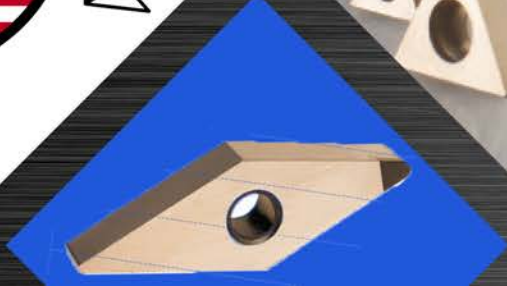
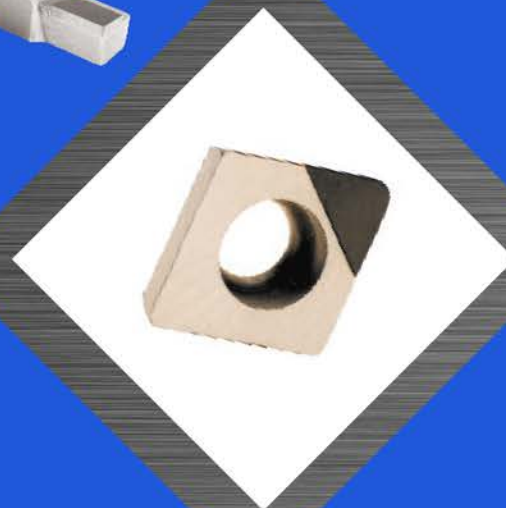
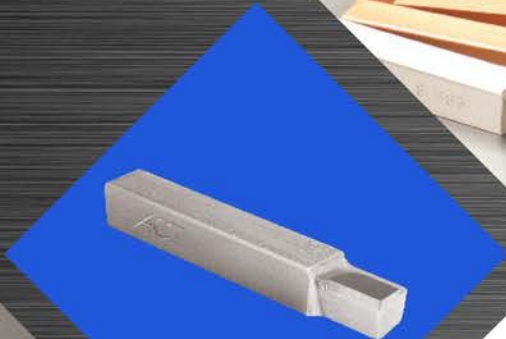


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*AMERICAN CARBIDE TOOL*

**ACT**

*WE HAVE THE EDGE*



 **AMERICAN CARBIDE TOOL**

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## WE HAVE THE EDGE

American Carbide Tool Company (ACT) is a leading manufacturer of single point brazed carbide tipped tools.

Known for the uncompromising excellence of our products, we have applied our years of tool manufacturing expertise to our Precision Tool Division. ACT's Precision Tool Division produces the most advanced cutting tools including PCD (polycrystalline diamond) & CBN (cubic boron nitride) tipped inserts and tools, as well as precision-ground cutting tools and flat form tools made from carbide and other materials. The result is precision cutting tools which are unsurpassed in quality.

- OVER 50 YEARS OF TOOL MAKING EXPERIENCE
- PCD & CBN TIPPED INSERTS AND TOOLS
- SPECIAL PRECISION-GROUND AND WIRE-EDM FLAT FORM TOOLS
- MADE IN THE USA

### BENEFITS OF PCD AND CBN

- Potentially hundreds of times the tool life of carbide with PCD.
- Up to 50 times the tool life of carbide with CBN.
- High material removal rates decrease operation cycle times, providing more parts per shift.
- Cutting speeds are two to three times those of conventional tools.
- Longer tool life results in excellent dimensional control and consistent surface finishes. Together these provide improved workpiece quality and minimize scrap rates.
- Increased machine tool uptime as a result of longer tool life provides greater production capacity without investment in new equipment.
- PCD & CBN provide significant productivity and cost savings in manufacturing operations.
- The full potential and value of super-abrasive tools over conventional tooling can be evaluated by tracking gains in productivity.

WE HAVE DEVELOPED OUR OWN UNIQUE GRINDING PROCESS FOR PCD & CBN, GIVING ACT'S CUTTING TOOLS A SUPERIOR EDGE.



THE ACT EDGE GIVES YOU INCREASED TOOL LIFE AND IMPROVED FINISH, WHILE PROVIDING YOU WITH INCREASED PRODUCTIVITY AND LOWER COST.

Prove it for yourself with a trial order! American made PCD & CBN tipped tooling from American Carbide Tool Company can outperform the competition.

SALES@AMERICANCARBIDETOOL.COM

## RECOMMENDED SUPERABRASIVE APPLICATIONS

There are significant differences in applications for PCD vs. CBN. While PCD is engineered for use on nonferrous material, CBN is designed for machining high temperature alloys and hardened ferrous materials. Failure to have the correct tool for the application will result in tool failure. Choosing the PCD grade is straight forward in soft/abrasive applications however, hard turning requires multiple application specific grades of CBN. CBN works best with a specifically designed tool for your application. The optimally designed CBN tool for each material will allow for longer tool life and quality of finish. Whether choosing a PCD or CBN insert, let the experts at ACT design the perfect tool for your application.

### PCD APPLICATIONS

**Abrasive Nonmetallics**

- Carbon
- Ceramics
- Fiberglass Composites
- Graphite
- Plastics
- Rubber

**Nonferrous Metals**

- Aluminum
- Aluminum Alloys
- Brass Alloys
- Bronze Alloys
- Copper
- Copper Alloys
- Lead Alloys
- Manganese Alloys
- Metal Matrix Composites
- Sintered Tungsten Carbide

### PRIMARY PCD MARKETS

**Automotive** Transmission housings and valve bodies; manifolds; cylinder heads; wheels; pistons; oil, water, power steering and fuel pumps; brake cylinders; carburetors; engine blocks; alternator, starter and air conditioning housings

