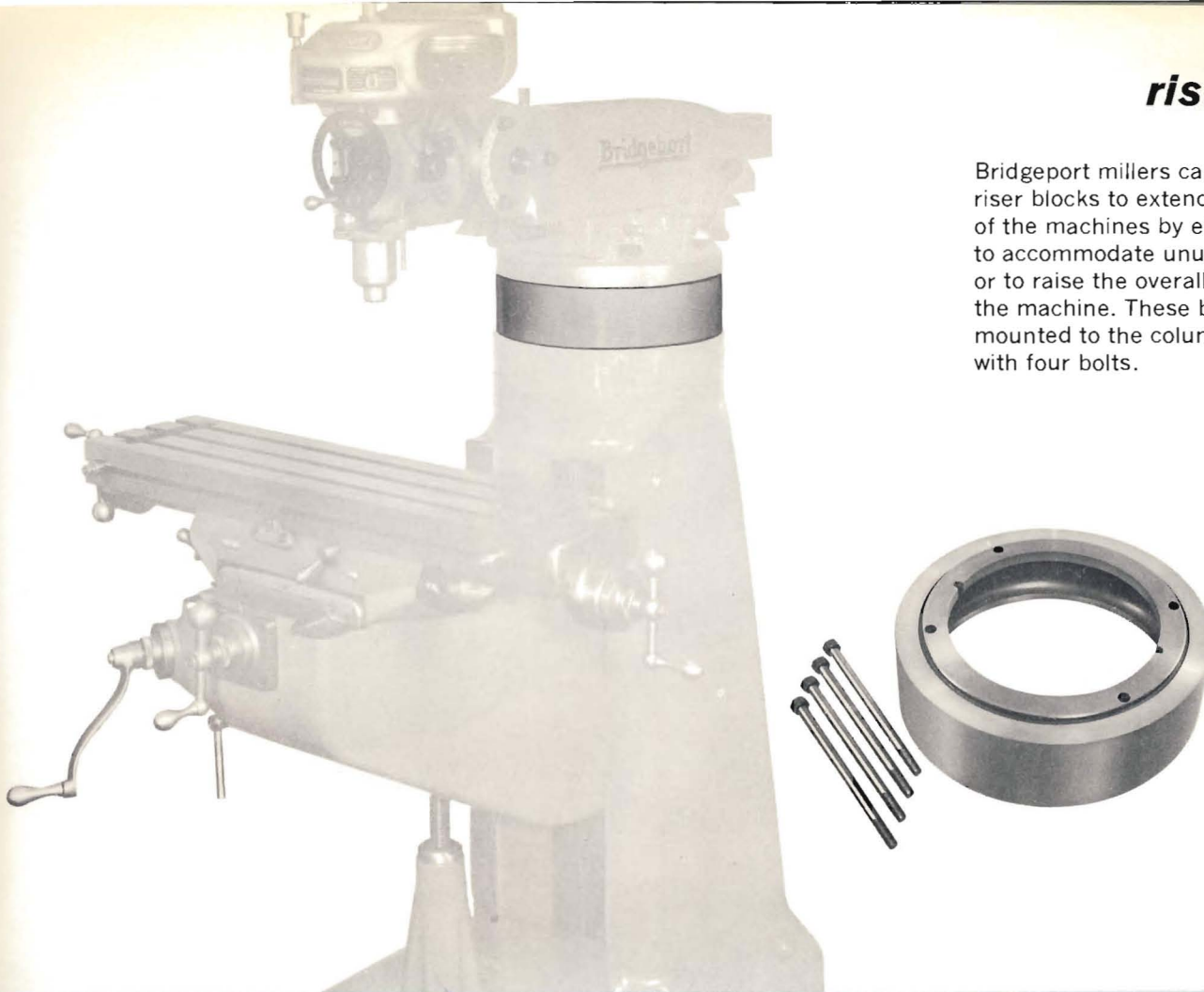
- A** OVERALL HEIGHT — $13\frac{1}{2}$
- B** OVERALL DEPTH — $11\frac{3}{4}$
- C** OVERALL WIDTH — $19\frac{1}{8}$

FEEDS per minute					
$\frac{9}{16}$	$\frac{3}{4}$	$1\frac{1}{16}$	$1\frac{1}{4}$	$1\frac{5}{8}$	2
$2\frac{1}{16}$	$3\frac{7}{16}$	$4\frac{3}{8}$	$5\frac{3}{4}$	$7\frac{5}{8}$	$9\frac{3}{16}$



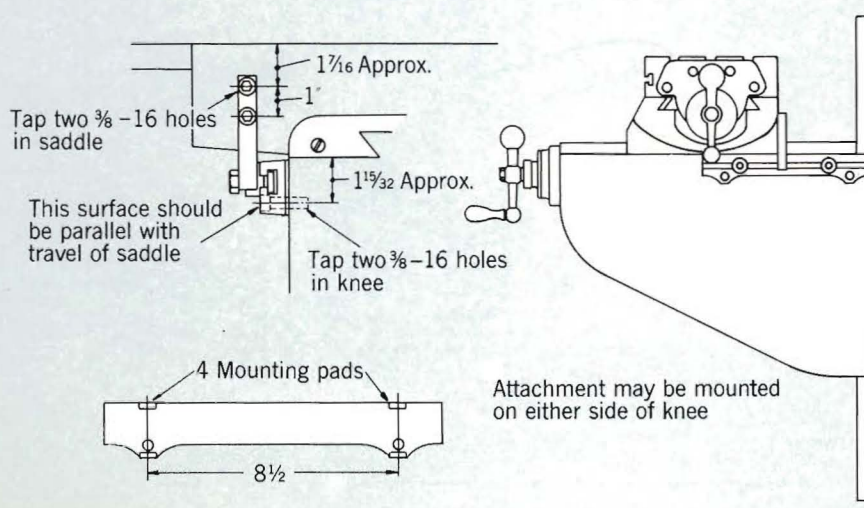
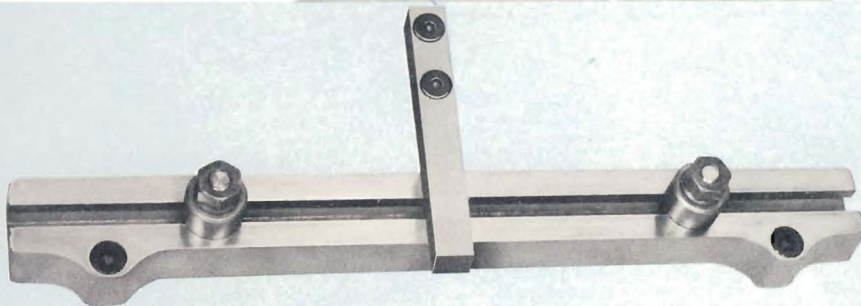
riser blocks

Bridgeport millers can be provided with riser blocks to extend the height range of the machines by either 4 or 7 inches to accommodate unusually large pieces, or to raise the overall working area of the machine. These blocks are easily mounted to the column of the machine with four bolts.



cross travel stop

This is an adjustable attachment which is used to limit the amount of travel of the saddle to predetermined distances. It can be mounted on either side of the knee and set at selected settings to obtain a positive stop. It can be mounted easily and quickly by tapping two holes each in the saddle and the knee.



