

Cutting Tools

ZERØ Flute Countersinks & Deburring Tools & Sets

Straight Shank, CNC Precision Cam Ground, M35 Cobalt, Chatterless Cutting Action

Features

- Micro-smooth CNC precision ground for clean smooth cutting without smearing
- M35 cobalt: 6% tungsten, 5% moly, 5% cobalt – for long tool life in all types of materials
- Cam relieved for totally chatter-free cuts
- Through-hole design that is easy to sharpen using a small grinding wheel in the cross-hole



Countersink & Deburring Sets

Set Angle	No. of Pcs.	Head Dia. Included (in.)	Order No.	Price
60°	4	5/16, 3/8, 1/2, 5/8	AV4253508	Price
60°	5	5/16, 3/8, 1/2, 3/4, 1	AV4253509	Price
82°	4	5/16, 3/8, 1/2, 5/8	AV4253518	Price
82°	5	5/16, 3/8, 1/2, 3/4, 1	AV4253519	Price
90°	4	5/16, 3/8, 1/2, 5/8	AV4253528	Price
90°	5	5/16, 3/8, 1/2, 3/4, 1	AV4253529	Price

Countersink & Deburring Tools

60°, 82° and 90° • High Speed Steel

Single Cutting edge provides faster stock removal and prevents chatter
NOTE: These tools are designed for deburring steel and other ferrous materials.
Not recommended for deburring brass, aluminum and other non-ferrous materials.

Individuals

Degree	Head Dia. (in.)	Dia. of Cut (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
60	5/16	7/64 to 9/32	1/4	1-7/8	AV4253500	Price
60	3/8	5/32 to 11/32	1/4	1-7/8	AV4253501	Price
60	1/2	11/64 to 29/64	5/16	2	AV4253502	Price
60	5/8	3/16 to 37/64	3/8	2-1/2	AV4253503	Price
60	3/4	1/4 to 45/64	3/8	2-3/4	AV4253504	Price
60	1	19/64 to 27/32	3/8	3	AV4253505	Price
60	1-1/4	27/64 to 1-1/32	1/2	3-1/2	AV4253506	Price
82	5/16	3/32 to 9/32	1/4	1-5/8	AV4253510	Price
82	3/8	9/64 to 11/32	1/4	1-3/4	AV4253511	Price
82	1/2	5/32 to 29/64	5/16	1-3/4	AV4253512	Price
82	5/8	11/64 to 37/64	3/8	2-1/8	AV4253513	Price
82	3/4	13/64 to 45/64	3/8	2-3/8	AV4253514	Price
82	1	19/64 to 59/64	3/8	2-5/8	AV4253515	Price
82	1-1/4	23/64 to 1-3/32	1/2	3-1/8	AV4253516	Price
90	5/16	3/32 to 9/32	1/4	1-5/8	AV4253520	Price
90	3/8	9/64 to 11/32	1/4	1-3/4	AV4253521	Price
90	1/2	5/32 to 29/64	5/16	1-3/4	AV4253522	Price
90	5/8	11/64 to 37/64	3/8	2-1/8	AV4253523	Price
90	3/4	13/64 to 45/64	3/8	2-3/8	AV4253524	Price
90	1	19/64 to 59/64	3/8	2-5/8	AV4253525	Price
90	1-1/4	23/64 to 1-3/32	1/2	3-1/8	AV4253526	Price

Countersink & Deburring Tool Sets

5 Pc. sets include 1 each: sizes #0 thru #4 complete with wood stand



Set Angle	Order No.	Price
60°	BB61544S60	Price
82°	BB61544S82	Price
90°	BB61544S90	Price

Step Drills

Easy-to-sharpen non-skid tip eliminates the need for center punching and gives sure starts even on curved surface

- Single-fluted cutting edge
- Helps assure true round holes and allows greater control
- As many as 13 different hole sizes in a single bit eliminates the need for a toolbox full of drill bits
- Industrial grade high speed steel heat treated to assure maximum durability
- 3 Flatted shank
- Prevents slipping in drill chucks



Irwin Unibit Step Drill Sets



- Easy-to-sharpen non-skid tip eliminates the need for center punching and gives sure starts even on curved surface
- Single-fluted cutting edge
- Helps assure true round holes and allows greater control
- As many as 13 different hole sizes in a single bit eliminates the need for a toolbox full of drill bits
- Industrial grade high speed steel heat treated to assure maximum durability
- 3 Flatted shank
- Prevents slipping in drill chucks

