

YOUR QUALITY SPECIALIST IN SMALL HOLE...



BORING

GROOVIT PRODUCT LINE DISCONTINUED

GROOVIT SPECIALS AND THE STANDARD INSERTS AND TOOLHOLDERS SHOW ON PAGES 2, 5, 7, 49-56, 190, 215-217, 326, 351 & 352 ARE NO LONGER AVAILABLE.



THREADING - TURNING

GROOVING - FACE GROOVING

PROFILING

ULTRA-PRECISION, HIGH QUALITY
INDEXABLE OR REPLACEABLE
TYPE TOOLING

ISO 9001 CERTIFIED

visit our web site at: www.circlemachine.com

(626) 357-7046

FAX: (626) 359-8284

(800) 247-2533

proudly presents...

OUR "ALL-NEW" 2002 GENERAL PRODUCT LINE CATALOG

featuring...

**HIGH QUALITY, ULTRA PRECISION, INDEXABLE CUTTING TOOLS
 and these NEW products!**



see
 pages
 215-218

THE ULTIMATE GROOVING SYSTEM

GROOVING SYSTEM

FROM THE MANUFACTURERS OF
 CIRCLE PRECISION CUTTING TOOLS

- One holder holds all inserts*
- Easy to use...fast insert change outs*
- Strong, Rigid system capable of up to...
 0.008" IPR feedrates*
- Positive stop guarantees insert will not
 "pushback" during cuts*
- Groove widths down to...0.016"*
- Superior finish on inserts produces
 closer tolerances on workpieces*
- Chip control inserts...stock standard*

circle KVMicro
QUICK CHANGE TOOLING

QUICK CHANGE
 LATHE & SWISS TYPE TOOLING

*Use on Swiss Automatics and/or Conventional
 Turning Centers*

*Change tools...accurately...within 30 seconds...
 With no loss of set-up*

*Cutting tool interchangeability...next best thing
 to having more tool stations*

*Clamping unit centerline location repeats
 ...within 0.0003"*

End working tools as rigid as solid tools

Decrease downtime...Increase productivity



see
 pages
 259-298



PRECISION BORING BAR SLEEVES

Built for Accuracy
 see pages 321-323

**WE ARE YOUR QUALITY SPECIALIST IN SMALL HOLE...
 BORING, GROOVING, PROFILING, AND THREADING!**

HOW TO DETERMINE PROPER BORING BAR AND INSERT GRADE SELECTION



STEP 1	DETERMINE HOLE SIZE TO BE BORED. PROPER BAR SELECTION WILL HAVE LARGEST MINIMUM BORE DIMENSION <u>UNDER</u> HOLE SIZE TO BE BORED.
STEP 2	DETERMINE SHANK SIZE.
STEP 3 STEP 4	DETERMINE BORE DEPTH OR HOW FAR BORING BAR WILL EXTEND OUT OF IT'S HOLDER. MULTIPLY BAR DIAMETER TIMES 4. IF BORE DEPTH IS LESS, USE A STEEL BAR OR IF BORE DEPTH EXCEEDS 4:1 RATIO, USE A CARBIDE BAR (SEE RECOMMENDED MAXIMUM OVERHANG CHART IN TECHNICAL DATA SECTION).
STEP 5	DETERMINE IF THE MACHINING APPLICATION REQUIRES A BORING BAR WITH A 5 DEGREE FRONT LEAD ANGLE OR WITH A 0 DEGREE LEAD ANGLE. ALSO, IF A LEFT HANDED BAR MAY BE APPLICABLE.
STEP 6	SELECT BORING BAR FROM CIRCLE CATALOG.
STEP 7	SELECT INSERT GEOMETRY TO FIT BORING BAR LISTED ON THE SAME PAGE AS BORING BAR IN CATALOG.
STEP 8	SELECT DESIRED CORNER RADIUS NEEDED FOR PARTICULAR MACHINING APPLICATION.
	DETERMINE MATERIAL(S) TO BE MACHINED.
STEP 9	REFER TO CARBIDE GRADE SELECTION CHART LOCATED IN THE TECHNICAL DATA SECTION TO SELECT GRADE NEEDED FOR YOUR APPLICATION.
STEP 10	SELECT PROPER INSERT, CORNER RADIUS, AND GRADE.

EXAMPLE:	CIRCLE'S RECOMMENDATION:
HOLE SIZE: 0.310"	CIRCLE BORING BAR: CSBI-250-3-5R
BORE DEPTH: 0.625"	CIRCLE INSERT TYPE: CDCD-505"
SHANK SIZE: 1/4" (0.250")	CIRCLE INSERT GRADE(S): CG5, CG6, OR TN7
MATERIAL: 4140 (40 RC)	
INSERT CORNER RADIUS: 0.007"	
BORING TO A SQUARE SHOULDER?: NO	

ROTARY APPLICATIONS NOTICE

MINIMUM BORE DIMENSIONS FOR ROTARY APPLICATIONS MAY DIFFER FROM THOSE LISTED IN THE SPECIFIC TOOLING SPECIFICATIONS OF THIS CATALOG AND/OR ANY LITERATURE PERTAINING TO PRECISION CUTTING TOOLS AND OR INSERTS MANUFACTURED BY CIRCLE MACHINE COMPANY. IF YOU HAVE ANY QUESTIONS CONCERNING THE PROPER APPLICATION(S) OF ANY CIRCLE PRECISION CUTTING TOOLS IN A ROTARY TYPE APPLICATION(S)...PLEASE CONTACT OUR TECHNICAL DEPARTMENT AT 626-357-7046 OR 800-247-2533

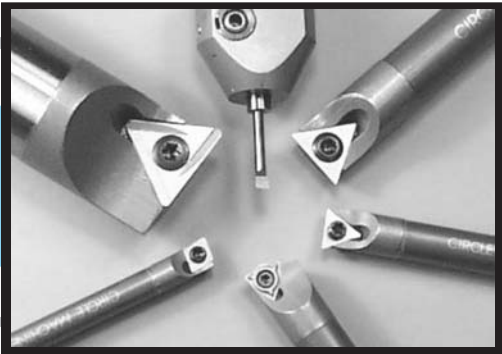
TABLE OF CONTENTS

**REPLACEABLE & INDEXABLE
Type Inserts**



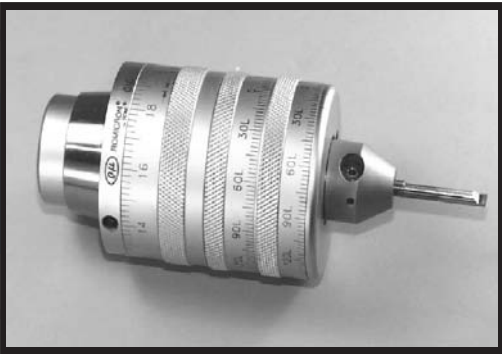
*pages
7-75*

**BORING & TURNING
Bars**



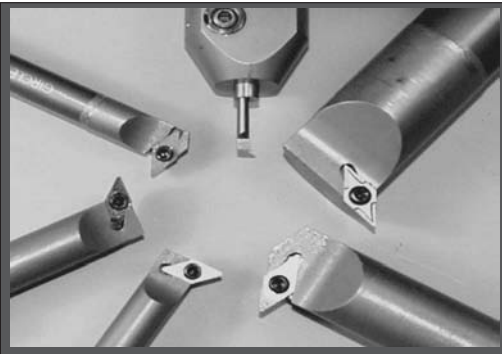
*pages
77-144*

**ROMICRON
Precision Boring Heads**



*pages
145-154*

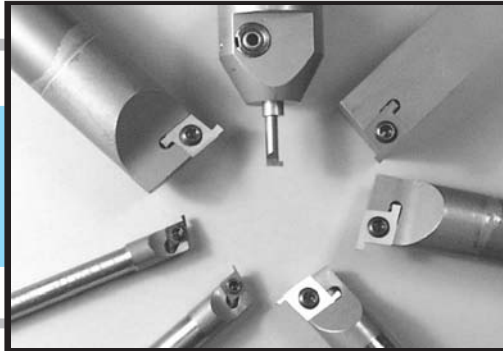
**PROFILING
Bars**



*pages
155-187*

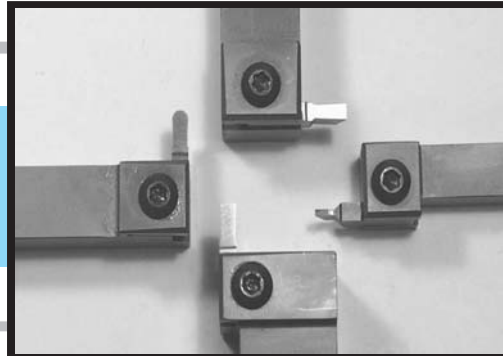
TABLE OF CONTENTS

**I.D. GROOVING
Bars**



*pages
189-214*

GROOVING
The Ultimate Grooving System



*pages
215-218*

**THREADING
Bars**



*pages
219-255*

circle KM micro
Quick Change
Lathe Type Tooling



*pages
257-274*

TABLE OF CONTENTS

circleKMmicro™

**Quick Change
SwissType Tooling**



pages
275-298

**OD TOOLING
Square Shanks**



pages
299-317

**PRECISION SETUP LEVEL
BORING BAR SLEEVES**



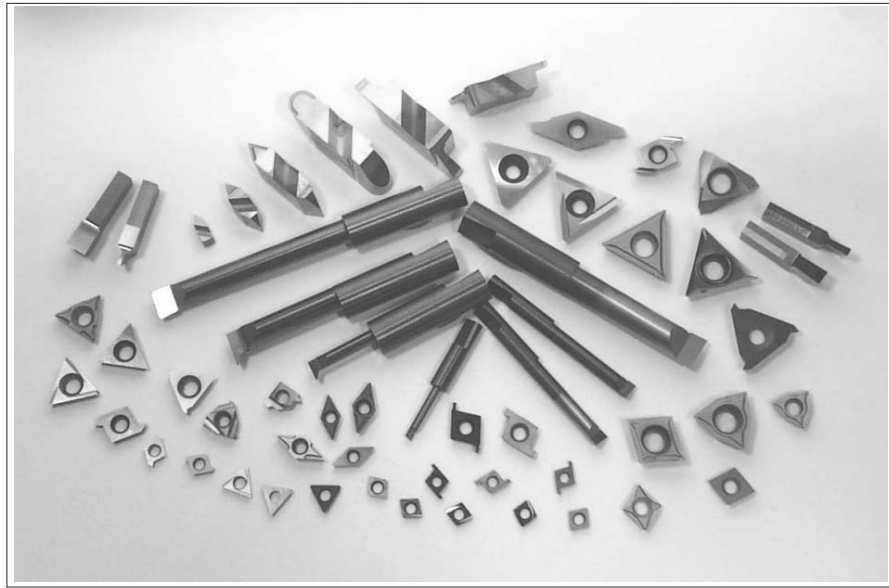
pages
321-323

TECHNICAL DATA



pages
325-365

**BORING
PROFILING
GROOVING
FACE GROOVING
THREADING**



REPLACEABLE & INDEXABLE TYPE INSERTS

featuring...

