

TOYCEN

Engineering and Prototyping - 2353 Ridgecrest Place, Ottawa ON K1H 7V4
Manufacturing and Distribution - 308 Isabella Street, Ogdensburg NY 13669
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Cuttermasters.com

The most complete source world wide for user friendly
machines for machinists

2015 Product Lineup



Tradesman DC Variable Speed
Bench Grinder



CUTTERMASTER Professional



Journeyman End Mill Grinder

Tool Grinder (End Mill Grinder)



CUTTERMASTER Journeyman JX..... \$4,125.00

Combination Grinder

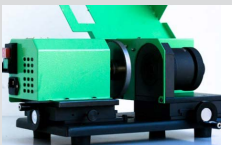


CS320 End Mill Grinder and Drill Grinder 3-20mm (1/8" to 3/4") \$3,075.00



ESR320 End Mill Grinder and **Corner Radius Grinder**
3-20mm (1/8" to 3/4")..... \$3,975.00

Tool Cut Off



GS-13N End Mill Grinder 3-20mm (1/8" to 3/4")..... \$1,580.00

Drill Point Grinders



DS213 Drill and Spot Drill Grinder 2-13mm (1/8" to 1/2").....\$755.00

DS216 Drill and Spot Drill Grinder 2-16mm (1/8" to 5/8").....\$899.00



DS220 Drill and Spot Drill Grinder 2-20mm (1/8" to 3/4")..... \$1,325.00



DS232 Drill Grinder 2-32mm (1/8" to 1 1/4") \$2,575.00

End Mill End Grinders



ES320 End Mill Grinder 3-20mm (1/8" to 3/4")..... \$2,249.00



ES1332 End Mill Grinder 13-32mm (1" to 1 1/4"). \$3,349.00

TOYGEN

JX JOURNEYMAN

A TOYGEN INNOVATION FOR 2014

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Ends the Correct Way

Air Bearing Stroke	10.5" (266.7mm)
Air Bearing Swing Over Table	9.8"(248.92)
Cutting Tool Capacity	2" shank, 9.8" O.D.
Flute Length	10.5"
T-Slot Dimension	0.8" (20.32mm) x 0.5" (12.7mm) x 0.67" (17.018mm)
X-Axis Table Travel	6" (152.4mm)
Y-Axis Table Travel	3" (76.2mm) + slides 6"(152.4mm)
X-Axis Table Working Space	16.5" (419.1mm) x 5.5" (139.7mm)
Y-Axis Table Working space	13" (330.2) x 5.5" (139.7)
Wheel	Any tool grinding wheel
Motor Tilt	+35° -10°
Motor	400 - 4000 rpm, 500 W



Flute Sharpening



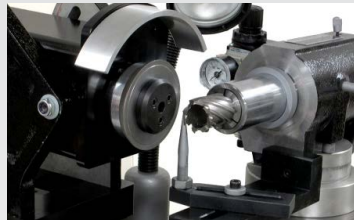
Tapered Weldon Flat Grinding



Drill Sharpening



Reduced Neck Grinding



Annular Cutter Sharpening



Countersink Sharpening



Tool Cut Off



Tap Sharpening

The CUTTERMASTER Journeyman JX is designed to be easy to set up and easy to use when grinding and re-grinding modern cutting tool materials and geometries.

The DCK single wheel drive will mount any tool grinder wheel including Cuttermasters' precision plated wheels, is reversible, variable speed and produces ten times the torque of the standard 1/3 HP motor (5 Foot Pounds @ 1000 rpm). This eliminates tool burning by facilitating heavy cuts at greatly reduced RPM, cutting grinding times in half on some tools.

This new Torque Compensating DC Drive System has more down tilt and also swivels on the base to allow for faster alignment and positioning for grinding of countersinks, reamers, annular cutters and side and face cutters.



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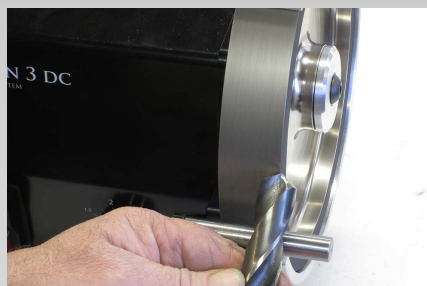


TOYCEN

TRADESMAN

DESIGNED BY JEFF TOYCEN

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Drill Bit Sharpening



Lathe Bit Sharpening



Weldon Flats

- REMOVE UP TO 50% MORE MATERIAL AT LOWER RPM
- GRIND JUST ABOUT ANYTHING WITHOUT WHEEL LOAD-UP OR GLAZING
- CONSISTENTLY FLAT AND PRECISE GRINDING SURFACE

A TRULY POWERFUL VARIABLE SPEED TOOL GRINDER

This is not your father's bench grinder with lumpy stone wheels, dust and the required bucket of water.

In the world of bench grinders with conventional wheels about 50% of the effort, energy and torque in the grinding process is wasted in wheel wear and consumption causing heat and high loss in efficiency.

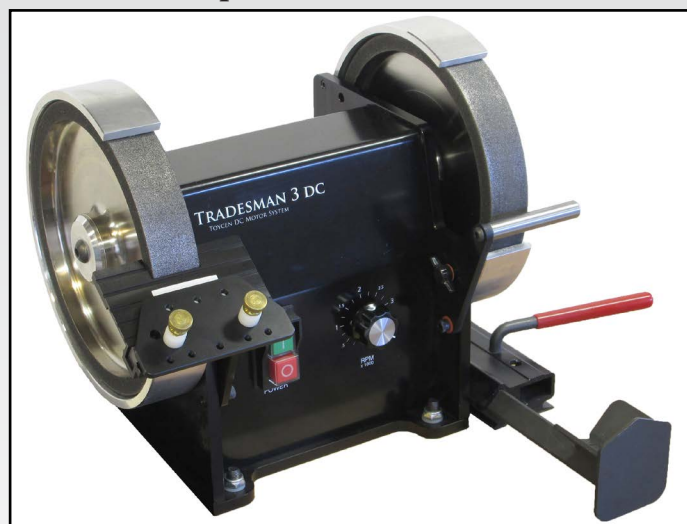
Using a Toycen Tradesman Precision DC Grinder equipped with Cuttermasters' Precision Superabrasive Wheels virtually all of the energy and mechanical effort is available for grinding "milling" action.

This setup provides substantially higher torque and presents a new physical environment where material can be removed about twice as fast and at substantially lower rpm.

The Toycen Tradesman Precision DC Grinder makes possible the grinding of carbide, carbon fiber, fiberglass, and plastics without the wheels loading up or glazing .

It's a new day.