- Hole Enlarging							- Self Starting Single Hole				
No. of Holes	Hole Range (in.)	Step Increments	Step Thickness (in.)	Shank Size (in.)	High Speed Steel		No. of Holes	Hole Range (in.)	Shank Size (in.)	High Speed Steel	
					Order No.	Price				Order No.	Price
6	14 - 24mm	2mm	5mm	1/2	KX5020M	Price	1	3/8	1/4	KX5012	Price
8	9/16 - 1	16ths	1/8	1/2	KX5020	Price	1	1/2	1/4	KX5010	Price
8	20 - 34mm	2mm	5mm	1/2	KX5021M	Price	1	7/8	3/8	KX5011	Price
10	13/16 - 1-3/8	16ths	1/8	1/2	KX5021	Price	1	1-1/8	1/2	KX5013	Price
10	13/16 - 1-3/8	16ths	1/8	1/2	KX5021	Price	1	1-7/32	1/2	KX5014	Price

- Self Starting Multiple Holes										
No. of Holes	Hole Range (in.)	Step Increments	Step Thickness (in.)	Shank Size (in.)	High Speed Steel		Cobalt		TiN Coated	
					Order No.	Price	Order No.	Price	Order No.	Price
5	4 - 12mm	2mm	11mm	1/4	KX502M	Price	KX5011102CB	Price	KX502MT	Price
6	3/16 - 1/2	16ths	3/8	1/4	KX502	Price	KX5010232CB	Price	KX502T	Price
7	6 - 18mm	2mm	5mm	3/8	KX503M	Price	KX5011103CB	Price	KX503MT	Price
9	1/4 - 3/4	16ths	1/8	3/8	KX503	Price	KX5010233CB	Price	KX503T	Price
9	4 - 12mm	1mm	5mm	1/4	KX501M	Price	KX5011101CB	Price	KX501MT	Price
10	1/4 - 1-3/8	8ths	1/8	1/2	KX505	Price	-	-	-	-
10	4 - 22mm	2mm	5mm	3/8	KX504M	Price	KX5011104CB	Price	KX504MT	Price
12	3/16 - 7/8	16ths	1/8	3/8	KX504	Price	KX5010234CB	Price	KX504T	Price
13	1/8 - 1/2	32nds	1/8	1/4	KX501	Price	KX5010231CB	Price	KX501T	Price
13	5 - 35mm	2 - 3mm	3.5mm	1/2	KX505M	Price	-	-	-	-

WELDON Countersinks & Deburring Tools

High Speed Steel

- Use for countersinking and deburring operations in a wide range of materials in portable or machine applications
- Provides chatterless finish
- Single cutting edge for fast stock removal
- Free cutting and easy to sharpen
- Designed for 60°, 82°, 90°, and 100° cutting



Type - Pilotless Deburring Tools Angle - 100					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
CSA-8	3/32 to 1/4	1/4	1-1/2	BB40CSA8	Price
CSA-14	1/8 to 27/64	1/4	1-11/16	BB40CSA14	Price
CSA-18	3/16 to 35/64	1/4	1-7/8	BB40CSA18	Price

Type - Pilotless Deburring Tools Angle - 60					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
DC-14	3/16 to 13/32	1/4	1-3/4	BB40DC14	Price
DC-18	5/16 to 17/32	1/4	1-15/16	BB40DC18	Price
DC-26	7/16 to 25/32	1/2	2-11/16	BB40DC26	Price
DC-26A	7/16 to 25/32	1/4	2-1/8	BB40DC26A	Price
DC-36	11/16 to 1-3/32	1/2	2-7/8	BB40DC36	Price

Type - Pilotless Deburring Tools Angle - 82					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
CS-5S	4.5 †	1/4	1-1/2	BB40CS5S	Price
CS-6S	6 †	1/4	1-1/2	BB40CS6S	Price
CS-8S	8 †	1/4	1-5/8	BB40CS8S	Price
CS-10S	10 †	1/4	1-5/8	BB40CS10S	Price
CS-18	3/16 to 17/32	1/4	1-7/8	BB40CS18	Price
CS-26	.307 to 25/32	1/2	2-5/8	BB40CS26	Price
CS-26A	.307 to 25/32	1/4	2-1/16	BB40CS26A	Price
CS-36	.431 to 7/8	1/2	2-13/16	BB40CS36	Price
CS-48	1/2 to 1-15/32	1/2	3-1/2	BB40CS48	Price