GRADES FOR MOST MACHINING APPLICATIONS

CVD OR PVD COATED INSERTS

CERMET & UNCOATED GRADES

CUBIC BORON NITRIDE TIPPED INSERTS

POLYCRYSTALLINE DIAMOND TIPPED INSERTS

GROUND IN OR PRESSED CHIPBREAKER TYPE INSERTS

80 DEGREE DIAMOND INDEXABLE TYPE INSERTS

60 DEGREE TRIANGLE INDEXABLE TYPE INSERTS

45 DEGREE DIAMOND INDEXABLE TYPE INSERTS

TRIGON TYPE INDEXABLE INSERTS

ID OR OD THREADING INSERTS

LAYDOWN THREADING INSERTS

ID OR OD GROOVING INSERTS

CUTOFF AND DEEP GROOVING INSERTS

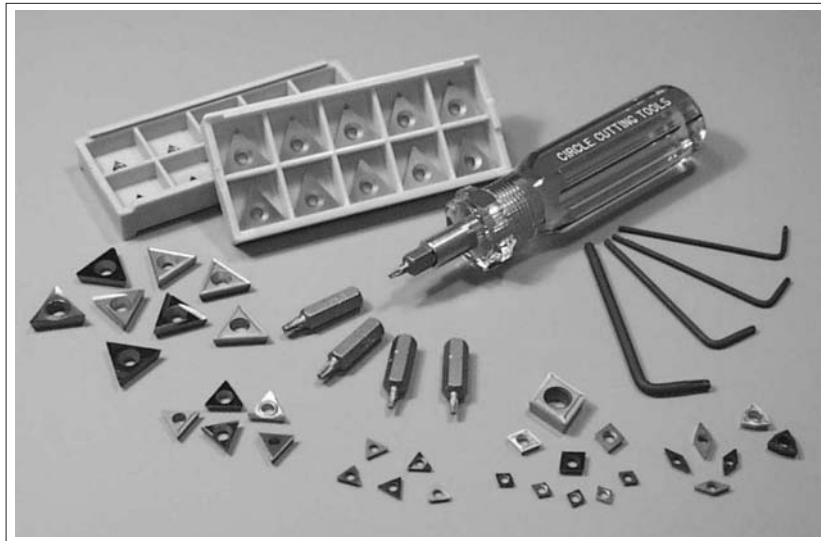
POPULAR INSERT CORNER RADII AVAILABLE

**FLAT TOP INSERTS
GUARANTEED TO REPEAT
WITHIN... $\pm 0.0002'$**

**CORNER TO
CORNER!**

CARBIDE GRADE SELECTION CHART

CIRCLE INSERT GRADE	SUGGESTED GRADE APPLICATIONS
ALO [®]	An aluminum oxide or ceramic coated grade. Excellent on abrasive material such as gray iron, nodular iron, and compacted graphite. Also, works well on nickel base materials and all steels including heat treated steels up to 45RC. Better at high speeds (700-1200 SFM) but, has been successful at 250 SFM. Tough, will take shock. High speed general purpose grade.
ALO9	A multi-layer CVD coated grade with an aluminum oxide top layer that permits higher speeds with longer tool life. It also provides high resistance to micro chipping and built up edge. An excellent general purpose grade for low and medium carbon steels and stainless steels.
CBN	Circle offers four grades of CBN (Cubic Boron Nitride) inserts for distinctly different applications. Significant productivity increases can be expected as well as close tolerances and excellent surface finishes when using Circle CBN grades as recommended. Circle's CBN insert grades can be used with or without coolant.
CBN-1	Circle CBN-1 is recommended as a high speed finishing grade for high temperature alloys. Can be used with or without coolant.
CBN-3	Cubic Boron Nitride (CBN3) is recommended for severely interrupted cutting in hardened steels above 45RC.
CBN-5	Cubic Boron Nitride (CBN5) is recommended for nodular iron, gray cast iron, and alloyed iron cutting with, or without coolant.
CBN-6	Circle CBN-6 is recommended for machining hardened steel from 45RC to 65RC. Can be used with or without coolant.
CG-5	PVD (Physical Vapor Deposition) coated micrograin substrate insert. Tough, gold in color and it performs well in nickel base materials such as titanium and/or inconel. It is also applicable in some steels, including most stainless steels and may give good performance in steels heat treated to 40RC.
CG-55	A PVD coated insert with high edge strength and wear resistance. The dense PVD coating provides a good combination of properties for 300 stainless and other aerospace applications where low cutting forces are required. Runs 20% faster than CG5.
CG-6	CVD (Chemical Vapor Deposition) coated insert. Gold in color and is suitable for general applications on all steels. Should be run 30% faster than uncoated grades up to 700 SFM. May not be applicable in very small bores due to the lack of SFM. Good for high speed finishing in most steels. SFM should be run at a minimum between 300-400.
CM-1 [®]	Very strong, tough, micrograin carbide insert. Use on titanium alloy or high temperature alloys such as, inconel, hastelloy, or rene. Use on steel when extreme toughness is required such as, roughing at high feed rates and/or interrupted cuts. Performs best at slow SFM (75-200). Use when insert grades C-2, C-3, or C-25 fail due to chipping or breaking.
CPD-1 [®]	CPD-1 (Circle's Polycrystalline Diamond) is a fine polycrystalline diamond compact grade, providing exceptional hardness and abrasion resistance. CPD-1 is a superior finish boring grade which will significantly improve workpiece tolerances, surface finishes, and insert tool life in high silicon aluminum, copper, aluminum carbon graphite, hard rubber, plastics, and/or wood.
CR7	Chromium Carbide coating on a C-7 carbide substrate. Ideal for titanium and titanium alloys. It is also used on aluminum die castings. Use the same feeds and speeds as our CG5 grade. The major benefit of this grade is longer tool life with less machine downtime.
C2 C3 C25	For general purpose use on cast iron, titanium, aluminum, brass, copper, nickel base alloys, and other non-ferrous materials. C-3 or C-25 are slightly harder grades and therefore, have greater edgewear capabilities in finishing operations.
C4	A very hard grade for finishing operations. Suitable for light cuts in titanium and/or nickel base materials such as, inconel, waspoloy, hastelloy, etc.
C8	Hard, steel cutting grade for finishing.
C50	For rough cuts in steel. Will take shock.
C80	For general purpose applications in steel. Will take moderate interruptions.
DC1	Amorphous Diamond coating for use on graphite and carbon composites. It is also recommended for 6061T and 7075T aircraft aluminum, and all aluminums with less than 10% silicon.
HL1	Hard lube on a micrograin substrate. A tungsten carbide/carbon layer for good lubricity and low adhesive tendencies make it a good coating for machining plastic components.
TG7	TIN/PVD coating on a cermet grade for machining iron based materials. Will take moderate shock.
TN7 [®]	A good general purpose cermet grade that combines toughness and edgewear. Use on steel and some cast irons. Will take moderate shock and hold edge in most finishing operations. Will machine hardened steel up to 45RC. An excellent grade for boring operations. Run at least 30% faster than uncoated tungsten grades.
TR1	TiALN coating on a micrograin substrate. Excellent for machining stainless steel, titanium, and other nickel based high temperature alloys. Can handle interrupted cuts and high speeds. Can be run 30% faster than PCD coatings.
TR25	A PVD TiAIN coating on a tough, ultra-fine grain unalloyed substrate micrograin. Use for the general purpose of machining most steels, stainless steels, high temperature alloys, titanium, irons, and non-ferrous materials. Speeds recommended vary from low to medium. Will take interruptions and high feed rates.



BORING/TURNING INSERTS

REPLACEABLE & INDEXABLE TYPE

featuring...

GRADES FOR MOST MACHINING APPLICATIONS

CVD OR PVD COATED INSERTS

CERMET & UNCOATED GRADES

CUBIC BORON NITRIDE TIPPED INSERTS

POLYCRYSTALLINE DIAMOND TIPPED INSERTS

GROUND IN CHIPBREAKER TYPE INSERTS

PRESSED CHIPBREAKER TYPE INSERTS

80 DEGREE DIAMOND INDEXABLE TYPE INSERTS

60 DEGREE TRIANGLE INDEXABLE TYPE INSERTS

45 DEGREE DIAMOND INDEXABLE TYPE INSERTS

TRIGON INDEXABLE TYPE INSERTS

POPULAR INSERT CORNER RADII AVAILABLE

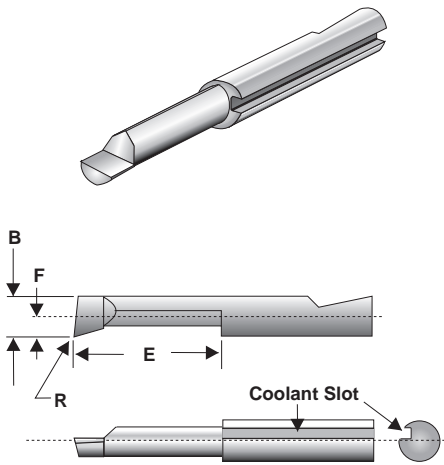
**FLAT TOP INSERTS
GUARANTEED TO REPEAT
WITHIN...±0.0002"**

**CORNER TO
CORNER!**

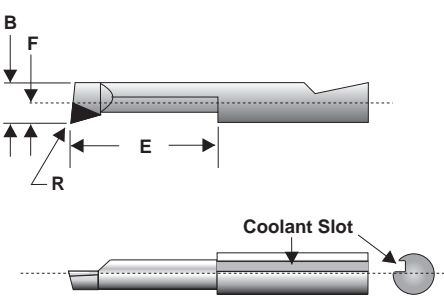
ABD TYPE REPLACEABLE BORING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ATBI

ABD REPLACEABLE BORING TYPE INSERTS WITH COOLANT SLOT

	INSERT CATALOG NUMBER EDP NO.	INSERT DESCRIPTION	R	MIN. BORE	BORE DEPTH	GAGE INSERT
				B	E	F
	ABD-06-187R-CG5 16057	PVD Coated	S/C	0.062"	0.187"	0.026"
	ABD-06-187R-CM1 16058	Uncoated	S/C	0.062"	0.187"	0.026"
	ABD-06-312R-CG5 16059	PVD Coated	S/C	0.062"	0.312"	0.026"
	ABD-06-312R-CM1 16060	Uncoated	S/C	0.062"	0.312"	0.026"
	ABD-09-281R-CG5 16061	PVD Coated	S/C	0.094"	0.281"	0.041"
	ABD-09-281R-CM1 16062	Uncoated	S/C	0.094"	0.281"	0.041"
	ABD-09-500R-CG5 16063	PVD Coated	S/C	0.094"	0.500"	0.041"
	ABD-09-500R-CM1 16064	Uncoated	S/C	0.094"	0.500"	0.041"
	ABD-125-375R-CG5 16065	PVD Coated	S/C	0.125"	0.375"	0.057"
	ABD-125-375R-CM1 16066	Uncoated	S/C	0.125"	0.375"	0.057"
	ABD-125-625R-CG5 16067	PVD Coated	S/C	0.125"	0.625"	0.057"
	ABD-125-625R-CM1 16068	Uncoated	S/C	0.125"	0.625"	0.057"
	ABD-156-500R-CG5 16069	PVD Coated	S/C	0.156"	0.500"	0.073"
	ABD-156-500R-CM1 16070	Uncoated	S/C	0.156"	0.500"	0.073"
	ABD-156-875R-CG5 16071	PVD Coated	S/C	0.156"	0.875"	0.073"
	ABD-156-875R-CM1 16072	Uncoated	S/C	0.156"	0.875"	0.073"

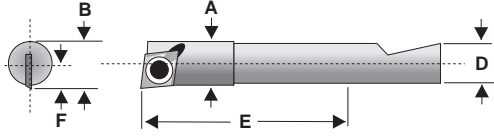
S/C= Sharp corner or "0" radius.

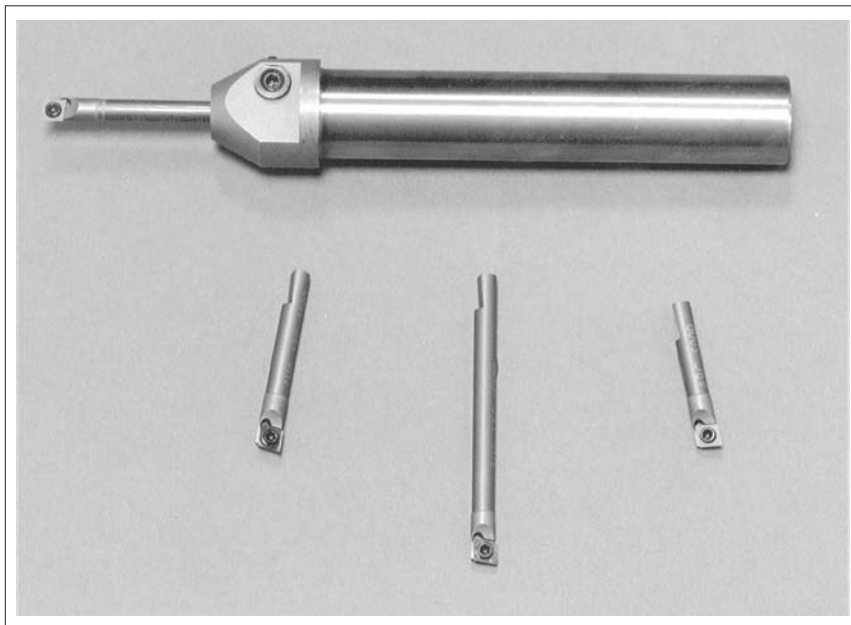
REPLACEABLE TYPE BORING INSERTS WITH CUBIC BORON NITRIDE OR POLYCRYSTALLINE DIAMOND TIP WITH COOLANT SLOT	INSERT CATALOG NUMBER EDP NO.	INSERT DESCRIPTION	R	MIN. BORE	BORE DEPTH	GAGE INSERT
				B	E	F
	ABD-09-500R-CBN6 16042	CBN	0.007"	0.094"	0.500"	0.041"
	ABD-09-500R-CPD1 16043	CPD	0.007"	0.094"	0.500"	0.041"
	ABD-125-625R-CBN6 16044	CBN	0.007"	0.125"	0.625"	0.057"
	ABD-125-625R-CPD1 16045	CPD	0.007"	0.125"	0.625"	0.057"
	ABD-156-875R-CBN6 16046	CBN	0.007"	0.156"	0.875"	0.073"
	ABD-156-875R-CPD1 16047	CPD	0.007"	0.156"	0.875"	0.073"

ABC REPLACEABLE TYPE INDEXABLE BORING BAR

ABC TYPE REPLACEABLE BORING BAR INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ATBI

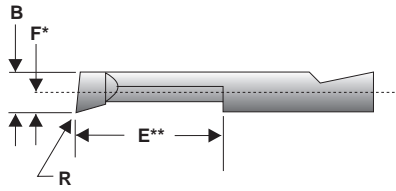
 <p style="text-align: center;">UTILIZES OUR CDCD, CDCG, & CDCT TYPE INDEXABLE INSERTS</p>	INSERT CATALOG NUMBER EDP NUMBER	C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW EDP NO.	ABC BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	GAGE INSERT	HEAD DIA.	
				B	E	D	F	A	
	ABC-500R 16049	CDCD CDCG OR CDCT SEE INSERT SECTION PAGES 13-15	CC-09 30001	0.180"	0.500"	0.187"	0.095"	0.165"	C KEY 30124 OR C BIT 30000
	ABC-750R 16050		CC-09 30001	0.180"	0.750"	0.187"	0.095"	0.165"	
	ABC-1000R 16051		CC-09 30001	0.180"	1.000"	0.312"	0.095"	0.165"	
	ABC-1250R 16052		CC-09 30001	0.180"	1.250"	0.312"	0.095"	0.165"	
	ABC-1500R 16053		CC-09 30001	0.180"	1.500"	0.281"	0.095"	0.165"	



BB TYPE REPLACEABLE BORING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

BSBI

BB REPLACEABLE TYPE BORING INSERTS



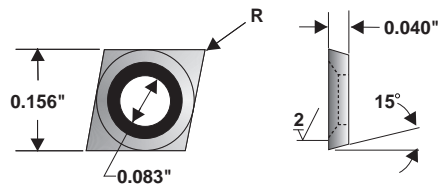
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R	MIN. BORE	BORE DEPTH	GAGE INSERT
			B	E	F
BB-187-750R-CG5 26000	PVD Coated	S/C	0.187"	0.750"	0.088"
BB-187-750R-CM1 26001	Uncoated	S/C	0.187"	0.750"	0.088"
BB-187-1250R-CG5 26002	PVD Coated	S/C	0.187"	1.250"	0.088"
BB-187-1250R-CM1 26003	Uncoated	S/C	0.187"	1.250"	0.088"
BB-250-1000R-CG5 26004	PVD Coated	S/C	0.250"	1.000"	0.120"
BB-250-1000R-CM1 26005	Uncoated	S/C	0.250"	1.000"	0.120"
BB-250-1750R-CG5 26006	PVD Coated	S/C	0.250"	1.750"	0.120"
BB-250-1750R-CM1 26007	Uncoated	S/C	0.250"	1.750"	0.120"
BB-312-1250R-CG5 26008	PVD Coated	S/C	0.312"	1.250"	0.151"
BB-312-1250R-CM1 26009	Uncoated	S/C	0.312"	1.250"	0.151"
BB-312-2125R-CG5 26010	PVD Coated	S/C	0.312"	2.125"	0.151"
BB-312-2125R-CM1 26011	Uncoated	S/C	0.312"	2.125"	0.151"

S/C = Sharp Corner or "0" radius.

