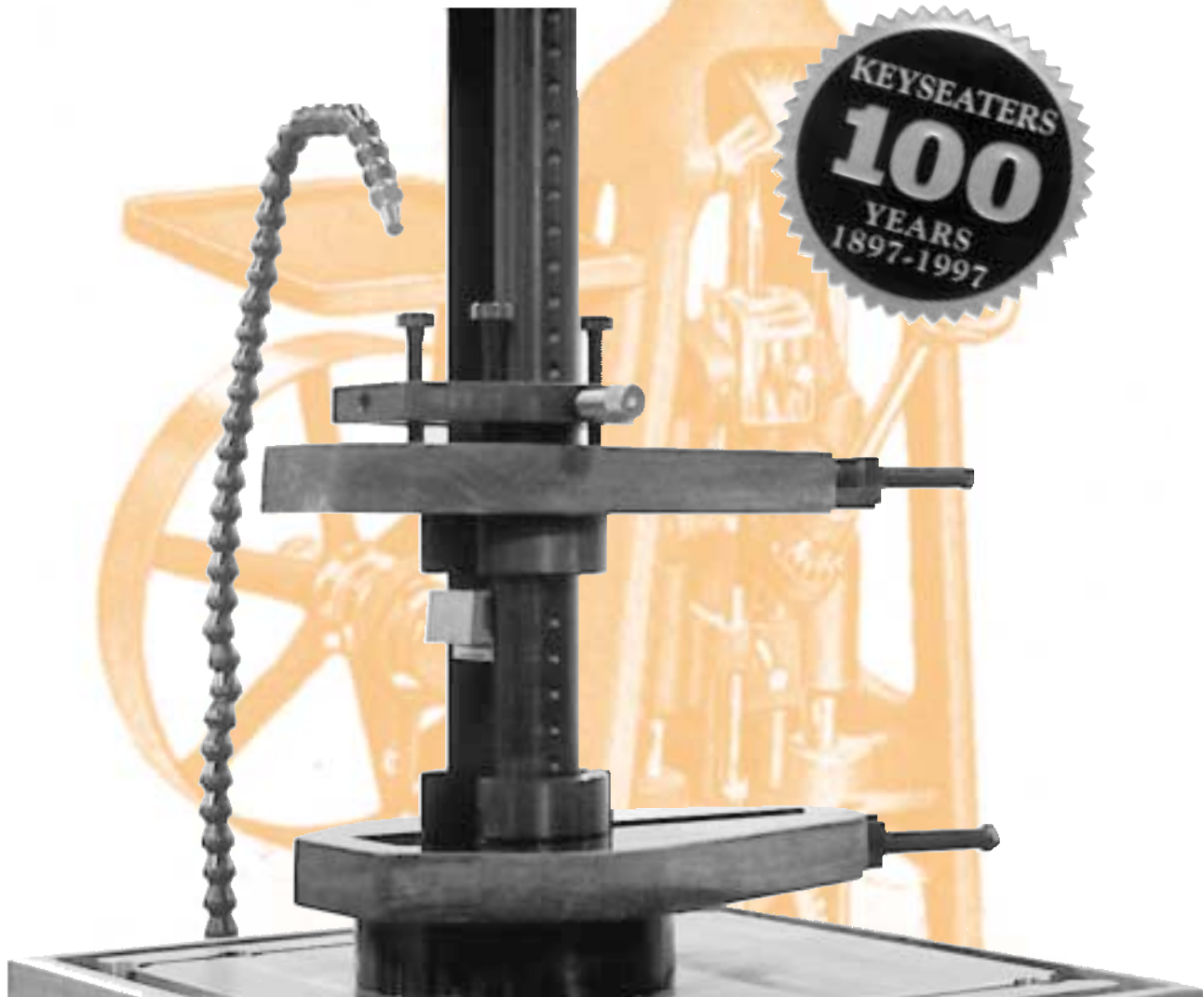




Mitts & Merrill L.P.

 **FRÖMAG GROUP**

TOOLING, FIXTURES and CUTTERS



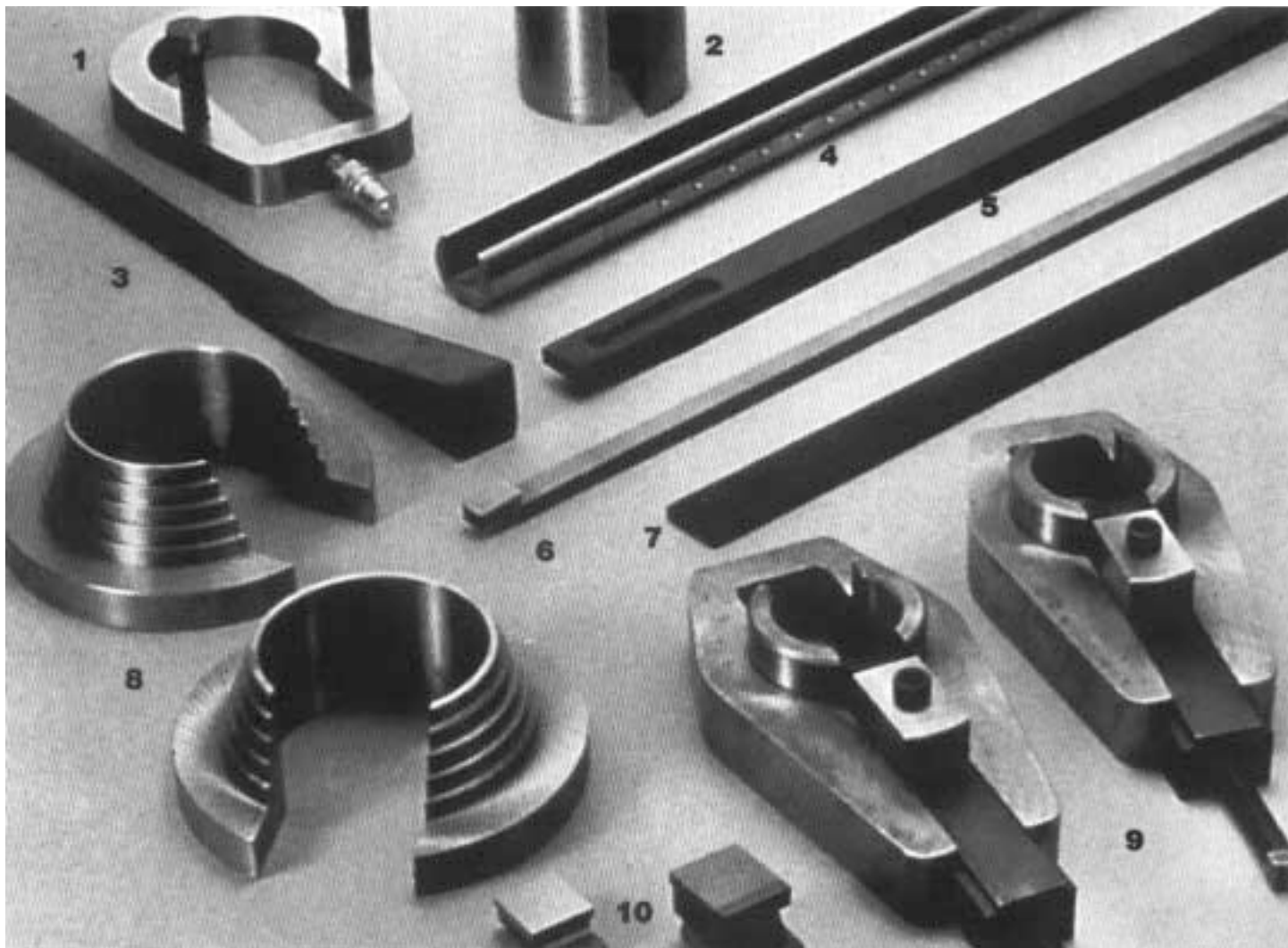
***REMEMBER THAT YOUR KEYWAYS
ARE ONLY AS GOOD AS YOUR
TOOLING AND CUTTERS.***

Close Tolerances With Shop Proven Accuracy

Tel: 815-943-3303

Fax: 815-943-3366

Tooling



1 **TOP CLAMP** is placed on the post after the work is located. Knurled head screws at the side fasten the clamp to the post; screws parallel to the post secure the bushing and work in position.