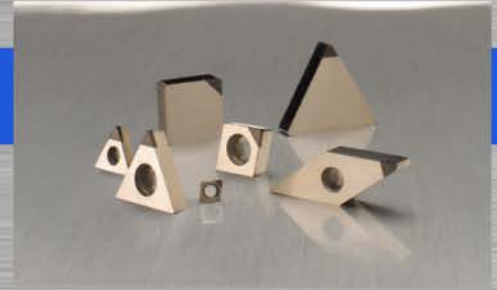
**Pumps/Valves** Housings; moving parts

**Home Appliances** Housings; compressor pistons

**Aircraft/Aerospace** Cowling; wing tips; ducts; floor posts; structural components; trim panels

**Electrical Machinery** Commutator shafts; housings

**Computer and Electronic** Moving discs; mirrors/lenses



### CBN APPLICATIONS

- Hardened Steels
- Gray Cast Iron
- Hard Cast Iron
- Powder Metal Materials
- Hard Facing Alloys
- Thermal Spray Ni Based
- Thermal Spray Co Based
- Superalloys

### PRIMARY CBN MARKETS














**Automotive** Gears; axles; shafts; bearings; engine blocks; valve seats; brake rotors; brake drums; clutch plates; transfer housings

**Aerospace** Combustion case; shafts; landing gear; bolts; struts; cylinders; turbine disk; turbine blades; turbine; shrouds; engine shafts; turbine vanes

**Other** Pumps; impellers; shafts; rolls



## PCD DIAMOND

	STYLE	GRADE PCD13	GRADE PCD15		STYLE	GRADE PCD13	GRADE PCD15
	CCMW 21.51 CCMW 21.52 CCMW 32.51 CCMW 32.52	60000 60050 60100 60150	60004 60054 60104 60154		SPG 321 SPG 322 SPG 421 SPG 422		63404 63454 63604 63654
	CDCD 51*		60254		TCMW 21.51	64000	64004
	CNGA 431 CNGA 432	60300 60450	60304 60454		TNG 321 TNG 322		64504 64554
	CPMW 21.51 CPMW 21.52 CPMW 32.51 CPMW 32.52	61200 61250 61300 61350	61204 61254 61304 61354		TPG 221 TPG 222 TPG 321 TPG 322 TPG 431 TPG 432	65250 65300	65154 65204 65254 65304 65604 65654
	DCMW 21.51 DCMW 32.52	61400 61450	61404 61454		TPMW 21.51		66054
	DNGA 431 DNGA 432	61500 61650	61504 61654		VNGA 331 VNGA 332	66900	66754 66904
	DPMW 21.51 DPMW 32.52	61950 62150	61954 62154				

\* .060" PCD EDGE

• MAX D.O.C. = .075  
• STANDARD PCD EDGE FOR ALL STOCK INSERTS IS .125" UNLESS OTHERWISE INDICATED.

Non-standard grades, PCD edge lengths, insert styles and sizes will be quoted on request.

NOTE: Minimum PCD edge for all stock inserts is .125". (Except for TPG-221 and TPG-222, which have minimum PCD edges of .095" and .085" respectively.)
















## PCD APPLICATION GUIDELINES

Material	Operation	PCD 15 / PCD 18		
		Grade	Surface Speed	Feed Rate
Aluminum/Aluminum Alloys <12% Silicon	Rough Turning	13	2000-6000	.005 -.020
Aluminum/Aluminum Alloys >12% Silicon	Rough Turning	15/18	1000-2000	.005 -.015
Copper/Copper Alloys/Zinc	Rough Turning	13	800-1200	.005 -.010
Plastics/Composites	Rough Turning	13/15	650-2600	.004 -.016

Rough Turning: >.025" D.O.C.; Finish Turning: <.025" D.O.C.

WARNING: PCD depth of cut should not exceed 60% of total cutting edge available.

## CBN INSERTS

	STYLE	GRADE CBN6	GRADE CBN8		STYLE	GRADE CBN6	GRADE CBN8
	CCMW 21.51	60012	60028		TCMW 21.51	64012	64028
	CCMW 21.52	60062	60078		TCMW 21.52	64062	64078
	CCMW 32.51	60112	60128		TCMW 32.51	64112	64128
	CCMW 32.52	60162	60178		TCMW 32.52	64162	64178
	CDCD 505*		60228		TNG 432	64612	64628
	CDCD 51*		60278				
	CNGA 431	60312	60328		TNGA 431	64712	64728
	CNGA 432	60462	60478		TNGA 432	64762	64778
	CNGA 433	60612					
	CPMW 21.51	61212	61228		TPG 221	65162	65178
	CPMW 21.52	61262	61278		TPG 222	65212	65228
	CPMW 32.51	61312	61328		TPG 321	65262	65278
	CPMW 32.52	61362	61378		TPG 322	65312	65328
	DNKA 431	61512	61528		TPG 431	65662	65678
	DNKA 432	61662	61678		TPG 432	65662	65678
	RNG32	62362	62378		TPMW 21.51	66062	66078
	RNG42	62412	62428				
	SNG 432 FULL TOP	62862	62878		VNGA 331	66762	66778
	SNG 433 FULL TOP	62912	62928		VNGA 332	66912	66928
	SNG 432	63012	63028		VNGA 333	67062	67062

\* .060" CBN EDGE

- MAX D.O.C. = .044
- STANDARD CBN EDGE FOR ALL STOCK INSERTS IS .125" UNLESS OTHERWISE INDICATED.
- INTERRUPTED CUT MAY REQUIRE AN ADDITIONAL HONE. IF APPLICABLE, PLEASE INDICATE WHEN ORDERING.

## CBN APPLICATION GUIDELINES

Material	Operation	Grade	Surface Speed	Feed Rate
Hardened High Carbon Steel	Rough Turning	CBN8	300-450	.004 -.012
Hardened Alloy Steels	Rough Turning	CBN8	300-400	.004 -.012
Hardened Tool and Die Steels	Rough Turning	CBN8	200-300	.004 -.008
Pearlitic Gray Cast Iron <240HBN	Rough Turning	CBN6	1500-3500	.010 -.020
Pearlitic Gray Cast Iron >240HBN	Rough Turning	CBN6	1000-2000	.010 -.020
White Alloy Cast Iron (Ni-hard, Cr-Mo, HiCr)	Rough Turning	CBN6	200-400	.010 -.030
Superalloys	Rough Turning	CBN6	500-1000	.004 -.010
Thermal Spray Nickel Based	Rough Turning	CBN6	200-600	.003 -.008
Thermal Spray Cobalt Based	Rough Turning	CBN6	400-700	.002 -.006
Powder Metal	Rough Turning	CBN6	300-800	.004 -.010

Rough Turning: >.025" D.O.C.; Finish Turning: <.025" D.O.C  
 WARNING: CBN depth of cut should not exceed 35% of total cutting edge available.