Type - Pilotless Deburring Tools Angle - 90					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
DB-14	5/32 to 13/32	1/4	1-11/16	BB40DB14	Price
DB-18	3/16 to 17/32	1/4	1-7/8	BB40DB18	Price
DB-26	5/16 to 25/32	1/2	2-19/32	BB40DB26	Price
DB-26A	5/16 to 25/32	1/4	2-1/32	BB40DB26A	Price
DB-36	9/16 to 1-3/32	1/2	2-13/16	BB40DB36	Price
DB-48	1/2 to 1-15/32	1/2	3-1/2	BB40DB48	Price

† Note: these sizes are machine screw sizes.



WELDON Double End - Style No. 3

Angle - 60					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
DC-6	3/32 to 11/64	3/16	1-1/2	BB40DC6	Price
DC-8	1/8 to 15/64	1/4	1-3/4	BB40DC8	Price

Angle - 82					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
CS-3S	.073 to 15/64	1/4	1-3/4	BB40CS3S	Price

Angle - 90					
Model No.	Dia. of Cut (Min.-Max.) (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
DB-4	1/64 to 11/64	3/16	1-1/2	BB40DB4	Price
DB-6	1/16 to 11/64	3/16	1-1/2	BB40DB6	Price
DB-8	1/8 to 15/64	1/4	1-3/4	BB40DB8	Price

WELDON Piloted - Style No. 2 82° Countersinks



Model No.	Screw Size (in.)	Pilot Dia. (in.)	Shank Dia. (in.)	OAL (in.)	Order No.	Price
CS8-1	1/4	1/4	3/8	2	BB40CS81	Price
CS8-2	1/4	17/64	3/8	2	BB40CS82	Price
CS10-1	5/16	5/16	1/2	2-3/16	BB40CS101	Price
CS10-2	5/16	21/64	3/8	2-3/16	BB40CS102	Price
CS12-1	3/8	3/8	1/2	2-5/8	BB40CS121	Price
CS12-2	3/8	25/64	1/2	2-5/8	BB40CS122	Price
CS14-1	7/16	7/16	1/2	2-3/4	BB40CS141	Price
CS14-2	7/16	29/64	1/2	2-3/4	BB40CS142	Price
CS16-1	1/2	1/2	1/2	2-13/16	BB40CS161	Price
CS16-2	1/2	33/64	1/2	2-13/16	BB40CS162	Price

WELDON Style No. 4 90° Deburring Tools

- Shank must be purchased separately



Model No.	Dia. of Cut (Min.-Max.) (in.)	Order No.	Price
DB-64	1-1/16 to 2	BB40DB64	Price
DB-96	2 to 3	BB40DB96	Price

WELDON Shanks for DB-64 and DB-96

Model No.	Description	For Use With	Order No.	Price
DS-2	1/2" Straight Shank	DB-64 Deburring Tools	BB40DS2	Price
DS-2T	2" Morse Taper	DB-64 Deburring Tools	BB40DS2T	Price
DS-3	1/2" Straight Shank	DB-96 Deburring Tools	BB40DS3	Price
DS-3T	2" Morse Taper	DB-96 Deburring Tools	BB40DS3T	Price

WELDON 6 Pc. Pilotless Deburring Sets



Set Style	Included Angle	Set Contains One of Each Size	Order No.	Price
Pilotless Deburring (6 pcs.)	60°	DC-6, DC-8, DC-14, DC-18, DC-26, DC-36 (3/32" thru 11/16")	BB4060DB	Price
Pilotless Deburring (6 pcs.)	90°	DB-6, DB-8, DB-14, DB-18, DB-26, DB-36 (1/16" thru 9/16")	BB4090DB	Price



WELDON Countersink Sets

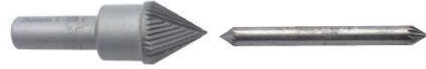
Set Style	Included Angle	Set Contains One of Each Size	Order No.	Price
Countersink & Deburring (9 pcs.)	82°	CS-5S, CS-6S, CS-8S, CS-10S, CS8-2, CS10-2, CS12-2, CS14-2, CS16-2 (#4 thru 1/2")	BB40C2SET	Price
Countersink (9 pcs.)	82°	CS-5S, CS-6S, CS-8S, CS-10S, CS8-1, CS10-1, CS12-1, CS14-1, CS16-1 (#4 thru 1/2")	BB40C1SET	Price
Pilotless Countersink (4 pcs.)	82°	CS-5S, CS-6S, CS-8S, CS-10S (#4 thru #10)	BB40WCSET	Price
Pilotless Countersink (4 pcs.)	82°	CS-6S, CS-8S, CS-10S, CS-18 (#6 thru 3/16")	BB40GCSET	Price
Zero Flute Pilotless (5 pcs.)	82°	CS-5S, CS-6S, CS-8S, CS-10S CS-18 (#4 thru 17/32")	BB40WCGSET	Price