Wolverine Compatible for Woodturners



SPEED / TORQUE COMPENSATION CONTROL
5X MORE POWERFUL THAN YOUR AVERAGE 8"
5 FT·LBS AT 1000 RPM GRINDER



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TOYCEN

COMBINATION END MILL AND DRILL GRINDER

CS320



CS320 Combination End Mill and Drill Grinder

- Grinds drills and 2-6 flute end mills 3mm to 20mm (1/8" to 3/4") diameter
- Creates 90° to 140° drill point angle
- Creates variable split point geometry S / N / X and XR type (drills)
- Adjustable depth-of-cut for split point geometry (drills)
- Adjustable depth-of-cut for gash (end mills)
- Includes 23pc collet set and two grinding wheels for both HSS and carbide tools.
- Machine size: 45cm x 27cm x 19cm x 25kg



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CE

DRILL GRINDERS

DS213, DS216 & DS220



DS213 and DS216 Drill Grinders

- DS213 Grinds drills 2mm to 12mm (1/8" to 5/8") diameter
- DS216 Grinds drills 2mm to 16mm (1/8" to 1/2") diameter
- Creates 90° to 140° point angle
- Creates variable split point geometry S / N / X and XR type
- Adjustable depth-of-cut for split point geometry
- Grinds both High Speed Steel and Carbide drill bits with the same wheel
- Includes 12pc collet set (DS213 includes 10 pc.)
- Machine size: 26cm x 16cm x 19cm x 8kg

DS220 Drill Grinder

- Grinds drills 2mm to 20mm (1/8" to 3/4") diameter
- Creates 90° to 140° point angle
- Creates variable split point geometry S / N / X and XR type
- Adjustable depth-of-cut for split point geometry
- Includes 19pc collet set
- Machine size: 26cm x 16cm x 19cm x 10kg



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TOYCEN

LARGE CAPACITY DRILL SHARPENER

DS232



DS232 Large Capacity Drill Sharpener

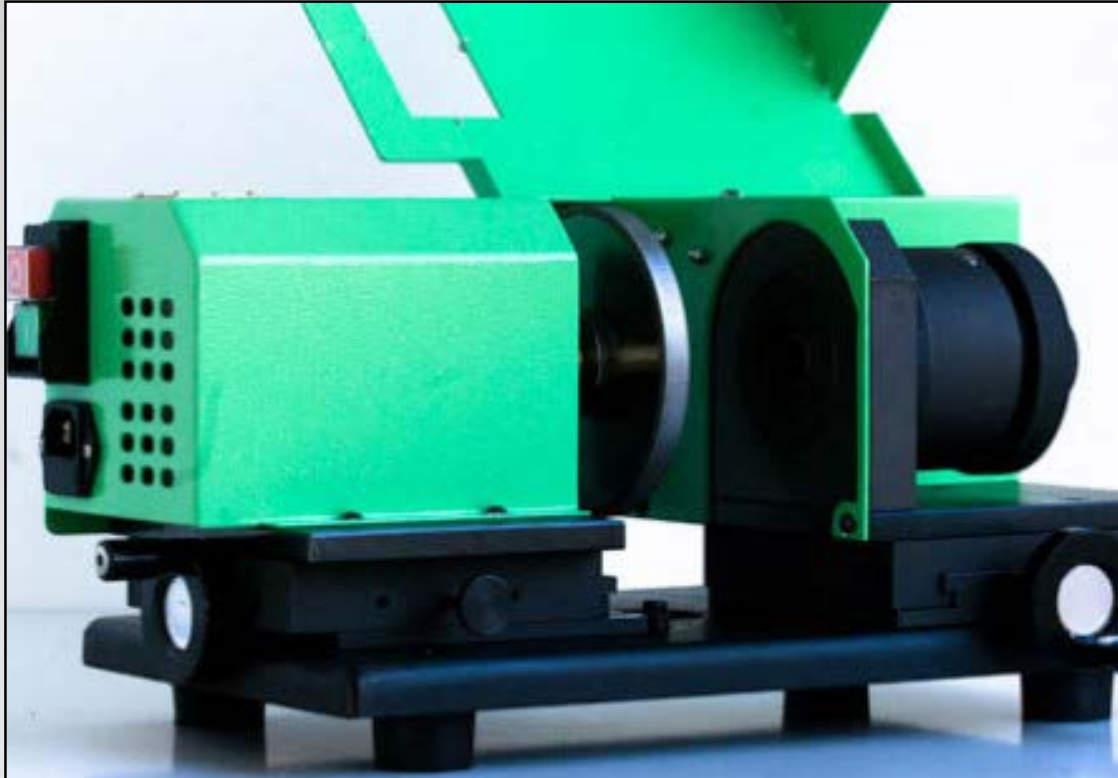
- Sharpens drills 2mm to 32mm (1/8" to 1 1/4") diameter
- Creates 90° to 140° point angle
- Creates variable split point geometry S / N / X and XR type
- Adjustable depth-of-cut for split point geometry
- Sharpens both High Speed Steel and Carbide drill bits with the same wheel
- Includes 32pc collet set
- Machine size: 45cm x 27cm x 19cm x 25kg



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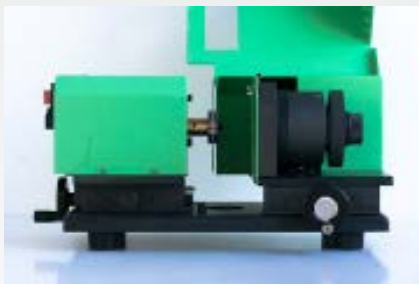
CUT OFF AND NECK GRINDING MACHINE

GS-13N



GS-13N Cut Off and Neck Grinding Machine

- Cuts off and neck grinds tools from 3mm to 13mm (1/8" to 1/2") diameter
- Tool rotates to decrease cutting time and temperature
- Cutting time: approximately 60 seconds
- Includes one CBN or diamond neck wheel, two diamond cut off wheels (for carbide) and 5 resin cut off wheels (for high speed steel)
- Machine size: 38cm x 23cm x 22cm x 22kg



GS-13N with necking wheel



Cut off end mill



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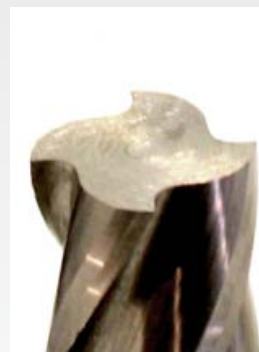
END MILL SHARPENER AND TOOL CUTTER

ESTC313



ESTC313 End Mill Sharpener and Tool Cutter

- Sharpens end mills 3mm to 13mm (0.118" to 0.512") diameter
- Capacity can be increased to 20mm (0.79") with additional collet set
- Cutting angle concavity: 0° to 3°
- Lip clearance: 6°
- Cuts ends of tool off
- Sharpens both High Speed Steel and Carbide tools with the same wheel
- Includes collet set
- Machine size: 36cm x 18cm x 23cm x 15kg



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END MILL END GRINDER ES320



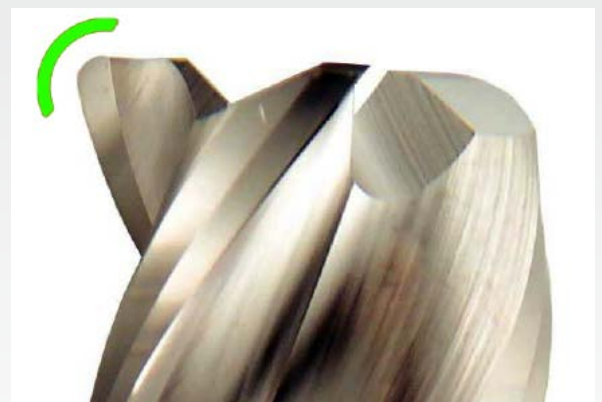
ESR320 End Mill End Grinder

- Grinds 3-20mm (1/8" - 3/4") 2-6 flute end mills
- Cutting angle concavity: 0° to 3°
- Lip clearance: 6°
- Includes collet set and grinding wheel
- Machine size: 36 x 18 x 23mm, 15kg

END MILL END AND CORNER RADIUS GRINDER ESR320

ESR320 End and Corner Radius Grinder

- Grinds up to 20mm (3/4") 2-6 flute end mills on the left hand side of the machine
- Grinds corner radius up to 1/8" on a 3/4 inch end mill on the right hand side of the machine
- Cutting angle concavity: 0° to 3°
- Lip clearance: 6°
- Includes collet set and two wheels
- Machine size: 36 x 18 x 23mm, 15kg