2 **POST ADAPTER** to fit lower end of post to bore in top of machine.

3 **FEED WEDGE** slides in groove of post and travels with tool bar, moving the tool forward and supporting it continuously while cutting.

4 **TOOL POST** All posts are accurately grooved to receive tool bar, feed wedge and taper wedge.

5 **TOOL BAR** with self-centering dovetail slot in top end to receive inserted type cutter (illustrated as item No. 10).

6 **BAR TYPE** cutters are used for posts less than 1 $\frac{1}{2}$ in diameter. These cutters replace items 5 and 10 mentioned above where applicable.

7 **TAPER WEDGE** for producing tapered keyways in straight bores only. Fastened in the groove of the post behind the feed wedge. Regularly made to produce a taper of $\frac{1}{8}$ " per foot.

8 **STEP BUSHINGS** are available for

all posts $\frac{3}{4}$ " diameter and larger. Used in pairs (top and bottom). On each pair of bushings four to five steps of different diameters are turned to meet the user's requirements.

9 **EXPANSION CENTERING FIXTURES** are available for posts 1" diameter and larger. Used in pairs (top and bottom). Placed on the post to accept an infinite variety of diameters with three point location provided by one adjustable locator.

10 **INSERTED DOVETAIL TYPE CUTTERS** used in self-centering slot in tool bar. (Furnished in various sizes for posts $\frac{1}{2}$ " diameter and larger.)

How to select Tooling

1. Determine your complete range of bore lengths, bore diameters, and corresponding keyway sizes of your workpieces.
2. Use column 4 to correlate lengths of posts selected from column 3 so that range of workpiece (maximum keyway length) is adequately accommodated.
3. Use column 2 to select quantity of post diameters required to cover this range.

4. Use column 5 to determine range of cutter widths.
5. Use column 6 in conjunction with column 7 to determine proper step bushing and/or centering fixtures selection for work locating purposes.

NOTE: These above usages and comparisons will determine largest through smallest posts, cutters and bushing assemblies needed to provide a complete complement of tooling for your Mitts & Merrill Keyseater.

Post No.	Standard Post Diameters	Standard Groove in Post (Width)	Maximum Length Keyway Standard Length Post Will Cut	Sizes of Cutters (Made in H.S.S.)	STANDARD BUSHINGS For intermediate sizes of bores	
					Step Type	Expansion Type
6	(1) ³ / ₈ "	³ / ₁₆ "	3"	¹ / ₁₆ " thru ⁵ / ₃₂ "		
8	(1) ¹ / ₂ "	¹ / ₄ "	5"	¹ / ₁₆ " thru ¹ / ₄ "		
10	(1) ⁵ / ₈ "	⁵ / ₁₆ "	5"	¹ / ₈ " thru ⁵ / ₁₆ "		
12	Pr. ^{**} ³ / ₄ "	³ / ₈ "	8"	¹ / ₈ " thru ³ / ₈ "	⁷ / ₈ ", 1", ¹ / ₈ ", ¹ / ₄ "	
16	1"	¹ / ₂ "	10"	¹ / ₈ " thru ¹ / ₂ "	¹ / ₈ ", ¹ / ₄ ", ¹ / ₃ ", ¹ / ₂ "	¹ / ₂ " to 3"
20	¹ / ₄ "	⁵ / ₈ "	10"	³ / ₁₆ " thru ⁵ / ₈ "	¹ / ₃ ", ¹ / ₂ ", ¹ / ₅ ", ¹ / ₃ ", ¹ / ₇ "	¹ / ₇ " to ³ / ₄ "
24	^{***} ¹ / ₂ "	⁷ / ₈ "	11"	¹ / ₄ " thru ⁷ / ₈ "	¹ / ₅ ", ¹ / ₃ ", ¹ / ₇ ", ² / ₂ ", ² / ₄ "	² / ₃ " to ⁴ / ₁ / ₂ "
30	^{***} ¹ / ₈ "	1"	11"	³ / ₈ " thru 1"	² / ₂ ", ² / ₈ ", ² / ₄ ", ² / ₃ ", ² / ₅ "	² / ₁ / ₁₆ " to ⁵ / ₁ / ₂ "
38	^{***} ² / ₈ "	¹ / ₄ "	12"	¹ / ₂ " thru ¹ / ₄ "	² / ₅ ", ² / ₃ ", ² / ₇ ", ³ / ₃ ", ³ / ₄ "	³ / ₅ / ₁₆ " to ⁶ / ₁ / ₂ "
46	² / ₇ "	¹ / ₂ "	15"	⁵ / ₈ " thru ¹ / ₂ "	³ / ₈ ", ³ / ₄ ", ³ / ₈ ", ³ / ₂ ", ³ / ₅ "	³ / ₇ " to 8"
54	³ / ₈ "	2"	15" No. 3, 5, & 6 24" 3A only	³ / ₄ " thru 2"	³ / ₅ ", ³ / ₇ ", ⁴ / ₈ ", ⁴ / ₃ ", ⁴ / ₅ "	⁴ / ₃ " to 10"
59	³ / ₁ / ₁₆ "	² / ₁ / ₂ "	18"	⁷ / ₈ " thru ² / ₁ / ₂ "	³ / ₇ ", ⁴ / ₈ ", ⁴ / ₃ ", ⁴ / ₅ ", ⁴ / ₇ "	⁵ / ₁ / ₄ " to 13"
78	⁴ / ₇ "	3"	24"	1" thru 3"	⁵ / ₁ / ₄ ", ⁵ / ₁ / ₂ ", ⁵ / ₄ ", ⁶ / ₆ ", ⁶ / ₁ / ₄ "	⁶ / ₅ / ₁₆ " to 15"
90	⁵ / ₈ "	³ / ₁ / ₂ "	30"	¹ / ₁ / ₂ " thru ³ / ₁ / ₂ "	6", ⁶ / ₁ / ₄ ", ⁶ / ₁ / ₂ ", ⁶ / ₃ / ₄ ", 7"	⁷ / ₃ / ₁₆ " to ¹⁶ / ₁ / ₂ "
96	6"	4"	36"	¹ / ₁ / ₂ " thru 4"	⁶ / ₁ / ₂ ", ⁶ / ₃ / ₄ ", 7", ⁷ / ₁ / ₂ ", ⁷ / ₃ / ₄ "	8" to 18"

*The ³/₈", ¹/₂" and ⁵/₈" diameter posts are furnished for straight keyways only.

