



**Accessories Required Per Type Of Tool & Process**

Distributed by:

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*Note: Steel and Cobalt Tooling can be processed with a Stone or Cubic Boron Nitride (CBN) wheel. CBN provides a better finish and does not need dressing. Stone Wheels require Diamond Dresser. Carbide Tooling requires a Diamond Wheel. Finer grit wheels provide a better finish but less material must be taken off thus lengthening process.*

Pneumatic finger is recommended for standard end mill sharpening. It provides automatic switching from primary to secondary grind without changing spindle geometry, saves time, ensures repeatable accuracy.

RADIUS ATTACHMENT  
 DUAL POSITION PNEUMATIC FINGER  
 TAPER ATTACHMENT  
 WORK HOLDING FIXTURE  
 Z-AXIS & EXTENSION Requires Dish Wheel  
 UNIVERSAL GRINDING FIXTURE  
 END MILL HOLDERS  
 EXPANDING ARBOR SET  
 TYPE OF WHEEL

|                            | RADIUS ATTACHMENT | DUAL POSITION PNEUMATIC FINGER | TAPER ATTACHMENT | WORK HOLDING FIXTURE | Z-AXIS & EXTENSION Requires Dish Wheel | UNIVERSAL GRINDING FIXTURE | END MILL HOLDERS    | EXPANDING ARBOR SET | TYPE OF WHEEL                            |
|----------------------------|-------------------|--------------------------------|------------------|----------------------|--|----------------------------|---------------------|---------------------|--|
| End Mills                  |                   | Recom-<br>mended               |                  |                      | For<br>refluting                       | For<br>Gashing             | Over 1"<br>diameter |                     | Cup                                      |
| Tapered End Mill           |                   |                                | Re-<br>quired    |                      |  | For<br>Gashing             | Over 1"<br>diameter |                     | Cup                                      |
| Hoggers or Roughers or     |                   |                                |                  |                      | Re-<br>quired                          |                            | Over 1"<br>diameter |                     | Dish                                     |
| Radius End Mills           | Re-<br>quired     |                                |                  |                      |  | For<br>Gashing             | Over 1"<br>diameter |                     | Cup                                      |
| Reamers                    |                   |                                | For ta-<br>pered |                      | For<br>refluting                       | To add<br>relief           | Over 1"<br>diameter |                     | Cup                                      |
| Counter Sinks              |                   |                                |                  |                      |  | Re-<br>quired              | Over 1"<br>diameter | Re-<br>quired       | Cup                                      |
| Taps                       |                   |                                |                  |                      | For<br>inside<br>grind                 | For re-<br>lief            | Over 1"<br>diameter |                     | Cup                                      |
| Router Bits                |                   | Re-<br>quired                  |                  |                      | For<br>refluting                       | For<br>Gashing             | Over 1"<br>diameter |                     | Cup,<br>500 Grit                         |
| Single Lip Cutters         |                   |                                |                  |                      |  | Re-<br>quired              | Over 1"<br>diameter |                     | Cup                                      |
| Uniflute Counter Sinks     |                   |                                |                  |                      |  | Re-<br>quired              | Over 1"<br>diameter |                     | Cup                                      |
| Shell Mills                |                   |                                |                  |                      | For face<br>grinding                   |                            | Over 1"<br>diameter | Re-<br>quired       | Cup or<br>Dish                           |
| Lathe or Flat Tools        |                   |                                |                  | Re-<br>quired        |  |                            | Over 1"<br>diameter |                     | Cup                                      |
| *Slugger or Jancy Bits     |                   |                                |                  |                      |  | *Requir<br>ed              |                     |                     | Dish                                     |
| Shaper Cutters             |                   |                                |                  |                      | Re-<br>quired                          |                            | Over 1"<br>diameter |                     | Dish                                     |
| Engraving Tools (1/8" min) |                   |                                |                  |                      |  |                            |                     |                     | Wide<br>Faced<br>Cup<br>320 grit<br>min. |

**Gashing:**  
To re-build end and put back "notch" on end of end mill.

**Reflute:**  
Sharpening inside of flute to provide chip clearance once the outside "hook" has disappeared from previous sharpenings.