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TOYCEN

LARGE END MILL GRINDER

ES1332



ES1332 Large End Mill Grinder

- Grinds 2-6 flute end mills sized from 1/2" to 1 1/2" diameter
- Includes 9 pc collet set and two wheels
- Machine size: 39 x 29 x 32mm, 23kg



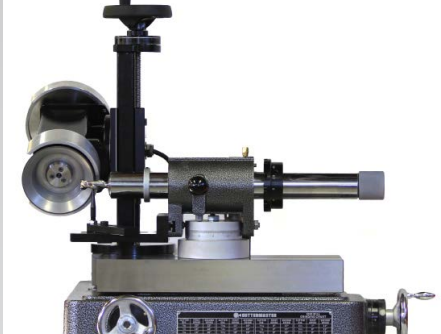
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TOYCEN

DC TOWER FOR CUTTERMASTER

A TOYCEN INNOVATION

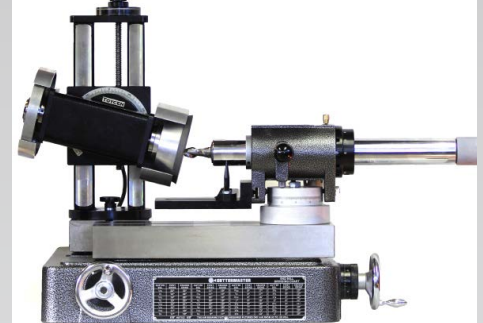
DCT



FLUTES



REDUCED NECK



EASY ENDS

Toycen DC Drives for CUTTERMASTER are an upgrade to the venerable, 1972 CUTTERMASTER to a configuration that is more useful for modern cutting tool materials and geometries.

The DC Tower will mount any tool grinder wheel including Cuttermasters' precision plated wheels, is reversible, variable speed and produces ten times the torque of the standard 1/3 HP motor (5 Foot Pounds @ 1000 rpm). This eliminates tool burning by facilitating heavy cuts at greatly reduced RPM, cutting grinding times in half on some tools.

The Toycen DC Tower is an infinitely variable and powerful variable speed wheel head with the Toycen DC conDrive System. It can replace the CUTTERMASTER motor and control and fits the CUTTERMASTER models FCG- 30, CM-01, CMX, HDT-30 or any tool grinder with a table and T slot.

This revolutionary product was designed and built in our own shop. Now you can grind reduced necks and flats on carbide shanks, and sharpen reamers, saws, annular cutters, hogger mills, taps, side and face cutters, countersinks and step drills on your CUTTERMASTER.

Jeff Toycen,
Toycen Industries



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CUTTERMMASTER PROFESSIONAL

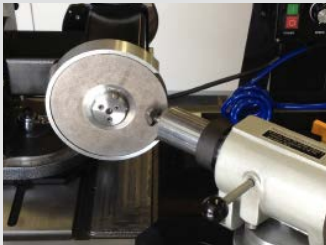
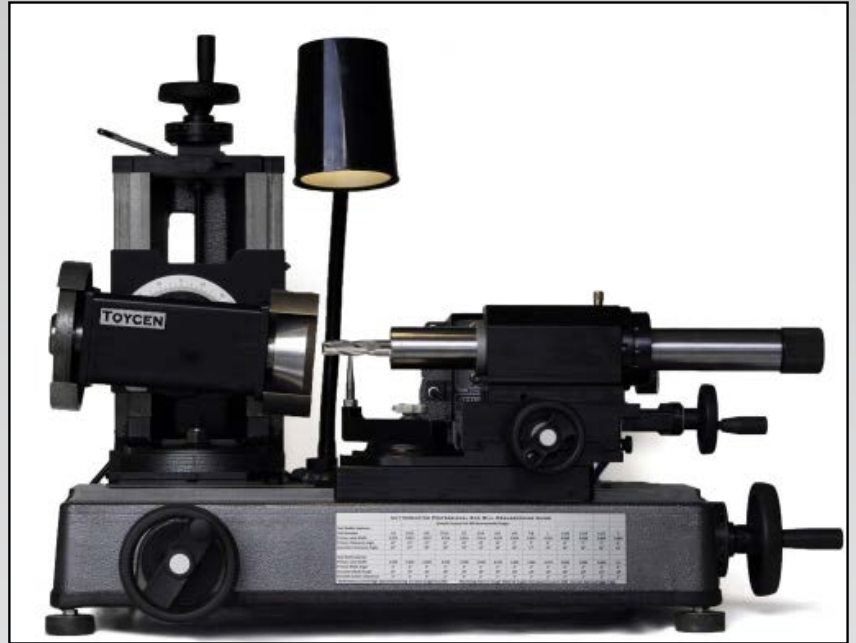
DESIGNED BY MIKE COLTON AND JEFF TOYCEN

CMX

The Cuttermaster Professional has been designed with the capabilities to meet the demands of today's prototype and production shops and provides superior flexibility and ease of use for tool regrinding and tool modifications.

Designed by our own engineers and built in our own shop, you won't be disappointed with the results.

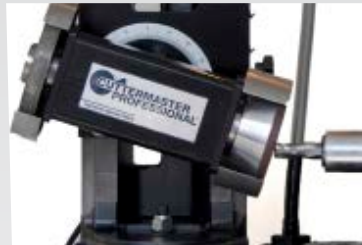
Sharpen end mill ends, flutes and corner radius's, reamers (circumferential lands), annular cutters, drills, countersinks, cut off and neck grind both carbide and high speed steel.



Countersinks



Dual Wheel Multi Axis Head



Weldon Flats/Chamfers



Air Bearing Stroke	10.5" (266.7mm)
Air Bearing Collet	Standard 5C
Cutting Tool Capacity	2" shank, 9.8" O.D.
Flute Length	10.5"
T-Slot Dimension	0.8" (20.32mm) x 0.5" (12.7mm) x 0.67" (17.018mm)
X-Axis Table Working Space	26.5" (330.2mm) x 5.5" (139.7mm)
Y-Axis Table Working space	13" (330.2mm) x 6.5" (165.1mm)
Wheel	Any tool grinding wheel
Motor Tilt	Infinite
Motor	400 - 4000 rpm, 500 W



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CUTTERMASTER DC

A TOYCEN INNOVATION

CM-01 DC



FLUTES



REDUCED NECK



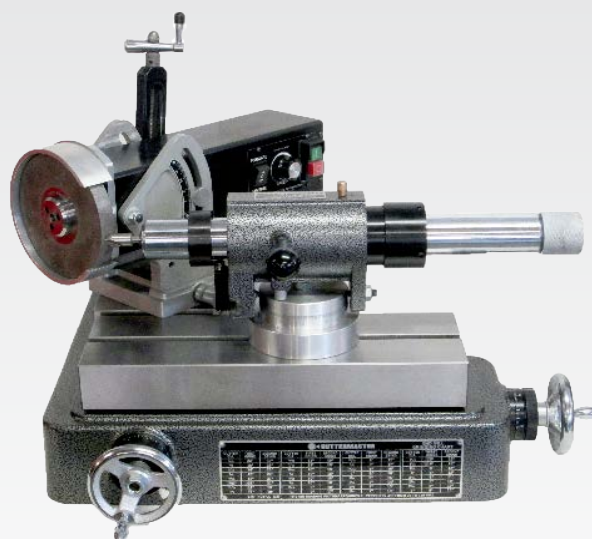
EASY ENDS

Toycen DC Drives for CUTTERMASTER are an upgrade to the venerable, 1972 CUTTERMASTER to a configuration that is more useful for modern cutting tool materials and geometries.

The DCK Single wheel drive will mount any tool grinder wheel including Cuttermasters' precision plated wheels, is reversible, variable speed and produces ten times the torque of the standard 1/3 HP motor (5 Foot Pounds @ 1000 rpm). This eliminates tool burning by facilitating heavy cuts at greatly reduced RPM, cutting grinding times in half on some tools.