For correct compound angular or plain angular set-ups the Sine Tables shown here will do the job quickly and inexpensively.

Both types are made in 5" and 10" sizes.

They are guaranteed to be flat and square within .001 and parallel within .002.

Rigidly constructed with T-slots for $\frac{1}{2}$ " T-bolts or T-nuts, adjustable side supports and hinge bolts for tightening to secure stability.



10" combination sine table

In tightening two screws through plate into base, this device becomes a solid angleplate with 10" Sine Bar, which may be detached or moved to the horizontal surface for plain angular or compound angular set-ups.

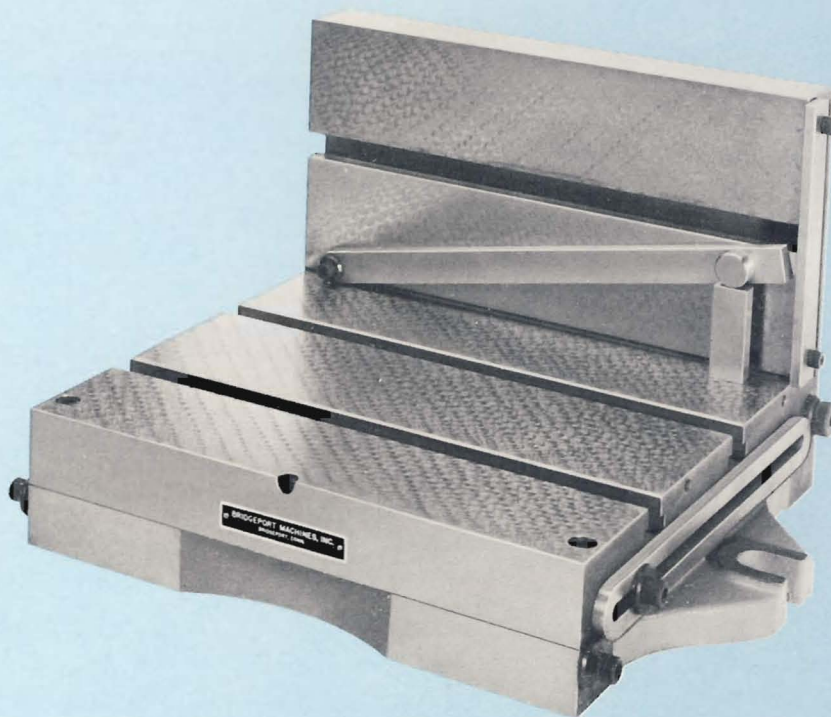
SPECIFICATIONS in inches

WORKING SURFACE, Horiz.—10 x 12

WORKING SURFACE, Vert.—6 x 12

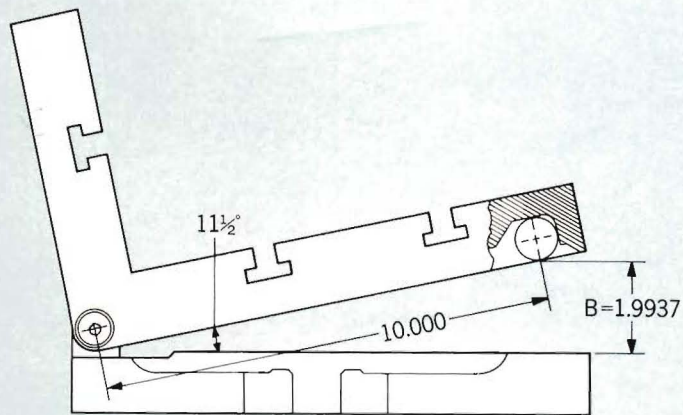
SHIPPING WEIGHT—100 lbs.

Specify 10" Combination Sine Table when ordering.





10" plain sine table



To set, for example, $11\frac{1}{2}^\circ$ angle with 10" Sine Table (Plain or Comb.) find sine of $11\frac{1}{2}^\circ$, which is .19937.

Multiply .19937 by 10 in simply moving decimal point one step to the right. Result: Dim. B = 1.9937.

Use gageblocks or similar tool 1.9937 and place under Sine Bar of table giving a correct setting of $11\frac{1}{2}^\circ$.

SPECIFICATIONS in inches

WORKING SURFACE— $11\frac{1}{2}$ x 12

SHIPPING WEIGHT—80 lbs.

Specify 10" Plain Sine Table when ordering.

The 5" Sine Table is constructed with the same features as the 10". It is a very rugged and sturdy set-up device, still light enough to be handled very easily by one man.