CDCD INDEXABLE TYPE INSERTS

**CDCD TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING**

ABC CCBI CSBI CDBI



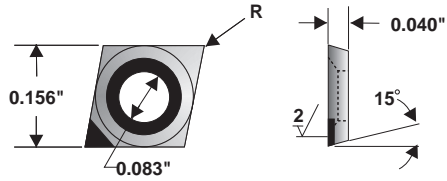
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CDCD-500-ALO 36000	AlOx Coated	0.002"
CDCD-500-CG5 36026	PVD Coated	0.002"
CDCD-500-CG6 36004	CVD Coated	0.002"
CDCD-500-C25 36002	Uncoated	0.002"
CDCD-500-C70 36003	Uncoated	0.002"
CDCD-500-CM1 36005	Uncoated	0.002"
CDCD-500-TN7 36008	Cermet	0.002"
CDCD-505-ALO 36009	AlOx Coated	0.007"
CDCD-505-CG5 36027	PVD Coated	0.007"
CDCD-505-CG6 36012	CVD Coated	0.007"
CDCD-505-C25 36010	Uncoated	0.007"
CDCD-505-C70 36011	Uncoated	0.007"
CDCD-505-CM1 36013	Uncoated	0.007"
CDCD-505-TN7 36016	Cermet	0.007"
CDCD-51-ALO 36017	AlOx Coated	0.015"
CDCD-51-CG5 36028	PVD Coated	0.015"
CDCD-51-CG6 36021	CVD Coated	0.015"
CDCD-51-C25 36019	Uncoated	0.015"
CDCD-51-C70 36020	Uncoated	0.015"
CDCD-51-CM1 36022	Uncoated	0.015"
CDCD-51-TN7 36025	Cermet	0.015"

CDCD TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ABC CCBI CSBI CDBI

CDCD TYPE INDEXABLE INSERTS

CUBIC BORON NITRIDE (CBN)
OR
POLYCRYSTALLINE DIAMOND (CPD) TIP

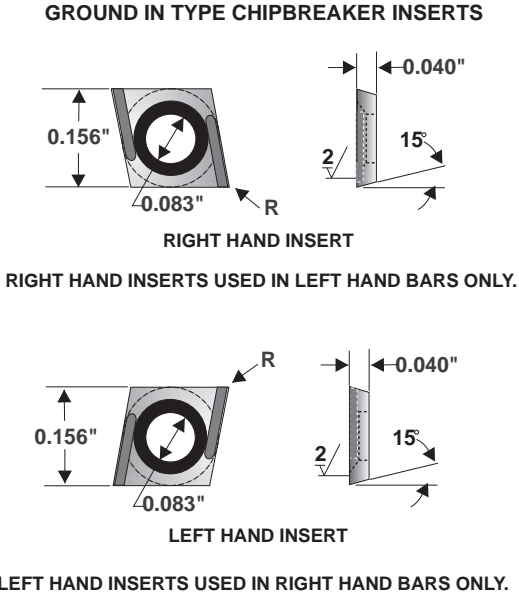


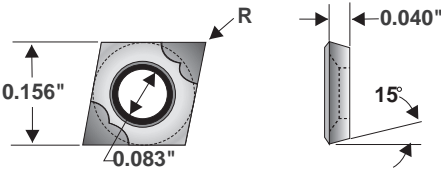
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CDCD-500-CBN1 36032	CBN	0.002"
CDCD-500-CBN6 36035	CBN	0.002"
CDCD-500-CPD1 36029	CPD	0.002"
CDCD-505-CBN1 36033	CBN	0.007"
CDCD-505-CBN6 36036	CBN	0.007"
CDCD-505-CPD1 36030	CPD	0.007"
CDCD-51-CBN1 36034	CBN	0.015"
CDCD-51-CBN6 36037	CBN	0.015"
CDCD-51-CPD1 36031	CPD	0.015"

CDCG & CDCT INDEXABLE TYPE INSERTS

CDCG & CDCT TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ABC CCBI CSBI CDBI

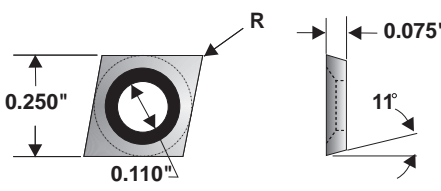
GROUND IN TYPE CHIPBREAKER INSERTS	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	R
	RIGHT HAND	LEFT HAND		
 <p>RIGHT HAND INSERT</p> <p>RIGHT HAND INSERTS USED IN LEFT HAND BARS ONLY.</p> <p>LEFT HAND INSERT</p> <p>LEFT HAND INSERTS USED IN RIGHT HAND BARS ONLY.</p>	CDCG-505R-CG5 36038	CDCG-505L-CG5 36039	PVD Coated	0.007"
	CDCG-505R-CG6 36040	CDCG-505L-CG6 36041	CVD Coated	0.007"
	CDCG-505R-CM1 36042	CDCG-505L-CM1 36043	Uncoated	0.007"
	CDCG-505R-TN7 36044	CDCG-505L-TN7 36045	Cermet	0.007"
	CDCG-51R-CG5 36046	CDCG-51L-CG5 36047	PVD Coated	0.015"
	CDCG-51R-CG6 36048	CDCG-51L-CG6 36049	CVD Coated	0.015"
	CDCG-51R-CM1 36050	CDCG-51L-CM1 36051	Uncoated	0.015"
	CDCD-51R-TN7 36052	CDCD-51L-TN7 36053	Cermet	0.015"

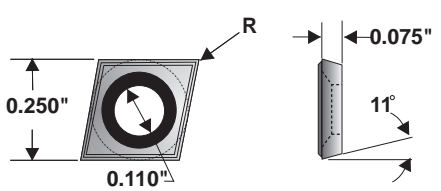
PRESSED TYPE CHIPBREAKER INSERTS	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	R
	 <p>RIGHT HAND INSERT</p>	CDCT-505-CG5 36056		
CDCT-505-CM1 36055		Uncoated	0.007"	
CDCT-51-CG5 36059		PVD Coated	0.015"	
CDCT-51-CM1 36058		Uncoated	0.015"	

CPCA & CPCM TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCM1 SCLPL SCRPL
QSM1 SCLPR SCRPR

CPCA & CPCM INDEXABLE TYPE INSERTS

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
		CPCA-2105-CG5 66001	PVD Coated
	CPCA-2105-CG6 66002	CVD Coated	0.007"
	CPCA-2105-CM1 66000	Uncoated	0.007"
	CPCA-211-CG5 66004	PVD Coated	0.015"
	CPCA-211-CG6 66005	CVD Coated	0.015"
	CPCA-211-CM1 66003	Uncoated	0.015"

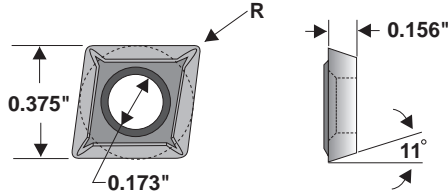
<p>PRESSED CHIPBREAKER TYPE INSERT</p> 	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
		CPCM-2105-CG5 66019	PVD Coated
	CPCM-2105-CG6 66020	CVD Coated	0.007"
	CPCM-2105-CM1 66018	Uncoated	0.007"
	CPCM-211-CG5 66022	PVD Coated	0.015"
	CPCM-211-CG6 66023	CVD Coated	0.015"
	CPCM-211-CM1 66021	Uncoated	0.015"

CPGT & CPMT INDEXABLE TYPE INSERTS

CPGT & CPMT INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

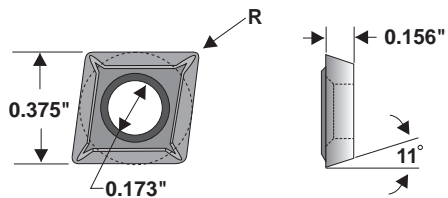
SSBIC SDBIC

PERIPHERAL GROUND PRESSED CHIPBREAKER TYPE INSERT



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CPGT-3201-CG5 86112	PVD Coated	0.003"
CPGT-3201-CM1 86111	Uncoated	0.003"
CPGT-3205-CG5 86103	PVD Coated	0.007"
CPGT-3205-CG6 86104	CVD Coated	0.007"
CPGT-321-CG5 86105	PVD Coated	0.015"
CPGT-321-CG6 86106	CVD Coated	0.015"
CPGT-322-CG5 86107	PVD Coated	0.031"
CPGT-322-CG6 86108	CVD Coated	0.031"

UTILITY GROUND PRESSED CHIPBREAKER TYPE INSERT

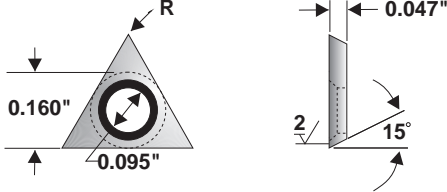


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CPMT-3205GP-CG5 86095	PVD Coated	0.007"
CPMT-3205GP-CM1 86096	Uncoated	0.007"
CPMT-321GP-CG5 86098	PVD Coated	0.015"
CPMT-321GP-CG9 86097	CVD Coated	0.015"
CPMT-321GP-CM1 86099	Uncoated	0.015"
CPMT-322GP-CG5 86101	PVD Coated	0.031"
CPMT-322GP-CG9 86100	CVD Coated	0.031"
CPMT-322GP-CM1 86102	Uncoated	0.031"

TDAB TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

FCBI FSBI STOAL-4/5
FDBI FSRI STOAR-4/5

TDAB INDEXABLE TYPE INSERTS

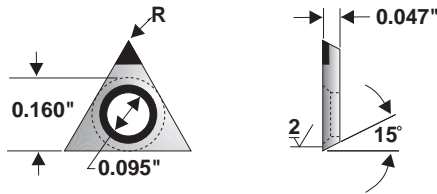
	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
	TDAB-500-CG5 47001	PVD Coated	0.002"
	TDAB-500-CG6 47003	CVD Coated	0.002"
	TDAB-500-C25 47004	Uncoated	0.002"
	TDAB-500-CM1 47005	Uncoated	0.002"
	TDAB-500-TN7 47007	Cermet	0.002"
	TDAB-505-ALO 47008	ALOX Coated	0.007"
	TDAB-505-CG5 47009	PVD Coated	0.007"
	TDAB-505-CG6 47010	CVD Coated	0.007"
	TDAB-505-C25 47013	Uncoated	0.007"
	TDAB-505-C4 47011	Uncoated	0.007"
	TDAB-505-C8 47012	Uncoated	0.007"
	TDAB-505-CM1 47014	Uncoated	0.007"
	TDAB-505-TN7 47016	Cermet	0.007"
	TDAB-51-ALO 47017	ALOX Coated	0.015"
	TDAB-51-CG5 47018	PVD Coated	0.015"
	TDAB-51-CG6 47019	CVD Coated	0.015"
	TDAB-51-C25 47020	Uncoated	0.015"
	TDAB-51-CM1 47021	Uncoated	0.015"
	TDAB-51-TN7 47023	Cermet	0.015"
	TDAB-52-CG5 47024	PVD Coated	0.031"
	TDAB-52-CG6 47025	CVD Coated	0.031"
	TDAB-52-C25 47026	Uncoated	0.031"
	TDAB-52-CM1 47027	Uncoated	0.031"
	TDAB-52-TN7 47029	Cermet	0.031"

TDAB INDEXABLE TYPE INSERTS

TDAB TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

FCBI FSBI STOAL-4/5
FDBI FSRI STOAR-4/5

CUBIC BORON NITRIDE (CBN)
OR
POLYCRYSTALLINE DIAMOND (CPD) TIP

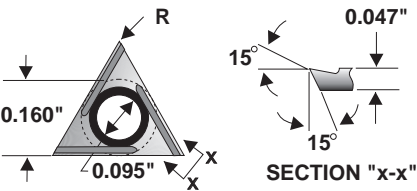
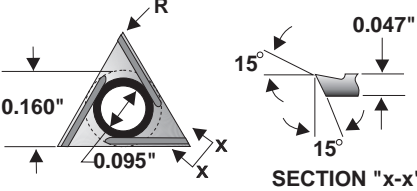
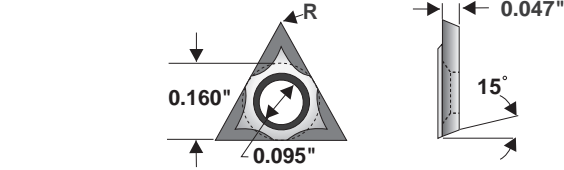

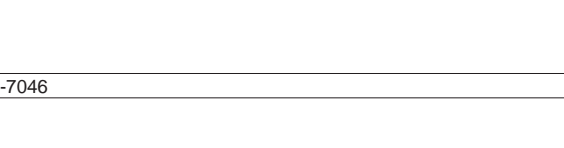


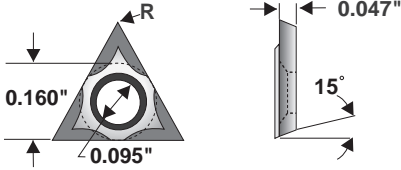
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TDAB-500-CBN1 47057	CBN	0.002"
TDAB-500-CBN6 47058	CBN	0.002"
TDAB-500-CPD1 47053	CPD	0.002"
TDAB-505-CBN1 47059	CBN	0.007"
TDAB-505-CBN6 47060	CBN	0.007"
TDAB-505-CPD1 47054	CPD	0.007"
TDAB-51-CBN6 47033	CBN	0.015"
TDAB-51-CBN1 47061	CBN	0.015"
TDAB-51-CPD1 47055	CPD	0.015"
TDAB-52-CBN1 47062	CBN	0.031"
TDAB-52-CBN6 47063	CBN	0.031"
TDAB-52-CPD1 47056	CPD	0.031"

TDAT & TDCG TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

FCBI FBI STOAL-4/5
FSBI FSRI STOAR-4/5

TDCG & TDAT INDEXABLE TYPE CHIPBREAKER INSERTS

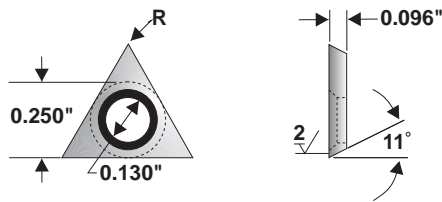
GROUND IN TYPE CHIPBREAKERS	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	R
	RIGHT HAND	LEFT HAND		
 <p>RIGHT HAND INSERT RIGHT HAND INSERTS USED IN LEFT HAND BARS ONLY.</p>	TDCG-505R-CG5 47065	TDCG-505L-CG5 47066	PVD Coated	0.007"
	TDCG-505R-CG6 47067	TDCG-505L-CG6 47068	CVD Coated	0.007"
 <p>LEFT HAND INSERT SHOWN LEFT HAND INSERTS USED IN RIGHT HAND BARS ONLY.</p>	TDCG-505R-CM1 47069	TDCG-505L-CM1 47070	Uncoated	0.007"
	TDCG-505R-TN7 47071	TDCG-505L-TN7 47072	Cermet	0.007"
	TDCG-51R-CG5 47073	TDCG-51L-CG5 47074	PVD Coated	0.015"
	TDCG-51R-CG6 47075	TDCG-51L-CG6 47076	CVD Coated	0.015"
	TDCG-51R-CM1 47077	TDCG-51L-CM1 47078	Uncoated	0.015"
	TDCG-51R-TN7 47079	TDCG-51L-TN7 47080	Cermet	0.015"
	TDAB-52R-CG5 47081	TDCG-52L-CG5 47082	PVD Coated	0.031"
	TDAB-52R-CG6 47083	TDAB-52L-CG6 47084	CVD Coated	0.031"
	TDAB-52R-CM1 47085	TDAB-52L-CM1 47086	Uncoated	0.031"
	TDAB-52R-TN7 47087	TDAB-52L-TN7 47088	Cermet	0.031"

PRESSED TYPE CHIPBREAKERS	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	R
	RIGHT HAND	LEFT HAND		
	TDAT-505-CG5 47091	TDAT-505-CM1 47090	PVD Coated	0.007"
	TDAT-51-CG5 47094	TDAT-51-CM1 47093	Uncoated	0.015"