This new Torque Compensating DC Drive System has more down tilt and also swivels on the base to allow for faster alignment and positioning for grinding of countersinks, reamers, annular cutters and side and face cutters.

Air Bearing Stroke	10.5" (266.7mm)
Air Bearing Swing Over Table	9.8"(248.92)
Cutting Tool Capacity	2" shank, 9.8" O.D.
Flute Length	10.5"
T-Slot Dimension	0.8" (20.32mm) x 0.5" (12.7mm) x 0.67" (17.018mm)
X-Axis Table Travel	6" (152.4mm)
Y-Axis Table Travel	3" (76.2mm) + slides 6"(152.4mm)
X-Axis Table Working Space	16.5" (419.1mm) x 5.5" (139.7mm)
Y-Axis Table Working space	13" (330.2) x 5.5" (139.7)
Wheel	Any tool grinding wheel
Motor Tilt	+35° -10°
Motor	400 - 4000 rpm, 500 W



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TOYCEN

CUTTERMASTER END MILL SHARPENER

CM-01



The Original CUTTERMASTER End Mill Sharpener.

- Grind O.D.s and ends of standard end mills in one setup within minutes
- Extremely versatile
- Pneumatic finger instantly and automatically sets primary and secondary clearance angles with the flip of a switch
- Extremely easy to use - and fast. The machine is always set up and ready to go



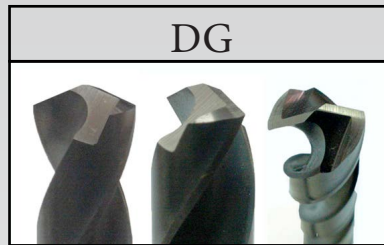
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DRILL GRINDER

DS216+

DRILL HOLES ACCURATELY AND FASTER AND WITH REDUCED LOAD



DS216+ DG and SG Drill Point Grinder

- Grinds drills 2-16mm (1/8" to 5/8") diameter
- Creates 90° to 140° drill point angle
- Creates variable split point geometry S / N / X and XR
- Adjustable depth-of-cut for split point geometry
- Creates variable point geometry SD and DG
- Includes 12pc collet set and two grinding wheels
- Machine size: 45cm x 27cm x 19cm x 25kg

40% FASTER CYCLE TIME

30% REDUCED LOAD

Drill Diameter	Sharpened by DS216+		New Drill	
	10mm	Speed: 960	Feed: 280	Speed: 640
	Load: 34%	Time: 10/s	Load: 50%	Time: 17/s

Re-sharpen and modify your drills into geometries similar in performance to

- OSG drills
 - Water injected, DG, SG, High-helix drills,
 - Spot drills, and Twist drills (S/X/N/XR).
- Sandvik drills
 - Guhring drills
 - Nachi drill
 - Sumitomo drills



DS216+ DRILL GRINDER SPEED AND FEED RATES

Working Material	Structural Steels		Cast Irons		Alloy Steels		Mild Steels		Wicket Alloys		Aluminum		Inert/Non-Metals		Stainless Steels	
	R.P.M	Feed	R.P.M	Feed	R.P.M	Feed	R.P.M	Feed	R.P.M	Feed	R.P.M	Feed	R.P.M	Feed	R.P.M	Feed
Hardness	[150 - 220 HB]		[200 - 280 HB]		[20 - 30 HRC]		[23 - 33 HRC]		[33 - 43 HRC]		[20mm thickness]		[25mm thickness]		[20mm thickness]	
Drill	(mm)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)	(mm/min)
Material	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Test 1: New Twist Drill																
# 4	1600	1.60	1600	1.30	1200	1.00	800	1.00	30	30	4000	3.00	3000	3.00	3000	3.00
	Lead: 1.0%	Time: 1.0%	Lead: 1.0%	Time: 1.0%	Lead: 1.0%	Time: 1.0%	Lead: 1.0%	Time: 1.0%	Lead: 1.0%	Time: 1.0%	Lead: 2.0%	Time: 1.0%	Lead: 1.0%	Time: 1.0%	Lead: 2.0%	Time: 1.0%
# 10	800	1.30	800	1.00	600	0.75	400	0.75	40	40	1600	4.00	1600	4.00	1600	4.00
	Lead: 2.0%	Time: 1.7%	Lead: 2.0%	Time: 1.6%	Lead: 1.5%	Time: 1.3%	Lead: 1.0%	Time: 1.0%	Lead: 1.0%	Time: 1.0%	Lead: 3.0%	Time: 1.5%	Lead: 2.0%	Time: 1.5%	Lead: 3.0%	Time: 1.5%
# 16	400	1.00	400	0.80	300	0.60	200	0.60	32	32	1000	3.13	1000	3.13	1000	3.13
	Lead: 3.0%	Time: 2.0%	Lead: 3.0%	Time: 2.4%	Lead: 2.0%	Time: 1.8%	Lead: 1.5%	Time: 1.5%	Lead: 1.5%	Time: 1.5%	Lead: 3.0%	Time: 1.5%	Lead: 2.0%	Time: 1.5%	Lead: 3.0%	Time: 1.5%
Test 2: Sharpener Drill by DS216																
# 4	1600	1.30	1600	1.30	1200	1.00	800	1.00	30	30	4000	3.00	3000	3.00	3000	3.00
	Lead: 1.7%	Time: 1.3%	Lead: 1.4%	Time: 1.3%	Lead: 1.2%	Time: 1.3%	Lead: 1.0%	Time: 1.3%	Lead: 1.0%	Time: 1.3%	Lead: 2.0%	Time: 1.3%	Lead: 1.0%	Time: 1.3%	Lead: 2.0%	Time: 1.3%
# 10	800	1.30	800	1.00	600	0.75	400	0.75	40	40	1600	4.00	1600	4.00	1600	4.00
	Lead: 4.0%	Time: 1.7%	Lead: 3.0%	Time: 1.6%	Lead: 2.5%	Time: 1.5%	Lead: 2.0%	Time: 1.5%	Lead: 2.0%	Time: 1.5%	Lead: 3.0%	Time: 1.5%	Lead: 2.0%	Time: 1.5%	Lead: 3.0%	Time: 1.5%
# 16	400	1.00	400	0.80	300	0.60	200	0.60	32	32	1000	3.13	1000	3.13	1000	3.13
	Lead: 8.0%	Time: 2.0%	Lead: 4.2%	Time: 2.4%	Lead: 3.0%	Time: 2.0%	Lead: 2.0%	Time: 2.0%	Lead: 2.0%	Time: 2.0%	Lead: 3.0%	Time: 1.5%	Lead: 2.0%	Time: 1.5%	Lead: 3.0%	Time: 1.5%
Test 3: Sharpener Drill by DS216+ [DG Geometry]																
# 4	2400	3.60	2400	3.00	1875	1.80	1200	1.10	11.9	11.9	6000	1.00	4000	1.00	4000	1.00
	Lead: 1.5%	Time: 1.1%	Lead: 1.1%	Time: 0.9%	Lead: 1.0%	Time: 1.1%	Lead: 1.0%	Time: 1.1%	Lead: 1.0%	Time: 1.1%	Lead: 1.0%	Time: 0.6%	Lead: 1.0%	Time: 0.6%	Lead: 1.0%	Time: 0.6%
# 10	900	2.90	900	1.30	700	1.00	480	0.90	9.0	9.0	2000	9.00	1500	9.00	1500	9.00
	Lead: 3.0%	Time: 1.0%	Lead: 1.0%	Time: 1.1%	Lead: 1.0%	Time: 1.1%	Lead: 1.0%	Time: 1.1%	Lead: 1.0%	Time: 1.1%	Lead: 2.0%	Time: 0.7%	Lead: 2.0%	Time: 0.7%	Lead: 2.0%	Time: 0.7%
# 16	600	2.25	600	1.80	480	1.20	300	0.70	7.0	7.0	1300	7.00	1000	7.00	1000	7.00
	Lead: 7.0%	Time: 1.1%	Lead: 3.0%	Time: 1.7%	Lead: 2.0%	Time: 1.6%	Lead: 1.5%	Time: 1.6%	Lead: 1.5%	Time: 1.6%	Lead: 4.0%	Time: 0.9%	Lead: 3.0%	Time: 0.9%	Lead: 4.0%	Time: 0.9%
Test 4: Sharpener Drill by DS216+ [SG Geometry]																
# 4	2100	3.00	2100	4.20	1575	2.10	1100	1.60	1.60	1.60	7200	1.620	4500	1.620	4500	1.620
	Lead: 1.0%	Time: 0.6%	Lead: 1.0%	Time: 0.7%	Lead: 1.0%	Time: 0.8%	Lead: 1.0%	Time: 0.8%	Lead: 1.0%	Time: 0.8%	Lead: 1.0%	Time: 0.6%	Lead: 1.0%	Time: 0.6%	Lead: 1.0%	Time: 0.6%
# 10	1100	4.00	1100	3.20	800	2.40	500	1.90	1.90	1.90	2800	3.20	1800	3.20	1800	3.20
	Lead: 3.0%	Time: 0.7%	Lead: 2.0%	Time: 0.8%	Lead: 1.5%	Time: 0.8%	Lead: 1.0%	Time: 0.8%	Lead: 1.0%	Time: 0.8%	Lead: 2.0%	Time: 0.6%	Lead: 2.0%	Time: 0.6%	Lead: 2.0%	Time: 0.6%
# 16	700	3.00	700	2.60	525	1.70	300	1.00	1.00	1.00	1800	3.00	1000	3.00	1000	3.00
	Lead: 8.0%	Time: 0.9%	Lead: 4.0%	Time: 1.0%	Lead: 3.0%	Time: 1.0%	Lead: 2.0%	Time: 1.0%	Lead: 2.0%	Time: 1.0%	Lead: 4.0%	Time: 0.6%	Lead: 3.0%	Time: 0.6%	Lead: 4.0%	Time: 0.6%