Cutting Tools

Severance Carbide Inside Deburring Cutters

Shear tooth design for general purpose light deburring applications:

- Multi-flute design is self piloting
 - May be reground many times
 - One tool can deburr many different hole diameters
 - Large variety of shanks available
 - Noses all come to a point
 - Furnished in 60° and 90° angles
 - The sectional shear-tooth pattern on these cutters is intended for deburring only. For heavy chamfering, use chatterless countersinks.
- 3/32 thru 1/4 - Solid carbide, double end deburring cutters
 5/16 thru 1" - Solid carbide heads brazed to hardened alloy precision ground shanks



Size (in.)	Shank Dia. (in.)	OAL (in.)	60°		90°	
			Order No.	Price	Order No.	Price
3/32	3/32	1-1/2	BC5420620	Price	BC5420680	Price
1/8	1/8	1-1/2	BC5422250	Price	BC5422249	Price
3/16	3/16	2	BC5420622	Price	BC5420682	Price
1/4	1/4	2	BC5422411	Price	BC5422412	Price
5/16	1/4	2-1/4	BC5420628	Price	BC5420688	Price
3/8	1/4	2-1/4	BC5420629	Price	BC5420689	Price
1/2	1/4	2-1/4	BC5420633	Price	BC5420693	Price
1/2	3/8	2-1/8	BC5420634	Price	BC5420694	Price
5/8	1/4	2-3/8	BC5420639	Price	BC5420699	Price
5/8	3/8	2-3/8	BC5420640	Price	BC5420700	Price
3/4	1/2	2-11/16	BC5420644	Price	BC5420704	Price
1	1/2	2-13/16	BC5420650	Price	BC5420710	Price

RAPIDKUT Chamfer Mills - 2 & 4 Flute Single End

- Solid C-2 grade premium sub-micron grain carbide with 10% cobalt
- Center cutting
- Right hand cut
- Diameter tolerance: +.000 / -.002"

Application:

- Eliminates hand deburring operations & provides consistent workpiece finishes



Dia. (in.)	Shank Dia. (in.)	LOC (in.)	OAL (in.)	Point Angle	Uncoated				TIAIN			
					2 Flute		4 Flute		2 Flute		4 Flute	
					Order No.	Price	Order No.	Price	Order No.	Price	Order No.	Price
1/8	1/8	1/2	1-1/2	60°	DD5810000	Price	DD5820000	Price	DD5830000	Price	DD5840000	Price
1/8	1/8	1/2	1-1/2	82°	DD5810001	Price	DD5820001	Price	DD5830001	Price	DD5840001	Price
1/8	1/8	1/2	1-1/2	90°	DD5810002	Price	DD5820002	Price	DD5830002	Price	DD5840002	Price
3/16	3/16	5/8	2	60°	DD5810003	Price	DD5820003	Price	DD5830003	Price	DD5840003	Price
3/16	3/16	5/8	2	82°	DD5810004	Price	DD5820004	Price	DD5830004	Price	DD5840004	Price
3/16	3/16	5/8	2	90°	DD5810005	Price	DD5820005	Price	DD5830005	Price	DD5840005	Price
1/4	1/4	3/4	2-1/2	60°	DD5810006	Price	DD5820006	Price	DD5830006	Price	DD5840006	Price
1/4	1/4	3/4	2-1/2	82°	DD5810007	Price	DD5820007	Price	DD5830007	Price	DD5840007	Price
1/4	1/4	3/4	2-1/2	90°	DD5810008	Price	DD5820008	Price	DD5830008	Price	DD5840008	Price
3/8	3/8	1	2-1/2	60°	DD5810009	Price	DD5820009	Price	DD5830009	Price	DD5840009	Price
3/8	3/8	1	2-1/2	82°	DD5810010	Price	DD5820010	Price	DD5830010	Price	DD5840010	Price
3/8	3/8	1	2-1/2	90°	DD5810011	Price	DD5820011	Price	DD5830011	Price	DD5840011	Price
1/2	1/2	1	3	60°	DD5810012	Price	DD5820012	Price	DD5830012	Price	DD5840012	Price
1/2	1/2	1	3	82°	DD5810013	Price	DD5820013	Price	DD5830013	Price	DD5840013	Price
1/2	1/2	1	3	90°	DD5810014	Price	DD5820014	Price	DD5830014	Price	DD5840014	Price
3/4	3/4	1-1/2	3	60°	DD5810015	Price	DD5820015	Price	DD5830015	Price	DD5840015	Price
3/4	3/4	1-1/2	3	82°	DD5810016	Price	DD5820016	Price	DD5830016	Price	DD5840016	Price
3/4	3/4	1-1/2	3	90°	DD5810017	Price	DD5820017	Price	DD5830017	Price	DD5840017	Price