TPCB-22 INDEXABLE TYPE INSERTS

TPCB-22 INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCBI QSBI QSRI STOAL-6/8
QDBI QSOI QTBI STOAR-6/8

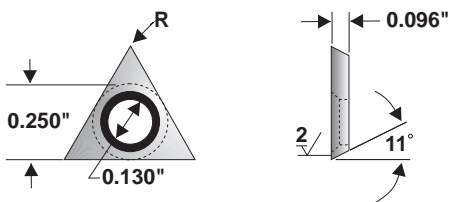


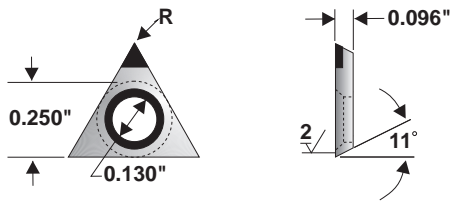
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPCB-2200-ALO 67001	AlOx Coated	0.002"
TPCB-2200-CG5 67002	PVD Coated	0.002"
TPCB-2200-CG6 67003	CVD Coated	0.002"
TPCB-2200-C3 67004	Uncoated	0.002"
TPCB-2200-C70 67005	Uncoated	0.002"
TPCB-2200-CM1 67006	Uncoated	0.002"
TPCB-2200-TN7 67007	Cermet	0.002"
TPCB-2205-ALO 67008	AlOx Coated	0.007"
TPCB-2205-CG5 67009	PVD Coated	0.007"
TPCB-2205-CG6 67010	CVD Coated	0.007"
TPCB-2205-C3 67011	Uncoated	0.007"
TPCB-2205-C4 67012	Uncoated	0.007"
TPCB-2205-C70 67013	Uncoated	0.007"
TPCB-2205-CM1 67014	Uncoated	0.007"
TPCB-2205-TN7 67019	Cermet	0.007"
TPCB-221-ALO 67020	AlOx Coated	0.015"
TPCB-221-CG5 67021	PVD Coated	0.015"
TPCB-221-CG6 67022	CVD Coated	0.015"
TPCB-221-C3 67023	Uncoated	0.015"
TPCB-221-C4 67024	Uncoated	0.015"
TPCB-221-C70 67025	Uncoated	0.015"
TPCB-221-CM1 67026	Uncoated	0.015"
TPCB-221-TN7 67030	Cermet	0.015"
TPCB-222-ALO 67031	AlOx Coated	0.031"

TPCB-22 INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCBI QSBI QSRI STOAL-6/8
QDBI QSOI QTBI STOAR-6/8

TPCB-22 INDEXABLE TYPE INSERTS

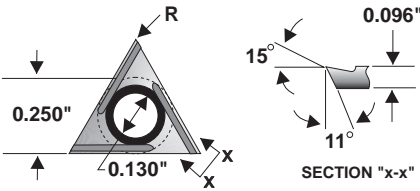
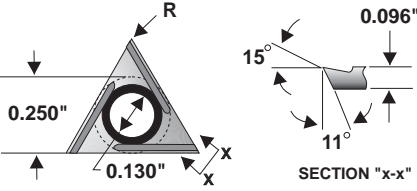
	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
	TPCB-222-CG5 67032	PVD Coated	0.031"
	TPCB-222-CG6 67033	CVD Coated	0.031"
	TPCB-222-C3 67034	Uncoated	0.031"
	TPCB-222-C4 67035	Uncoated	0.031"
	TPCB-222-C70 67036	Uncoated	0.031"
	TPCB-222-CM1 67037	Uncoated	0.031"
	TPCB-222-TN7 67038	Cermet	0.031"

<p>CUBIC BORON NITRIDE (CBN) OR POLYCRYSTALLINE DIAMOND (CPD) TIPPED INSERTS</p> 	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
	TPCB-2200-CBN1 67047	CBN	0.002"
	TPCB-2200-CBN6 67051	CBN	0.002"
	TPCB-2200-CPD1 67039	CPD	0.002"
	TPCB-2205-CBN1 67048	CBN	0.007"
	TPCB-2205-CBN6 67052	CBN	0.007"
	TPCB-2205-CPD1 67040	CPD	0.007"
	TPCB-221-CBN1 67049	CBN	0.015"
	TPCB-221-CBN6 67053	CBN	0.015"
	TPCB-221-CPD1 67041	CPD	0.015"
	TPCB-222-CBN1 67050	CBN	0.031"
	TPCB-222-CBN6 67054	CBN	0.031"
	TPCB-222-CPD1 67042	CPD	0.031"
	TPCB-2200-2-CPD1 67043	CPD	0.002"
	TPCB-2205-2-CPD1 67044	CPD	0.007"
	TPCB-221-2-CPD1 67045	CPD	0.015"
TPCB-222-2-CPD1 67046	CPD	0.031"	

TPCG-22 INDEXABLE TYPE INSERTS

TPCG-22 INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCB1 QSB1 QSRI STOAL-6/8
QDB1 QSO1 QTBI STOAR-6/8

	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	R
	RIGHT HAND	LEFT HAND		
<p style="text-align: center;">GROUND IN TYPE CHIPBREAKERS</p>  <p style="text-align: center;">RIGHT HAND INSERT RIGHT HAND INSERTS USED IN LEFT HAND BARS ONLY.</p> <p style="text-align: center;">GROUND IN TYPE CHIPBREAKERS</p>  <p style="text-align: center;">LEFT HAND INSERT LEFT HAND INSERTS USED IN RIGHT HAND BARS ONLY.</p>	TPCG-2205R-CG5 68017	TPCG-2205L-CG5 68018	PVD Coated	0.007"
	TPCG-2205R-CG6 68019	TPCG-2205L-CG6 68020	CVD Coated	0.007"
	TPCG-2205R-CM1 68021	TPCG-2205L-CM1 68022	Uncoated	0.007"
	TPCG-2205R-TN7 68023	TPCG-2205L-TN7 68024	Cermet	0.007"
	TPCG-221R-CG5 68025	TPCG-221L-CG5 68026	PVD Coated	0.015"
	TPCG-221R-CG6 68027	TPCG-221L-CG6 68028	CVD Coated	0.015"
	TPCG-221R-CM1 68029	TPCG-221L-CM1 68030	Uncoated	0.015"
	TPCG-221R-TN7 68031	TPCG-221L-TN7 68032	Cermet	0.015"
	TPCG-222R-CG5 68033	TPCG-222L-CG5 68034	PVD Coated	0.031"
	TPCG-222R-CG6 68035	TPCG-222L-CG6 68036	CVD Coated	0.031"
	TPCG-222R-CM1 68037	TPCG-222L-CM1 68038	Uncoated	0.031"
	TPCG-222R-TN7 68039	TPCG-222L-TN7 68040	Cermet	0.031"

TPCH-22 TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCBI QSBI QSOI STAOL-6/8
QDBI QTBI QSRI STAOR-6/8

TPCH-22 INDEXABLE TYPE INSERTS

LIGHT DUTY TYPE CHIPBREAKERS



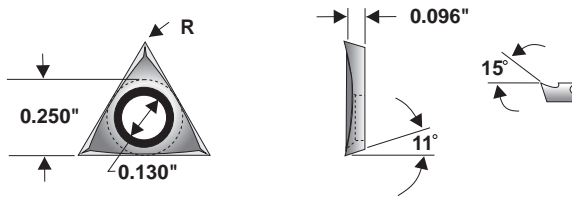
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPCH-2205-ALO 68001	ALOX Coated	0.007"
TPCH-2205-CG5 68002	PVD Coated	0.007"
TPCH-2205-CG6 68003	CVD Coated	0.007"
TPCH-2205-C2 68004	Uncoated	0.007"
TPCH-2205-C4 68005	Uncoated	0.007"
TPCH-2205-C70 68006	Uncoated	0.007"
TPCH-2205-CM1 68007	Uncoated	0.007"
TPCH-2205-TN7 68008	Cermet	0.007"
TPCH-221-ALO 68009	ALOX Coated	0.015"
TPCH-221-CG5 68010	PVD Coated	0.015"
TPCH-221-CG6 68011	CVD Coated	0.015"
TPCH-221-C2 68012	Uncoated	0.015"
TPCH-221-C4 68013	Uncoated	0.015"
TPCH-221-C70 68014	Uncoated	0.015"
TPCH-221-CM1 68015	Uncoated	0.015"
TPCH-221-TN7 68016	Cermet	0.015"

TPGT-22 & TPMT-22 INDEXABLE TYPE INSERTS

TPGT-22 & TPMT-22 TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

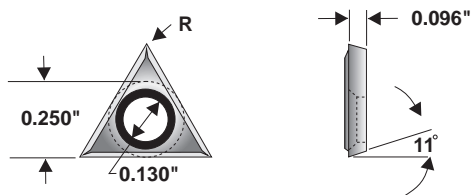
QCBI QSBI QSRI STOAL-6/8
QDBI QSOI QTBI STOAR-6/8

HIGH POSITIVE (HP) TYPE CHIPBREAKERS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPGT-2205HP-CG5 68048	PVD Coated	0.007"
TPGT-2205HP-CM1 68047	Uncoated	0.007"
TPGT-221HP-CG5 68050	PVD Coated	0.015"
TPGT-221HP-CM1 68049	Uncoated	0.015"

GENERAL PURPOSE (GP) TYPE CHIPBREAKERS

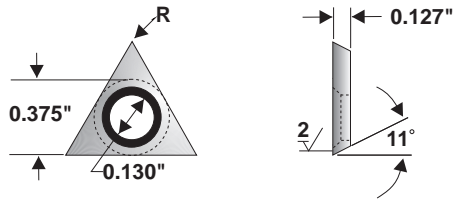


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPMT-2205GP-CG5 68042	PVD Coated	0.007"
TPMT-2205GP-CG6 68043	CVD Coated	0.007"
TPMT-2205GP-CM1 68041	Uncoated	0.007"
TPMT-221GP-CG5 68045	PVD Coated	0.015"
TPMT-221GP-CG6 68046	CVD Coated	0.015"
TPMT-221GP-CM1 68044	Uncoated	0.015"

TD-6P INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SCBI SSBi SSPI SSRI STAOL-10/12
SDBi SSGi SSOi STBi STAOR-10/12

TD-6P INDEXABLE TYPE INSERTS

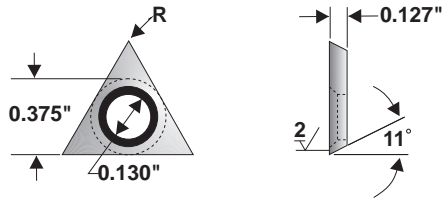


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TD-6P-00-ALO 86000	ALOX Coated	0.002"
TD-6P-00-CG5 86180	PVD Coated	0.002"
TD-6P-00-CG6 86005	CVD Coated	0.002"
TD-6P-00-C2 86001	Uncoated	0.002"
TD-6P-00-C70 86003	Uncoated	0.002"
TD-6P-00-CM1 86006	Uncoated	0.002"
TD-6P-00-TN7 86009	Cermet	0.002"
TD-6P-05-CG5 86181	PVD Coated	0.007"
TD-6P-05-CG6 86013	CVD Coated	0.007"
TD-6P-05-C2 86011	Uncoated	0.007"
TD-6P-05-C70 86012	Uncoated	0.007"
TD-6P-05-CM1 86014	Uncoated	0.007"
TD-6P-05-TN7 86016	Cermet	0.007"
TD-6P-1-ALO 86017	ALOX Coated	0.015"
TD-6P-1-CG5 86182	PVD Coated	0.015"
TD-6P-1-CG6 86022	CVD Coated	0.015"
TD-6P-1-C2 86018	Uncoated	0.015"
TD-6P-1-C4 86019	Uncoated	0.015"
TD-6P-1-C50 86020	Uncoated	0.015"
TD-6P-1-C70 86021	Uncoated	0.015"
TD-6P-1-CM1 86023	Uncoated	0.015"
TD-6P-1-TN7 86030	Cermet	0.015"

TD-6P INDEXABLE TYPE INSERTS

TD-6P INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SCBI SSBI SSPI SSRI STAOL-10/12
SDBI SSGI SSOI STBI STAOR-10/12



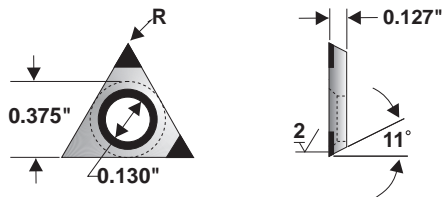
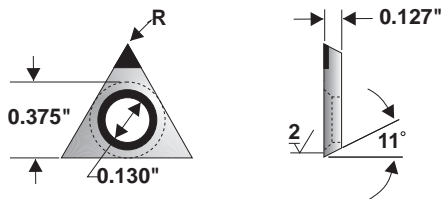
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TD-6P-2-ALO 86183	ALOX Coated	0.031"
TD-6P-2-CG5 86184	PVD Coated	0.031"
TD-6P-2-CG6 86185	CVD Coated	0.031"
TD-6P-2-C2 86186	Uncoated	0.031"
TD-6P-2-C4 86187	Uncoated	0.031"
TD-6P-2-C50 86188	Uncoated	0.031"
TD-6P-2-C70 86189	Uncoated	0.031"
TD-6P-2-CM1 86190	Uncoated	0.031"
TD-6P-2-TN7 86195	Cermet	0.031"
TD-6P-4-CG5 86196	PVD Coated	0.063"
TD-6P-4-C2 86031	Uncoated	0.063"
TD-6P-4-C70 86032	Uncoated	0.063"
TD-6P-4-CM1 86034	Uncoated	0.063"

TD-6P INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SCBI SSBI SSPI SSRI STAOL-10/12
SDBI SSGI SSOI STBI STAOR-10/12

TD-6P INDEXABLE TYPE INSERTS

CUBIC BORON NITRIDE (CBN)
OR
POLYCRYSTALLINE DIAMOND (CPD)
TIPPED INSERTS



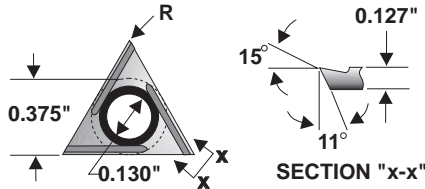
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TD-6P-00-CBN1 86207	CBN	0.002"
TD-6P-00-CBN6 86211	CBN	0.002"
TD-6P-00-CPD1 86199	CPD	0.002"
TD-6P-05-CBN1 86208	CBN	0.007"
TD-6P-05-CBN6 86212	CBN	0.007"
TD-6P-05-CPD1 86200	CPD	0.007"
TD-6P-1-CBN1 86209	CBN	0.015"
TD-6P-1-CBN6 86213	CBN	0.015"
TD-6P-1-CPD1 86201	CPD	0.015"
TD-6P-2-CBN1 86210	CBN	0.031"
TD-6P-2-CBN6 86214	CBN	0.031"
TD-6P-2-CPD1 86202	CPD	0.031"
TD-6P-00-2-CPD1 86203	CPD	0.002"
TD-6P-05-2-CPD1 86204	CPD	0.007"
TD-6P-1-2-CPD1 86205	CPD	0.015"
TD-6P-2-2-CPD1 86206	CPD	0.031"

TPCG-32 INDEXABLE TYPE INSERTS

TPCG-32 INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

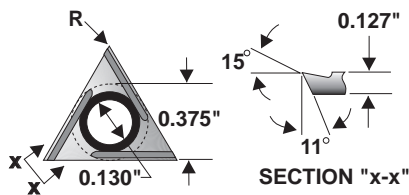
SCBI SSBI SSPI SSRI STAOL-10/12
SDBI SSGI SSOI STBI STAOR-10/12

GROUND IN TYPE CHIPBREAKERS



RIGHT HAND INSERT

RIGHT HAND INSERTS USED IN LEFT HAND BARS ONLY.



LEFT HAND INSERT

LEFT HAND INSERTS USED IN RIGHT HAND BARS ONLY.