**The ³/₄" post is too light to permit the use of a taper wedge; therefore a pair of posts is used, one for straight and one for taper keyways.

***For convenience, the posts ¹/₁/₂", ¹/₇" ²/₃", etc. may be changed to ¹/₇/₁₆", ¹/₅/₁₆", ²/₇/₁₆" etc.

The ³/₄" post for taper keyways and all taper wedges for the larger post are made to produce ¹/₈" taper per foot, unless otherwise ordered.

EXPANSION CENTERING FIXTURES are standard equipment for posts 1" diameter and larger. They are used in pairs (top and bottom) and will accommodate any bore between the sizes shown in the table above. Item 9 on page two illustrates standard expansion centering fixtures bushings.

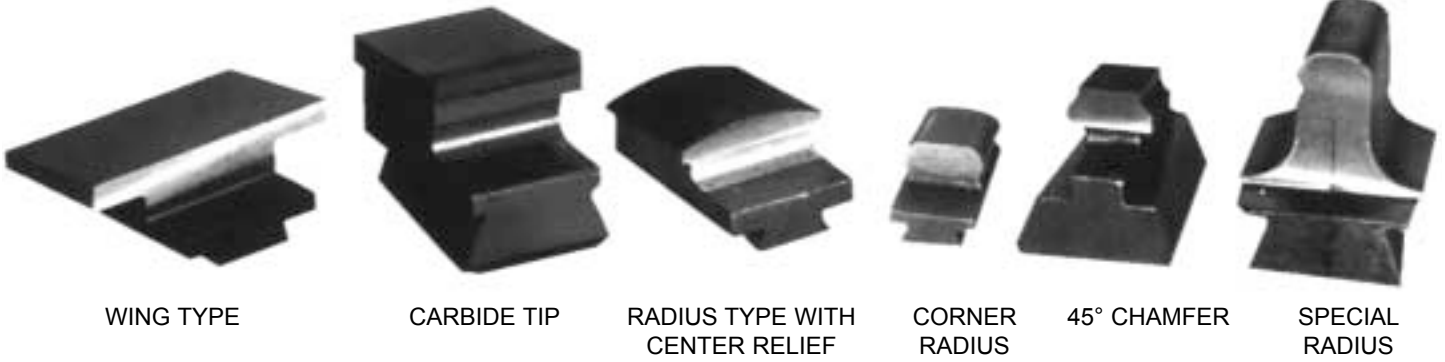
STEP BUSHINGS are optional for any post ³/₄" diameter and larger. They are used in pairs (top and bottom). Four to five diameters are available on each pair. Unless otherwise specified, steps will be furnished to the diameters listed in

the table above.

However, the step diameters listed above as standard may be altered to suit customer's requirements within the maximum limits as charted at additional price. All step bushings are keyed to the post and provide for perfect alignment of work.

NOTE: Step bushings are not standard equipment for posts under ³/₄" diameters, and in these cases it is recommended that a post be used that fits the exact bore diameter.

Cutting Tools



KEYSEATER CUTTING TOOLS are of two types--bar or insert. Special cutters are also available in other configurations.

The bar type cutter is designed to fit directly into the slot in the tool post. These are standard for posts of 1¼" diameter and smaller, or for any post with 5/8" wide groove or less.

The insert cutter is used with a tool bar having a precision dovetail clamping method of mounting the cutting tool.

The dovetail form cutters are used in all posts of 1½" diameter or larger.

Manufactured of H.S.S. or carbide tipped, standard sizes are stocked for off-the-shelf delivery.

If product design or market conditions obsolete your present cutter inventories, contact us for prompt action in meeting your revised tooling requirements.

All cutting jobs require a specific choice of steel and, often, unusual cutter shapes and special angles, forms and radii. Our Mitts & Merrill craftsman can meet your most rigid specifications with a cutting tool designed and engineered to work efficiently with your keyseater.

Our specialists can recommend the right tool that will give you an economical, long service-life precision cutter, with no guesswork.

Tooling order instructions

POSTS: Quantity required, diameter of post, width of groove, model and serial number of Keyseater, with or without tilting table and/or indexing plate.

EXAMPLE: 1--1" diameter by 16" long post, ½" wide groove, for No. 2 K.S. Serial No. _____, without tilting table and indexing plate.

TOOL BARS: Quantity required, diameter of post in which the tool bar is to be used, width of groove in post, model and serial number of Keyseater, with or without tilting table and/or indexing plate.

EXAMPLE: 1--Tool bar for 1½" diameter post, 7/8" wide groove, for No. 2 K.S. Serial No. _____, without tilting table and indexing plate.

FEED WEDGES: Quantity required, diameter of post in which the feed wedge is to be used, width of groove in post, model and serial number of Keyseater, with or without tilting table and/or indexing plate.

EXAMPLE: 1--Feed wedge for 17/8" diameter post, 1" wide groove, for No. 2 Keyseater Serial No. _____, without tilting table and indexing plate.

TAPER WEDGES: Quantity required, diameter of post in which the taper wedge is to be used, taper per foot, width of groove in post, model and serial number of Keyseater, with or without tilting table and/or indexing plate.

EXAMPLE: 1--Taper wedge for 23/8" diameter post, 1/8" taper per foot, 1¼" wide groove, for No. 2 K.S. Serial No. _____, without tilting table or indexing plate.

POST ADAPTER: Quantity required, diameter of post, model and serial number of Keyseater.

EXAMPLE: 1--Post adapter for 33/8" post, No. 5 Keyseater, Serial No. _____.

CUTTERS: Quantity required, width of keyway, diameter of post in which the cutter is to be used, width of groove in post, model and serial number of Keyseater, with or without tilting table and/or indexing plate.

EXAMPLE: 2--½" cutters for 1" diameter post with ½" groove, No. 2 K.S. Serial No. _____, without tilting table and indexing plate.

FOR PROMPT SERVICE, PLEASE PROVIDE THE FOLLOWING INFORMATION WHEN ORDERING:

MODEL NO. _____ SERIAL NO. _____

Which options apply to your machine?

- Tilt Table _____ • Combination Table _____
- Index Table _____

Do you require special length tooling?

