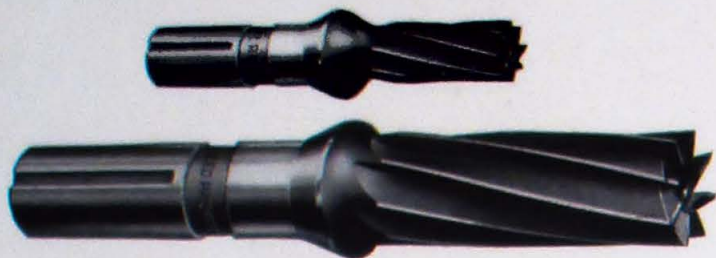


Milling Cutters and Collets for Becker Nos. 2A and 3 Vertical Milling Machines

END AND SIDE MILLING CUTTERS

(Collet Shank)



These cutters are threaded for drawbar and made with collet shank to fit direct to spindle of the Nos. 2A and 3 BECKER Vertical Millers.

No. 2A Vertical

No.	Diameter Inches	Length Inches	Price	
			Carbon Steel	High Speed Steel
B-129	$\frac{3}{8}$	1	\$3 50	\$7 00
B-130	$\frac{7}{16}$	1	3 50	7 00
B-131	$\frac{7}{16}$	$1\frac{1}{4}$	3 80	7 75
B-133	$\frac{1}{2}$	$1\frac{1}{2}$	4 15	8 45
B-134	$\frac{9}{16}$	$1\frac{1}{2}$	4 15	8 45
B-135	$\frac{5}{8}$	$1\frac{3}{4}$	4 45	9 00
B-136	$\frac{11}{16}$	$1\frac{3}{4}$	4 45	9 00
B-138	$\frac{3}{4}$	2	4 80	9 75
B-139	$\frac{13}{16}$	2	4 80	9 75
B-140	$\frac{7}{8}$	2	4 80	9 75
B-141	$\frac{7}{8}$	$2\frac{1}{4}$	5 10	10 25
B-142	$\frac{15}{16}$	$2\frac{1}{4}$	5 10	10 25
B-143	1	$2\frac{1}{4}$	5 10	10 25

End and Side Mills made to order. Give diameter and length of cut desired with size of machine.

No. 3 Vertical *

No.	Diameter Inches	Length Inches	Price	
			Carbon Steel	High Speed Steel
B-158	$\frac{1}{2}$	$1\frac{1}{2}$	\$4 80	\$9 75
B-159	$\frac{9}{16}$	$1\frac{1}{2}$	4 80	9 75
B-160	$\frac{5}{8}$	$1\frac{3}{4}$	4 80	9 75
B-161	$\frac{11}{16}$	$1\frac{3}{4}$	4 80	9 75
B-162	$\frac{3}{4}$	$1\frac{1}{2}$	4 80	9 75
B-163	$\frac{3}{4}$	2	5 10	10 25
B-164	$\frac{13}{16}$	2	5 10	10 25
B-165	$\frac{7}{8}$	2	5 10	10 25
B-166	$\frac{7}{8}$	$2\frac{1}{2}$	5 40	11 00
B-167	$\frac{15}{16}$	$2\frac{1}{4}$	5 40	11 00
B-168	1	$2\frac{1}{4}$	5 40	11 00
B-169	1	$2\frac{3}{4}$	5 75	11 75
B-170	$1\frac{1}{16}$	$2\frac{3}{4}$	5 75	11 75
B-171	$1\frac{1}{8}$	$2\frac{1}{2}$	6 05	12 25
B-172	$1\frac{1}{8}$	3	6 40	13 00
B-174	$1\frac{1}{4}$	$2\frac{3}{4}$	6 40	13 00
B-175	$1\frac{1}{4}$	$3\frac{1}{4}$	7 15	14 25

End and Side Mills made to order. Give diameter and length of cut desired with size of machine.

*Adaptable for larger machines through use of reducing bushings. See circular 27-203-1 covering cutters and collets for use with 4B, 5C, 6 and other BECKER Vertical Milling Machines.

SPRING COLLETS

(For Vertical Millers)



By the use of spring collets, straight shank end mills and similar cutters of the smaller diameters may be used in the BECKER Nos. 2A and 3 Vertical Millers.

Collets are threaded for drawbar by which they are drawn into the spindle thus closing the taper end and holding the cutter securely.