Severance Tube End Chamfering Mills - High Speed Steel

The cutting teeth are so developed as to preclude chatter and provide ample chip room for every operating condition. Moderate speeds of about 100 RPM for 1" steel tubing to about 200 RPM for 1/2" tubing are recommended for these cutters. It is advisable to start at a slower speed on any given material or size and increase until best results are obtained.

- Designed to chamfer both inside and outside of a tube or pipe simultaneously
- Chatterless
- Designed for heavy chamfering
- Liberal adjustment to accommodate different wall thicknesses



Std. Tubing O.D. Size (in.)	Std. Pipe Size (in.)	Wall Thickness (Min.-Max.)	Plug Size	Shank Dia. (in.)	Order No.	Price
3/16	-	.022 - .045	.152	1/4	BC5434960	Price
1/4	-	.022 - .065	.228	1/4	BC5434961	Price
5/16	-	.022 - .095	.290	1/4	BC5434962	Price
3/8	1/8	.022 - .095	.353	3/8	BC5434963	Price
7/16	-	.028 - .095	.409	3/8	BC5434964	Price
1/2	1/4	.028 - .095	.472	3/8	BC5434965	Price
9/16	-	.028 - .120	.534	1/2	BC5434966	Price
5/8	3/8	.028 - .120	.597	1/2	BC5434967	Price
3/4	1/2	.028 - .120	.722	1/2	BC5434968	Price
7/8	-	.022 - .156	.847	1/2	BC5434969	Price
1	3/4	.022 - .156	.965	1/2	BC5434970	Price

RAPIDKUT M-42 Cobalt Chamfering End Mills

60°, 82°, and 90°

- Designed to mill chamfers or countersinks
- Sets supplied in wood case



Body Size (in.)	Shank Dia. (in.)	Angle	OAL (in.)	No. of Flutes	Material	Order No.	Price
1/2	1/2	90 x 60	3-3/8	2 Flute	M-42 Cobalt	DR80CCT90605	Price
1/2	1/2	90 x 82	3-3/16	2 Flute	M-42 Cobalt	DR80CCT90825	Price
1/2	1/2	90 x 90	3-3/16	2 Flute	M-42 Cobalt	DR80CCT90905	Price
3/4	3/4	90 x 60	3-3/8	2 Flute	M-42 Cobalt	DR80CCT90607	Price
3/4	3/4	90 x 82	3-3/16	2 Flute	M-42 Cobalt	DR80CCT90827	Price
3/4	3/4	90 x 90	3-3/16	2 Flute	M-42 Cobalt	DR80CCT90907	Price
1	1/2	90°	2-15/16	2 Flute	M-42 Cobalt	DR80CCT9015	Price
1-1/4	3/4	90°	3-3/8	2 Flute	M-42 Cobalt	DR80CCT901147	Price

RAPIDKUT M-42 Cobalt Chamfering Sets



Shank Dia. (in.)	No. of Pieces	Order No.	Price
1/2	4	DR80CCTSETS5	Price
3/4	4	DR80CCTSETS7	Price

Severance® Outside Deburring Cutters

High Speed Steel

Shear-type cutting tooth design eliminates burrs on diameters of tubes and rods:

- Shearing action cuts clean and reduces chatter
- One tool can handle various size parts
- May be reground many times
- Can be provided in carbide
- Shank required-sold separately-see ad below