## PCD TURNING TOOLS

- SUPERIOR LIFE OVER CARBIDE TOOLS
- HIGHER SPEED AND FEED CAPABILITIES



WHEN YOU NEED CUTTING TOOLS, DEPEND ON THE COMPANY THAT PROVIDES YOU WITH THE VERY BEST IN QUALITY AND SERVICE.

STYLE	GRADE
AL-4	67048
AL-6	67458
AL-8	67508
AR-4	67658
AR-6	67708
AR-8	67758
BL-4	67908
BL-6	67958
BL-8	67758
BR-4	68158
BR-6	68208
BR-8	68258
E-4	68658
E-6	68708
E-8	68758
D-4	68408
D-6	68458
D-8	68508

## CBN MINI TIP INSERTS



**STYLE**  
CNGA 431 MT  
CNGA 431 DE MT

**GRADE**  
CBN30  
60359  
60409



CNGA 432 MT  
CNGA 432 DE MT

60509  
60559

DNKA 431 MT  
DNKA 431 DE MT  
DNKA 432 MT  
DNKA 432 DE MT

61559  
61609  
61709  
61759



VNGA 331 MT  
VNGA 331 DE MT  
VNGA 332 MT  
VNGA 332 DE MT

66809  
66859  
66959  
67009



- FOR FINISHING OF HARDENED STEEL
- CONTINUOUS OR INTERRUPTED CUT
- SINGLE USE INSERT ELIMINATES REGRINDING
- LOW COST PER INSERT



# Made in the USA



## STRAIGHT TURNING TOOLS

AR & AL Style Tools -  
0° Side Cutting Edge Angle

For Turning, Facing or Boring to a square shoulder.  
A lead angle can be ground on the side cutting edge for use on shallow cuts or Chamfering.

# AR

TOOL NUMBER	SHANK DIMENSIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES			MULTI-PURPOSE MICROGRAIN
	A	B	C			C2	C4	K68	C5	C6	K 21	
AR-4	1/4	1/4	2	1/64	12	50503		50511	50519	50520	50528	50529
AR-5	5/16	5/16	2 1/4	1/64	12	50531	50546	50539	50547	50548	50556	50557
AR-6	3/8	3/8	2 1/2	1/64	12	50559	50574	50567	50575	50576	50584	50585
AR-7	7/16	7/16	3	1/32	12	50587	50602	50595	50603	50604	50612	50613
AR-8	1/2	1/2	3 1/2	1/32	12	50615	50630	50623	50631	50632	50640	50641
AR-10	5/8	5/8	4	1/32	12	50643		50651	50659	50660	50668	50669
AR-12	3/4	3/4	4 1/2	1/32	12	50671		50679	50687	50688	50696	50697
AR-16	1	1	7	1/32	6	50699			50715	50716		
AR-20	1 1/4	1 1/4	8	1/32	Bulk	50727			50743	50744		
AR-24	1 1/2	1 1/2	8	1/16	Bulk	50755			50771	50772		
AR-44	1/2	1	7	1/32	Bulk	50783			50799	50800		
AR-54	5/8	1	6	1/32	Bulk	50811			50827	50828		
AR-55	5/8	1 1/4	8	1/32	Bulk	50839			50855	50856		
AR-64	3/4	1	6	1/32	Bulk	50867			50883	50884		
AR-66	3/4	1 1/2	8	1/32	Bulk	50895			50911	50912		
AR-85	1	1 1/4	8	1/32	Bulk	50923			50939	50940		
AR-86	1	1 1/2	8	1/32	Bulk	50951			50967	50968		



# AL

TOOL NUMBER	SHANK DIMENSIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES			MULTI-PURPOSE MICROGRAIN
	A	B	C			C2	C4	K68	C5	C6	K 21	
AL-4	1/4	1/4	2	1/64	12	50003		50011	50019	50020	50028	50029
AL-5	5/16	5/16	2 1/4	1/64	12	50031	50046	50039	50047	50048	50056	50057
AL-6	3/8	3/8	2 1/2	1/64	12	50059	50074	50067	50075	50076	50084	50085
AL-7	7/16	7/16	3	1/32	12	50087	50102	50095	50103	50104	50112	50113
AL-8	1/2	1/2	3 1/2	1/32	12	50115	50130	50123	50131	50132	50140	50141
AL-10	5/8	5/8	4	1/32	12	50143		50151	50159	50160	50168	50169
AL-12	3/4	3/4	4 1/2	1/32	12	50171		50179	50187	50188	50196	50197
AL-16	1	1	7	1/32	6	50199			50215	50216		
AL-20	1 1/4	1 1/4	8	1/32	Bulk	50227			50243	50244		
AL-24	1 1/2	1 1/2	8	1/16	Bulk	50255			50271	50272		
AL-44	1/2	1	7	1/32	Bulk	50283			50299	50300		
AL-54	5/8	1	6	1/32	Bulk	50311			50327	50328		
AL-55	5/8	1 1/4	8	1/32	Bulk	50339			50355	50356		
AL-64	3/4	1	6	1/32	Bulk	50367			50383	50384		
AL-66	3/4	1 1/2	8	1/32	Bulk	50395			50411	50412		
AL-85	1	1 1/4	8	1/32	Bulk	50423			50439	50440		
AL-86	1	1 1/2	8	1/32	Bulk	50451						



Red stock numbers – non-stock items

\* Limited quantities available while supplies last.

# AMERICAN CARBIDE TOOL

## LEAD ANGLE TURNING TOOLS

BR & BL Style Tools -

15° Side Cutting Edge Angle

For interrupted or irregular cuts. Side edge angle provides gradual entrance to the workpiece. Lead angle distributes cutting load. For Turning, Light Planing, Boring, Milling and Facing.