* Above data is for reference only, data may be modified according to actual cutting condition



TAP GRINDER

TS1632



TS1632 Tap Grinder

- Sharpens taps M16 - M32
- Cutting Edge Concavity Angle 5° - 45°
- Lip clearance: 6°
- Cuts ends of tool off
- Includes 6pc. collet set
- Machine size: 31cm x 17cm x 20cm x 10kg



SMALL DRILL GRINDER

1/16" TO 1/4" CARBIDE, COBALT, HIGH SPEED STEEL, 2,3 FLUTE

Small drills are not always expensive but down time is.

Common tip geometry allows set up symmetry between machines.

Creating your own tip, you can have better control of cycle time.

The SDS16 is very easy to use and can be kept at the machine or in the tool room

The 400 grit diamond or CBN wheel produces a very accurate point split with a fine finish ensuring good tip life.



SDS16

SDS16 Drill Grinder

- Grinds drills 1/16" to 1/4" diameter
- Creates 90° to 140° point angle
- Creates variable split point geometry S / N / X and XR type
- Adjustable depth-of-cut for split point geometry
- Includes 12pc collet set
- Machine size: 26cm x 16cm x 19cm x 8kg

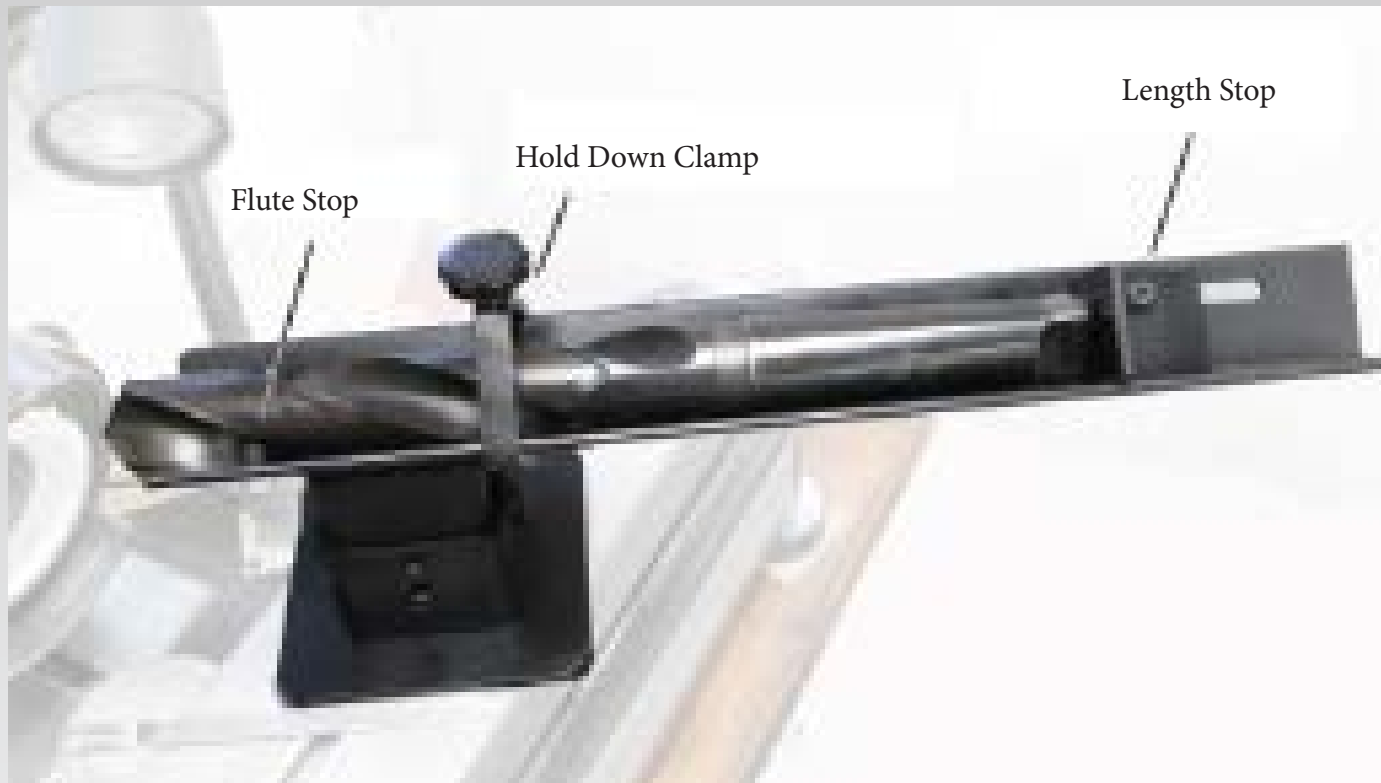


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Manufacturing and Distribution - 308 Isabella Street, Ogdensburg NY 13669
Toll Free 1 (800) 417-2171, Canada (613) 523-7753
www.cuttermasters.com or email: cuttermaster@gmail.com