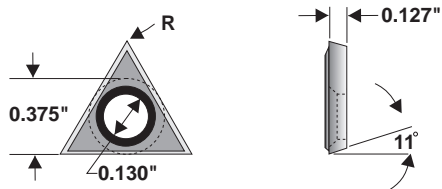
INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	R
RIGHT HAND	LEFT HAND		
TPCG-3205R-CG5 86215	TPCG-3205L-CG5 86216	PVD Coated	0.007"
TPCG-3205R-CG6 86217	TPCG-3205L-CG6 86218	CVD Coated	0.007"
TPCG-3205R-CM1 86219	TPCG-3205L-CM1 86220	Uncoated	0.007"
TPCG-3205R-TN7 86221	TPCG-3205L-TN7 86222	Cermet	0.007"
TPCG-321R-CG5 86223	TPCG-321L-CG5 86224	PVD Coated	0.015"
TPCG-321R-CG6 86225	TPCG-321L-CG6 86226	CVD Coated	0.015"
TPCG-321R-CM1 86227	TPCG-321L-CM1 86228	Uncoated	0.015"
TPCG-321R-TN7 86229	TPCG-321L-TN7 86230	Cermet	0.015"
TPCG-322R-CG5 86231	TDCG-322L-CG5 86232	PVD Coated	0.031"
TPCG-322R-CG6 86233	TPCG-322L-CG6 86234	CVD Coated	0.031"
TPCG-322R-CM1 86235	TPCG-322L-CM1 86236	Uncoated	0.031"
TPCG-322R-TN7 86237	TPCG-322L-TN7 86238	Cermet	0.031"

TPGH-32 INDEXABLE TYPE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SCBI SSBi SSPI SSRI STAOL-10/12
SDBI SSGI SSOI STBI STAOR-10/12

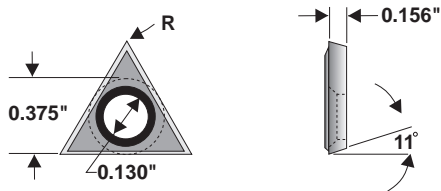
TPGH-32 INDEXABLE TYPE INSERTS

MEDIUM DUTY TYPE PRESSED CHIPBREAKERS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPGH-321A-ALO 86040	ALOX Coated	0.015"
TPGH-321A-CG6 86043	PVD Coated	0.015"
TPGH-321-CG5 86269	CVD Coated	0.015"
TPGH-321-C25 86041	Uncoated	0.015"
TPGH-321-C70 86042	Uncoated	0.015"
TPGH-321-CM1 86044	Uncoated	0.015"
TPGH-321-TN7 86047	Cermet	0.015"
TPGH-322A-ALO 86048	ALOX Coated	0.031"
TPGH-322A-CG6 86051	CVD Coated	0.031"
TPGH-322-CG5 86270	PVD Coated	0.031"
TPGH-322-C25 86049	Uncoated	0.031"
TPGH-322-C70 86050	Uncoated	0.031"
TPGH-322-CM1 86052	Uncoated	0.031"
TPGH-322-TN7 86054	Cermet	0.031"
TPGH-321HA-ALO 86055	ALOX Coated	0.021"
TPGH-321HA-CG6 86058	CVD Coated	0.021"
TPGH-321H-CG5 86197	PVD Coated	0.021"
TPGH-321H-C2 86056	Uncoated	0.021"
TPGH-321H-C70 86057	Uncoated	0.021"
TPGH-321H-CM1 86059	Uncoated	0.021"
TPGH-321H-TN7 86062	Cermet	0.021"
TPGH-322HA-ALO 86063	ALOX Coated	0.037"
TPGH-322HA-CG6 86066	CVD Coated	0.037"
TPGH-322H-CG5 86198	PVD Coated	0.037"
TPGH-322H-C2 86064	Uncoated	0.037"

HEAVY DUTY TYPE PRESSED CHIPBREAKERS

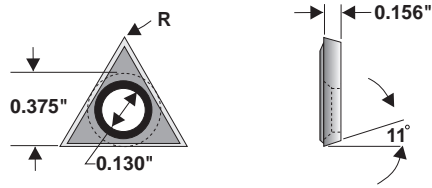


TPGT-32 & TPMT-32 INDEXABLE TYPE INSERTS

TPGT-32 & TPMT-32 TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

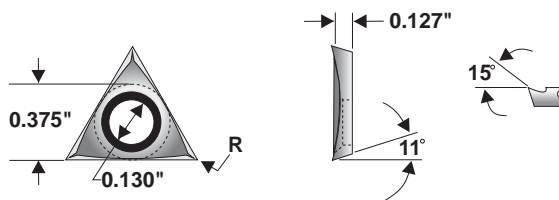
**SCBI SSBI SSPI SSRI STAOL-10/12
SDBI SSGI SSOI STBI STAOR-10/12**

HEAVY DUTY TYPE PRESSED CHIPBREAKERS



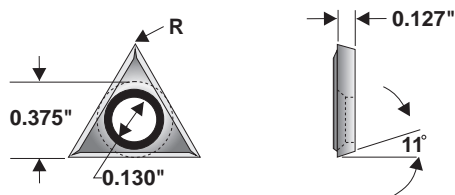
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPGH-322H-C70 86065	Uncoated	0.037"
TPGT-322H-CM1 86067	Uncoated	0.037"
TPGT-322H-TN7 86070	Cermet	0.037"

HIGH POSITIVE (HP) TYPE CHIPBREAKERS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPGT-321HP-CG5 86079	PVD Coated	0.015"
TPGT-321HP-CM1 86078	Uncoated	0.015"
TPGT-322HP-CG5 86081	PVD Coated	0.031"
TPGT-322HP-CM1 86080	Uncoated	0.031"

GENERAL PURPOSE (GP) TYPE CHIPBREAKERS



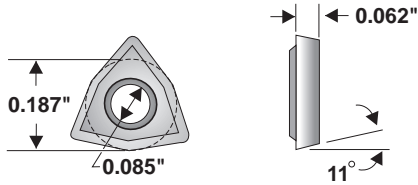
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TPMT-321GP-CG5 86072	PVD Coated	0.015"
TPMT-321GP-CG6 86073	CVD Coated	0.015"
TPMT-321GP-CM1 86071	Uncoated	0.015"
TPMT-322GP-CG5 86074	PVD Coated	0.031"
TPMT-322GP-CG6 86075	CVD Coated	0.031"
TPMT-323GP-CG5 86076	PVD Coated	0.048"
TPMT-323GP-CG6 86077	CVD Coated	0.048"

WPGT-6 & WPMT-6 INDEXABLE TYPE TRIGON INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

GCBW GSBW

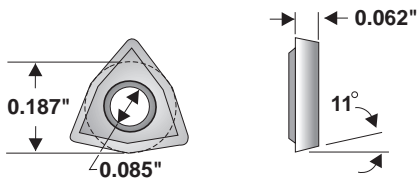
WPGT-6 & WPMT-6 INDEXABLE TYPE TRIGON INSERTS

PERIPHERAL GROUND INDEXABLE TRIGON INSERTS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
WPGT-602-CG5 56180	PVD Coated	0.004"
WPGT-602-CM1 56179	Uncoated	0.004"
WPGT-605-CG5 56182	PVD Coated	0.008"
WPGT-605-CM1 56181	Uncoated	0.008"
WPGT-61-CG5 56184	PVD Coated	0.015"
WPGT-61-CM1 56183	Uncoated	0.015"

UTILITY GROUND INDEXABLE TRIGON INSERTS



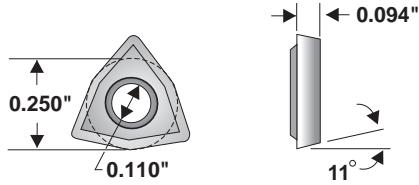
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
WPMT-61GP-ALO9 56178	ALOX Coated (MULTI-LAYER)	0.015"
WPMT-61GP-CG55 56177	PVD Coated	0.015"

WPGT-22 & WPMT-22 INDEXABLE TYPE TRIGON INSERTS

WPGT-22 & WPMT-22 INDEXABLE TYPE TRIGON INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

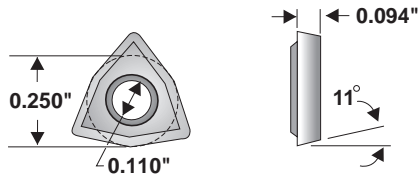
QCBIW QSB IW

PERIPHERAL GROUND INDEXABLE TRIGON INSERTS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
WPGT-2202-CG5 66083	PVD Coated	0.004"
WPGT-2202-CM1 66082	Uncoated	0.004"
WPGT-2205-CG5 66085	PVD Coated	0.008"
WPGT-2205-CM1 66084	Uncoated	0.008"
WPGT-221-CG5 66087	PVD Coated	0.015"
WPGT-221-CM1 66086	Uncoated	0.015"

UTILITY GROUND INDEXABLE TRIGON INSERTS



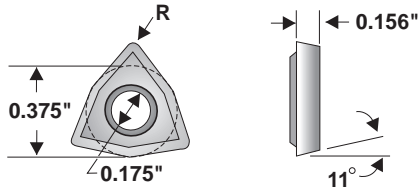
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
WPMT-221GP-ALO9 66081	AL ₂ O ₃ Coated (MULTI-LAYER)	0.015"
WPMT-221GP-CG55 66080	PVD Coated	0.015"

WPMT-3 TYPE INDEXABLE TRIGON INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SCBIW SBIW

WPMT-3 TYPE INDEXABLE TRIGON INSERTS

UTILITY GROUND INDEXABLE TRIGON INSERTS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
WPMT-321GP-CG55 87000	PVD Coated	0.015"
WPMT-321GP-ALO9 87001	AL _{Ox} Coated (MULTI-LAYER)	0.015"
WPMT-322GP-CG55 87002	PVD Coated	0.031"
WPMT-322GP-ALO9 87003	AL _{Ox} Coated (MULTI-LAYER)	0.031"



PROFILING INSERTS

REPLACEABLE & INDEXABLE TYPE

featuring...

GRADES FOR MOST MACHINING APPLICATIONS

CVD OR PVD COATED INSERTS GRADES

UNCOATED GRADES

PRESSED CHIPBREAKER TYPE INSERTS

45 DEGREE DIAMOND INDEXABLE TYPE INSERTS

POPULAR INSERT CORNER RADII AVAILABLE

**FLAT TOP INSERTS
GUARANTEED TO REPEAT
WITHIN... ± 0.0002 "**

**CORNER TO
CORNER!**

APD TYPE REPLACEABLE PROFILING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ATBI

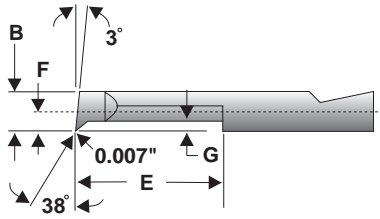
APD REPLACEABLE TYPE PROFILING TYPE INSERTS WITH COOLANT SLOT

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MIN. DIA.	PROFILE DEPTH	MAX REACH	TOOL OFFSET
			B	G	E	F
	APD-06-187R-CG5 16079	PVD Coated	0.062"	0.017"	0.187"	0.026"
	APD-06-187R-CM1 16080	Uncoated	0.062"	0.017"	0.187"	0.026"
	APD-09-281R-CG5 16081	PVD Coated	0.094"	0.028"	0.281"	0.042"
	APD-09-281R-CM1 16082	Uncoated	0.094"	0.028"	0.281"	0.042"
	APD-125-375R-CG5 16083	PVD Coated	0.125"	0.040"	0.375"	0.057"
	APD-125-375R-CM1 16084	Uncoated	0.125"	0.040"	0.375"	0.057"
	APD-156-500R-CG5 16085	PVD Coated	0.156"	0.050"	0.500"	0.073"
	APD-156-500R-CM1 16086	Uncoated	0.156"	0.050"	0.500"	0.073"

BP REPLACEABLE TYPE PROFILING INSERTS

BP TYPE REPLACEABLE PROFILING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

BSBI



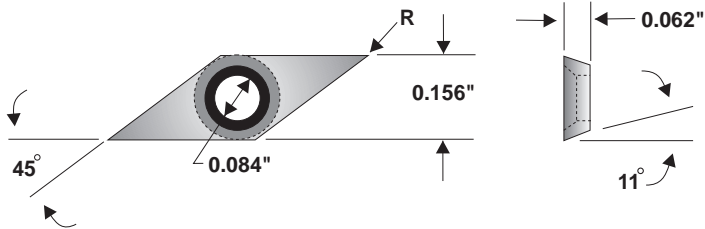
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MIN. DIA.	PROFILE DEPTH	MAX REACH	TOOL OFFSET
		B	G	E	F
BP-187-600R-CG5 26012	PVD Coated	0.187"	0.062"	0.600"	0.088"
BP-187-600R-CM1 26013	Uncoated	0.187"	0.062"	0.600"	0.088"
BP-250-825R-CG5 26014	PVD Coated	0.250"	0.078"	0.825"	0.120"
BP-250-825R-CM1 26015	Uncoated	0.250"	0.078"	0.825"	0.120"
BP-312-1000R-CG5 26016	PVD Coated	0.312"	0.094"	1.000"	0.151"
BP-312-1000R-CM1 26017	Uncoated	0.312"	0.094"	1.000"	0.151"

GPCD-5 & GPCT-5 INDEXABLE TYPE PROFILING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

CCPI CSPI CTPI

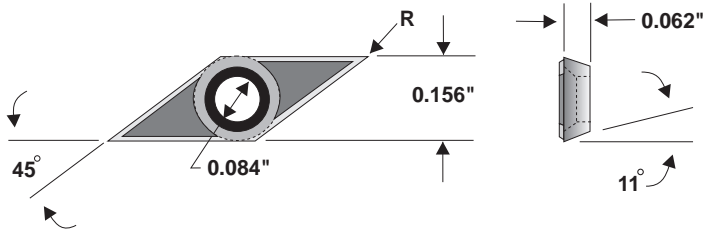
GPCD-5 & GPCT-5 INDEXABLE TYPE PROFILING INSERTS

45° DIAMOND (0.156" I.C.) INDEXABLE PROFILING INSERT



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
GPCD-505-CG5 56157	PVD Coated	0.007"
GPCD-505-CG6 56158	CVD Coated	0.007"
GPCD-505-CM1 56156	Uncoated	0.007"
GPCD-51-CG5 56160	PVD Coated	0.015"
GPCD-51-CG6 56161	CVD Coated	0.015"
GPCD-51-CM1 56159	Uncoated	0.015"

45° DIAMOND (0.156" I.C.) INDEXABLE PROFILING INSERT WITH PRESSED CHIPBREAKERS



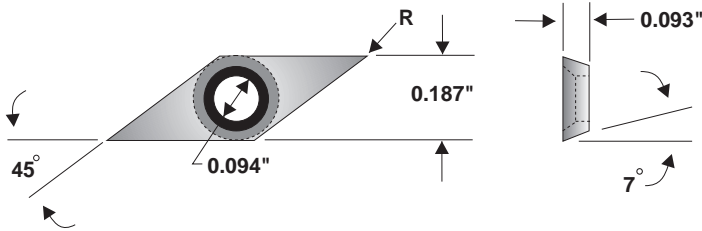
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
GPCT-505-CG5 56169	PVD Coated	0.007"
GPCT-505-CM1 56168	Uncoated	0.007"
GPCT-51-CG5 56171	PVD Coated	0.015"
GPCT-51-CM1 56170	Uncoated	0.015"