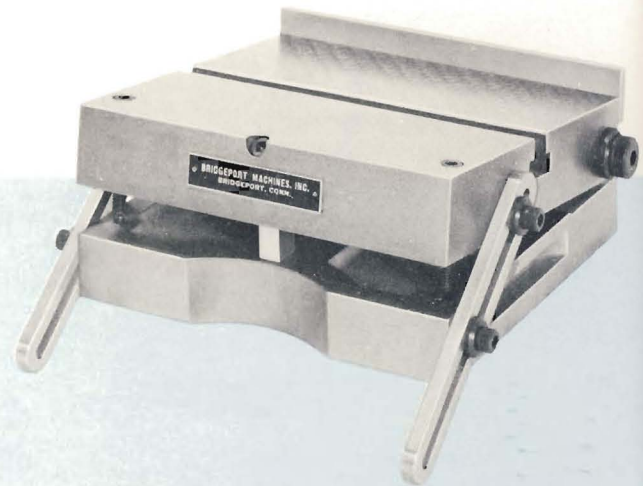


5" combination sine table 5" plain sine table

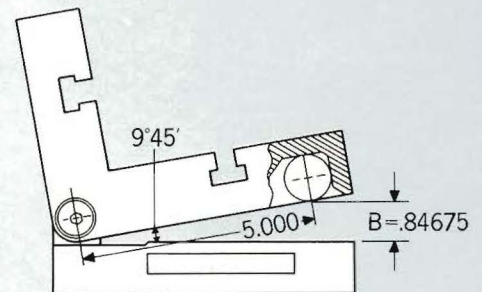
SPECIFICATIONS in inches

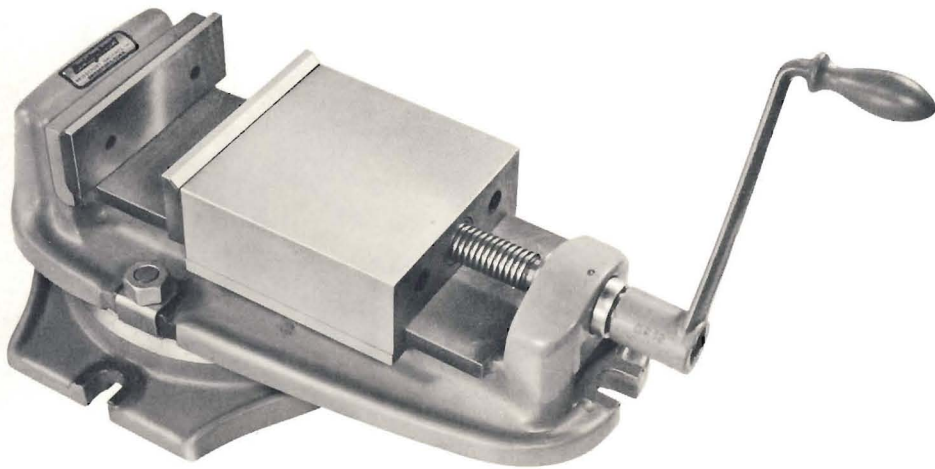
	Combination	Plain
WORKING SURFACE	Horiz. 5 x 7	6 $\frac{3}{8}$ x 7
WORKING SURFACE	Vert. 3 $\frac{1}{2}$ x 7	
SHIPPING WEIGHT	35 lbs.	30 lbs.

Specify 5" Combination or 5" Plain Sine Table when ordering.



To set, for example, 9° 45' angle with 5" Sine Table (Plain or Comb.) find sine of 9° 45' which is .16935. Multiply .16935 by 5. Result: Dim. B = .84675. Use gage-blocks or similar tool .84675 and place under Sine Bar of table giving a correct setting of 9° 45'.





Bridgeport Milling Machine Vises are rigidly and accurately built of gray iron, with jaws of heat treated alloy steel ground to a precision fit. A large coolant trough is built into the base as an integral part of the vise. Bridgeport vises are designed to keep chips from working into the interior. Alloy steel lead screws and a bronze lead screw nut, with provisions for lubrication, are standard on all Bridgeport vises.

The plain model, without base, has opposed keyways in its base which permits positive mounting on the table of the miller with jaws either parallel or at right angles to the spindle of the machine.

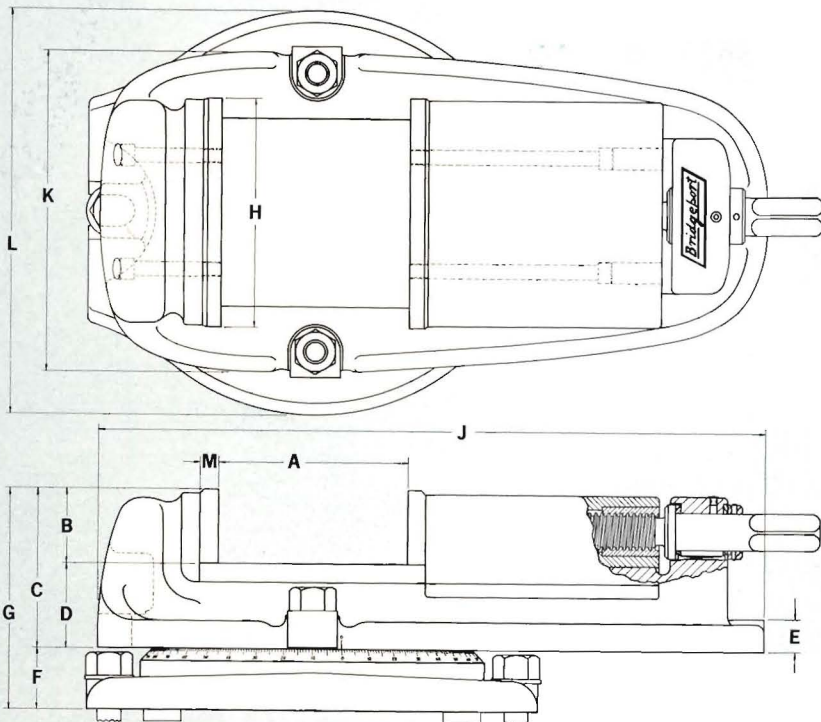
The swivel model can be rotated through a full 360° and the base is graduated every degree around its periphery, with minutes marked in increments of 10.

plain and swivel vises

Bridgeport vises, either plain or swivel, are available in two models. No. 1 has a 3½" jaw opening, and No. 2 has a 5" jaw opening.