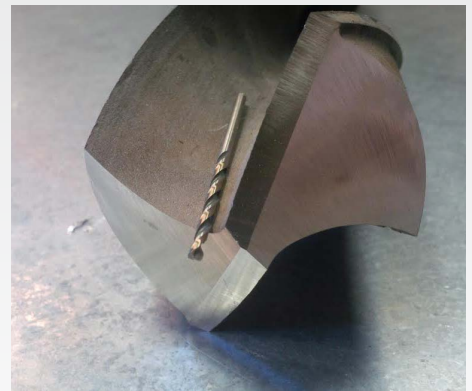
TOYCEN

LARGE DRILL GRINDING ATTACHMENT

CM-06B



- This fixture is designed to bolt onto all CUTTERMASTER type machines or other tool grinders.
- For sharpening all large drills and core drills
- Angle adjustment from 180 to 100 degrees



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RADIUS GRINDING ATTACHMENT

JR-3



JR-3 Radius Grinding Attachment

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



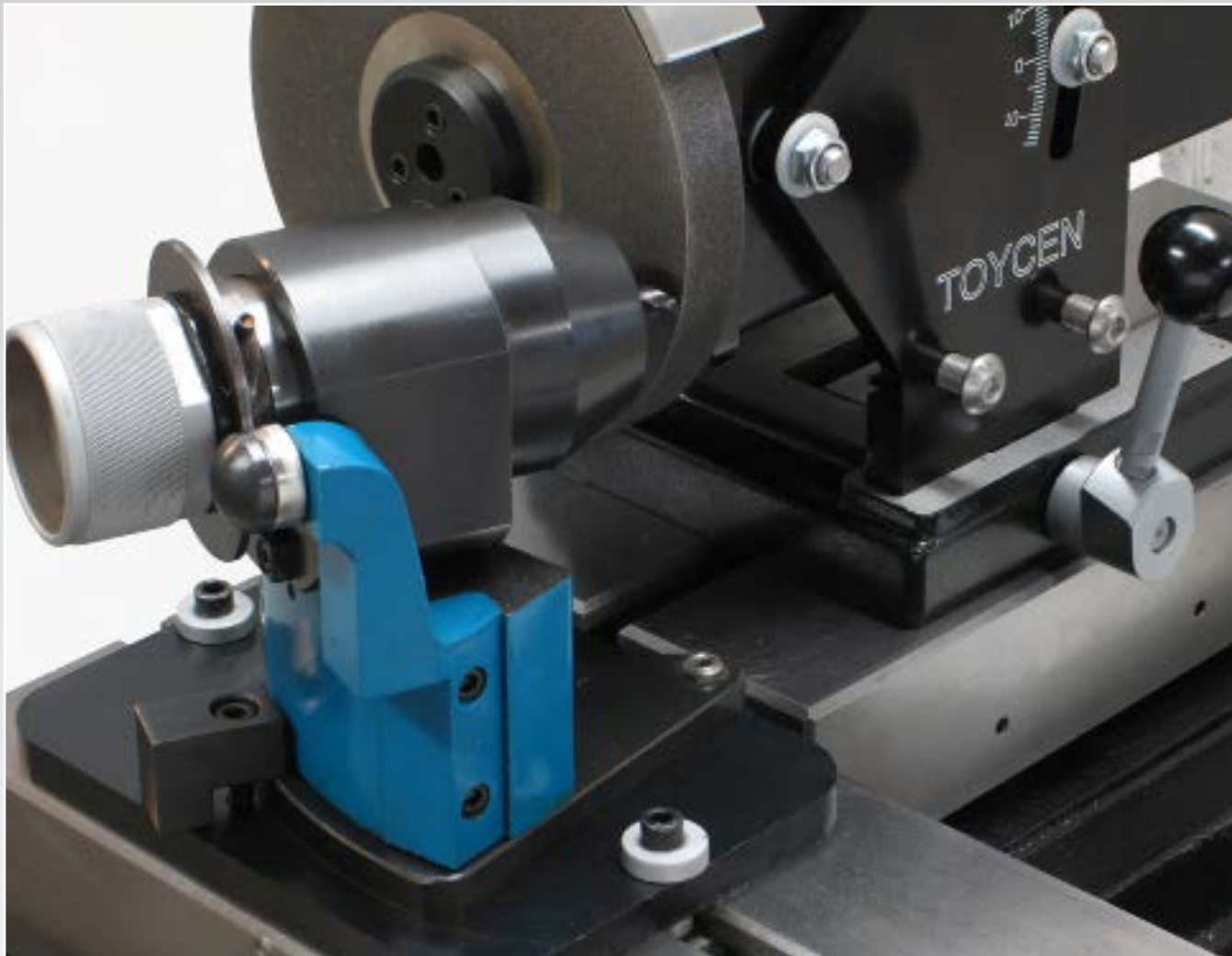
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TOYCEN

DRILL GRINDING ATTACHMENT FOR CUTTERMMASTER TYPE MACHINES

CM-06



- CMS-06 Drill Grinding Attachment
- Sharpens drills from 3 to 22mm (1/8" to 7/8")
 - Easily adjustable point angle
 - Thru hole in chuck allows for any drill length
 - Set up and sharpen in less than two minutes



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Toll Free 1 (800) 417-2171, Canada (613) 523-7753

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TOYCEN

COUNTERSINK SHARPENING CAM SET

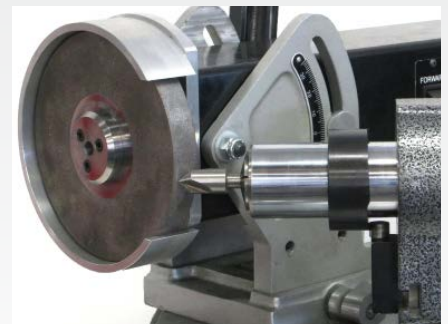
A TOYCEN INNOVATION FOR
CUTTERMAS-
TER TYPE MACHINES

CMS-CSJ, CMS-CSB



Sharpen drills, countersinks and step drills on the CUTTERMAS-
TER and CUTTERMAS-TER Professional with the CMX Counter-
sink Sharpening Cam Set. Cam follower tensioner and hand wheel
included.

Basic Set - CMX-CSB 4pc.
Journeyman Set - CMX-CSJ 10pc.



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TOYCEN

TOYCEN BOOKS ON CUTTING TOOLS

CMX-BD, CMX-BEM

**TOYCEN
CUTTING TOOLS
DRILLS**



**TOYCEN
CUTTING TOOLS
END MILLS**



Jeff Toycen's series of shop reference books on cutting tools.

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Our Industrial Grinding Wheels are Precision Plated meaning they'll stay sharp, stay cool, hold their shape and won't emit dust. Ideal for bench grinders and bench top tool grinders our customers are typically woodturners and machinists sharpening carbide and high speed steel drills bits and end mills.

If you are used to working with stone grinding wheels our Industrial Grinding Wheels are a breath of fresh air in terms of ease-of-use and safety. They are an excellent return on investment when you consider that they'll outlast your stone wheels by many lifetimes.

CUTTERMASTERS GRINDING WHEELS



8" Tradesman Wheel



100mm 12V9 Super 12



8" x 1.27"



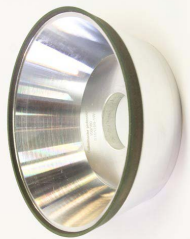
6" DAREx CBN Replacement



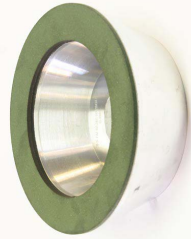
6" DAREx diamond Replacement



6" Face Wheel Replacement



5" 11V9



5" 11A2



5" 11V9



6" 12V9



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CUTTERMASTERS

PRECISION PLATED FORM WHEELS

Shank, Weldon Flat and Face Grinding



6" Diamond or CBN Wheel
asdfquick changing between wheels while being a more useful shape.