GCCD-6 & GCCT-6 INDEXABLE TYPE PROFILING INSERTS

GCCD-6 & GCCT-6 INDEXABLE TYPE PROFILING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

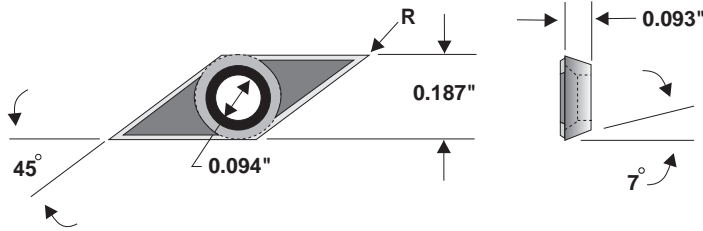
GCPI GSPI GTPI SGJCL SGJCR SGNCN

45° DIAMOND (0.187" I.C.) INDEXABLE PROFILING INSERT



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
GCCD-605-CG5 56163	PVD Coated	0.007"
GCCD-605-CG6 56164	CVD Coated	0.007"
GCCD-605-CM1 56162	Uncoated	0.007"
GCCD-61-CG5 56166	PVD Coated	0.015"
GCCD-61-CG6 56167	CVD Coated	0.015"
GCCD-61-CM1 56165	Uncoated	0.015"

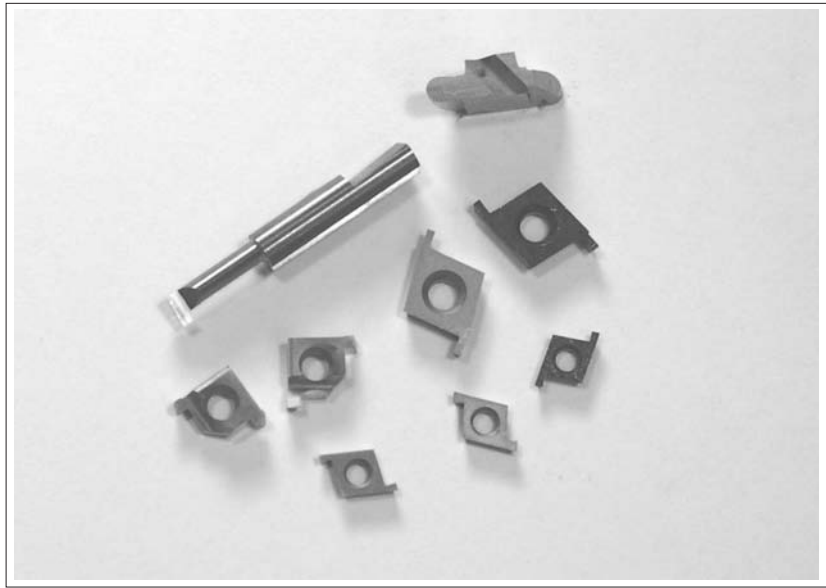
45° DIAMOND (0.187" I.C.) INDEXABLE PROFILING INSERT WITH PRESSED CHIPBREAKERS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
GCCT-605-CG5 56173	PVD Coated	0.007"
GCCT-605-CM1 56172	Uncoated	0.007"
GCCT-61-CG5 56175	PVD Ccoated	0.015"
GCCT-61-CM1 56174	Uncoated	0.015"

NOTES

A large grid of graph paper for taking notes, consisting of 20 columns and 40 rows of small squares.



I.D. GROOVING INSERTS

REPLACEABLE & INDEXABLE TYPE

featuring...

GROOVE WIDTHS DOWN TO...0.030"

EASY TO USE...QUICK CHANGE

DECREASES DOWNTIME...INCREASES PRODUCTIVITY

GRADES FOR MOST MACHINING APPLICATIONS

PVD COATED INSERTS GRADES

UNCOATED GRADES

PRESSED CHIPBREAKER TYPE INSERTS

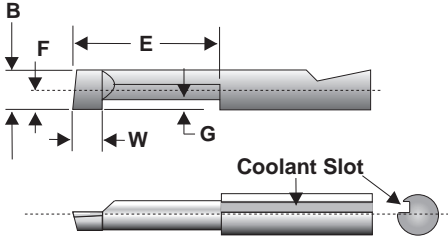
**DECREASE
DOWNTIME...**

**INCREASE
PRODUCTIVITY!**

AGD TYPE REPLACEABLE GROOVING BAR INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ATBI

**AGD
REPLACEABLE
TYPE GROOVING INSERTS
WITH COOLANT SLOT**



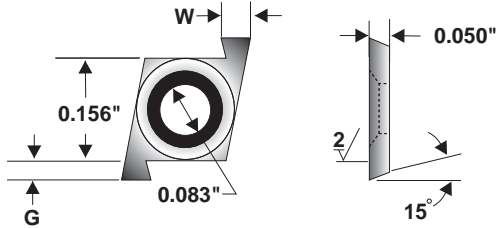
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MIN. BORE	GROOVE DEPTH	GROOVE WIDTH	BORE DEPTH	GAGE INSERT
		B	G	W	E	F
AGD-095-03-CG5 16073	PVD Coated	0.110"	0.025"	0.030"	0.312"	0.046"
AGD-095-03-CM1 16074	Uncoated	0.110"	0.025"	0.030"	0.312"	0.046"
AGD-125-04-CG5 16075	PVD Coated	0.140"	0.030"	0.040"	0.375"	0.061"
AGD-125-04-CM1 16076	Uncoated	0.140"	0.030"	0.040"	0.375"	0.061"
AGD-156-05-CG5 16077	PVD Coated	0.175"	0.045"	0.050"	0.500"	0.076"
AGD-156-05-CM1 16078	Uncoated	0.175"	0.045"	0.050"	0.500"	0.076"



CDG INDEXABLE TYPE GROOVING INSERTS

CDG TYPE INDEXABLE GROOVING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

CCMI CSMI

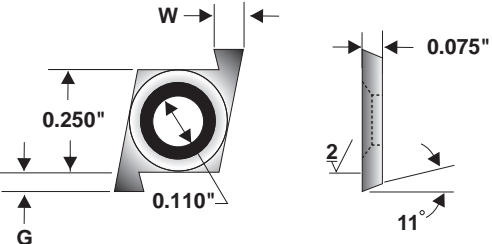
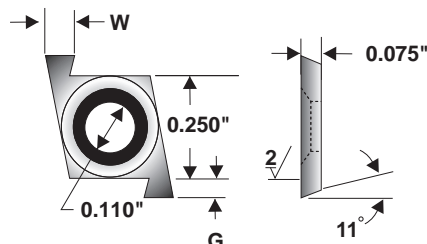


INSERT CATALOG NUMBER EDP NO.	INSERT DESCRIPTION	GROOVE WIDTH	GROOVE DEPTH
		W	G
CDG-5-015-2R-CG5 36086	PVD Coated	0.015"	0.020"
CDG-5-015-2R-CM1 36085	Uncoated	0.015"	0.020"
CDG-5-025-2R-CG5 36088	PVD Coated	0.025"	0.040"
CDG-5-025-2R-CM1 36087	Uncoated	0.025"	0.040"
CDG-5-030-2R-CG5 36090	PVD Coated	0.030"	0.040"
CDG-5-030-2R-CM1 36089	Uncoated	0.030"	0.040"

CPG TYPE INDEXABLE GROOVING INSERTS
CAN BE UTILIZED IN THE FOLLOWING
CIRCLE TOOLING

QCM1 QSM1 SCRPL SCRPR

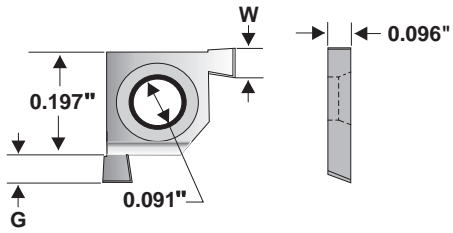
CPG INDEXABLE TYPE GROOVING INSERTS

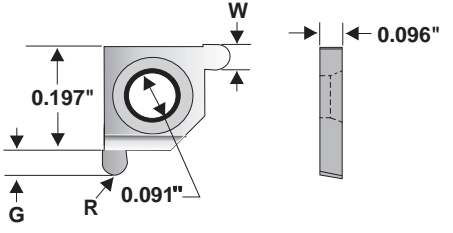
	GROOVING INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	GROOVE WIDTH	GROOVE DEPTH
	RIGHT HAND	LEFT HAND		W	G
 <p>RIGHT HAND INSERT RIGHT HAND INSERTS USED IN RIGHT HAND BARS/TOOLING</p>	CPG-2-03-2R-CG5 66007	CPG-2-03-2L-CG5 66013	PVD Coated	0.030"	0.065"
	CPG-2-03-2R-CM1 66006	CPG-2-03-2L-CM1 66012	Uncoated	0.030"	0.065"
	CPG-2-06-2R-CG5 66009	CPG-2-06-2L-CG5 66015	PVD Coated	0.060"	0.065"
	CPG-2-06-2R-CM1 66008	CPG-2-06-2L-CM1 66014	Uncoated	0.060"	0.065"
 <p>LEFT HAND INSERT LEFT HAND INSERTS USED IN LEFT HAND BARS/TOOLING</p>					

FNG & FNR INDEXABLE TYPE GROOVING INSERTS

FNG & FNR TYPE INDEXABLE GROOVING INSERTS
CAN BE UTILIZED IN THE FOLLOWING
CIRCLE TOOLING

LSMI

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	GROOVE WIDTH	GROOVE DEPTH	GAGE INSERT
			W ±0.001"	G ±0.004"	F*
	FNG-1.5-039-2R-CG5 88080	PVD Coated	0.039"	0.028"	0.165"
	FNG-1.5-047-2R-CG5 88081	PVD Coated	0.047"	0.039"	0.175"
	FNG-1.5-055-2R-CG5 88082	PVD Coated	0.055"	0.059"	0.184"

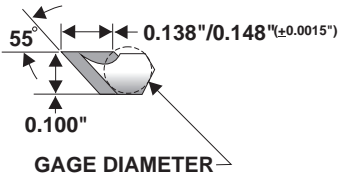
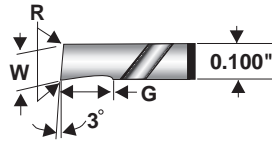
	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	GROOVE WIDTH	GROOVE DEPTH	GAGE INSERT	R
			W ±0.001"	G ±0.004"	F*	
	FNR-1.5-031-2R-CG5 88078	PVD Coated	0.031"	0.031"	0.162"	0.016"
	FNR-1.5-047-2R-CG5 88079	PVD Coated	0.047"	0.039"	0.167"	0.024"

*From \varnothing of bar over insert.

JG-1 TYPE INDEXABLE GROOVING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

JSMI

JG-1 C-NOTCH INDEXABLE TYPE GROOVING INSERTS

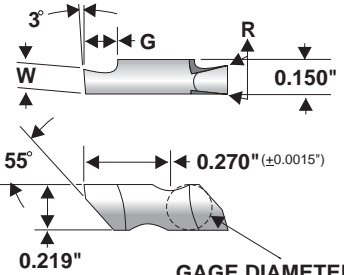
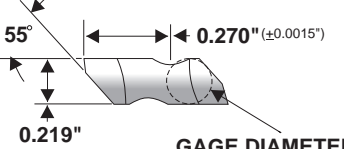


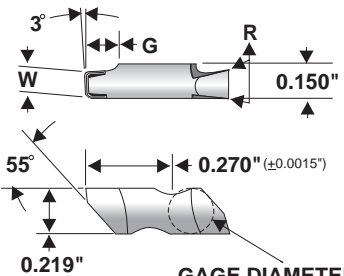
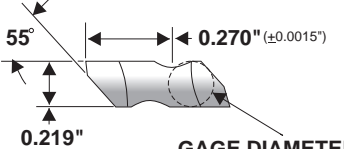
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	GROOVE DEPTH	GROOVE WIDTH	R	INSERT GAGE DIAMETER
		G (±0.005")	W (±0.001")		
JG-1031L-CG55 98124	PVD Coated	0.050"	0.031"	0.005"/0.010"	0.125"
JG-1047L-CG55 98125	PVD Coated	0.075"	0.047"	0.005"/0.010"	0.125"
JG-1062L-CG55 98126	PVD Coated	0.075"	0.062"	0.005"/0.010"	0.125"
JG-1094L-CG55 98127	PVD Coated	0.075"	0.094"	0.005"/0.010"	0.125"

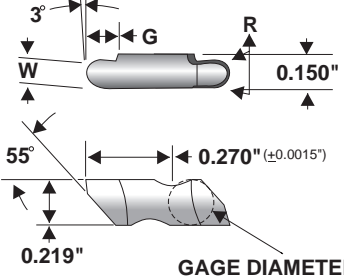
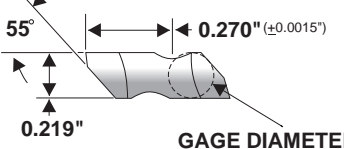
JG-2, JG-2K & JR-2 C-NOTCH INDEXABLE TYPE GROOVING INSERTS

JG-2, JG-2K & JR-2 TYPE INDEXABLE GROOVING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

**JCMI JSMI JNSL JNSR
KM12-NSR KM16-NSR**

	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	GROOVE DEPTH G (±0.005")	GROOVE WIDTH W (±0.001")	R	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND					
		JG-2031R-CG55 98138		JG-2031L-CG55 98143	PVD Coated		
	JG-2047R-CG55 98139	JG-2047L-CG55 98144	PVD Coated	0.050"	0.047"	0.002"/0.005"	0.1875"
	JG-2062R-CG55 98140	JG-2062L-CG55 98145	PVD Coated	0.110"	0.062"	0.005"/0.010"	0.1875"
	JG-2094R-CG55 98141	JG-2094L-CG55 98146	PVD Coated	0.110"	0.094"	0.005"/0.010"	0.1875"
	JG-2125R-CG55 98142	JG-2125L-CG55 98147	PVD Coated	0.110"	0.125"	0.005"/0.010"	0.1875"

	INSERT CATALOG NUMBER EDP NO.		INSERT DESCRIPTION	GROOVE DEPTH G (±0.005")	GROOVE WIDTH W (±0.001")	R	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND					
		JG-2031RK-CG55 98128		JG-2031LK-CG55 98133	PVD Coated		
	JG-2047RK-CG55 98129	JG-2047LK-CG55 98134	PVD Coated	0.050"	0.047"	0.002"/0.005"	0.1875"
	JG-2062RK-CG55 98130	JG-2062LK-CG55 98135	PVD Coated	0.110"	0.062"	0.005"/0.010"	0.1875"
	JG-2094RK-CG55 98131	JG-2094LK-CG55 98136	PVD Coated	0.110"	0.094"	0.005"/0.010"	0.1875"
	JG-2125RK-CG55 98132	JG-2125LK-CG55 98137	PVD Coated	0.110"	0.125"	0.005"/0.010"	0.1875"