\*Slugger or Jancy Bits with over 12-Teeth will Require Special Index Ring.

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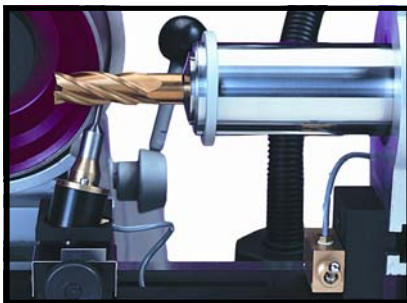
### **CM-02: AIR BEARING (comes standard on new machines)**

The jet-stream air bearing is precision-honed and capable of grinding to precision tolerances. The sleeve is stainless steel, the spindle triple-dipped hardened chrome steel. The air-bearing fixture sits on top of a 360 degree swivel base for tapered and chamfered end mill grinding. For use on CUTTERMMASTER tool sharpeners and other tool and cutter grinders. Universal stylus, 5C collet draw bar, and 12 index collar included. Keep clean dry air to the air bearing and remember to wipe it down with acetone periodically for long life.



### **CM-03: RADIUS ATTACHMENT with CENTER FINDER**

For sharpening ball end mills and generating corner radius. Fixture sits on top of a 360 degree swivel base with a 90 degree stop. The unit has a true lead screw in-feed and cross-feed for generating correct corner and ball grinds. For use on CUTTERMMASTER tool sharpeners and other tool and cutter grinders. Center finder, index collar and 5C collet draw bar included.



### **CM-05: DUAL POSITION PNEUMATIC FINGER**

*(Necessary for Spiral Router Bits for the Wood & Plastics Industries. Has a finer pointed stylus to enable entry into the smaller fluting.)*

Cuts sharpening time in half; eliminates the need for raising and lowering the grinding spindle. Simply flip the toggle switch to go instantly from primary to secondary clearance angle. Automatically adjusts the clearance angles for every end mill ensuring exact repeatable accuracy. As the cross-feed dial moves the finger adjusting by the size of the tool, it positions tool to correct grind position. For use on CUTTERMMASTER air bearing only. T-slot, mounting bracket, hardware and carbide stylus included.

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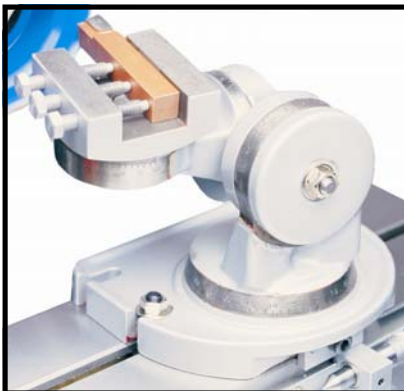
### **CM -08 TAPER ATTACHMENT**

For setting up machine to grind tapered end mills, reamers and other tapered applications. Works in conjunction with standard finger from air bearing fixture. For use on CUTTERMMASTER machines only.



### **CM -10 Metal Cabinet Base**

36" x 24" x 35" Base and Storage Cabinet.



### **CM-11: WORK HOLDING FIXTURE**

Features 4 positioning quadrants for any compound angle. Ideal for form tools, lathe bits, spade drills or tools requiring a certain hold or position. For use on CUTTERMMASTER and other tool and cutter grinders.