6" Weldon Flat / Chamfer Wheel



3" 45° Chamfer Wheel (Corner Prep)



6" Face Wheel for neck reduction and large faces like countersinks



TOYCEN

CUTTERMASTERS

PROPRIETARY END MILL SHARPENING

Formulated for good form retention - Dry Grinding



100mm Super 12V9 (modified) Wheel
CBN and diamond resin bond wheels, are superior to 11V9 Cup wheels, do not require balancing



11V9C 5" Flared Cup Wheel
CBN or diamond Features an improved shape for complex operations such as end gash. Has 50% less mass improving performance and balance.



11V9 5" Plated Cup Wheel
*just for fun



Flute Inside Relief Wheel , for Hoggers, large Taps, Annular Cutters



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TRADESMAN WHEEL

8" x 1.27" SUPER ABRASIVE GRINDING WHEEL



Our CBN grinding wheels are precision plated steel which means that they hold their shape, stay sharp and don't emit dust. If you are used to working with stone grinding wheels our cbn wheels are a breath of fresh air in terms of ease-of-use and safety. They are an excellent return on investment when you consider that they'll outlast your stone wheels by many lifetimes.

The Tradesman wheel is 8" diameter, 1.29" wide and features a .5" plated face on the left and right sides.

USD PRICE LIST, September 29, 2015

Universal Bench Top Tool / End Mill Grinders

JX	Journeyman machine only	\$4,125.00
JXR	Journeyman Tower Height Adjustable (Riser) Machine Package	\$4,575.00
JX SP	Toycon JX Tool Production Support Package with roller burnished air Spindle, Toycon Variable Speed DC Motor and Control, 7pc. 5C collet set, 1 CBN super 12 V100 grit, 1 Diamond Super 12V 120-150 Grit. (4 inch) or 100mm , CMX-WT Wheel Trueing Device Air filter, Machine Oiler	\$4,475.00
(With) DS216	Industrial Drill Sharpener (1/8 to 5/8 Capacity 90-140 Degree Tip 1 taper attachment, 1 oiler, vibration dampening feet, Work light, Manual.....	\$5,375.00
CMXB	CUTTERMASTER Professional CMXB Tool Grinder complete Cuttermaster pro Universal Base, Toycon MK2 Radius Air Spindle, Toycon Variable Speed, Reversing Infinite Twin DC Motor Tower and Control, 7 Piece 5C Collet Set (1", 7/8", 3/4", 5/8", 1/2", 3/8", 1/4", metric available), Maintenance Tool Set Avail November 2015.....	\$9,875.00

Tradesman Bench Grinder Work Station

	Tradesman with no wheels. Wheel guards and tool rests included.....	\$1,085.00
	Choose wheels from our "Dry Grinding Wheels" page (a \$20 discount per wheel is applied on wheels when purchased with the grinder).	
	Tradesman with a set of Cuttermasters wheels 1-1/4 wide.....	\$1,505.00
	Tradesman DC3 with a set of Tradesman Wheels	\$1575.00
	(Tormek Bracket kit and 1 Mitre Jig Tool rest and standard wheels.....	\$1,525.00
	Add Tradesman wheels + \$100.....	\$1,625.00
T-MT	MultiTool Multitool Belt Grinder Attachment, 2" x 36"	\$299.95
T-MTK	Adapter kit for Multitool Belt Grinder Attachment	\$95.00
T-MRJ	Miter Rest and Jig Plate (Machine mounted)	\$66.00
T-BR	Bar Rest or Support Arm	\$22.00
T-TB	Bracket to mount the Tormek US-105.....	\$165.00
T-SE	Spindle Extension	\$118.00
T-SCE	Spindle Cap Extension.....	\$132.00
T-R	Reversing Option.....	\$215.00
T-WFB	Weldon Flat Bracket Assembly	\$236.00
T2-220	220V Tradesman - Add \$100	\$100.00

YN Drill Sharpening and End Mill

DS213	Drill Grinder 2-13mm (1/8" to 1/2").....	\$755.00
DS216	Drill Grinder 2-16mm (1/8" to 5/8").....	\$899.00
	Replacement wheel	\$144.00
DS220	Drill Grinder 2-20mm (1/8" to 3/4").....	\$1,325.00
	Replacement wheel	\$144.00
DS232	Drill Grinder 2-32mm (1/8" to 1 1/4").....	\$2,575.00
	Replacement wheel	\$144.00
SDS16	Small Drill Grinder 1-13mm	\$1,675.00
	Replacement wheel	\$144.00
ES320	End Mill Grinder 3-20mm (1/8" to 3/4")	\$2,249.00

	Replacement wheel	\$144.00
ES1332	End Mill Grinder 13-32mm (1/8" to 1 1/4"). Expandable to 38mm (1 1/2")	\$3,349.00
	Replacement wheel - Small	\$144.00
	Replacement wheel - Large	\$224.00

YN Combination Grinders

ESR313	End Mill Grinder and Radius Grinder 3-20mm (1/8" to 1/2"). Grinds up to 3/32" radius	\$3,175.00
	Replacement Wheels / Champher wheel 45 Degree	\$144.00
ESR320	End Mill Grinder and Radius Grinder 3-20mm (1/8" to 3/4"). Grinds up to 1/8" radius.....	\$3,975.00
	Replacement Wheels / Champher wheel 45 Degree	\$144.00
ESTC313	End Mill Grinder and Tool Cut Off Machine 3-13mm (1/8" to 1/2").	\$2,499.00
	Replacement Wheels	\$144.00
CS320	Combination End Mill Grinder and Drill Grinder 3-20mm (1/8" to 3/4")	\$3,075.00
TS1632	Tap Grinder M16-M32	\$1,580.00

GSC Drill Point and Cut Off

GS1X	Drill Grinder 2-16mm (1/8" to 5/8").....	\$1,185.00
	Replacement wheel	\$144.00
GS-13N	Tool Cut Off Grinder (1/8" to 1/2").....	\$1,580.00
	Replacement wheel - Neck.....	\$144.00
	Replacement wheel - Cut Off.....	\$48.00

Annular Cutter Grinder

ACG1450	Annular Cutter Grinder (1/2" to 3", Flutes 4,6,7,8,9,10,16,18))	\$2,465.00
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CUTTERMASTER and Journeyman JX - Accessories

CM-02A	Toycen Air Bearing Fixture with stylus & index collar, Roller Burnished.....	\$1,690.00
CMS-02A	Cuttermaster Air Bearing Fixture with stylus & index collar.....	\$1,625.00
CM-03C	Radius Attachment; includes center finder.....	\$1,275.00
CM-04	Center Finder for Radius Attachment as separate item	\$48.00
CM-04H	Center Height Finder.....	\$23.00
CM-05P	Dual Positioning Pneumatic Finger	\$625.00
CM-06	Drill Sharpening Attachment	\$415.00
DCS-06	Drill and Countersink Sharpening Attachment.....	\$585.00
DCS-06C	5pc. Countersink Cam Set for DCS-06 (\$42.00 per piece).....	\$180.00
CM-06B	Large Drill Sharpening Attachment.....	\$415.00
CM-08	Taper Attachment	\$96.00
CM-A24	Stylus (extra, included with new machine)	\$48.00
CM-10S	Cabinet Base 24" x 24" 34".....	\$425.00
CM-11	Work holding Fixture	689.00
CM-12	Diamond Dresser	\$112.00
CM-A22B	Complete Assembly, Stylus, Nut & Bolt	\$285.00
CM-5CS-7	7 pc. 5C Collet Set (economy) 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1"	\$70.00
CM-5CRS-7	7 pc. Hardinge 5C 3 split Collet Set (inch)	\$310.00
CM-5CHS-6	6 pc. Hardinge 5ST 4 split Collet Set (high accuracy) 1/4, 3/8, 1/2, 5/8, 3/4, 7/8"	\$398.00
CM-5CMS-6	6 pc. 5C metric Collet Set (economy) 6, 10, 12, 16, 20 & 25mm	\$60.00
CM-5CRSM-6	6 pc. Hardinge 5C metric 3 split Collet Set	\$212.00
CM-5CE-114	5C End Mill Holder: 1" dia.	\$135.00
CM-5CE-112	5C End Mill Holder: 1 1/2" dia.	\$135.00
CM-5CE-2	5C End Mill Holder: 2" dia.	\$156.00
CM-5CE-32	5C End Mill Holder: 32mm dia.	\$135.00
CM-5CE-40	5C End Mill Holder: 40mm dia.	\$135.00
CM-5CE-50	5C End Mill Holder: 50mm dia.	\$156.00
CM-EAS-8	8 pc. Expanding Arbor Set (. thru 1...)	\$196.00
JX-CB	Pulse Width Modulated DC Control for Journeyman Grinder.....	\$685.00
CMXB-Tower	Journeyman Tower (Toycen Infinite Twin DC Tower and control)	\$2,225.00
JXR-Tower	Journeyman Tower (Riser Tower, Motor and Control).....	\$1,865.00