# BR

TOOL NUMBER	SHANK DIMENTIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES			MULTI- PURPOSE MICROGRAIN
	A	B	C			C2	C4	K68	C5	C6	K 21	
BR-4	1/4	1/4	2	1/64	12	51503		51511	51519	51520	51528	51529
BR-5	5/16	5/16	2 1/4	1/64	12	51531		51539	51547	51548	51556	51557
BR-6	3/8	3/8	2 1/2	1/64	12	51559	51574	51567	51575	51576	51584	51585
BR-7	7/16	7/16	3	1/32	12	51587	51602	51595	51603	51604	51612	51613
BR-8	1/2	1/2	3 1/2	1/32	12	51615	51630	51623	51631	51632	51640	51641
BR-10	5/8	5/8	4	1/32	12	51643		51651	51659	51660	51668	51669
BR-12	3/4	3/4	4 1/2	1/32	12	51671		51679	51687	51688	51696	51697
BR-16	1	1	7	1/32	6	51699			51715	51716		
BR-20	1 1/4	1 1/4	8	1/32	Bulk	51727			51743	51744		
BR-24	1 1/2	1 1/2	8	1/16	Bulk	51755			51771	51772		
BR-44	1/2	1	7	1/32	Bulk	51783			51799	51800		
BR-54	5/8	1	6	1/32	Bulk	51811			51827	51828		
BR-55	5/8	1 1/4	8	1/32	Bulk	51839			51855	51856		
BR-64	3/4	1	6	1/32	Bulk	51867			51883	51884		
BR-66	3/4	1 1/2	8	1/32	Bulk	51895			51911	51912		
BR-85	1	1 1/4	8	1/32	Bulk	51923			51939	51940		
BR-86	1	1 1/2	8	1/32	Bulk	51951			51967	51968		



# BL

TOOL NUMBER	SHANK DIMENTIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES			MULTI- PURPOSE MICROGRAIN
	A	B	C			C2	C4	K68	C5	C6	K 21	
BL-4	1/4	1/4	2	1/64	12	51003		51011	51019	51020	51028	51029
BL-5	5/16	5/16	2 1/4	1/64	12	51031		51039	51047	51048	51056	51057
BL-6	3/8	3/8	2 1/2	1/64	12	51059	51074	51067	51075	51076	51084	51085
BL-7	7/16	7/16	3	1/32	12	51087	51102	51095	51103	51104	51112	51113
BL-8	1/2	1/2	3 1/2	1/32	12	51115	51130	51123	51131	51132	51140	51141
BL-10	5/8	5/8	4	1/32	12	51143		51151	51159	51160	51168	51169
BL-12	3/4	3/4	4 1/2	1/32	12	51171		51179	51187	51188	51196	51197
BL-16	1	1	7	1/32	6	51199			51215	51216		
BL-20	1 1/4	1 1/4	8	1/32	Bulk	51227			51243	51244		
BL-24	1 1/2	1 1/2	8	1/16	Bulk	51255			51271	51272		
BL-44	1/2	1	7	1/32	Bulk	51283			51299	51300		
BL-54	5/8	1	6	1/32	Bulk	51311			51327	51328		
BL-55	5/8	1 1/4	8	1/32	Bulk	51339			51355	51356		
BL-64	3/4	1	6	1/32	Bulk	51367			51383	51384		
BL-66	3/4	1 1/2	8	1/32	Bulk	51395			51411	51412		
BL-85	1	1 1/4	8	1/32	Bulk	51423			51439	51440		
BL-86	1	1 1/2	8	1/32	Bulk	51451			51467	51468		



RED STOCK NUMBERS – NON-STOCK ITEMS

\* LIMITED QUANTITIES AVAILABLE WHILE SUPPLIES LAST.

# Made in the USA



## SQUARE NOSE UTILITY TOOL

C Style Tool - 0° Square Nose

Allows for right or left hand cutting.

For use in Forming, Turning, Facing, Chamfering and Grooving applications.

# C

TOOL NUMBER	SHANK DIMENTIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES			MULTI- PURPOSE MICROGRAIN
	A	B	C			C2	C4	K68	C5	C6	K 21	
C-4	1/4	1/4	2	12	52003		52011	52019	52020	52028	52029	
C-5	5/16	5/16	2 1/4	12	52031		52039	52047	52048	52056	52057	
C-6	3/8	3/8	2 1/2	12	52059	52074	52067	52075	52076	52084	52085	
C-7	7/16	7/16	3	12	52087		52095	52103	52104	52112	52113	
C-8	1/2	1/2	3 1/2	12	52115		52123	52131	52132	52140	52141	
C-10	5/8	5/8	4	12	52143		52151	52159	52160	52168	52169	
C-12	3/4	3/4	4 1/2	12	52171		52179	52187	52188	52196	52197	
C-16	1	1	7	6	52199			52215	52216			
C-20	1 1/4	1 1/4	8	Bulk	52227			52243	52244			
C-44	1/2	1	7	Bulk	52283			52299	52300			
C-54	5/8	1	6	Bulk	52311			52327	52328			
C-55	5/8	1 1/4	8	Bulk	52339			52355	52356			
C-64	3/4	1	6	Bulk	52367			52383	52384			
C-66	3/4	1 1/2	8	Bulk	52395			52411	52412			
C-86	1	1 1/2	8	Bulk	52451			52467	52468			



## CUTOFF TOOLS

CT(COR & CTL(COL) Style

For Cutoff or Grooving of solid bars and tubing stock.