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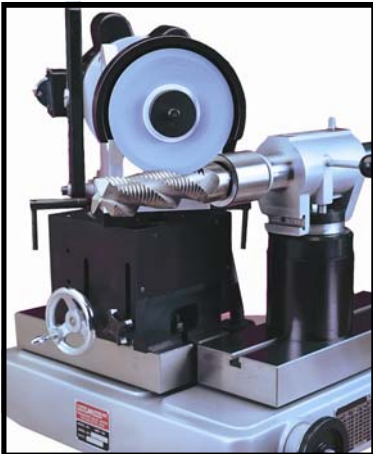
# **CUTTERMMASTER** End Mill & Tool Sharpener

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### **CM-12: DIAMOND DRESSER**

For dressing aluminum oxide and ceramic wheels. Best used with cup, dish, and wide face wheels. For use on CUTTERMMASTER machines and other tool and cutter grinders.



### **CM-15: Z-AXIS** (*requires spindle extension, see below*)

Enables you to easily sharpen roughing end mills, chip breakers, or other fluting and gashing applications in a matter of minutes. Greatly enhances CUTTERMMASTER's already outstanding versatility by providing you with 8 working axes. Provides 3 3/4" vertical lift. Enables the motor to swivel 180 degrees. Once installed, will do standard end mills and tools without having to remove or break down set-up. For use with CUTTERMMASTER only. Air bearing riser and 6" wheel guard included.



### **CM-M70: SPINDLE EXTENSION** (required for Z-Axis)

Extends wheel out 1 1/2" (38 mm). Needed to sharpen roughers, chip breakers and fluting. Works in conjunction with Z-axis and 6" dish wheels. Will need to order when ordering CM-15 Z-Axis and/or 6" dish wheels. Recommended for CUTTERMMASTER use only.

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# CUTTERMMASTER

## End Mill & Tool Sharpener

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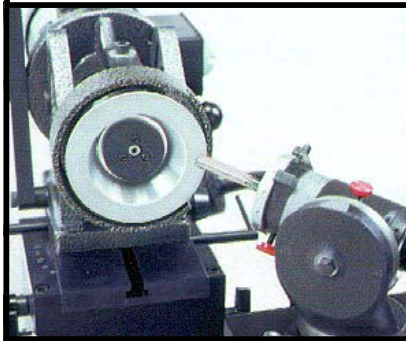


*Shown with CM-17, Ext. Length Draw Bar.*

#### **CM-16: UNIVERSAL GRINDING FIXTURE**

*(Replaces Obsolete CM-C1 Countersink Cam Grinding Attachment, CM-17 recommended when ordering, See Below)*

Sharpen the ends of an end mills, gash, chamfer, index, and cam relief all with one fixture. Sharpen the ends (primary, secondary and gashing) of the end mill; use an adjusting cam relief for counter bores, taps, countersinks, reamers, most everything with indexing and relief. Fixture sits on top of a 360 degree swivel base with 180 degree tilt. Lock-down cam position helps dial in correct relief for both right hand and left hand tools. For use on CUTTERMMASTER and other tool and cutter grinders. Internal 5C collet draw bar and 12 index collar included. Various index collars available.



#### **CM-17: EXTENDED LENGTH DRAW BAR**

Draw bar with added length allows you to index quickly from the back of the CM-16 unit instead of the front - giving you more freedom and time sharpening tools. Highly recommended when buying universal grinding fixture. For use on CM-16 universal grinding fixture only.



#### **COLLET SETS**

Used to hold cutting tools. Works in conjunction with air bearing fixture, radius attachment, and universal grinding fixture.

- 5CS-7** Seven-piece economy collet set; 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1".
- 5CRS-7** Seven-piece 3-split Hardinge collet set; 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1".
- 5CHS-6** Six-piece 4-split high-accuracy Hardinge collet set; 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1".
- 5CMS-6** Six-piece metric set; 6 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm.
- 5CRSM-6** Six-piece high-accuracy Hardinge metric set; 6 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm.

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# CUTTERMMASTER

## End Mill & Tool Sharpener

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#### END MILL HOLDERS

Used to hold larger cutting tools. Works in conjunction with air bearing fixture. Holds tools with larger shanks. Works in place of 5C collet. For use on CUTTERMMASTER machines and 5C collet applications.