	Post Dia.	Post Dia.	Post Dia.	Post Dia.
• Post	_____	_____	_____	_____
	”	”	”	”
• Tool Bar	_____	_____	_____	_____
	”	”	”	”
• Feed Wedge	_____	_____	_____	_____
	”	”	”	”
• Taper Wedge	_____	_____	_____	_____
	”	”	”	”

DON'T BE MISLED BY LOOK-A-LIKE TOOLING AND CUTTERS IF YOU NEED:

- ◆ *Accurate Straight Keyways*
 - *Parallel with Bore Centerline*
 - *Centrality with Bore Centerline*
 - *Parallel with Sides of Bore*
 - *No Unexpected Tapers*
- ◆ *Precise Rake Angles for Smooth Operation*
- ◆ *Superior Surface Finish*
- ◆ *Longer Service Life*
- ◆ *100 Years of Keyseater Experience*

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BARCUTTERS - TYPE "A"
MILLIMETER WIDTHS

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST
POST DIA	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"
LENGTH	20"	20"	20"	20"	23"	23"
MM	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
1	MA001000B	MB001000B				
2	MA002000B	MB002000B				
3	MA003000B	MB003000B	MC003000B	MD003000B		
4	MA004000B	MB004000B	MC004000B	MD004000B		
5		MB005000B	MC005000B	MD005000B	ME005000B	MF005000B
6		MB006000B	MC006000B	MD006000B	ME006000B	MF006000B
8			MC008000B	MD008000B	ME008000B	MF008000B
10					ME010000B	MF010000B
12					ME012000B	MF012000B
13	STANDARD TOLERANCES ARE					
14	.0005 TO .0015 OVER EXACT SIZE					

BARCUTTERS - TYPE "A" + 4
MACHINES WITH TILT / INDEX TABLES

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST
LENGTH	24"	24"	24"	24"	27"	27"
MM	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
1	MA001001B	MB001001B				
2	MA002001B	MB002001B				
3	MA003001B	MB003001B	MC003001B	MD003001B		
4	MA004001B	MB004001B	MC004001B	MD004001B		
5		MB005001B	MC005001B	MD005001B	ME005001B	MF005001B
6		MB006001B	MC006001B	MD006001B	ME006001B	MF006001B
8			MC008001B	MD008001B	ME008001B	MF008001B
10					ME010001B	MF010001B
12					ME012001B	MF012001B
13					ME013001B	MF013001B
14	STANDARD TOLERANCES ARE					
15	.0005 TO .0015 OVER EXACT SIZE					

BARCUTTERS - TYPE "A"
INCH WIDTHS

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST
POST DIA	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"
LENGTH	20"	20"	20"	20"	23"	23"
SIZE	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
1/16	CA006250B	CB006250B				
3/32	CA009380B	CB009380B				
1/8	CA012500B	CB012500B	CC012500B	CD012500B	CE012500B	
5/32	CA015620B	CB015620B	CC015620B			
3/16		CB018750B	CC018750B	CD018750B	CE018750B	CF018750B
1/4		CB025000B	CC025000B	CD025000B	CE025000B	CF025000B
5/16			CC031250B	CD031250B	CE031250B	CF031250B
3/8				CD037500B	CE037500B	CF037500B
7/16					CE043750B	CF043750B
1/2					CE050000B	CF050000B
9/16	STANDARD TOLERANCES ARE					
5/8	.0005 TO .0015 OVER EXACT SIZE					

BARCUTTERS - TYPE "A" + 4
MACHINES WITH TILT / INDEX TABLES

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST
LENGTH	24"	24"	24"	24"	27"	27"
SIZE	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
1/16	CA006251B	CB006251B				
3/32	CA009381B	CB009381B				
1/8	CA012501B	CB012502B	CC012501B	CD012501B	CE012501B	
5/32	CA015621B	CB015621B	CC015621B			
3/16		CB018751B	CC018751B	CD018752B	CE018751B	CF018751B
1/4		CB025001B	CC025001B	CD025001B	CE025002B	CF025002B
5/16			CC031251B	CD031252B	CE031253B	CF031251B
3/8				CD037501B	CE037504B	CF037504B
7/16					CE043751B	CF043751B
1/2					CE050003B	CF050004B
9/16	STANDARD TOLERANCES ARE					
5/8	.0005 TO .0015 OVER EXACT SIZE					

INSERT CUTTERS
MILLIMETER WIDTHS

CUTTER WIDTH	#24 POST	#30 POST	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST	#96 POST
MM	1-1/2" DIA POST 7/8" GROOVE	1-7/8" DIA POST 1" GROOVE	2-3/8" DIA POST 1-1/4" GROOVE	2-7/8" DIA POST 1-1/2" GROOVE	3-3/8" DIA POST 2" GROOVE	3-11/16" DIA POST 2-1/2" GROOVE	4-7/8" DIA POST 3" GROOVE	5-5/8" DIA POST 3-1/2" GROOVE	6" DIA POST 4" GROOVE
	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
6	MG06000A								
8	MG08000A								
10	MG01000A	MH01000A							
12	MG01200A	MH01200A							
14	MG01400A	MH01400A	MI01400A						
16	MG01600A	MH01600A	MI01600A						
18	MG01800A	MH01800A	MI01800A	MJ01800A					
20	MG02000A	MH02000A	MI02000A	MJ02000A	MK02000A				
22	MG02200A	MH02200A	MI02200A	MJ02200A	MK02200A	ML02200A			
24		MH02400A	MI02400A	MJ02400A	MK02400A	ML02400A			
25		MH02500A	MI02500A	MJ02500A	MK02500A	ML02500A	MM02500A		
28			MI02800A	MJ02800A	MK02800A	ML02800A	MM02800A		
30				MJ03000A	MK03000A	ML03000A	MM03000A		
32				MJ03200A	MK03200A	ML03200A	MM03200A		
34				MJ03400A	MK03400A	ML03400A	MM03400A		
38				MJ03800A	MK03800A	ML03800A	MM03800A	MN03800A	MO03800A
42					MK04200A	ML04200A	MM04200A	MN04200A	MO04200A
44					MK04400A	ML04400A	MM04400A	MN04400A	MO04400A
50					MK05000A	ML05000A	MM05000A	MN05000A	MO05000A
56						ML05600A	MM05600A	MN05600A	MO05600A
64						ML06400A	MM06400A	MN06400A	MO06400A
70							MM07000A	MN07000A	MO07000A
75							MM07500A	MN07500A	MO07500A
80								MN08000A	MO08000A
84								MN08400A	MO08400A
88								MN08800A	MO08800A
100									MO10000A

INSERT CUTTERS
INCH WIDTHS

	#24 POST	#30 POST	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST	#96 POST
CUTTER	1-1/2" DIA POST	1-7/8" DIA POST	2-3/8" DIA POST	2-7/8" DIA POST	3-3/8" DIA POST	3-11/16" DIA POST	4-7/8" DIA POST	5-5/8" DIA POST	6" DIA POST
WIDTH	7/8" GROOVE	1" GROOVE	1-1/4" GROOVE	1-1/2" GROOVE	2" GROOVE	2-1/2" GROOVE	3" GROOVE	3-1/2" GROOVE	4" GROOVE
	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
1/4"	CG025000A	CH025000A							
5/16"	CG031250A	CH031250A							
3/8"	CG037500A	CH037500A	CI037500A						
7/16"	CG043750A	CH043750A	CI043750A						
1/2"	CG050000A	CH050000A	CI050000A	CJ050000A	CK050000A				
9/16"	CG056250A	CH056250A	CI056250A	CJ056250A	CK056250A				
5/8"	CG062500A	CH062500A	CI062500A	CJ062500A	CK062500A				
11/16"	CG068750A	CH068750A	CI068750A	CJ068750A	CK068750A				
3/4"	CG075000A	CH075000A	CI075000A	CJ075000A	CK075000A				
13/16"	CG081250A	CH081250A	CI081250A	CJ081250A	CK081250A				
7/8"	CG087500A	CH087500A	CI087500A	CJ087500A	CK087500A	CL087500A			
15/16"		CH093750A	CI093750A	CJ093750A	CK093750A	CL093750A			
1"		CH100000A	CI100000A	CJ100000A	CK100000A	CL100000A	CM100000A		
1-1/8"			CI112500A	CJ112500A	CK112500A	CL112500A	CM112500A		
1-1/4"			CI125000A	CJ125000A	CK125000A	CL125000A	CM125000A		
1-3/8"				CJ137500A	CK137500A	CL137500A	CM137500A		
1-1/2"				CJ150000A	CK150000A	CL150000A	CM150000A	CN150000A	CO150000A
1-5/8"					CK162500A	CL162500A	CM162500A	CN162500A	CN162500A
1-3/4"					CK175000A	CL175000A	CM175000A	CN175000A	CN175000A
2"					CK200000A	CL200000A	CM200000A	CN200000A	CN200000A
2-1/4"						CL225000A	CM225000A	CN225000A	CN225000A
2-1/2"						CL250000A	CM250000A	CN250000A	CN250000A
2-3/4"							CK275000A	CN275000A	CN275000A
3"							CM300000A	CN300000A	CO300000A
3-1/4"								CN325000A	CO325000A
3-1/2"								CN350000A	CO350000A
4"									CO400000A