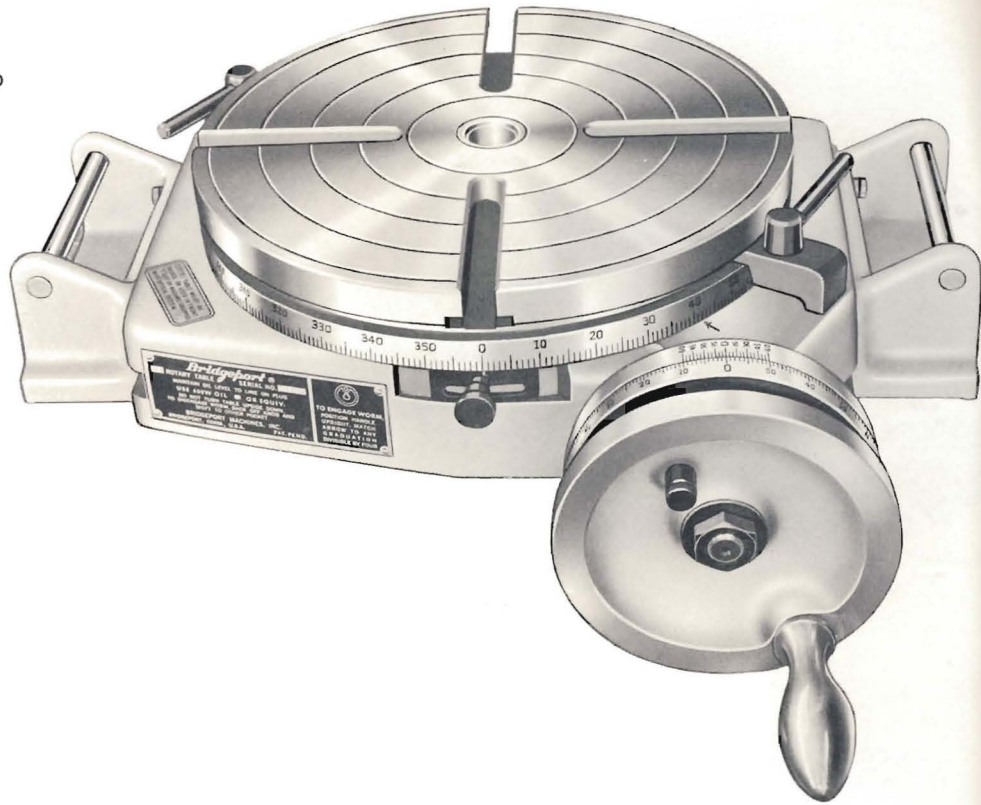
SPECIFICATIONS in inches

	No. 1	No. 2
A Jaw Opens	3½	5
B	1½	2
C	3½	4¼
D	2	2¼
E	¾	⅞
F	1⅝	1⅝
G	5⅝	5⅝
H	5⅝	6⅝
J	15⅜	17⅞
K	7⅞	8½
L	9¾	10⅞
M	⅜	½



Bridgeport rotary tables are rugged enough for the heaviest type of production work, yet sensitive enough for precision tool work. Two models, 12 and 15" diameters, will accommodate most jobs found in the average shop. Table is of minimum height — 4¼" — to permit maximum tool clearance.

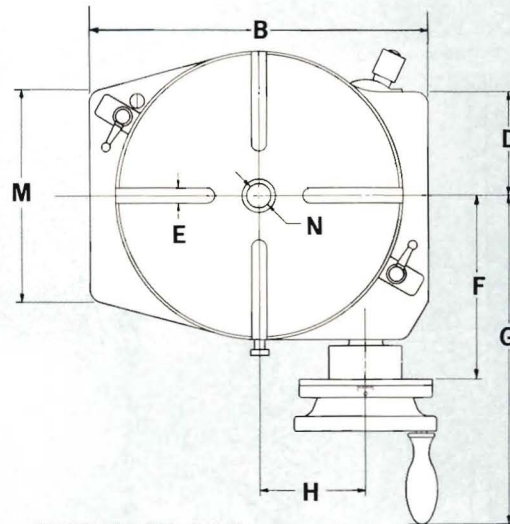
Accuracy is within 30 seconds of arc through a complete rotation of the table which is graduated each degree. An adjustable dial on the hand wheel reads directly to each minute. A Vernier plate permits direct reading to within 5 seconds.



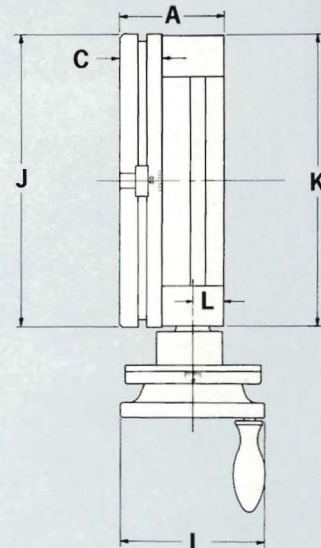
rotary tables

SPECIFICATIONS in inches

	RT-12	RT-15
A	4¼	4¼
B	14	17
C	1¾	1¾
D	4¼	5¾
E	⅝	⅝
F	7⅞	9⅛
G	13⅜	14⅜
H	4⅜	4⅜
I	5⅞	5⅞
J	12	15
K	11⅞	14⅞
L	1¼	1¼
M	8¾	10
N	1	1



GEAR RATIO 90:1



Right Angle Mounting Bracket



Horizontal Mounting with Dividing Attachment



Right Angle Mounting Bracket with Dividing Attachment and Tail Stock with Centers



Dividing Attachment

For hydraulic duplicating or wherever one or more parts must be made from a single master, Bridgeport has developed a 12" tandem rotary table. These tables can be flush mounted in tandem and driven by a hydraulic motor. Number of units is limited only by the capacity of the motor used. A common shaft drives all tables, with the same accuracy obtained as with the regular model — 30 seconds of arc through a complete rotation.

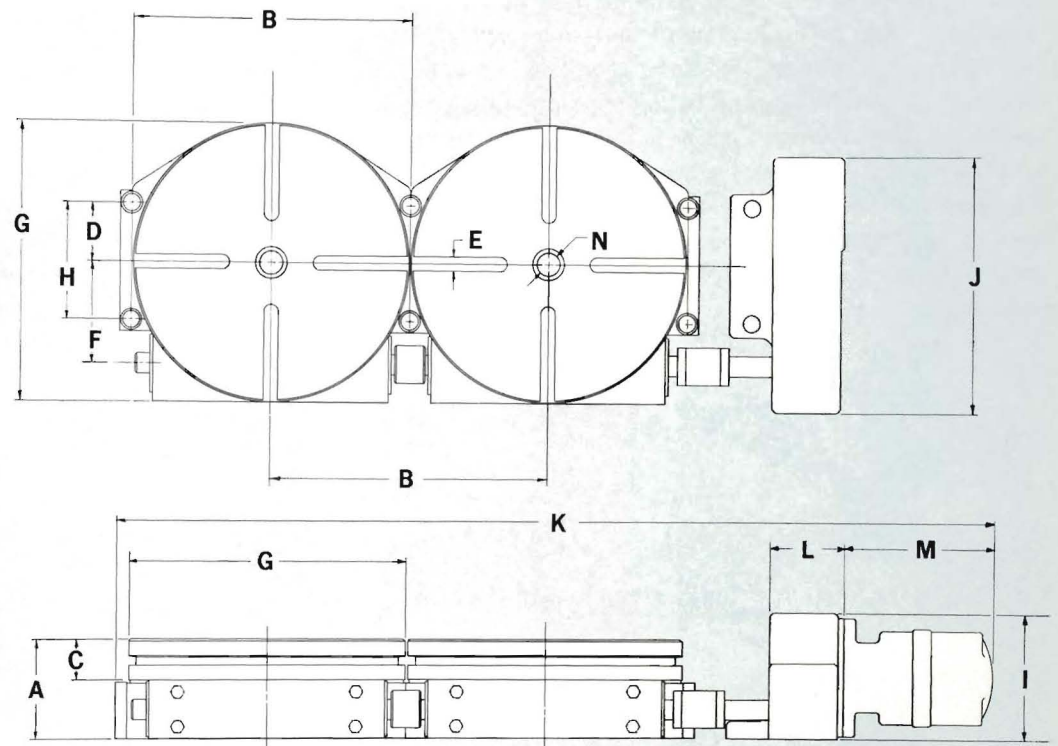
These tandem tables are ideal for cam work or on oddly shaped pieces and will accommodate any part which can be rotated without interference.