5CE-114 (1 1/4 inch)  
5CE-112 (1 1/2 inch)  
5CE-2 (2 inch)

5CE-32 (32mm)  
5CE-40 (40mm)  
5CE-50 (50mm)

### ***KAINDL DRILL BIT SHARPENERS***



#### **BSM20 (1 - 20mm / .05 - .875")**

The Kaindl BSM20 replaces the CM-06 previously offered as a drill bit sharpening attachment for the CUTTERMMASTER. For roughly the same cost the Kaindl provides more versatility and as a stand alone machine it eliminates the need for set up. The BSM 20 is simple to use and delivers a superior sharpening quality of your drill point ... every time. The BSM 20 comes equipped with KAINDL's RPS Reversing Prism System. With the RPS fixture you can quickly set up and produce the most accurate point angle (90-180°) unlike "pencil sharpener" types with fixed angles. The KAINDL RPS handles almost all shapes and types including special shapes such as step drills, sheet metal drills, Brad point drills, HSS or hard metal cutters.



#### **BSG60 (3 - 60mm / .03 - 2.4")**

For those who require larger diameters the Base Unit Model of the BSG60 will sharpen diameters from 3 - 40mm / .03 - 1.6 inches and up to 60mm / 2.4 inches with Optional Prism Clamp. Also works with special bits such as Step-drill Bits, Center Bits for Sheet Metal or Wood, Cutters, Milling Cutters, Roughers, High-Speed Steel, Chrome Vanadium, Tungsten Carbide etc.

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#### **CM-EAS-8: EXPANDING ARBOR SET**

Holds I.D. of milling cutters, Keo cutters, shaper cutters, tools with an I.D. up to 1 1/4". Four split cut with center hex key expands arbor holding I.D. of cutter. Used in conjunction with 5C collet air bearing fixture, universal grinding fixture or radius attachment. Takes the place of centers in some applications. Makes grinding and indexing simple. Sizes consisting of 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/4".



#### **WHEELS**



- CM-20** 5" cup pink wheel, 60 grit. General purpose use, for HSS tools.
- CM-21** 5" cup wide face wheel, 80 grit. For use on drill, taps, reamers and countersinks.
- CM-22** 5" cup blue ceramic wheel, 60 grit. General purpose, holds shape longer. For HSS tools.
- CM-23** 5" cup wide face wheel, 60 grit. For use on larger drills and step drills.
- CM-25** 6" dish blue ceramic wheel, 60 grit. For fluting, gashing, and sharpening rougher end mills in HSS. Used with Z-axis and spindle extension. Premium wheel, holds up longer.
- CM-26** 6" dish wheel, 38 grit. For fluting, gashing and sharpening rougher end mills in HSS. Used with Z-axis and spindle extension.
- CM-30** 5" cup diamond wheel, 120 grit. For use with carbide tools.
- CM-30/500** 5" cup diamond wheel, 500 grit. For carbide woodworking tooling needing a fine finish.
- CM-31** 5" cup CBN wheel, 100 grit. For HSS needing a fine finish. No wheel breakdown or dressing.
- CM-32** 5" cup CBN wheel with wide face, 100 grit. For drills, taps, reamers and countersinks needing a fine finish.
- CM-33** 6" dish diamond wheel, 150 grit. For fluting gashing and sharpening carbide tools and rougher end mills. Used with Z-axis and spindle extension.
- CM-33/500** 6" dish diamond wheel, 500 grit. For fluting gashing and sharpening carbide woodworking tools such as router bits, chip breakers, straight bits, shaper cutters and other tools requiring and ultra-high finish. Used with Z-axis and spindle extension.
- CM-34** 6" CBN dish wheel, 120 grit. For fluting, gashing and sharpening rougher end mills requiring a fine finish. No wheel breakdown or dressing. Used with Z-axis and spindle extension.
- CM-35** 5" cup diamond wheel with wide face, 120 grit. For carbide drills, taps, reamers and countersinks. Works well with other carbide applications requiring more wheel surface.

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