POST - TYPE "A"

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST	#24 POST
POST	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"
LENGTH	#1-9" #2UP-7"	9"	9"	13"	16"	16"	18"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
#1	P0375090C	P0500094C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
K1212-#2	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#3	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
K2024-#3A	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#4	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#5	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
K3530-#6	P0357071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#6A	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#8	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#8A	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C
#9	P0375071C	P0500091C	P0625091C	P0750130C	P1000160C	P1250160C	P1500180C

	#30 POST	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST
POST	1-7/8"	2-3/8"	2-7/8"	3-3/8"	3-11/16"	4-7/8"	5-5/8"
GROOVE	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"
LENGTH	18"	#1-16" #2 UP 22-1/2"	22-1/2"	#3A 32" #3-4-UP 26"	26"	38"	44"
	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
#1	P1875180C	P2375160C					
K1212-#2	P1875180C	P2375230C					
#3	P1875180C	P2375230C	P2875230C	P3375260C			
K2024-#3A	P1875180C	P2375230C	P2875230C	P3375320C			
#4	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C		
#5	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C	P4875380C	
K3530-#6	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C	P4875381C	P5625440C
#6A	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C	P4875382C	P5625440C
#8	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C	P4875382C	P5625440C
#8A	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C	P4875382C	P5625440C
#9	P1875180C	P2375230C	P2875231C	P3375260C	P3688260C	P4875382C	P5625440C

PRICES OF POSTS OF SPECIAL MATERIAL LENGTH
AND/OR DIAMETER AVAILABLE UPON REQUEST

POST - TYPE "A" + 4
MACHINES WITH TILT / INDEX TABLE

POST	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST	#24 POST
GROOVE	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"
LENGTH	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"
MODEL	11"	13"	13"	17"	20"	20"	22"
	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
K1212-#2	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#3	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
K2024-#3A	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#4	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#5	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
K3530-#6	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#6A	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#8	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#8A	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C
#9	P0375111C	P0500131C	P0625131C	P0750171C	P1000200C	P1250200C	P1500220C

POST	#30 POST	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST
GROOVE	1-7/8"	2-3/8"	2-7/8"	3-3/8"	3-11/16"	4-7/8"	5-5/8"
LENGTH	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"
	22"	26-1/2"	26-1/2"	#3A 38" #3-4-UP 32"	30"	42"	48"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
K1212-#2	P1875220C	P2375270C	P2875270C	P3375320C	PRICES OF POSTS OF SPECIAL MATERIAL LENGTH		
#3	P1875220C	P2375270C	P2875270C	P3375380C	AND/OR DIAMETER AVAILABLE UPON REQUEST		
K2024-#3A	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C		
#4	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875420C	
#5	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875421C	P5625480C
K3530-#6	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875420C	
#6A	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875420C	
#8	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875420C	
#8A	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875420C	
#9	P1875220C	P2375270C	P2875270C	P3375320C	P3688300C	P4875420C	

TOOLBARS - TYPE "A"

	#24 POST				#30 POST			
POST	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-7/8"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	1"
LENGTH							26"	#1-#4 27" #5 & UP 38"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
# 1							24TG0260B	24TH0270B
K1212-#2		BARTYPE CUTTER - TOOLBAR NOT USED						
# 3							24TG0260B	24TH0270B
K2024-#3A							24TG0260B	24TH0270B
# 4							24TG0260B	24TH0270B
# 5							24TG0260B	24TH0270B
K3530-#6							24TG0260B	24TH0380B
# 6A							24TG0260B	24TH0380B
# 8							24TG0260B	24TH0380B
# 8A							24TG0260B	24TH0380B
# 9							24TG0260B	24TH0380B

	#78 POST				#90 POST				#96 POST				
POST	2-3/8"	2-7/8"	3-3/8"	3-11/16"	4-7/8"	5-5/8"	6"						
GROOVE	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"						
LENGTH	#1 26" #2-4 29" #5 & UP 41"	#3-4 32" #5 & UP 42"	#3A 41" #3-4 #5 & UP 45"	# 4 34" #5 & UP 45"	#5 & UP 52"	#6 & UP 58"	#6A 66" #8 72" #8A 80" #9 90"						
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #						
# 1	24TI0260B												
K1212-#2	24TI0290B												
# 3	24TI0290B	24TJ0320B	24TK0340B										
K2024-#3A	24TI0290B	24TJ0320B	24TK0410B										
# 4	24TI0290B	24TJ0320B	24TK0340B	24TL0340B									
# 5	24TI0410B	24TJ0420B	24TK0450B	24TL0450B	24TM0520B								
K3530-#6	24TI0410B	24TJ0420B	24TK0450B	24TL0450B	24TM0520B	24TN0580B							
# 6A	24TI0410B	24TJ0420B	24TK0450B	24TL0450B	24TM0520B	24TN0580B	24TO0660B						
# 8	24TI0410B	24TJ0420B	24TK0450B	24TL0450B	24TM0520B	24TN0580B	24TO0720B						
# 8A	24TI0410B	24TJ0420B	24TK0450B	24TL0450B	24TM0520B	24TN0580B	24TO0800B						
# 9	24TI0410B	24TJ0420B	24TK0450B	24TL0450B	24TM0520B	24TN0580B	24TO0900B						

TOOLBARS - TYPE "A" + 4
MACHINES WITH TILT / INDEX TABLE

	#24 POST				#30 POST			
POST	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-7/8"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	1"
LENGTH							#2 & UP 30"	#2 - 4 31" #5 & UP 42"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
BAR TYPE CUTTER - TOOL BAR NOT USED								
K1212-#2							24TG0300B	24TH0310B
#3							24TG0300B	24TH0310B
2024-#3A							24TG0300B	24TH0310B
#4							24TG0300B	24TH0310B
#5							24TG0300B	24TH0420B
K3530-#6							24TG0300B	24TH0420B
#6A							24TG0300B	24TH0420B
#8							24TG0300B	24TH0420B
#8A							24TG0300B	24TH0420B
#9							24TG0300B	24TH0420B