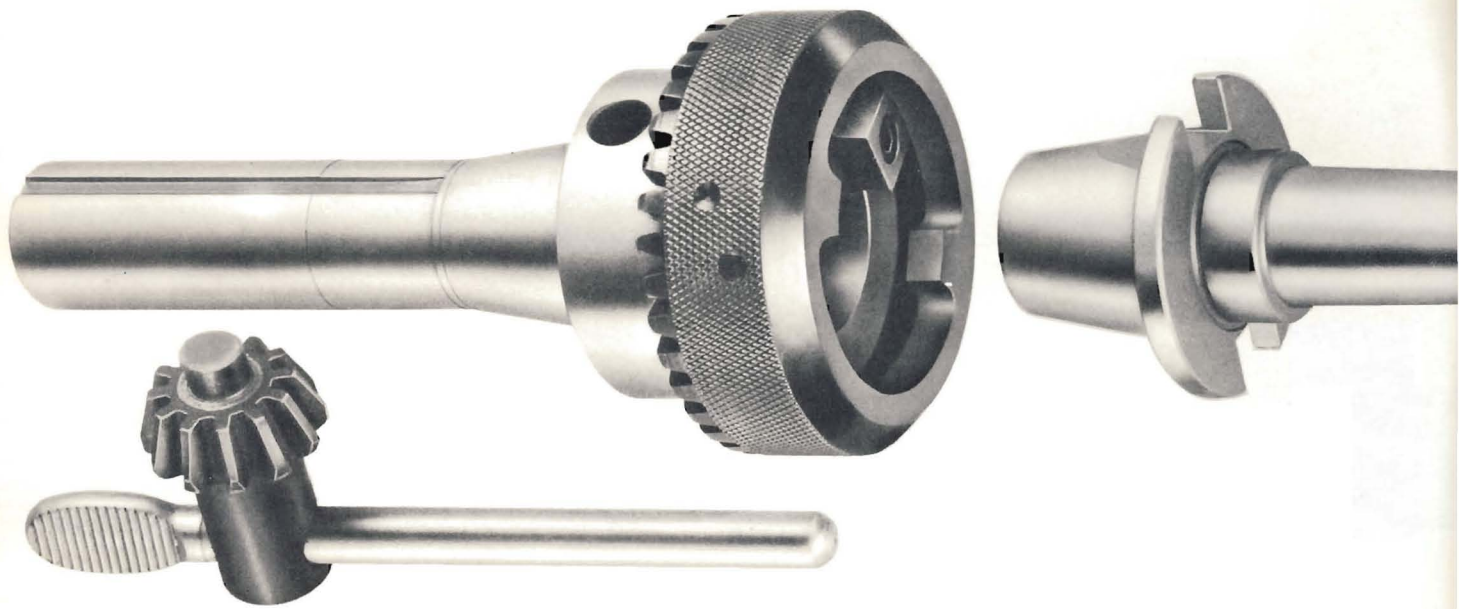
tandem rotary tables

SPECIFICATIONS in inches

	MODEL TRT-12
A	4¼
B	12⅞
C	1¾
D	2½
E	⅝
F	4⅜
G	12
H	5
I	5⅞
J	11⅞
K	37⅞
L	3¼
M	6
N	1



GEAR RATIO 90:1



quick change tools

Bridgeport, known the world over for accuracy and economy, introduces an improved system of quick change tools. One holder accommodates adapters for straight and taper shank drills, boring tools, reamers, end mills, flycutters, chucks and straight shank cutting tools. Bridgeport quick change tools are manufactured to the same high standards which distinguish Bridgeport Millers. They are available in a range of sizes to handle most of the jobs found in a production shop. See your Bridgeport Dealer for prices and complete specifications.

- **One holder accommodates all tool adapters.**
- **Repetitive accuracy of spindle assured.**
- **Machine flexibility increased.**
- **Down time for tool change eliminated.**
- **Tools can be hand tightened, wrench locked.**
- **Solid taper fit eliminates tool chatter and drift.**
- **Quick Change Holder of alloy steel, heat treated and ground.**

quick change tools



KEY INCLUDED WITH HOLDER

HOLDER

CAT. NO.

QJ-H for all quick change adapters

KEY WRENCH

CAT. NO.

QJ-50 for quick change holder



STRAIGHT SHANK ADAPTERS

CAT. NO.	SHANK DIAM.	CAT. NO.	SHANK DIAM.
QJ-2	1/8"	QJ-10	5/8"
QJ-3	3/16"	QJ-11	1 1/16"
QJ-4	1/4"	QJ-12	3/4"
QJ-6	3/8"	QJ-13	1 3/16"
QJ-8	1/2"	QJ-14	7/8"

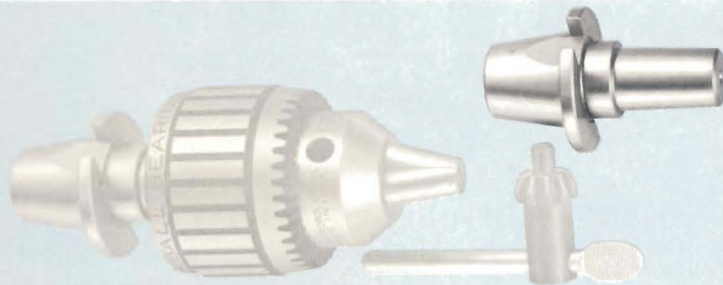


BORING HEAD ADAPTER

CAT. NO.

QJ-21 for #1 Bridgeport Boring Head

QJ-22 for #2 Bridgeport Boring Head



JACOBS CHUCK ADAPTERS

CAT. NO.	SIZE	CAT. NO.	SIZE
QJ-23	#0 Taper	QJ-28	#4 Taper
QJ-24	#1 Taper	QJ-29	#5 Taper
QJ-25	#2 Taper	QJ-30	#6 Taper
QJ-26	#2 Short Taper	QJ-31	#33 Taper
QJ-27	#3 Taper		