Cuttermasters- Tradesman Wheels Precision Plated

(Diameter x width x bore (inches), medium, grit)

Eight Inch Wheels

8158c80	8" x 1" x 5/8" CBN, 60 grit.....	\$240.00
8158c180	8" x 1" x 5/8" CBN, 180 grit.....	\$200.00
812558c100	8" x 1 1/4" x 5/8" CBN, 100 grit,	\$210.00
812558c180	8" x 1 1/4" x 5/8" CBN, 180 grit,	\$210.00
8T100	8" x 1 1/4" x 5/8" CBN, 100 grit Tradesman Wheel (1/2" side plating),.....	\$245.00

8T180	8" x 1 1/4" x 5/8" CBN, 180 grit Tradesman Wheel (1/2" side plating),	\$245.00
Six Inch Wheels 1A1 Style		
675125d100	6" x 3/4" x 1 1/4" Diamond, 100 grit,	\$210.00
675125c100	6" x 3/4" x 1 1/4" CBN, 100 grit	\$190.00
675125c180	6" x 3/4" x 1 1/4" CBN, 180 grit	\$190.00
67558c180	6" x 3/4" x 5/8" CBN, 180 grit	\$190.00
CMS-FC120	6" x 3/4" x 1 1/4" CBN, 120 grit Face Wheel	\$245.00
CMS-FD180	6" x 3/4" x 1 1/4" Diamond, 180 grit Face Wheel	\$245.00
CMS-WG6	6" Wheel Guard Kit	\$85.00

Tool and Cutter Wheels

CMS-40	3-7/8", CBN, 180 Annular Cutter Wheel	\$185.00
CMS-41	4" CBN 140 Grit Fluting Wheel	\$265.00
CMS-42	Riser for Journeyman Fluting operations	\$455.00
CR3- Rad1	Wheel .03-.06 3 Inch Diameter 1/2 inch Bore Diamond 220 Grit	\$144.00
CR3- Rad2	Wheel .09-.12 3 Inch Diameter 1/2 inch Bore Diamond 220 Grit	\$144.00
CMS-WF	Wheel Diamond 140 grit End Mill Weldon Flat Grinding Wheel	\$165.00
CMS-bush	Plastic Bushings – 1 1/4" od x 1", 3/4, 5/8 id	6.00
CMS-bore	Custom Bore	\$20.00
CMS-CTC	Cutter wheel	\$185.00
CMS-CTC	Wheel Kit	\$265.00
CMS-WF.3	6" Diamond 100 Grit Weldon Flat, Chamfer, Neck .30 wide Flat	\$185.00
CMS-WF.3	6" Diamond 100 Grit Weldon Flat, Chamfer, Neck .50 wide Flat	\$218.00

Cuttermasters T&C Mineral and Resin Wheels - Suitable for Dry Grinding

CMS-20	5" cup, pink aluminum oxide, 60 grit	\$60.00
CMS-21	5" cup, white aluminum oxide, 80 grit with 3/4" face	\$90.00
CMS-22	5" cup, blue ceramic, 80 grit	\$195.00
CMS-23	5" cup, pink aluminum oxide, 60 grit with 3/4" face	\$89.00
CMS-25	6" dish, blue ceramic, 60 grit	\$99.00
CMS-26	6" dish, aluminum oxide, 38 grit	\$139.00
CMS-30	5" cup, diamond, 120 grit	\$215.00
CMS-30/500	5" cup, diamond 500 grit	\$276.00
CMS-31P	5" cup, 150-180 grit diamond Poly	\$325.00
CMS-31	5" cup, CBN, 100 grit	\$215.00
CMS-32	5" cup, CBN, 100 grit with 3/4" face	\$215.00
CMS-33	6" dish, diamond, 150 grit	\$278.00
CMS-33	6" dish, CBN, 120 Grit	\$336.00
CMS-33/500	6" dish, diamond 500 grit	\$278.00
CMS-35	5" cup, diamond 100 Grit with 3/4" Face	\$325.00
CMS-36	4" cup (100mm), diamond 120-150 Grit Super 12	\$175.00
CMS-37	4" cup, (100mm), CBN 100 Grit Super 12	\$175.00
CMS-38	3-1/8" dual radius wheel, CBN 180, (0.03" and 0.06" radiuses)	\$144.00
CMS-39	3-1/8" dual radius wheel, CBN 180, (0.09" and 0.120" radiuses)	\$144.00

CMS-55	Flat Profile Super 12 V .300 Wheel Spacer.....	\$18.00
CMS-CTC	Cutter wheel	\$185.00
CMS-CTC	Wheel Kit.....	\$265.00

Countersink Sharpening

CMX-CSD	Drill and Step Drill Cam Set 3 Cams .015, .040, .065	\$185.00
CMX-CSB	Countersink Sharpening Set, 4 pc. (1 Flute .01, .03) (3-6 Flute 031, .062)	\$265.00
CMX-CSJ	Countersink Sharpening Set, 10 pc. Complete with (1 Flute .01, .03), (3-6 Flute .025, .031, .05, .062) (4 Flute .084) (Step Drills .015, .04, .065)	\$445.00

Tap Sharpening

CM-C1	Basic Cam Grinding Attachment, includes 2 cams for uniflute countersinks, spring housing, handle and axial follower. Required to use any of the cams.	\$
CM-C21	Tap Cam; 2 flutes, 0-3/8"	\$
CM-C31	Tap Cam; 3 flutes, 0-3/8"	\$
CM-C32	Tap Cam; 3 flutes, 3/8" and up.....	\$
CM-C41	Tap Cam; 4 flutes, 0-5/16"	\$
CM-C42	Tap Cam; 4 flutes, 3/8" and 5/16"	\$
CM-C43	Tap Cam; 3 flutes, 3/4" and up	\$
CM-C50	Radial Follower – Required to sharpen taps.....	\$
CM-C53	3 and 6 flute Countersink Cam.....	\$
CM-C54	4 and 8 flute Countersink Cam.....	\$
CM-C1P	Special Cam Package –Includes basic unit (CM-C1)	\$
CM-21	Wheel for cam grinding – 5" alox cup wheel with 3/4" wide face	\$90.00
CMX-CSB	Countersink Sharpening Set, 4 pc. (1 Flute .01, .03) (3-6 Flute 031, .062)	\$265.00

Books

CMX-BD	Cuttermasters Hand Book on Drill Sharpening and Geometry	\$22.50
CMX-BEM	Cuttermasters Hand Book on End Mill Sharpening and Geometry	\$22.50

Technical Bulletins on request

Notes:

TOYCEN