	#59 POST				#78 POST				#90 POST				#96 POST	
POST	2-3/8"	2-7/8"	3-3/8"	3-11/16"	4-7/8"	5-5/8"	6"							
GROOVE	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"							
LENGTH	#2 - 4 33" #5 & UP 45"	#3-4 36" #5 & UP 46"	#3A 45" #3-4 38" #5 & UP 49"	#4 38" #5 & UP 49"	#5 & UP 56"	#6 & UP 62"	#6A 70" #8 76" #8A 84" #9 94"							
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #							
K1212-#2	24TI0330B													
#3	24TI0330B	24TJ0360B	24TK0380B											
2024-#3A	24TI0330B	24TJ0360B	24TK0450B											
#4	24TI0330B	24TJ0360B	24TK0380B	24TL0380B										
#5	24TI0450B	24TJ0460B	24TK0490B	24TL0490B	24TM0560B									
K3530-#6	24TI0450B	24TJ0460B	24TK0490B	24TL0490B	24TM0560B	24TN0620B								
#6	24TI0450B	24TJ0460B	24TK0490B	24TL0490B	24TM0560B	24TN0620B	24TO0700B							
#8	24TI0450B	24TJ0460B	24TK0490B	24TL0490B	24TM0560B	24TN0620B	24TO0760B							
#8A	24TI0450B	24TJ0460B	24TK0490B	24TL0490B	24TM0560B	24TN0620B	24TO0840B							
#9	24TI0450B	24TJ0460B	24TK0490B	24TL0490B	24TM0560B	24TN0620B	24TO0940B							

FEEDWEDGES - TYPE "A"

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST	#24 POST	#30 POST
POST	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-7/8"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	1"
LENGTH	#1-33" #2-29" #3-4 33" #5 & UP 41"	#1-33" #2-29" #3-4 33" #5 & UP 41"	#1-34" #2-30" #3-4 34" #5 & UP 42"	#1-34" #2-30" #3-4 34" #5 & UP 42"	#1-34" #2-34" #3-4 38" #5 & UP 48"	#1-34" #2-34" #3-4 38" #5 & UP 48"	#1-2 38" #3-4 42" #5 & UP 52"	#1-2 39" #3-4 43" #5 & UP 53"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
#1	24FA0330B	24FB0330B	24FC0340B	24FD0340B	24FE0340B	24FF0340B	24FG0380B	24FH0390B
K1212-#2	24FA0290B	24FB0290B	24FC0300B	24FD0300B	24FE0340B	24FF0340B	24FG0380B	24FH0390B
#3	24FA0330B	24FB0330B	24FC0340B	24FD0340B	24FE0380B	24FF0380B	24FG0420B	24FH0430B
K2024-#3A	24FA0330B	24FB0330B	24FC0340B	24FD0340B	24FE0380B	24FF0380B	24FG0420B	24FH0430B
#4	24FA0330B	24FB0330B	24FC0340B	24FD0340B	24FE0380B	24FF0380B	24FG0420B	24FH0430B
#5	24FA0410B	24FB0410B	24FC0420B	24FD0420B	24FE0480B	24FF0480B	24FG0520B	24FH0530B
K3530-#6	24FA0410B	24FB0410B	24FC0420B	24FD0420B	24FE0480B	24FF0480B	24FG0520B	24FH0530B
#6A	24FA0410B	24FB0410B	24FC0420B	24FD0420B	24FE0480B	24FF0480B	24FG0520B	24FH0530B
#8	24FA0410B	24FB0410B	24FC0420B	24FD0420B	24FE0480B	24FF0480B	24FG0520B	24FH0530B
#8A	24FA0410B	24FB0410B	24FC0420B	24FD0420B	24FE0480B	24FF0480B	24FG0520B	24FH0530B
#9	24FA0410B	24FB0410B	24FC0420B	24FD0420B	24FE0480B	24FF0480B	24FG0520B	24FH0530B

	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST	#96 POST
POST	2-3/8"	2-7/8"	3-3/8"	3/11/16	4-7/8"	5-5/8"	6"
GROOVE	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
LENGTH	#1 35" #2 38" #3-4 42" #5 & UP 52"	#3-4 45" #5 & UP 55"	#3A 55" #3-4 45" #5 & UP 59"	# 4 49" #5 & UP 59"	#5 & UP 67"	#6 & UP 75"	#6A 83" #8 89" #8A 97" #9 107"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
#1	24FI0350B						
K1212-#2	24FI0380B						
#3	24FI0420B	24FJ0450B	24FK0450B	24FL0490B			
K2024-#3A	24FI0420B	24FJ0450B	24FK0550B	24FL0590B			
#4	24FI0420B	24FJ0450B	24FK0450B	24FL0490B	24FM0670B		
#5	24FI0520B	24FJ0550B	24FK0590B	24FL0590B	24FM0670B		
K3530-#6	24FI0520B	24FJ0550B	24FK0590B	24FL0590B	24FM0670B	24FN0750B	
#6A	24FI0520B	24FJ0550B	24FK0590B	24FL0590B	24FM0670B	24FN0750B	24FO0830B
#8	24FI0520B	24FJ0550B	24FK0590B	24FL0590B	24FM0670B	24FN0750B	24FO0890B
#8A	24FI0520B	24FJ0550B	24FK0590B	24FL0590B	24FM0670B	24FN0750B	24FO0970B
#9	24FI0520B	24FJ0550B	24FK0590B	24FL0590B	24FM0670B	24FN0750B	24FO1070B

FEEDWEDGES TYPE "A" + 4

MACHINES WITH TILT / INDEX TABLE

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST	#24 POST	#30 POST
POST	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-7/8"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	1"
LENGTH	#2-33" #3-4 37" #5 & UP 45"	#2-33" #3-4 37" #5 & UP 45"	#2-34" #3-4 38" #5 & UP 46"	#2-34" #3-4 38" #5 & UP 46"	#2-38" #3-4 42" #5 & UP 52"	#2-38" #3-4 42" #5 & UP 52"	#2-42" #3-4 46" #5 & UP 56"	#2-43" #3-4 47" #5 & UP 57"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
K1212-#2	24FA0330B	24FB0330B	24FC0340B	24FD0340B	24FE0380B	24FF0380B	24FG0420B	24FH0430B
#3	24FA0370B	24FB0370B	24FC0380B	24FD0380B	24FE0420B	24FF0420B	24FG0460B	24FH0470B
K2024-#3A	24FA0370B	24FB0370B	24FC0380B	24FD0380B	24FE0420B	24FF0420B	24FG0460B	24FH0470B
#4	24FA0370B	24FB0370B	24FC0380B	24FD0380B	24FE0420B	24FF0420B	24FG0460B	24FH0470B
#5	24FA0450B	24FB0450B	24FC0460B	24FD0460B	24FE0520B	24FF0520B	24FG0560B	24FH0570B
K3530-#6	24FA0450B	24FB0450B	24FC0460B	24FD0460B	24FE0520B	24FF0520B	24FG0560B	24FH0570B
#6A	24FA0450B	24FB0450B	24FC0460B	24FD0460B	24FE0520B	24FF0520B	24FG0560B	24FH0570B
#8	24FA0450B	24FB0450B	24FC0460B	24FD0460B	24FE0520B	24FF0520B	24FG0560B	24FH0570B
#8A	24FA0450B	24FB0450B	24FC0460B	24FD0460B	24FE0520B	24FF0520B	24FG0560B	24FH0570B
#9	24FA0450B	24FB0450B	24FC0460B	24FD0460B	24FE0520B	24FF0520B	24FG0560B	24FH0570B