TAPER SHANK ADAPTERS

CAT. NO.	TAPER SHANK
QJ-33	#1 Morse
QJ-34	#2 Morse
QJ-35	#7 B&S
QJ-36	#5 B&S



FLYCUTTER ADAPTER

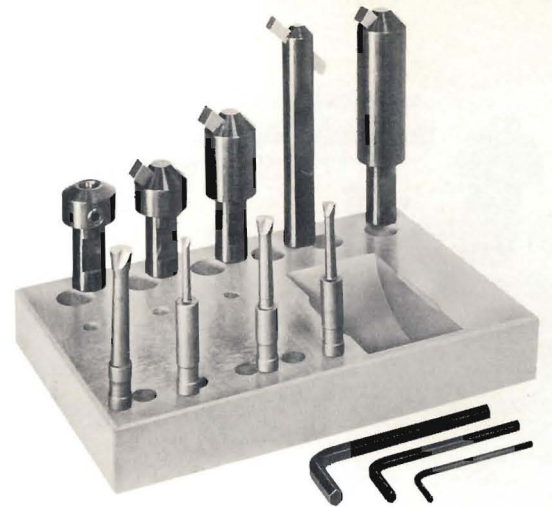
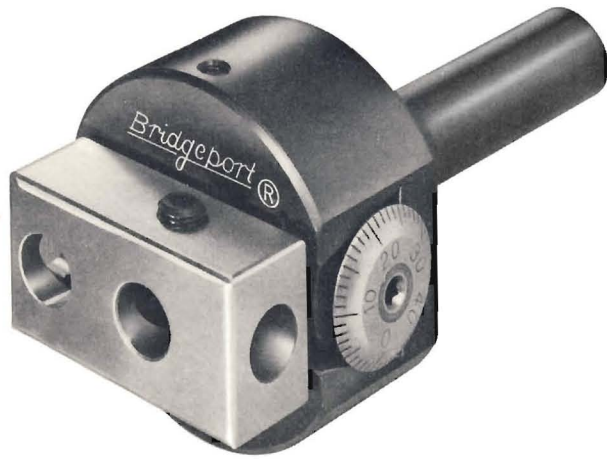
CAT. NO.

QJ-37 for both #3 and #4 Bridgeport Flycutters

SHELL MILL ADAPTERS

CAT. NO.	SIZE ARBOR
QJ-38	3/4"
QJ-39	1/2"

CUTTING TOOLS NOT INCLUDED



boring heads

Boring heads increase the flexibility of Bridgeport Millers to include all types of boring jobs within the range of the unit. Heads have a graduated dial for direct reading of adjustment in thousandths.

No. 1 Head accommodates $\frac{3}{8}$ " diameter boring tools and is adjustable from zero reading to $\frac{3}{8}$ ".

No. 2 Head accommodates $\frac{5}{8}$ " diameter borings tools and is adjustable from zero reading to $\frac{1}{2}$ ".

All heads are supplied with necessary wrenches, mounting block and metal container. Boring head shanks are available in a variety of tapers.

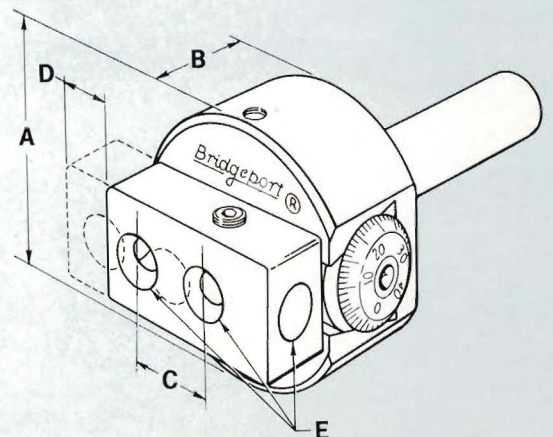


Boring head shanks

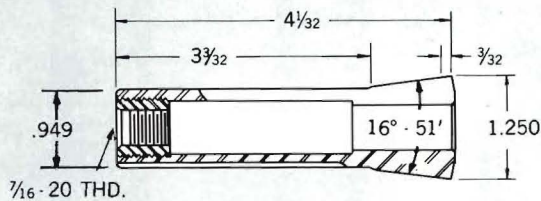
Special shanks as illustrated are available for both models of Bridgeport Boring Heads.

SPECIFICATIONS in inches

	No. 1	No. 2
A	$2\frac{1}{4}$	$3\frac{3}{8}$
B	$1\frac{1}{4}$	$1\frac{3}{4}$
C	$\frac{3}{4}$	$1\frac{3}{16}$
D Adjustment	$\frac{3}{8}$	$\frac{1}{2}$
E Size Tool Taken	$\frac{3}{8}$	$\frac{5}{8}$

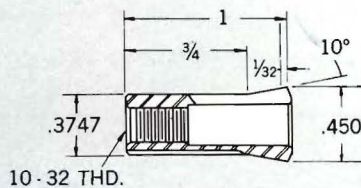


collets for Bridgeport attachments



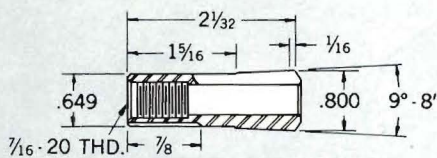
R-8 COLLET

For use with Model J and R heads, No. 3 Right-Angle Attachment. Holds tools from 1/8 through 3/4"



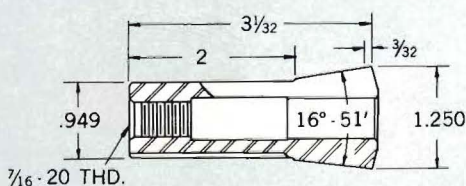
N-2 COLLET

For use with Bridgeport No. 2 Right-Angle Attachment. Holds tools from 1/16 through 1/4".



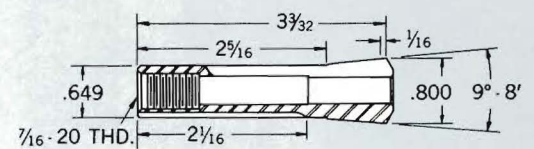
B-2 COLLET

For use with No. 1 Right-Angle Attachment. Holds tools from 1/16 through 1/2".



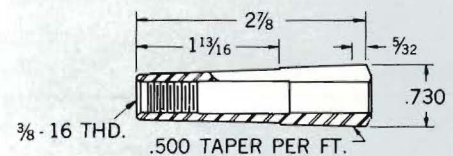
NO. 16-S COLLET

For Model R milling head (old style). Holds tools from 1/8 through 3/4"



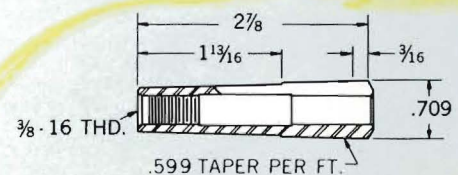
B-3 COLLET

For use with Model C and T heads. Holds tools from 1/16 through 1/2".



NO. 7 B&S COLLET

For use with Model M and T heads. Holds tools from 1/16 through 1/2".



NO. 2 MORSE COLLET

For use with Model M and T heads. Holds tools from 1/16 through 1/2".