# CT(COR & CTL(COL)



TOOL NUMBER	SHANK DIMENTIONS					PKG QTY	CAST IRON & NON-FERROUS GRADES C2	STEEL GRADES		MULTI- PURPOSE MICROGRAIN
	A	B	C	D	W			C5	C6	
CT-111	1/2	1	5	3/4	1/8	6	52503	52519	52520	52529
CT-122(443)	1/2	1	5	13/16	3/16	6	52531	52547	52548	52557
CT-120(445)	1/2	1	5	1	5/16	6	52559	52575	52576	52585
CT-121(444)	1/2	1	5	1	1/4	6	52587	52603	52604	52613
CT-130(556)	5/8	1 1/4	5	1 1/4	3/8	6	52615	52631	52632	52641
CT-140(666)	3/4	1 1/2	6	1 1/4	3/8	6	52643	52659	52660	52669
CTL-111	1/2	1	5	3/4	1/8	6	52783	52799	52800	
CTL-122(443)	1/2	1	5	13/16	3/16	6	52811	52827	52828	52837
CTL-120(445)	1/2	1	5	1	5/16	6	52839	52855	52856	52865
CTL-121(444)	1/2	1	5	1	1/4	6	52867	52883	52884	52893
CTL-130(556)	5/8	1 1/4	5	1 1/4	3/8	6	52895	52911	52912	52921
CTL-140(666)	3/4	1 1/2	6	1 1/4	3/8	6	52923	52939	52940	52949

RED STOCK NUMBERS – NON-STOCK ITEMS

\* LIMITED QUANTITIES AVAILABLE WHILE SUPPLIES LAST.

# AMERICAN CARBIDE TOOL

**D**

## POINTED NOSE UTILITY TOOL

D Style Tool - 80° Included Angle

Allows for right or left hand cutting. For use in Light Turning, Undercutting, Chamfering and Boring applications.



TOOL NUMBER	SHANK DIMENTIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES			MULTI- PURPOSE MICROGRAIN
	A	B	C			C2	C4	K68	C5	C6	K 21	
D-4	1/4	1/4	2	1/64	12	53003		53011	53019	53020	53028	53029
D-5	5/16	5/16	2 1/4	1/64	12	53031		53039	53047	53048	53056	53057
D-6	3/8	3/8	2 1/2	1/64	12	53059	53074	53067	53075	53076	53084	53085
D-7	7/16	7/16	3	1/32	12	53087		53095	53103	53104	53112	53113
D-8	1/2	1/2	3 1/2	1/32	12	53115		53123	53131	53132	53140	53141
D-10	5/8	5/8	4	1/32	12	53143		53151	53159	53160	53168	53169
D-12	3/4	3/4	4 1/2	1/32	12	53171		53179	53187	53188	53196	53197
D-16	1	1	7	1/32	6	53199			53215	53216		

**E**

## THREADING TOOL

E Style Tool - 60° Included Angle

Cuts a standard 60° V-thread. Ground to a sharp point for fine Threading, but can be easily modified for cutting round bottom threads. Can also be used for Chamfering, Notching and Undercutting.



TOOL NUMBER	SHANK DIMENTIONS			PKG QTY	CAST IRON & NON-FERROUS GRADES		STEEL GRADES			MULTI- PURPOSE MICROGRAIN
	A	B	C		C2	K68	C5	C6	K 21	
E-4	1/4	1/4	2	12	53255	53263	53271	53272	53280	53281
E-5	5/16	5/16	2 1/4	12	53283	53291	53299	53300	53308	53309
E-6	3/8	3/8	2 1/2	12	53311	53319	53327	53328	53336	53337
E-7	7/16	7/16	3	12	53339	53347	53355	53356	53364	
E-8	1/2	1/2	3 1/2	12	53367	53375	53383	53384	53392	53393
E-10	5/8	5/8	4	12	53395	53403	53411	53412	53420	53421
E-12	3/4	3/4	4 1/2	12	53423	53431	53439	53440	53448	53449
	1	1	7	6	53451		53467	53468		

\* Limited quantities available while supplies last.

## POLICY & TERMS

### QUANTITY DISCOUNTS

Available for orders specifying 500 pieces or more of one style, size and grade.

### NON-STOCK ITEMS

Subject to quantity extra charge.

### WARNING

Any cutting tool may break or shatter under improper use. Government regulations require the use of safety glasses and other appropriate safety equipment at all times in the vicinity of use.

### WARRANTY

Products manufactured by American Carbide Tool Company are fully guaranteed against defects in material and workmanship. If the product has been subjected to improper operating conditions, machine set-up, application of cutting fluids or user alterations, which in the opinion of American Carbide Tool Company would adversely affect the performance of the product, the warranty will not apply.

# Made in the USA



## ER • EL

### OFFSET THREADING TOOL

ER & EL Style Tools -  
Offset 60° Included Angle  
Offset for Threading or Boring to a shoulder.

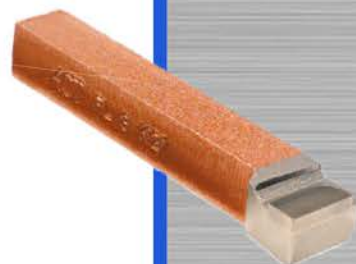


TOOL NUMBER	SHANK DIMENSIONS				PKG QTY	CAST IRON & NON-FERROUS GRADES	STEEL GRADES		MULTI-PURPOSE MICROGRAIN
	A	B	C	F		C2	C5	C6	
ER-4	1/4	1/4	2	1/16	12	54255	54271	54272	
ER-5	5/16	5/16	2 1/4	1/16	12	54283	54299	54300	54309
ER-6	3/8	3/8	2 1/2	1/16	12	54311	54327		
ER-8	1/2	1/2	3 1/2	3/32	12	54367	54383	54384	54393
ER-10	5/8	5/8	4	3/32	12	54395	54411	54412	54421
ER-12	3/4	3/4	4 1/2	1/8	12	54423	54439	54440	54449
EL-4	1/4	1/4	2	1/16	12	54003	54019	54020	
EL-5	5/16	5/16	2 1/4	1/16	12	54031	54047	54048	54057
EL-6	3/8	3/8	2 1/2	1/16	12	54059	54075	54076	54085
EL-8	1/2	1/2	3 1/2	3/32	12	54115	54131	54132	54141
EL-10	5/8	5/8	4	3/32	12	54143	54159	54160	54169
EL-12	3/4	3/4	4 1/2	1/8	12	54171	54187	54188	54197

## FR • FL END CUTTING OFFSET TOOLS

FR & FL Style Tools - 0° End Cutting Edge Angle  
For Turning, Facing, Boring and Straddle Facing close to chuck jaws on lathe and boring mill applications.