No. 2A used in spindle of No. 2A machine in sizes to hold cutters from $\frac{1}{8}$ " to $\frac{9}{16}$ " advancing by $\frac{1}{16}$ ". Price each, \$3 75

No. 3 used in spindle of No. 3 machine in sizes to hold cutters from $\frac{1}{8}$ " to $\frac{3}{4}$ " advancing by $\frac{1}{16}$ ". Price, each \$4 00

STRAIGHT SHANK CUTTERS

(To be used with Spring Collets)



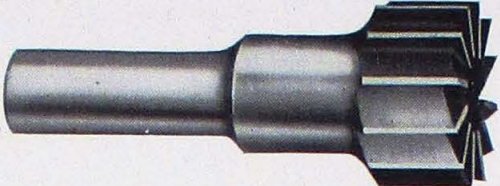
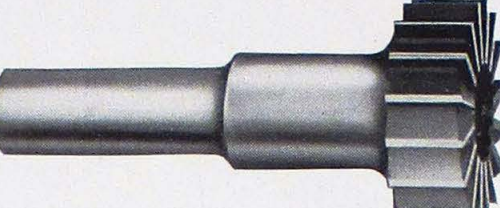
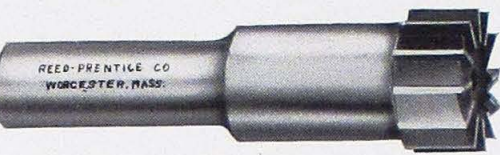
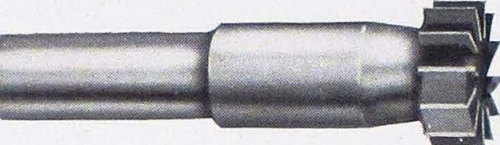
No.	Diameter of Cutter Inches	Length of Cutter Inches	Diameter of Shank Inches	Total Length Inches	Price each Carbon Steel	Price Each High Speed Steel
C-10	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{5}{32}$	$1\frac{3}{4}$	\$0 45	\$0 75
C-11	$\frac{5}{32}$	$\frac{1}{2}$	$\frac{5}{32}$	$1\frac{3}{4}$	50	80
C-12	$\frac{3}{16}$	$\frac{3}{4}$	$\frac{3}{16}$	$1\frac{3}{4}$	55	95
C-13	$\frac{7}{32}$	$\frac{7}{8}$	$\frac{1}{4}$	2	60	1 00
C-14	$\frac{1}{4}$	$\frac{7}{8}$	$\frac{1}{4}$	2	65	1 15
C-15	$\frac{9}{32}$	$\frac{7}{8}$	$\frac{5}{16}$	2	70	1 25
C-16	$\frac{5}{16}$	$\frac{7}{8}$	$\frac{5}{16}$	2	80	1 35
C-17	$\frac{11}{32}$	$\frac{7}{8}$	$\frac{3}{8}$	2	85	1 45
C-18	$\frac{3}{8}$	$\frac{7}{8}$	$\frac{3}{8}$	2	90	1 50
C-19	$\frac{13}{32}$	$\frac{7}{8}$	$\frac{1}{2}$	2	95	1 80
C-20	$\frac{7}{16}$	$\frac{7}{8}$	$\frac{1}{2}$	2	1 25	2 10
C-21	$\frac{1}{2}$	$\frac{7}{8}$	$\frac{1}{2}$	2	1 60	2 35
C-22	$\frac{9}{16}$	$\frac{7}{8}$	$\frac{5}{8}$	2	1 90	2 75
C-23	$\frac{5}{8}$	$\frac{7}{8}$	$\frac{5}{8}$	2	1 90	2 75

Cutters up to and including $\frac{7}{16}$ " are cut with straight flutes—above that size with spiral flutes.






Engraver's Cutters

These Surface, Dovetail and Bevel Mills are made with straight shank to be used with spring collets. Illustrations full size.
Special cutters made to order; give size shank and complete specifications.

SHANKS 3-8" DIAMETER

Carbon Steel	High Speed Steel	No.	
\$2 90	\$5 50	31	
2 30	4 75	32	
2 30	4 75	33	
2 30	4 75	34	

SHANKS 3-8" DIAMETER

Angle	No.	Carbon Steel	High Speed Steel	
30°	35	\$2 90	\$5 50	
30°	36	2 30	4 75	
15°	37	2 30	4 75	
30°	38	2 30	4 75	
15°	39	2 30	4 75	

Sets of Tools for BECKER Nos. 2A and 3 Vertical Millers

Cutters in following lists are those which we have found by experience to be best suited for general requirements.
Prices cover complete sets as listed, and are *net* to customer.