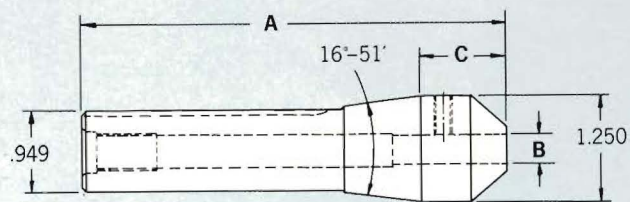
end mill holders

No. R-8
for use with
Model J and R
milling heads



SPECIFICATIONS in inches

	EH-3	EH-6	EH-8	EH-10	EH-12	EH-14	EH-16
A	$5\frac{3}{16}$	5	$5\frac{3}{16}$	$5\frac{9}{16}$	$6\frac{1}{16}$	$6\frac{21}{32}$	$6\frac{15}{16}$
B	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
C	$1\frac{5}{32}$	$3\frac{1}{32}$	$1\frac{5}{32}$	$1\frac{17}{32}$	$2\frac{21}{32}$	$2\frac{5}{8}$	$2\frac{29}{32}$

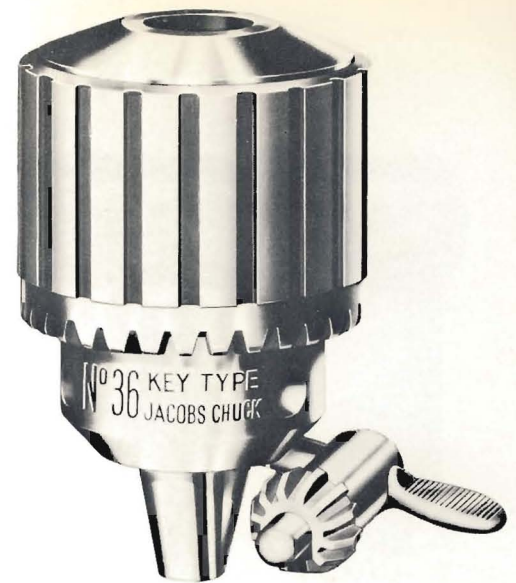


R-8 TAPER

plain bearing chuck

The Jacobs Plain Bearing Chuck is used throughout the world on standard drilling equipment.

model no.	cap. in inches	taper mount	uses key
32	0 — $\frac{3}{8}$	#2 JT	K32
36	$\frac{3}{16}$ — $\frac{3}{4}$	#3 JT	K4



ball bearing chuck

The Jacobs Ball Bearing Chuck is designed for heavy duty drilling and features extremely good accuracy.

model no.	cap. in inches	taper mount	uses key
11N	0 — $\frac{3}{8}$	#2 JT	K32
14N	0 — $\frac{1}{2}$	#3 JT	K3
16N	$\frac{1}{8}$ — $\frac{5}{8}$	#3 JT	K4
18N	$\frac{1}{8}$ — $\frac{3}{4}$	#4 JT	K4
20N	$\frac{3}{8}$ — 1	#5 JT	K5



Albrecht keyless chuck

The Albrecht Keyless Chuck offers excellent gripping power and extremely high accuracy.

model no.	cap. in inches	taper mount
65 J1	0 — $\frac{1}{4}$	#1 JT
130 J6	$\frac{1}{32}$ — $\frac{1}{2}$	#6 JT
160 J6	$\frac{1}{8}$ — $\frac{5}{8}$	#6 JT



shell mill arbors

for Shell End Mills

These arbors are for use with the Model J head and are furnished with Bridgeport's R-8 taper.



Wrench for No. 1



No. 1 takes Shell Mills from 1 $\frac{1}{4}$ to 1 $\frac{1}{2}$



Wrench for No. 2



No. 2 takes Shell Mills from 1 $\frac{3}{4}$ to 2



Wrench for No. 3



No. 3 takes Shell Mills from 2 $\frac{1}{4}$ to 2 $\frac{3}{4}$

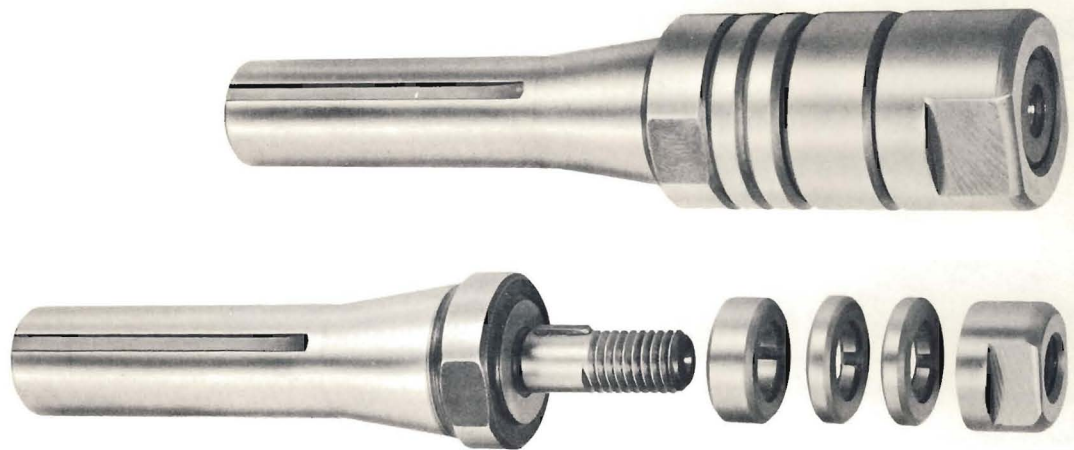
threaded arbors

for Shell Mills or Milling Cutters with threaded holes

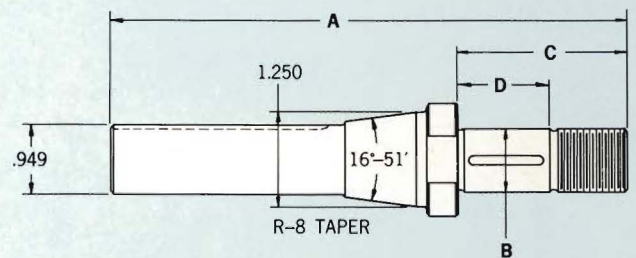
These arbors are supplied in two sizes, either left or right hand thread for angle milling cutters with threaded holes. Smaller arbor takes 1 $\frac{1}{4}$ " cutters; larger arbor takes 1 $\frac{5}{8}$ " cutters.



stub arbors



For use with the Model J head, these arbors are for use in applications where the use of slitting saws, side mills or alternate tooth milling cutters are required. On gang jobs, it is suggested that the Bridgeport designed Arbor Support be used to obtain maximum rigidity. Arbors are heat treated and ground. Spacers are ground parallel and square with the bore of the spacer. All arbors are provided with wrench flats on the shoulders to facilitate mounting or removal of arbor nut.