	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	GROOVE DEPTH G (±0.005")	GROOVE WIDTH W (±0.001")	R	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND					
		JR-2031R-CG55 98148		JR-2031L-CG55 98151	PVD Coated		
	JR-2047R-CG55 98149	JR-2047L-CG55 98152	PVD Coated	0.110"	0.094"	0.047"	0.1875"
	JR-2062R-CG55 98150	JR-2062L-CG55 98153	PVD Coated	0.110"	0.125"	0.062"	0.1875"

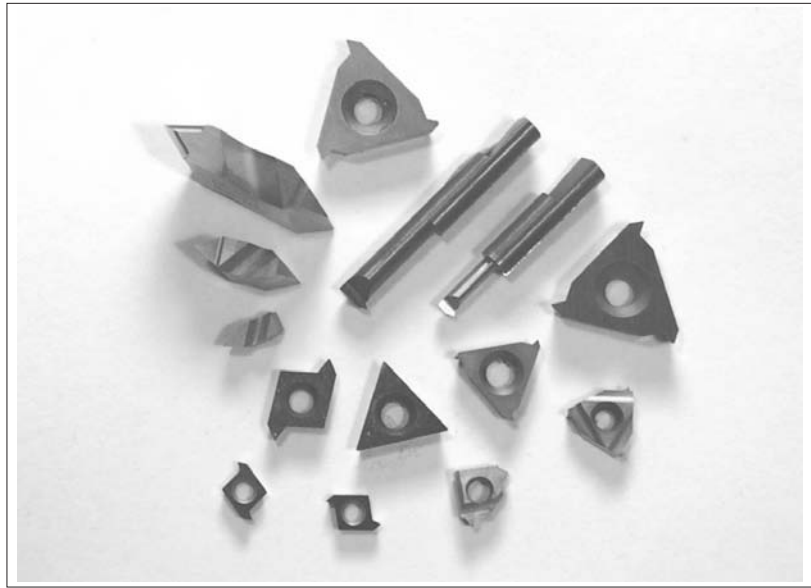
JG-3, JG-3K, JR-3, JG4K & JR4 TYPE INDEXABLE GROOVING INSERTS CAN BE UTILIZED IN ALL OF THE FOLLOWING CIRCLE TOOLING

JNSR

BAR/TOOLHOLDERS LISTED ABOVE REFERS TO THE TOOLING SHOWN ON PAGES 304 & 305 ONLY

JG-3, JG-3K, JR-3, JG-4K, & JR-4 C-NOTCH INDEXABLE TYPE GROOVING INSERTS

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	GROOVE DEPTH	GROOVE WIDTH	A	B	R	T	INSERT GAGE DIAMETER
			G (±0.005")	W (±0.001")					
	JG-3047RK-CG55 98168	PVD Coated	0.075"	0.047"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3062RK-CG55 98169	PVD Coated	0.094"	0.062"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3072RK-CG55 98170	PVD Coated	0.094"	0.072"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3078RK-CG55 98171	PVD Coated	0.094"	0.078"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3094RK-CG55 98173	PVD Coated	0.150"	0.094"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3125RK-CG55 98176	PVD Coated	0.150"	0.125"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3156RK-CG55 98178	PVD Coated	0.150"	0.156"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3189RK-CG55 98181	PVD Coated	0.150"	0.189"	0.344"	0.405"	0.020"/0.025"	0.195"	0.375"
	JG-4125RK-CG55 98182	PVD Coated	0.150"	0.125"	0.453"	0.636"	0.005"/0.010"	0.255"	0.375"
	JG-4189RK-CG55 98183	PVD Coated	0.250"	0.189"	0.453"	0.63"	0.020"/0.025"	0.255"	0.375"
	JG-4250RK-CG55 98185	PVD Coated	0.250"	0.250"	0.453"	0.636"	0.020"/0.025"	0.255"	0.375"
	JG-3M225RK-CG5 98172	PVD Coated	0.094"	0.089"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3M275RK-CG5 98174	PVD Coated	0.150"	0.108"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3M300RK-CG5 98175	PVD Coated	0.150"	0.118"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3M325RK-CG5 98177	PVD Coated	0.150"	0.128"	0.344"	0.405"	0.005"/0.010"	0.195"	0.375"
	JG-3M400RK-CG5 98179	PVD Coated	0.150"	0.157"	0.344"	0.405"	0.010"/0.015"	0.195"	0.375"
JG-3M425RK-CG5 98180	PVD Coated	0.150"	0.167"	0.344"	0.405"	0.010"/0.015"	0.195"	0.375"	
JG-3M500RK-CG5 98184	PVD Coated	0.250"	0.177"	0.453"	0.636"	0.010"/0.015"	0.255"	0.375"	
	JR-3047RK-CG5 98186	PVD Coated	0.150"	0.094"	0.344"	0.403"	0.047"	0.195"	0.375"
	JR-3062RK-CG5 98187	PVD Coated	0.150"	0.125"	0.344"	0.402"	0.062"	0.195"	0.375"
	JR-3078RK-CG5 98188	PVD Coated	0.150"	0.156"	0.344"	0.401"	0.078"	0.195"	0.375"
	JR-4062RK-CG5 98189	PVD Coated	0.150"	0.125"	0.453"	0.633"	0.062"	0.255"	0.375"
	JR-4094RK-CG5 98190	PVD Coated	0.250"	0.188"	0.453"	0.631"	0.094"	0.255"	0.375"
	JR-4125RK-CG5 98191	PVD Coated	0.250"	0.250"	0.453"	0.629"	0.125"	0.255"	0.375"



THREADING INSERTS

REPLACEABLE & INDEXABLE TYPE

featuring...

GRADES FOR MOST THREADING APPLICATIONS

CVD OR PVD COATED INSERT GRADES

UNCOATED GRADES

LAYDOWN INDEXABLE THREADING TYPE INSERTS

ACME THREAD INDEXABLE INSERTS AVAILABLE

AMERICAN UN FULL PROFILE INDEXABLE THREADING INSERTS

NPT TYPE INDEXABLE THREADING INSERTS

PARTIAL PROFILE TYPE INDEXABLE THREADING INSERTS

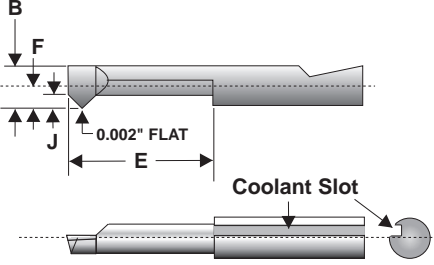
**INDEXABLE OR
REPLACEABLE
THREADING INSERTS**

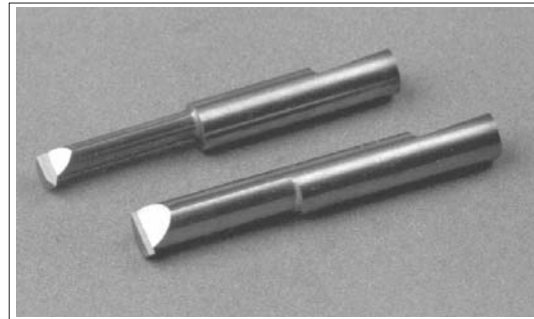
**FOR MOST
THREADING APPLICATIONS!**

ATD TYPE REPLACEABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

ATBI

ATD REPLACEABLE TYPE THREADING INSERT WITH COOLANT THROUGH SLOT

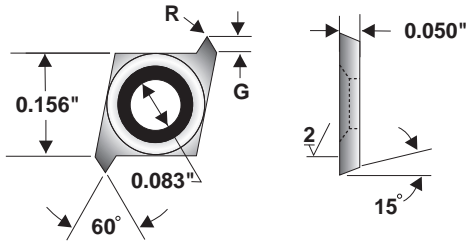
	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MIN. TH'D DIA. B	TH'D DEPTH J	MAX. REACH E	TOOL OFFSET F	THREAD PITCH
	ATD-095-60-F2-CG5 16087	PVD Coated	0.100"	0.022"	0.312"	0.046"	48 TO 32
ATD-095-60-F2-CM1 16088	Uncoated	0.100"	0.022"	0.312"	0.046"	48 TO 32	
ATD-125-60-F2-CG5 16089	PVD Coated	0.130"	0.027"	0.375"	0.061"	48 TO 24	
ATD-125-60-F2-CM1 16090	Uncoated	0.130"	0.027"	0.375"	0.061"	48 TO 24	
ATD-156-60-F2-CG5 16091	PVD Coated	0.160"	0.032"	0.500"	0.076"	48 TO 20	
ATD-156-60-F2-CM1 16092	Uncoated	0.160"	0.032"	0.500"	0.076"	48 TO 20	



CDT INDEXABLE TYPE THREADING INSERTS

CDT TYPE INDEXABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

CCMI CSMI

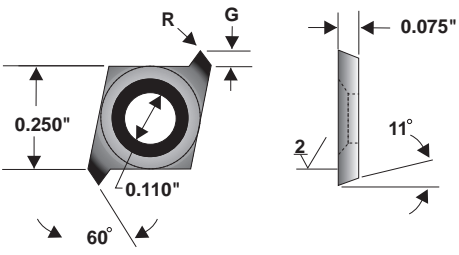


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MAX. TH'D DEPTH	ROOT RADIUS
		G	R
CDT-5-002-2R-CG5 36084	PVD Coated	0.025"	0.002"
CDT-5-002-2R-CM1 36083	Uncoated	0.025"	0.002"

CPT TYPE INDEXABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCMQ QSMQ SCLPL SCLPR

CPT INDEXABLE TYPE THREADING INSERTS

	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	MAX TH'D DEPTH	R
	RIGHT HAND	LEFT HAND		G	
RIGHT HAND INSERT	CPT-2-005-2R-CG5 66011	CPT-2-005-2L-CG5 66017	PVD Coated	0.065"	0.005"
LEFT HAND INSERT	CPT-2-005-2R-CM1 66010	CPT-2-005-2L-CM1 66016	Uncoated	0.065"	0.005"

FNT-1.5 INDEXABLE TYPE THREADING INSERTS

FNT 1.5 TYPE INDEXABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

LSMI

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	THREADS PER INCH	THREAD DEPTH	SHOULDER CLEARANCE	GAGE INSERT
				J	H	F*
	FNT-1.5-40UN-2R-CG5 88061	PVD Coated	40	0.014"	0.020"	0.150"
	FNT-1.5-36UN-2R-CG5 88062	PVD Coated	36	0.016"	0.020"	0.150"
	FNT-1.5-32UN-2R-CG5 88063	PVD Coated	32	0.018"	0.020"	0.150"
	FNT-1.5-28UN-2R-CG5 88064	PVD Coated	28	0.020"	0.030"	0.160"
	FNT-1.5-24UN-2R-CG5 88065	PVD Coated	24	0.024"	0.030"	0.160"
	FNT-1.5-20UN-2R-CG5 88066	PVD Coated	20	0.029"	0.040"	0.170"
	FNT-1.5-18UN-2R-CG5 88067	PVD Coated	18	0.032"	0.040"	0.170"
	FNT-1.5-16UN-2R-CG5 88068	PVD Coated	16	0.036"	0.040"	0.170"
	FNT-1.5-14UN-2R-CG5 88069	PVD Coated	14	0.041"	0.040"	0.180"

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	THREADS PER INCH	THREAD DEPTH	SHOULDER CLEARANCE	GAGE INSERT
				J	H	F*
	FNT-1.5-002-2R-CG5 88051	PVD Coated	48-16	0.040"	0.040"	0.180"

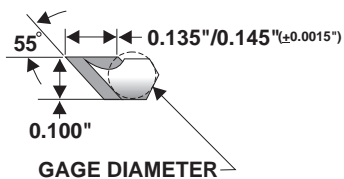
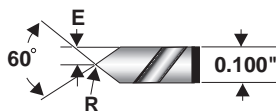
	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	THREADS PER INCH	THREAD DEPTH	SHOULDER CLEARANCE	GAGE INSERT
				J	H	F*
<p style="text-align: center;">ACME TYPE</p> <p style="text-align: center;">NPT TYPE</p>	FNT-1.5-12ACME-2R-CG5 88071	PVD Coated	12	0.047"	0.040"	0.170"
	FNT-1.5-27NPT-2R-CG5 88075	PVD Coated	27	0.026"	0.030"	0.180"
	FNT-1.5-18NPT-2R-CG5 88076	PVD Coated	18	0.040"	0.040"	0.180"
	FNT-1.5-14NPT-2R-CG5 88077	PVD Coated	14	0.052"	0.040"	0.180"

JT-1L TYPE INDEXABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

JSMI

JT-1L TYPE INDEXABLE THREADING INSERTS CAN ONLY BE USED IN
JSMI-312/375 OR JSMI-312/500 TOOLING

JT-1L C-NOTCH INDEXABLE TYPE THREADING INSERTS


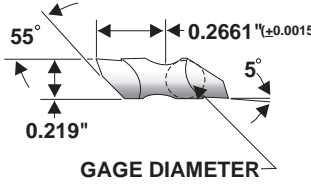
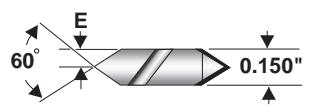
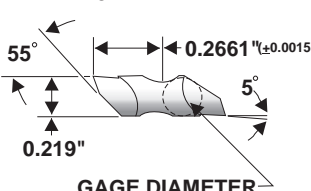
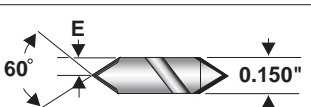
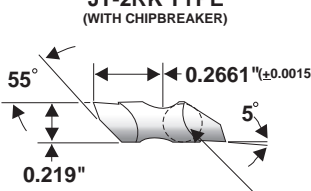

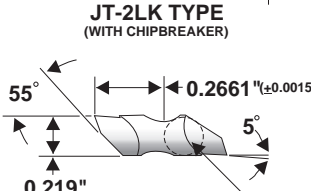


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	THREAD DEPTH	INSERT NOSE RADIUS	INSERT GAGE DIAMETER
		E (± 0.005 ")	R	
JT-1L-CG55 98154	PVD Coated	0.043"/0.047"	0.002"/0.004"	0.125"

JTP-2 & JT-2K C-NOTCH INDEXABLE TYPE THREADING INSERTS

JTP-2 & JT-2K TYPE INDEXABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

JCMI JSMI JNSL JNSR

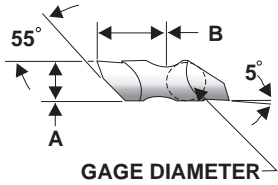
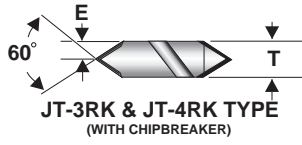
	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	THREAD DEPTH	INSERT NOSE RADIUS	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND		E (±0.005")	R	
 <p>JTP-2R TYPE</p>  <p>GAGE DIAMETER</p>	JTP-2R-CG55 98155	JTP-2L-CG55 98156	PVD Coated	0.075"	0.003"/0.005"	0.1875"
 <p>JTP-2L TYPE</p>  <p>GAGE DIAMETER</p>						
 <p>JT-2RK TYPE (WITH CHIPBREAKER)</p>  <p>GAGE DIAMETER</p>	JT-2RK-CG55 98157	JT-2LK-CG55 98158	PVD Coated	0.075"	0.003"/0.005"	0.1875"
 <p>JT-2LK TYPE (WITH CHIPBREAKER)</p>  <p>GAGE DIAMETER</p>						