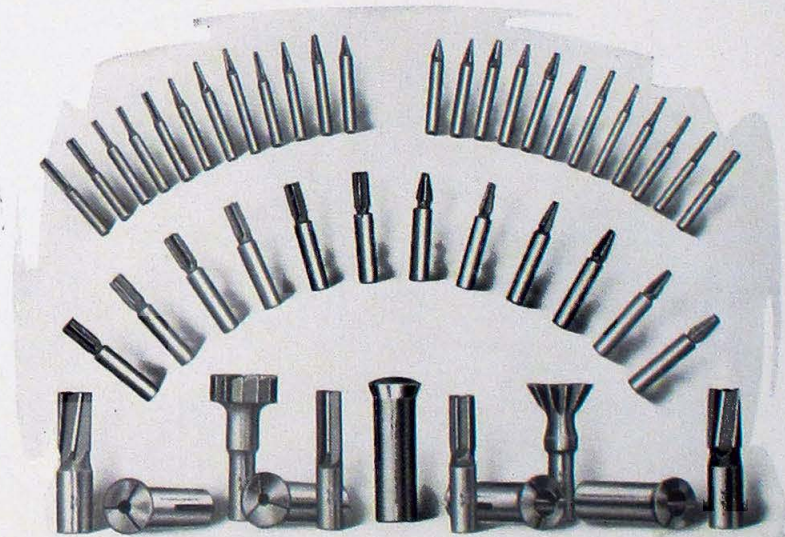
SET NO. 3 (for No. 2A)

One No. 2A Collet, $\frac{1}{4}$ "	
One No. 2A Collet, $\frac{3}{8}$ "	
Two End Mills, $\frac{1}{4}$ " diameter, Straight Shank	
Two End Mills, $\frac{3}{8}$ " diameter, Straight Shank	
One End Mill, $\frac{3}{8}$ " x 1", No. 2A Shank	
One End Mill, $\frac{1}{2}$ " x 1 $\frac{1}{2}$ ", No. 2A Shank	
One End Mill, $\frac{3}{4}$ " x 2", No. 2A Shank	
One End Mill, $\frac{7}{8}$ " x 2 $\frac{1}{4}$ ", No. 2A Shank	
One End Mill, 1" x 2 $\frac{1}{4}$ ", No. 2A Shank	
One Surface Mill No. 31, $\frac{3}{8}$ ", Straight Shank	
One Dovetail Mill No. 35, $\frac{3}{8}$ ", Straight Shank	
Carbon Steel	\$35.90
High Speed Steel	57.10

SET NO. 4 (for No. 2A)

One No. 2A Collet, $\frac{5}{32}$ "	
One No. 2A Collet, $\frac{3}{16}$ "	
One No. 2A Collet, $\frac{1}{4}$ "	
One No. 2A Collet, $\frac{3}{8}$ "	
One No. 2A Collet, $\frac{1}{2}$ "	
Eleven Cutters, No. 1 to No. 11, $\frac{5}{32}$ ", Straight Shank*	
Ten Cutters, No. 12 to No. 21, $\frac{3}{16}$ ", Straight Shank*	
Nine Cutters, No. 22 to No. 30, $\frac{1}{4}$ ", Straight Shank*	
Two End Mills, $\frac{3}{8}$ " diameter, Straight Shank	
Two End Mills, $\frac{1}{2}$ " diameter, Straight Shank	
One Surface Mill No. 31, $\frac{3}{8}$ ", Straight Shank	
One Dovetail Mill No. 35, $\frac{3}{8}$ ", Straight Shank	
Carbon Steel	\$45.65
High Speed Steel	59.10

SET NO. 4 (for No. 2A) shown below



SET NO. 5 (for No. 3)

One No. 3 Collet, $\frac{1}{4}$ "	
One No. 3 Collet, $\frac{3}{8}$ "	
Two End Mills, $\frac{1}{4}$ " diameter, Straight Shank	
Two End Mills, $\frac{3}{8}$ " diameter, Straight Shank	
One Surface Mill No. 32, $\frac{3}{8}$ ", Straight Shank	
One Dovetail Mill No. 35, $\frac{3}{8}$ ", Straight Shank	
One Bevel Mill No. 37, $\frac{3}{8}$ ", Straight Shank	
One End Mill, $\frac{1}{2}$ " x 1 $\frac{1}{2}$ ", No. 3 Shank	
One End Mill, $\frac{5}{8}$ " x 1 $\frac{3}{4}$ ", No. 3 Shank	
One End Mill, $\frac{3}{4}$ " x 2", No. 3 Shank	
One End Mill, $\frac{7}{8}$ " x 2", No. 3 Shank	
One End Mill, 1" x 2 $\frac{1}{4}$ ", No. 3 Shank	
One End Mill, 1 $\frac{1}{4}$ " x 2 $\frac{3}{4}$ ", No. 3 Shank	
Carbon Steel	\$45.40
High Speed Steel	75.45

*See circular 27-201-1 covering milling cutters and collets for Nos. 1, 2 and 2A BECKER Vertical Milling Machines.