TOOL NUMBER	SHANK DIMENSIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES	STEEL GRADES			
	A	B	C			C2	K68	C5	C6	K21
FR-8	1/2	1/2	3 1/2	1/32	12	55615	55623	55631	55632	55640
FR-10	5/8	5/8	4	1/32	12	55643	55651	55659	55660	55668
FR-12	3/4	3/4	4 1/2	1/32	12	55671	55679	55687	55688	55696
FR-16	1	1	7	1/32	6	55699		55715	55716	
FR-20	1 1/4	1 1/4	8	1/32	Bulk	55727		55743	55744	
FR-24	1 1/2	1 1/2	8	1/16	Bulk	55755		55771	55772	
FR-44	1/2	1	6	1/32	Bulk	55783		55799	55800	
FR-55	5/8	1 1/4	7	1/32	Bulk	55839		55855	55856	
FR-64	3/4	1	6	1/32	Bulk	55867		55883	55884	
FR-66	3/4	1 1/2	8	1/32	Bulk	55895		55911	55912	
FR-85	1	1 1/4	8	1/32	Bulk	55923		55939	55940	
FR-86	1	1 1/2	8	1/32	Bulk	55951		55967	55968	
FL-8	1/2	1/2	3 1/2	1/32	12	55115	55123	55131	55132	55140
FL-10	5/8	5/8	4	1/32	12	55143	55151	55159	55160	55168
FL-12	3/4	3/4	4 1/2	1/32	12	55171	55179	55187	55188	55196
FL-16	1	1	7	1/32	6	55199		55215	55216	
FL-20	1 1/4	1 1/4	8	1/32	Bulk	55227		55243	55244	
FL-24	1 1/2	1 1/2	8	1/16	Bulk	55255		55271	55272	
FL-44	1/2	1	6	1/32	Bulk	55283		55299	55300	
FL-55	5/8	1 1/4	7	1/32	Bulk	55339		55355	55356	
FL-64	3/4	1	6	1/32	Bulk	55367		55383	55384	
FL-66	3/4	1 1/2	8	1/32	Bulk	55395		55411	55412	
FL-85	1	1 1/4	8	1/32	Bulk	55423		55439	55440	
FL-86	1	1 1/2	8	1/32	Bulk	55451		55467	55468	



## GR • GL

### SIDE CUTTING OFFSET TOOLS

GR & GL Style Tools - 0° Side Cutting Edge Angle

For Turning, Facing and Boring close to chuck jaws on lathe and boring mill applications.

TOOL NUMBER	SHANK DIMENSIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES			STEEL GRADES	
	A	B	C			C2	K68	C5	C6	K 21
GR-8	1/2	1/2	31/2	1/32	12	56615	56623	56631	56632	56640
GR-10	5/8	5/8	4	1/32	12	56643	56651	56659	56660	56668
GR-12	3/4	3/4	41/2	1/32	12	56671	56679	56687	56688	56696
GR-16	1	1	7	1/32	6	56699		56715	56716	
GR-20	11/4	11/4	8	1/32	Bulk	56727		56743	56744	
GR-24	11/2	11/2	8	1/16	Bulk	56755		56771	56772	
GR-44	1/2	1	6	1/32	Bulk	56783		56799	56800	
GR-55	5/8	11/4	7	1/32	Bulk	56839		56855	56856	
GR-64	3/4	1	6	1/32	Bulk	56867		56883	56884	
GR-85	1	11/4	8	1/32	Bulk	56923		56939	56940	
GR-86	1	11/2	8	1/32	Bulk	56951		56967	56968	
GL-8	1/2	1/2	31/2	1/32	12	56115	56123	56131	56132	56140
GL-10	5/8	5/8	4	1/32	12	56143	56151	56159	56160	56168
GL-12	3/4	3/4	41/2	1/32	12	56171		56187	56188	
GL-16	1	1	7	1/32	6	56199		56215	56216	
GL-20	11/4	11/4	8	1/32	Bulk	56227		56243	56244	
GL-24	11/2	11/2	8	1/16	Bulk	56255		56271	56272	
GL-44	1/2	1	6	1/32	Bulk	56283		56299	56300	
GL-55	5/8	11/4	7	1/32	Bulk	56339		56355	56356	
GL-64	3/4	1	6	1/32	Bulk	56367		56383	56384	
GL-85	1	11/4	8	1/32	Bulk	56423		56439	56440	
GL-86	1	11/2	8	1/32	Bulk	56451		56467	56468	



## TRC • TRE • TRG

### ROUND SHANK BORING TOOLS

TRC Style – For Boring to a square shoulder 30° boring bars.

TRE Style – For Boring to a square in 45° boring or with a 15° lead angle in 30° shoulder boring bars.

TRG Style – For shouldering in 90° boring bars. Neutral rake.

TOOL NUMBER	SHANK DIMENSIONS				NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES C2	STEEL GRADES	
	A	B	C	F				C5	C6
TRC-5	5/16	19/64	11/2	7/32	1/64	12	57003	57019	57020
TRC-6	3/8	11/32	13/4	9/32	1/64	12	57031	57047	57048
TRC-8	1/2	15/32	21/2	3/8	1/32	12	57059	57075	57076
TRE-5	5/16	19/64	11/2	7/32	1/64	12	57143	57159	57160
TRE-6	3/8	11/32	13/4	9/32	1/64	12	57171	57187	57188
TRE-8	1/2	15/32	21/2	3/8		12	57199	57215	57216
TRG-5	5/16	19/64	11/2	13/16		12	57283	57299	57300
TRG-6	3/8	11/32	13/4	1/4		12	57311	57327	57328
TRG-8	1/2	15/32	21/2	9/32		12	57339	57355	57356



Made in the USA



# TSA • TSB • TSC • TSE

## SQUARE SHANK BORING TOOLS

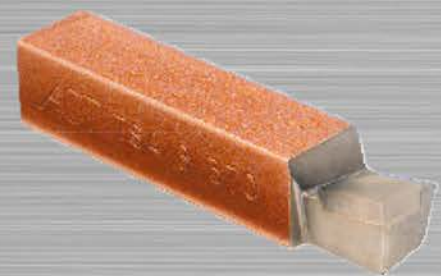
**TSA Style** – For Boring to a square shoulder in a 90° boring bar. High positive rake.