	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST	#96 POST
POST	2-3/8"	2-7/8"	3-3/8"	3/11/16	4-7/8"	5-5/8"	6"
GROOVE	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
LENGTH	#2 42" #3-4 46" #5 & UP 56"	#3-4 49" #5 & UP 59"	#3A 59" #3-4 49" #5 & UP 63"	#4 - 53" #5 & UP 63"	#5 & UP 71"	#6 & UP 79"	#6A-87" #8-93" #8A-101" #9-111"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
K1212-#2	24FI0420B	24FJ0490B	24FK0490B	24FL0530B	24FM0710B	24FN0790B	24FO0870B
#3	24FI0460B	24FJ0490B	24FK0590B	24FL0630B	24FM0710B	24FN0790B	24FO0930B
K2024-#3A	24FI0460B	24FJ0490B	24FK0590B	24FL0630B	24FM0710B	24FN0790B	24FO1010B
#4	24FI0460B	24FJ0490B	24FK0590B	24FL0630B	24FM0710B	24FN0790B	24FO1110B
#5	24FI0560B	24FJ0590B	24FK0630B	24FL0630B	24FM0710B	24FN0790B	24FO1110B
K3530-#6	24FI0560B	24FJ0590B	24FK0630B	24FL0630B	24FM0710B	24FN0790B	24FO1110B
#6A	24FI0560B	24FJ0590B	24FK0630B	24FL0630B	24FM0710B	24FN0790B	24FO1110B
#8	24FI0560B	24FJ0590B	24FK0630B	24FL0630B	24FM0710B	24FN0790B	24FO1110B
#8A	24FI0560B	24FJ0590B	24FK0630B	24FL0630B	24FM0710B	24FN0790B	24FO1110B
#9	24FI0560B	24FJ0590B	24FK0630B	24FL0630B	24FM0710B	24FN0790B	24FO1110B

TOP CLAMP ASSEMBLIES

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST	#24 POST	#30 POST	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST	#96 POST
CODE #	TC06A001B	TC08A001B	TC10A001B	TC12A001B	TC16A002B	TC20A002B	TC24A002B	TC30A002B	TC38A002B	TC46A004B	TC54A002B	TC59A002B	TC78A002B	TC90A001B	TC96A001B
POST DIA	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-7/8"	2-3/8"	2-7/8"	3-3/8"	3-11/16"	4-7/8"	5-5/8"	6"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"

STEP BUSHINGS

CODE #	SX120001B	SX160001B	SX200001B	SX240001B	SX300001B	SX380001B	SX460001B	SX540001B	SX590001B	SX780001B	SX900001B	SX960001B
LARGEST BORE DIA ON BUSHING	1-1/4"	1-1/2"	1-7/8"	2-1/4"	2-5/8"	3-1/4"	3-5/8"	4-5/8"	4-7/8"	6-1/4"	7"	7-3/4"
	NOT FURNISHED USE SLEEVE BUSHINGS											

STANDARD EXPANSION CENTERING FIXTURES

CODE #	242036161	242036201	242036241	242036301	242036381	242036461	242036543	245036781	246036901	246136963
RANGE OF BORES	1-1/2" TO 3"	1-7/8" TO 3-3/4"	2-3/8" TO 4-1/2"	2-11/16" TO 5-1/2"	3-5/16" TO 6-1/2"	3-7/8" TO 8"	4-3/4" TO 10"	6-5/16" TO 15"	7-3/16" TO 16-1/2"	8" TO 16"
	NOT USED ON POST LESS THAN 1" DIA.									
	243030540									
	244030590									
	245030780									
	246130960									

TILTING EXPANSION CENTERING FIXTURES

CODE #	242033161	242033201	242033241	242033302	242033381	242033461	243033542	244033591	245033781	246033901	246133962
RANGE OF	1-1/2" TO 3"	1-7/8" TO 3-3/4"	2-3/8" TO 4-1/2"	2-11/16" TO	3-5/16" TO 6-1/2"	3-7/8" TO 8"	4-3/4" TO 10"	5-1/4" TO 13"	6-5/16" TO 15"	7-3/16" TO 16-1/2"	8" TO 18"
	NOT USED ON POST LESS THAN 1" DIA.										

TOP TAPER BUSHING

CODE #	242010120
	NOT USED ON POST LESS THAN 1" DIA.
	NOT FURNISHED FOR 1" THRU 6" - USE TILTING BUSHING & BOTTOM COLLAR

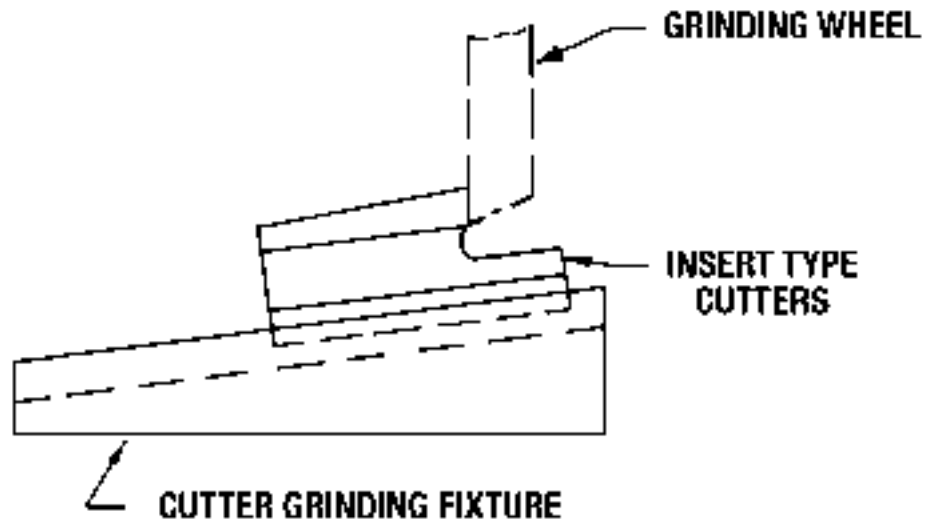
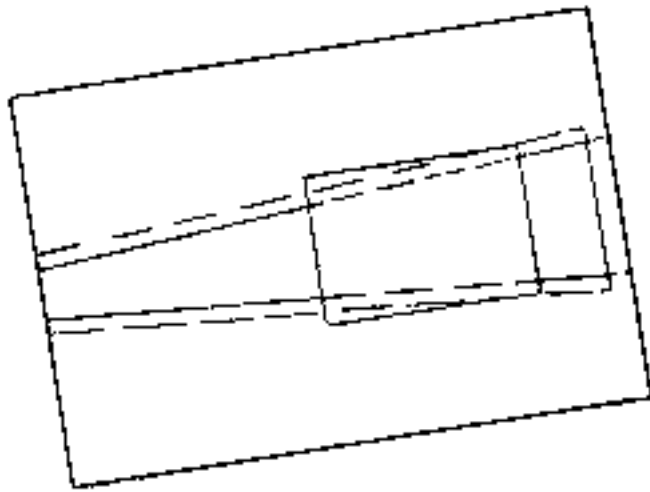
BOTTOM CLAMP