Angle - 60°								
Max. Cutting Size (in.)	Recess Hole Size (in.)	Mouth Size (in.)	Body Size (in.)	Body Length (in.)	Coolant Hole (in.)	I.D. Thread Size	Order No.	Price
1/8	1/16	5/32	1/2	7/8	-	1/4-28	BC5425430	Price
3/16	5/32	7/32	1/2	7/8	-	1/4-28	BC5425431	Price
1/4	13/64	19/64	1/2	7/8	-	1/4-28	BC5425432	Price
5/16	.242	23/64	1/2	7/8	-	1/4-28	BC5425433	Price
3/8	9/32	7/16	5/8	7/8	1/8	1/4-28	BC5425434	Price
1/2	.332	9/16	3/4	1	3/16	3/8-24	BC5425435	Price
5/8	7/16	11/16	7/8	1	3/16	3/8-24	BC5425436	Price
3/4	17/32	53/64	1	1	3/16	3/8-24	BC5425437	Price
1	45/64	1-5/64	1-1/4	1-3/8	1/4	1/2-20	BC5425438	Price
1-1/4	7/8	1-21/64	1-1/2	1-3/8	1/4	1/2-20	BC5425439	Price
1-1/2	1-3/64	1-19/32	1-3/4	1-5/8	1/4	5/8-18	BC5425440	Price

Angle - 90°								
Max. Cutting Size (in.)	Recess Hole Size (in.)	Mouth Size (in.)	Body Size (in.)	Body Length (in.)	Coolant Hole (in.)	I.D. Thread Size	Order No.	Price
1/8	5/64	3/16	1/2	7/8	-	1/4-28	BC5425460	Price
3/16	7/64	7/32	1/2	7/8	-	1/4-28	BC5425461	Price
1/4	9/64	23/64	1/2	7/8	-	1/4-28	BC5425462	Price
3/8	3/16	7/16	5/8	7/8	1/8	1/4-28	BC5425463	Price
1/2	1/4	9/16	3/4	1	3/16	3/8-24	BC5425464	Price
3/4	3/8	13/16	1	1	3/16	3/8-24	BC5425465	Price
1	1/2	1-5/64	1-1/4	1-3/8	1/4	1/2-20	BC5425466	Price
1-1/2	3/4	1-19/32	1-3/4	1-1/2	1/4	5/8-18	BC5425467	Price
2	15/16	2-7/64	2-3/8	1-3/4	5/16	3/4-16	BC5425468	Price

Severance® Straight Shank Threaded Arbors

For use with outside deburring cutters and chamfering mills.



Thread Size	Shank Size (in.)	Thread Length (in.)	Shank Length (in.)	Shoulder Size (in.)	Order No.	Price
1/4-28	1/4	1/4	1-3/4	3/8	BC5434060	Price
1/4-28	3/8	1/4	1-3/4	3/8	BC5434061	Price
1/4-28	1/2	1/4	1-3/4	1/2	BC5434062	Price
5/16-24	1/4	5/16	1-3/4	7/16	BC5434063	Price
5/16-24	3/8	5/16	1-3/4	7/16	BC5434064	Price
5/16-24	1/2	5/16	1-3/4	1/2	BC5434065	Price
3/8-24	1/4	3/8	1-3/4	1/2	BC5434066	Price
3/8-24	3/8	3/8	1-3/4	1/2	BC5434067	Price
3/8-24	1/2	3/8	1-3/4	1/2	BC5434068	Price
3/8-24	5/8	3/8	1-3/4	5/8	BC5434069	Price
1/2-20	3/8	1/2	1-3/4	5/8	BC5434070	Price
1/2-20	1/2	1/2	1-3/4	5/8	BC5434071	Price
1/2-20	5/8	1/2	1-3/4	5/8	BC5434072	Price
1/2-20	3/4	1/2	1-3/4	3/4	BC5434073	Price
1/2-20	1	1/2	2	1	BC5434074	Price
5/8-18	3/8	5/8	1-3/4	3/4	BC5434075	Price
5/8-18	1/2	5/8	1-3/4	3/4	BC5434076	Price
5/8-18	5/8	5/8	1-3/4	3/4	BC5434077	Price
5/8-18	3/4	5/8	1-3/4	7/8	BC5434078	Price
5/8-18	1	5/8	2	1	BC5434079	Price
3/4-16	1/2	5/8	1-3/4	7/8	BC5434080	Price
3/4-16	5/8	5/8	1-3/4	7/8	BC5434081	Price
3/4-16	3/4	5/8	1-3/4	7/8	BC5434082	Price
3/4-16	1	5/8	2	1	BC5434083	Price
1-1/4	1	3/4	2	1-3/16	BC5434084	Price
1-1/4-12	1	3/4	2	1-1/2	BC5434085	Price