**TSB Style** – For Boring to a 10° shoulder in 90° boring bars. High positive rake.

**TSC Style** – For Boring to a square shoulder in 60° boring bars. High positive rake.

**TSE Style** – For Boring to a square shoulder in 45° boring bars or with a 15° lead angle in 30° boring bars. High positive rake.

TOOL NUMBER	SHANK DIMENSIONS			NOSE RADIUS	PKG QTY	CAST IRON & NON-FERROUS GRADES		STEEL GRADES	
	A	B	C			C2	C5	C6	
TSA-4	1/4	1/4	11/2	1/64	12	58003	58019	58020	
TSA-5	5/16	5/16	11/2	1/64	12	58031	58047	58048	
TSA-6	3/8	3/8	13/4	1/64	12	58059	58075	58076	
TSA-8	1/2	1/2	21/2	1/32	12	58087	58103	58104	
TSA-10	5/8	5/8	3	1/32	12	58115	58131	58132	
TSA-12	3/4	3/4	31/2	1/32	12	58143	58159	58160	
TSB-4	1/4	1/4	11/2	1/64	12				
TSB-5	5/16	5/16	11/2	1/64	12	58199	58215	58216	
TSB-6	3/8	3/8	13/4	1/64	12	58227	58243	58244	
TSB-8	1/2	1/2	21/2	1/32	12	58255	58271	58272	
TSB-10	5/8	5/8	3	1/32	12	58283	58299	58300	
TSB-12	3/4	3/4	31/2	1/32	12	58311	58327	58328	
TSC-4	1/4	1/4	11/2	1/64	12	58339	58355	58356	
TSC-5	5/16	5/16	11/2	1/64	12	58367	58383	58384	
TSC-6	3/8	3/8	13/4	1/64	12	58395	58411	58412	
TSC-8	1/2	1/2	21/2	1/32	12	58423	58439	58440	
TSC-10	5/8	5/8	3	1/32	12	58451	58467	58468	
TSC-12	3/4	3/4	31/2	1/32	12	58479	58495	58496	
TSE-4	1/4	1/4	11/2	1/64	12	58671	58687	58688	
TSE-5	5/16	5/16	11/2	1/64	12	58669	58715	58716	
TSE-6	3/8	3/8	13/4	1/64	12	58727	58743	58744	
TSE-8	1/2	1/2	21/2	1/32	12	58755	58771	58772	
TSE-10	5/8	5/8	3	1/32	12	58783	58799	58800	
TSE-12	3/4	3/4	31/2	1/32	12	58811	58827	58828	



RED STOCK NUMBERS – NON-STOCK ITEMS  
 \* LIMITED QUANTITIES AVAILABLE WHILE SUPPLIES LAST.

## CONCAVE RADIUS TOOLS



TOOL NUMBER	SHANK DIMENTIONS			RADIUS DIMENTIONS	HAND	MULTI- PURPOSE MICROGRAIN
	A	B	C			
CCRH-6 .032	3/8"	3/8"	21/2"	1/32"	RH	70009
CCRH-6 .062	3/8"	3/8"	21/2"	1/16"	RH	70011
CCRH-6 .093	3/8"	3/8"	21/2"	3/32"	RH	70013
CCRH-6 .125	3/8"	3/8"	21/2"	1/8"	RH	70015
CCRH-6 .156	3/8"	3/8"	21/2"	5/32"	RH	70017
CCRH-6 .187	3/8"	3/8"	21/2"	3/16"	RH	70019
CCRH-6 .218	3/8"	3/8"	21/2"	7/32"	RH	70021
CCRH-6 .250	3/8"	3/8"	21/2"	1/4"	RH	70023
CCLH-6 .032	3/8"	3/8"	21/2"	1/32"	LH	70010
CCLH-6 .062	3/8"	3/8"	21/2"	1/16"	LH	70012
CCLH-6 .093	3/8"	3/8"	21/2"	3/32"	LH	70014
CCLH-6 .125	3/8"	3/8"	21/2"	1/8"	LH	70016
CCLH-6 .156	3/8"	3/8"	21/2"	5/32"	LH	70018
CCLH-6 .187	3/8"	3/8"	21/2"	3/16"	LH	70020
CCLH-6 .218	3/8"	3/8"	21/2"	7/32"	LH	70022
CCLH-6 .250	3/8"	3/8"	21/2"	1/4"	LH	70024
CCRH-8 .281	1/2"	1/2"	31/2"	9/32"	RH	70109
CCRH-8 .312	1/2"	1/2"	31/2"	5/16"	RH	70111
CCRH-8 .343	1/2"	1/2"	31/2"	11/32"	RH	70113
CCRH-8 .375	1/2"	1/2"	31/2"	3/8"	RH	70115
CCLH-8 .281	1/2"	1/2"	31/2"	9/32"	LH	70110
CCLH-8 .312	1/2"	1/2"	31/2"	5/16"	LH	70112
CCLH-8 .343	1/2"	1/2"	31/2"	11/32"	LH	70114
CCLH-8 .375	1/2"	1/2"	31/2"	3/8"	LH	70116