CODE #	242011120
	NOT USED ON POST LESS THAN 1" DIA.
	NOT FURNISHED FOR 1" THRU 6" - USE TILTING BUSHING & BOTTOM COLLAR

PLATE BUSHING - POST ADAPTOR

	#6 POST	#8 POST	#10 POST	#12 POST	#16 POST	#20 POST	#24 POST	#30 POST
POST	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	1-7/8"
GROOVE	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	7/8"	1"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
#1	242001160	242001160	242001160	242001120	242001160	242001200	242001240	
K1212-#2	242001160	242001160	242001160	242001120	242001160	242001200	242001240	
#3	243001160	243001160	243001160	243001120	243001160	243001200	243001240	243001400
K2024-#3A	243001160	243001160	243001160	243001120	243001160	243001200	243001240	243001400
#4	244001160	244001160	244001160	244001120	244001160	244001200	244001240	244001400
#5	245001160	245001160	245001160	245001120	245001160	245001200	245001240	245001400
K3530-#6	246001160	246001160	246001160	246001120	246001160	246001200	246001240	246001400
#6A	246101160	246101160	246101160	246101120	246101160	246101200	246101240	246101400
#8	246101160	246101160	246101160	246101120	246101160	246101200	246101240	246101400
#8A	246101160	246101160	246101160	246101120	246101160	246101200	246101240	246101400
#9	246101160	246101160	246101160	246101120	246101160	246101200	246101240	246101400

	#38 POST	#46 POST	#54 POST	#59 POST	#78 POST	#90 POST	#96 POST
POST	2-3/8"	2-7/8"	3-3/8"	3/11/16	4-7/8"	5-5/8"	6"
GROOVE	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
MODEL	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #	CODE #
#1							
K1212-#2							
#3	243001400						
K2024-#3A	243001400						
#4	244001400	244001460	244001540				
#5	245001400	245001460	245001540	245001590			
K3530-#6	246001400	246001460	246001540	246001590			
#6A	246101400	246101460	246101540	246101590	246101780	NOT REQUIRED	NOT REQUIRED
#8	246101400	246101460	246101540	246101590	246101780	NOT REQUIRED	NOT REQUIRED
#8A	246101400	246101460	246101540	246101590	246101780	NOT REQUIRED	NOT REQUIRED
#9	246101400	246101460	246101540	246101590	246101780	NOT REQUIRED	NOT REQUIRED



The **Mitts & Merrill Cutter Grinding Fixture** allows Mitts & Merrill keyseater users to save time and money by enabling them to grind cutter inserts in-plant easily and precisely on any universal grinder.

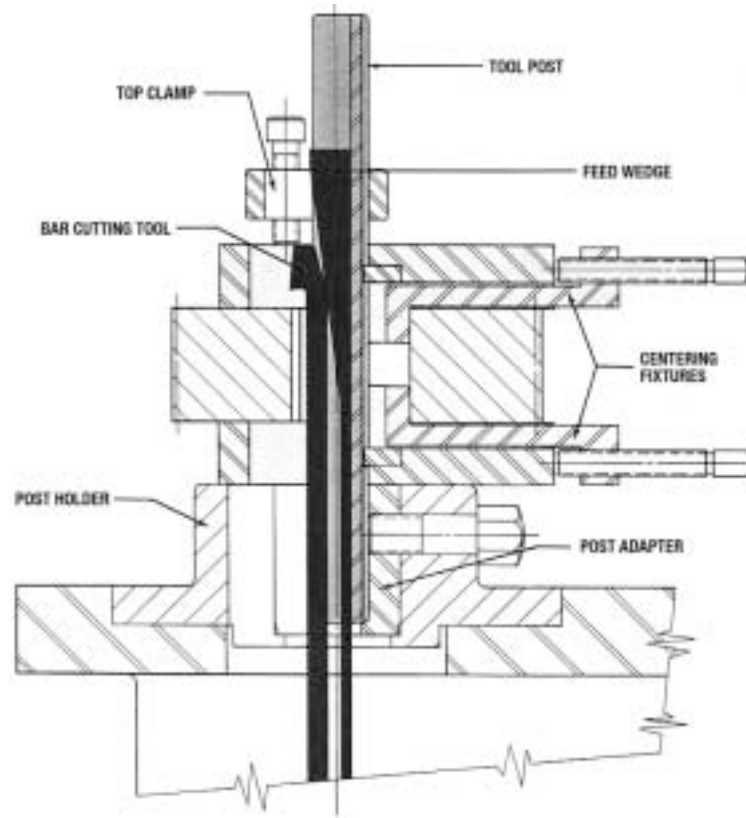
The **cutter grinding fixture** accommodates all Mitts & Merrill insert-type cutters. The grinder operator simply places the cutter's dovetail into the fixture's mating slot and sharpens. The fixture eliminates measuring, and guesswork. The fixture's configuration ensures that the correct rake angle for the cutter's face is always obtained.

Mitts & Merrill Cutter Grinding Fixture is available in two sizes for cutting any size cutter inserts:

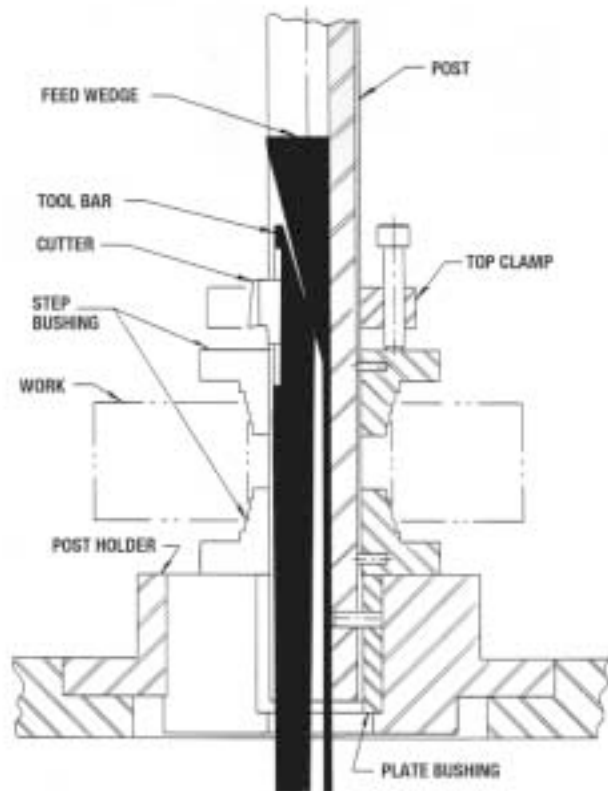
Small: For insert-type cutters used in 7/8"-1-1/2" tool bars.

Large: For cutters used in tool bars 2" and larger.

TYPICAL SET-UP



EXPANSION CENTERING FIXTURES



STEP BUSHINGS

Need Help with Your Tooling or Machine Problems?

Call our Service Representatives at:
815-943-3303

They will gladly assist you in any of the following areas:

- Electronic, Hydraulic or Mechanical trouble shooting
- Additional operator training / start-up new or used
 - Fixture recommendations / Evaluations
- Upgrades-Electronic, Hydraulic and Mechanical
 - Machine condition evaluations
 - Tooling and Cutter recommendations

Many problems can be solved with a quick phone call. If not, a service representative can be dispatched to your facility. Don't fret, contact the one **O.E.M.** manufacturer who truly cares about solving your problems.