Severance® Outside Chamfering Mills

High Speed Steel

Designed to economically chamfer a large variety of diameters on tubing, pipe, and rod:

- Chatterless teeth produce heavy chamfers
- One size will accommodate many size parts
- Available in 60° and 90° angles
- May be reground many times
- Shank required-sold separately-see ad below



These outside chamfering mills are most efficient when used in screw machines, lathes, drill presses, or other chucking machines, or with work holding devices, although where requirements are not too exacting, may be used in a portable power tool on some materials.

Angle - 60°								
Max. Cutting Size (in.)	Recess Hole Size (in.)	Mouth Size (in.)	Body Size (in.)	Body Length (in.)	ID Thread Size	Order No.	Price	
1/8	1/32	3/16	1/2	1	5/16-24	BC5425230	Price	
1/4	3/64	5/16	1/2	1	5/16-24	BC5425231	Price	
1/2	1/8	5/8	7/8	1-5/16	3/8-24	BC5425232	Price	
3/4	1/4	7/8	1-1/8	1-3/4	1/2-20	BC5425233	Price	
1	1/4	1-1/8	1-1/2	2	3/4-16	BC5425234	Price	
1-3/4	1/2	1-7/8	2-1/4	2-15/16	1-14	BC5425235	Price	
2	7/8	2-1/8	2-1/2	3	1-14	BC5425236	Price	
3	1	3-1/4	3-3/4	1-1/4-12	BC5425237	Price		

Angle - 90°								
Max. Cutting Size (in.)	Recess Hole Size (in.)	Mouth Size (in.)	Body Size (in.)	Body Length (in.)	ID Thread Size	Order No.	Price	
1/8	1/32	3/16	1/2	1	5/16-24	BC5425250	Price	
1/4	3/64	5/16	1/2	1	5/16-24	BC5425251	Price	
1/2	1/8	5/8	7/8	1-5/16	3/8-24	BC5425252	Price	
3/4	3/16	7/8	1-1/8	1-5/16	1/2-20	BC5425253	Price	
1	1/4	1-1/8	1-1/2	1-3/4	3/4-16	BC5425254	Price	
1-1/2	3/8	1-5/8	2	1-7/8	3/4-16	BC5425255	Price	
2	7/8	2-1/8	2-1/2	2-1/2	1-14	BC5425256	Price	
3	1	3-1/4	3-3/4	2-7/8	1-1/4-12	BC5425257	Price	

Severance® Tube End Deburring Cutters

High Speed Steel

Economical methods of light deburring both inside and outside of tubing simultaneously:

- Shear cutting teeth designed to avoid loading
- Adjustable
- Chamfer 30° inside and 45° outside
- Great for production deburring
- Operating speeds range from 50-200 RPM
- May be reground many times
- Two piece inside and outside cutting design consisting of plug and adjustable ring



Tubing OD Size (in.)	Tubing ID Size (in.)	Hole Size of Ring	Shank Size (in.)	Order No.	Price
1/8	1/16	.093	1/4	BC5435060	Price
3/16	1/8	.156	1/4	BC5435061	Price
1/4	3/16	.218	1/4	BC5435062	Price
5/16	1/4	.281	5/16	BC5435063	Price
3/8	5/16	.343	3/8	BC5435064	Price
7/16	3/8	.406	7/16	BC5435065	Price
1/2	7/16	.468	1/2	BC5435066	Price
9/16	1/2	.531	1/2	BC5435067	Price
5/8	9/16	.595	1/2	BC5435068	Price
3/4	5/8	.685	1/2	BC5435069	Price
7/8	3/4	.805	1/2	BC5435070	Price
1	7/8	.930	1/2	BC5435071	Price
1-1/8	1	1.063	1/2-20	BC5435072†	Price
1-1/4	1-1/8	1.180	1/2-20	BC5435073†	Price
1-3/8	1-1/4	1.313	1/2-20	BC5435074†	Price
1-1/2	1-3/8	1.430	5/8-18	BC5435075†	Price
1-3/4	1-5/8	1.680	5/8-18	BC5435076†	Price
2	1-3/4	1.930	3/4-16	BC5435077†	Price

†Tool numbers 35072 through 35077 require threaded arbors.