## CONVEX RADIUS TOOLS



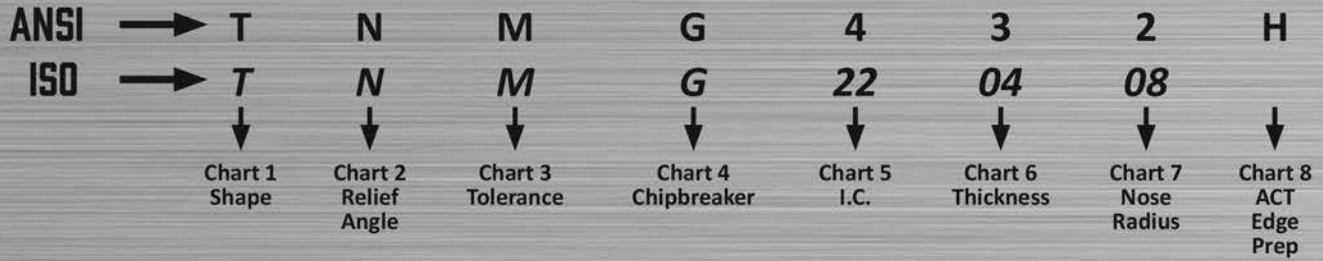
TOOL NUMBER	SHANK DIMENTIONS			RADIUS DIMENTIONS	HAND	MULTI- PURPOSE MICROGRAIN
	A	B	C			
CVRH-6 .032	3/8"	3/8"	21/2"	1/32"	RH	71009
CVRH-6 .062	3/8"	3/8"	21/2"	1/16"	RH	71011
CVRH-6 .093	3/8"	3/8"	21/2"	3/32"	RH	71013
CVRH-6 .125	3/8"	3/8"	21/2"	1/8"	RH	71015
CVRH-6 .156	3/8"	3/8"	21/2"	5/32"	RH	71017
CVRH-6 .187	3/8"	3/8"	21/2"	3/16"	RH	71019
CVRH-6 .218	3/8"	3/8"	21/2"	7/32"	RH	71021
CVRH-6 .250	3/8"	3/8"	21/2"	1/4"	RH	71023
CVLH-6 .032	3/8"	3/8"	21/2"	1/32"	LH	71010
CVLH-6 .062	3/8"	3/8"	21/2"	1/16"	LH	71012
CVLH-6 .093	3/8"	3/8"	21/2"	3/32"	LH	71014
CVLH-6 .125	3/8"	3/8"	21/2"	1/8"	LH	71016
CVLH-6 .156	3/8"	3/8"	21/2"	5/32"	LH	71018
CVLH-6 .187	3/8"	3/8"	21/2"	3/16"	LH	71020
CVLH-6 .218	3/8"	3/8"	21/2"	7/32"	LH	71022
CVLH-6 .250	3/8"	3/8"	21/2"	1/4"	LH	71024
CVRH-8 .281	1/2"	1/2"	31/2"	9/32"	RH	71109
CVRH-8 .312	1/2"	1/2"	31/2"	5/16"	RH	71111
CVRH-8 .343	1/2"	1/2"	31/2"	11/32"	RH	71113
CVRH-8 .375	1/2"	1/2"	31/2"	3/8"	RH	71115
CVLH-8 .281	1/2"	1/2"	31/2"	9/32"	LH	71110
CVLH-8 .312	1/2"	1/2"	31/2"	5/16"	LH	71112
CVLH-8 .343	1/2"	1/2"	31/2"	11/32"	LH	71114
CVLH-8 .375	1/2"	1/2"	31/2"	3/8"	LH	71116

Items in red non-stock available upon request.  
Other grades and styles also available upon request.  
Concave or Convex Radius Tolerance +/- .001.

DESCRIPTION  
CONCAVE/CONVEX    RIGHT HAND/LEFT HAND    3/8" SQ.    1/2" SQ.    RADIUS AS SHOWN  
CC / CV            RH / LH            6            8            .XXX



## ANSI/ISO TURNING INSERT IDENTIFICATION



1 INSERT SHAPE	
Symbol	Insert Shape
T	Triangle
S	Square
W	Trigon
R	Round
A, K, M	Parallelogram
C	80° Diamond
D	55° Diamond
V	35° Diamond

2 RELIEF ANGLE	
Symbol	Relief Angle
N	0°
B	5°
C	7°
P	11°
D	15°
E	20°
F	25°

3 TOLERANCE		
Symbol	Insert I.C.	Thickness
A	+ .001	+ .001
C	+ .001	+ .001
E	+ .001	+ .001
F	+ .0005	+ .001
G	+ .001	+ .005
J	+ .002	+ .001
M	+ .002 +.005	+ .005
U	+ .003 +.010	+ .005

4 TYPE			
Symbol	Hole	Chipbreaker	Hole Style
A	Yes	None	None
G	Yes	Double	Straight
M	Yes	Single	Straight
N	No	None	None
F	No	Double	None
R	No	Single	None
B	Yes	Double	Countersunk
D	Yes	Single	Countersunk
P	Yes	Single	Straight

5 I.C.							
ACT Number Size/Shape	ISO Number						
	R	S	T	C	D	V	I.C.
(5)			06				5/32
(6)			08				3/16
-			09				7/32
-	06						(.236)
2 (8)		06	11	06	07		1/4
0		07		08	09		5/16
-	08						(.315)
3	09	09	16	09	11	16	3/8
-	10						(.394)
-	12						(.472)
4	12	12	22	12	15		1/2
5	15	15	27	16			5/8
-	16						(.630)
6	19	19	33	19			3/4
-	20						(.787)
-	25						(.984)
8	25	25					11/4
0	31						
-	32						(1.260)

6 THICKNESS		
ACT Number	ISO Number	Thickness
1.5	02	3/32
2	03	1/8
3	04	3/16
-	05	7/32
4	06	1/4
5	07	5/16
5	08	5/16
6	09	3/8

7 NOSE RADIUS		
ACT Number	ISO Number	Radius
-	00	0
0	02	.0079
1	04	.0156
-	05	.0197
2	08	.0312
-	10	.0394
3	12	.0469
-	15	.0591
4	16	.0625
6	24	.0938
8	32	.1250
-	40	.1575

8 ACT EDGE PREP	
Symbol	Edge Preparation
H	Light Hone
HH	Heavy Hone

**DACT**