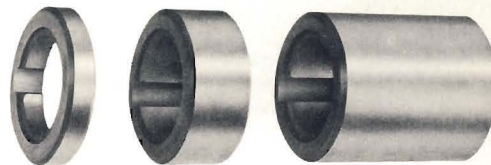
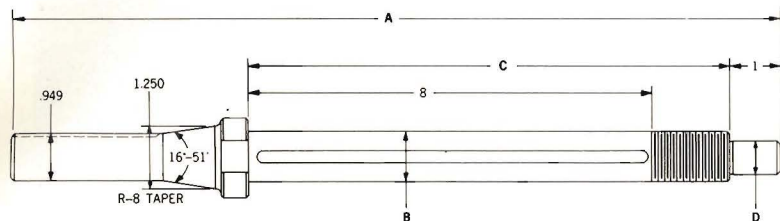
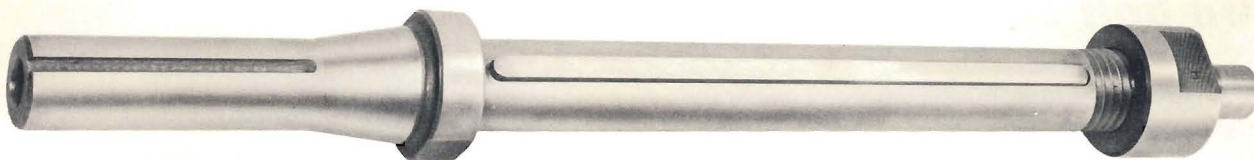
SPACERS for use with Bridgeport Stub Arbors.

SPECIFICATIONS in inches

	thread direction	A	B	C	D
SAR-8	Right	6	1/2	1 3/8	23/32
SAL-8	Left	6	1/2	1 3/8	23/32
SAR-10	Right	6 5/16	5/8	1 3/4	31/32
SAL-10	Left	6 5/16	5/8	1 3/4	31/32
SAR-12	Right	6 3/4	3/4	2 1/8	17/32
SAL-12	Left	6 3/4	3/4	2 1/8	17/32
SAR-14	Right	6 7/8	7/8	2 1/4	17/32
SAL-14	Left	6 7/8	7/8	2 1/4	17/32
SAR-16	Right	7 3/16	1	2 1/2	1 11/32
SAL-16	Left	7 3/16	1	2 1/2	1 11/32
SAR-20	Right	7 1/16	1 1/4	2 3/4	1 15/32
SAL-20	Left	7 1/16	1 1/4	2 3/4	1 15/32

	I.D.	length
SA-82	1/2	3/8
SA-83	1/2	3/16
SA-102	5/8	1/2
SA-103	5/8	1/4
SA-124	3/4	2
SA-122	3/4	5/8
SA-123	3/4	5/16
SA-144	7/8	2
SA-142	7/8	5/8
SA-143	7/8	5/16
SA-164	1	2
SA-162	1	3/4
SA-163	1	5/16
SA-204	1 1/4	2
SA-202	1 1/4	3/4
SA-203	1 1/4	3/8

arbors



SPACERS for use with Bridgeport Arbors.

SPECIFICATIONS in inches

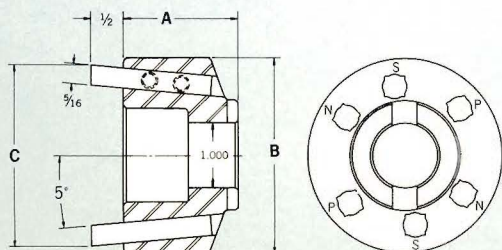
	thread direction	A	B	C	D
SAR-12-P	Right	14 ²⁹ / ₃₂	3/4	9 ⁹ / ₃₂	1/2
SAL-12-P	Left	14 ²⁹ / ₃₂	3/4	9 ⁹ / ₃₂	1/2
SAR-14-P	Right	15 ¹ / ₃₂	7/8	9 ¹³ / ₃₂	1 ¹ / ₁₆
SAL-14-P	Left	15 ¹ / ₃₂	7/8	9 ¹³ / ₃₂	1 ¹ / ₁₆
SAR-16-P	Right	15 ⁷ / ₃₂	1	9 ¹⁷ / ₃₂	1 ¹ / ₁₆
SAL-16-P	Left	15 ⁷ / ₃₂	1	9 ¹⁷ / ₃₂	1 ¹ / ₁₆
SAR-20-P	Right	15 ¹⁵ / ₃₂	1 ¹ / ₄	9 ²¹ / ₃₂	1 ¹ / ₁₆
SAL-20-P	Left	15 ¹⁵ / ₃₂	1 ¹ / ₄	9 ²¹ / ₃₂	1 ¹ / ₁₆

I.D. length

SA-124	3/4	2
SA-122	3/4	5/8
SA-123	3/4	5/16
SA-144	7/8	2
SA-142	7/8	5/8
SA-143	7/8	5/16
SA-164	1	2
SA-162	1	3/4
SA-163	1	5/16
SA-204	1 ¹ / ₄	2
SA-202	1 ¹ / ₄	3/4
SA-203	1 ¹ / ₄	3/8

fly cutters

These cutters are designed for Bridgeport's Model J head. Used with a No. 3 Shell Mill Holders they will accommodate 5/16" square tool bits, singly or in pairs. Tool bits may be set at 5 degrees positive rake, 5 degrees negative rake or at zero rake. They are inserted in diametrically opposed broached holes. Bodies are made of mild steel.



SPECIFICATIONS in inches

	FC 3	FC 4
A	1 ³ / ₄	1 ³ / ₄
B	3	4
C	2 ³ / ₄	3 ³ / ₄

hold down bolt and nut set

This handy set is in great demand by machinists who operate Bridgeports. Set No. TNS-500 is compact and comes in a sturdy metal container with notched holes to allow mounting on or near the machine.

SPECIFICATIONS in inches

	amount	part	thread	length
TN-1	4	STUD	$\frac{1}{2}$ - 13	3
TN-2	4	STUD	$\frac{1}{2}$ - 13	4
TN-3	4	STUD	$\frac{1}{2}$ - 13	5
TN-4	4	STUD	$\frac{1}{2}$ - 13	6
TN-5	4	STUD	$\frac{1}{2}$ - 13	7
TN-6	4	STUD	$\frac{1}{2}$ - 13	8
TN-7	4	FLANGE NUT	$\frac{1}{2}$ - 13	
TN-8	4	NUT COUPLERS	$\frac{1}{2}$ - 13	
TN-9	4	"T" SLOT NUT	$\frac{1}{2}$ - 13	$1\frac{3}{16}$
TN-10	1	HOLDER		
TN-12	4	STRAP CLAMP	size $\frac{3}{4}$ x $1\frac{1}{2}$	6