JT-3K & JT-4K TYPE INDEXABLE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

JNSR

TOOLHOLDERS LISTED ABOVE REFERS TO THE TOOLING SHOWN
ON PAGES 298-299 ONLY

JT-3K & JT-4K C-NOTCH INDEXABLE TYPE THREADING INSERTS



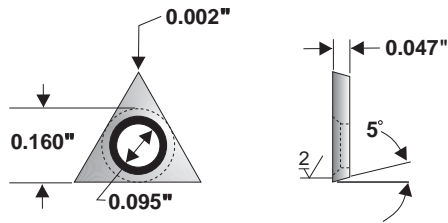
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	A	B	T	THREAD DEPTH	INSERT NOSE RADIUS	INSERT GAGE DIAMETER
					E (±0.005")	R	
JT-3RK-CG55 98166	PVD Coated	0.344"	0.266"	0.195"	0.075"	0.005"/0.008"	0.375"
JT-4RK-CG55 98167	PVD Coated	0.453"	0.400"	0.255"	0.075"	0.005"/0.008"	0.375"

TBEB-5N2

INDEXABLE TYPE THREADING INSERTS

TBEB-5N2 INDEXABLE TYPE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

FSII FSXI

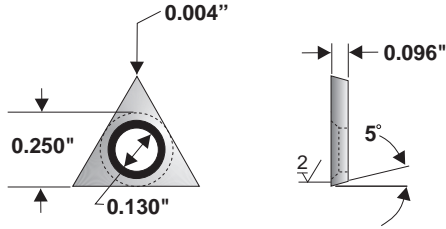


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION
TBEB-5N2-CG5 47064	PVD Coated
TBEB-5N2-CG6 47030	CVD Coated
TBEB-5N2-C25 47032	Uncoated
TBEB-5N2-CM1 47031	Uncoated
TBEB-5N2-TN7 47034	Cermet

TBEB-2N4 INDEXABLE TYPE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QSII QSXI

TBEB-2N4 INDEXABLE TYPE THREADING INSERTS

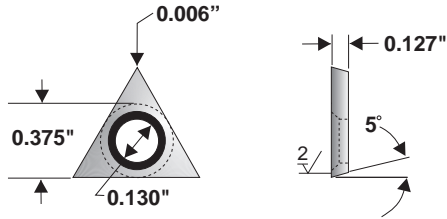


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION
TBEB-2N4-CG5 66106	PVD Coated
TBEB-2N4-CG6 66100	CVD Coated
TBEB-2N4-C25 66101	Uncoated
TBEB-2N4-CM1 66102	Uncoated
TBEB-2N4-TN7 66105	Cermet

TBEB-3N6 INDEXABLE TYPE THREADING INSERTS

TBEB-3N6 INDEXABLE TYPE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SSII SSXI

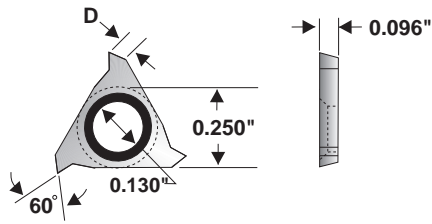


INSERT CATALOG NUMBER EDP NO.	INSERT DESCRIPTION
TBEB-3N6-CG5 86179	PVD Coated
TBEB-3N6-CG6 86174	CVD Coated
TBEB-3N6-CM1 86175	Uncoated
TBEB-3N6-TN7 86178	Cermet

TPT-2 INDEXABLE TYPE LAYDOWN THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

QCBI QDBI QSBI QSOI

TPT-2 INDEXABLE TYPE LAYDOWN THREADING INSERTS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	THREAD DEPTH
		D
TPT-2-003-3R-CG5 68073	PVD Coated	0.030"
TPT-2-003-3R-CM1 68072	Uncoated	0.030"

NOTE: TPT-2 TYPE INDEXABLE LAYDOWN THREADING INSERTS ARE RECOMMENDED FOR USE IN RIGHT HAND, "Q" SERIES TYPE TOOLING WITH THE EXCEPTION OF OUR REVERSE BORING, BACK CHAMFERING BARS, AND SQUARE SHANK TOOLING.



TPT-3 INDEXABLE TYPE LAYDOWN THREADING INSERTS

TPT-3 INDEXABLE TYPE LAYDOWN THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

SCBI SDBI SSGI SSOI STBI

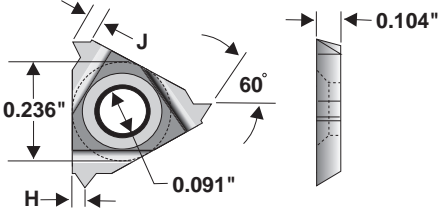
	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	THREAD DEPTH
	RIGHT HAND	LEFT HAND		J
	TPT-3-005-3R-CG5 87019	TPT-3-005-3L-CG5 87021	PVD Coated	0.056"
	TPT-3-005-3R-CM1 87018	TPT-3-005-3L-CM1 87020	Uncoated	0.056"

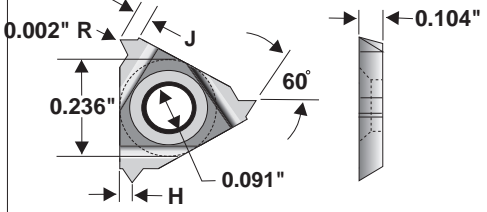
NOTE: TPT-3 TYPE INDEXABLE LAYDOWN THREADING ARE RECOMMENDED FOR USE IN "S" SERIES TYPE TOOLING WITH THE EXCEPTION OF OUR REVERSE BORING, BACK CHAMFERING BARS, AND SQUARE SHANK TOOLING.

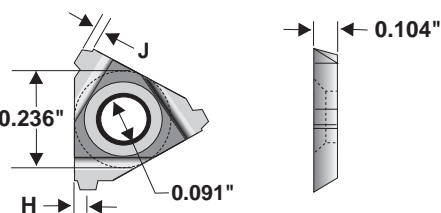
TCT-1.8 INDEXABLE TYPE THREADING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

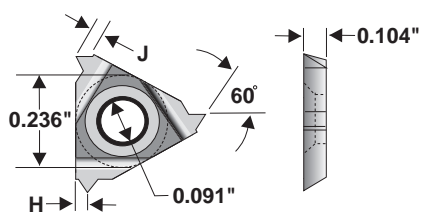
NSII

TCT-1.8 INDEXABLE TYPE THREADING INSERTS

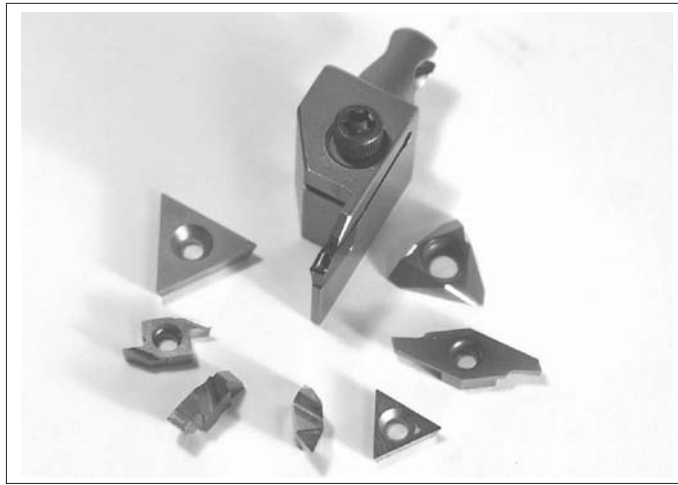
	INSERT CATALOG NUMBER	INSERT DESCRIPTION	SHOULDER CLEARANCE	THREAD DEPTH	GAGE INSERT	THREADS PER INCH
	EDP NUMBER		H	J	F*	
		TCT-1.8-40UN-3R-CG5 88052	PVD Coated	0.020"	0.013"	0.180"
	TCT-1.8-36UN-3R-CG5 88053	PVD Coated	0.020"	0.016"	0.180"	36
	TCT-1.8-32UN-3R-CG5 88054	PVD Coated	0.020"	0.018"	0.180"	32
	TCT-1.8-28UN-3R-CG5 88055	PVD Coated	0.030"	0.020"	0.190"	28
	TCT-1.8-24UN-3R-CG5 88056	PVD Coated	0.030"	0.024"	0.190"	24
	TCT-1.8-20UN-3R-CG5 88057	PVD Coated	0.040"	0.029"	0.190"	20
	TCT-1.8-18UN-3R-CG5 88058	PVD Coated	0.040"	0.032"	0.200"	18
	TCT-1.8-16UN-3R-CG5 88059	PVD Coated	0.040"	0.036"	0.200"	16
	TCT-1.8-14UN-3R-CG5 88060	PVD Coated	0.040"	0.041"	0.200"	14

	INSERT CATALOG NUMBER	INSERT DESCRIPTION	SHOULDER CLEARANCE	THREAD DEPTH	GAGE INSERT	THREADS PER INCH
	EDP NUMBER		H	J	F*	
		TCT-1.8-002-3R-CG5 88050	PVD Coated	0.040"	0.040"	0.210"

	INSERT CATALOG NUMBER	INSERT DESCRIPTION	SHOULDER CLEARANCE	THREAD DEPTH	GAGE INSERT	THREADS PER INCH
	EDP NO.		H	J	F*	
		TCT-1.8-12ACME-3R-CG5 88070	PVD Coated	0.040"	0.050"	0.170"

	INSERT CATALOG NUMBER	INSERT DESCRIPTION	SHOULDER CLEARANCE	THREAD DEPTH	GAGE INSERT	THREADS PER INCH
	EDP NUMBER		H	J	F*	
		TCT-1.8-27NPT-3R-CG5 88072	PVD Coated	0.030"	0.026"	0.210"
	TCT-1.8-18NPT-3R-CG5 88073	PVD Coated	0.040"	0.040"	0.210"	18
	TCT-1.8-14NPT-3R-CG5 88074	PVD Coated	0.040"	0.052"	0.210"	14

*Centerline of bar over insert tip.



circle **KM** **micro**™

SQUARE SHANK-QUICK CHANGE SWISS TYPE TOOLING INSERTS

featuring...

GRADES FOR MOST MACHINING APPLICATIONS

PVD OR TiAlN COATED INSERTS GRADES

PRESSED CHIPBREAKER TYPE INSERTS

LAYDOWN BACK TURNING INSERTS

CUT OFF AND DEEP GROOVING INSERTS

**QUALITY
QUICK CHANGE
TOOLING...**

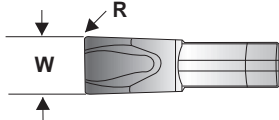
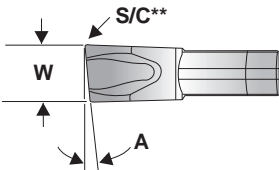
**SAVES TIME...
SAVES MONEY**

A2 TYPE CUTOFF AND GROOVING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

KM12-A2 KM16-A2

A2 SWISS TYPE TOOLING CUTOFF AND GROOVING INSERTS



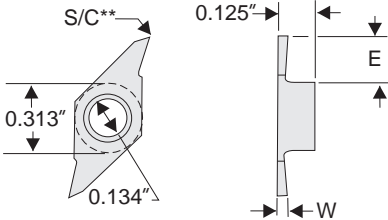
	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	GROOVE DEPTH*	A	W	R
		A2 022N00CF02-TR25 14095	PVD Coated	0.472"	0°	0.087"
	A2 022R06CF02-TR25 14096	PVD Coated	0.472"	6°	0.087"	0.008"
	A2 022R10CF00-TR25 14097	PVD Coated	0.472"	10°	0.087"	0.001"
	A2 022R16CF00-TR25 14098	PVD Coated	0.472"	16°	0.087"	0.001"

*The Groove Depth dimension reflects the insert being placed in the KM12-ASR211 or KM16-A2SR211.
**S/C = Sharp corner or $\bar{0}$ radius.

V10G TYPE ON-EDGE CUTOFF INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

KM12-SVGR13 KM16-SVGR13

V10G SWISS TYPE TOOLING ON-EDGE CUTOFF INSERTS

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MAXIMUM DEPTH OF CUT	W	E
		V10G2.52R039-CG35 14093	PVD Coated	0.217"	0.039"
	V10G2.52R059-CG35 14094	PVD Coated	0.217"	0.059"	0.236"

**S/C = Sharp corner or $\bar{0}$ radius.

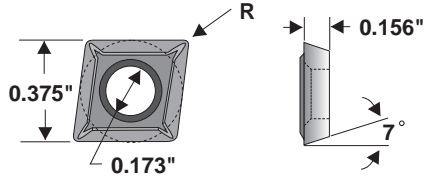


CCMT-32

SWISS TYPE TOOLING INDEXABLE INSERTS

CCMT-32 TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

KM12-SCGCR09 KM16-SCGCR09
KM12-SCLCR09 KM16-SCLCR09



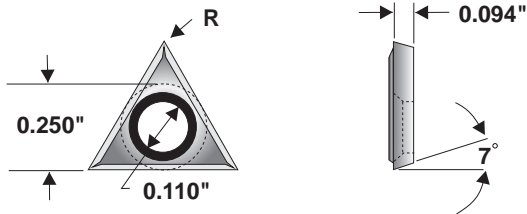
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CCMT-3205-CG55 86271	PVD Coated	0.008"
CCMT-321-CG55 86272	PVD Coated	0.015"
CCMT-322-CG55 86273	PVD Coated	0.031"

TCMT-22

SWISS TYPE TOOLING INDEXABLE INSERTS

TCMT-22 TYPE INDEXABLE INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

KM12-STGCR11 KM16-STGCR11
KM12-STJCR11 KM16-STJCR11



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TCMT-2205-CG55 68051	PVD Coated	0.008"
TCMT-221-CG55 68052	PVD Coated	0.015"
TCMT-222-CG55 68053	PVD Coated	0.031"



S10P SWISS TYPE TOOLING BACK TURNING INSERTS

S10P TYPE BACK TURNING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

KM12-SSPR06 KM16-SSPR06

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MAXIMUM DEPTH OF CUT	R
	S10P-22R002-CG35 14086	PVD Coated	0.118"	0.002"
	S10P-22R004-CG35 14088	PVD Coated	0.118"	0.004"
	S10P-22R006-CG35 14089	PVD Coated	0.118"	0.006"

T02P TYPE BACK TURNING INSERTS
CAN BE UTILIZED IN ALL OF THE FOLLOWING
CIRCLE TOOLING

KM12-STPR16 KM16-STPR16

T02P SWISS TYPE TOOLING BACK TURNING INSERTS

	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	MAXIMUM DEPTH OF CUT	R
	T02P-32R-001-CG35 14090	PVD Coated	0.098"	0.001"
	T02P-32R-002-CG35 14091	PVD Coated	0.098"	0.002"
	T02P-32R-004-CG35 14092	PVD Coated	0.098"	0.004"



JG-2, JG-2K & JR-2 C-NOTCH INDEXABLE TYPE GROOVING INSERTS

JG-2, JG-2K & JR-2 C-NOTCH TYPE INDEXABLE GROOVING INSERTS CAN BE UTILIZED IN ALL OF THE FOLLOWING CIRCLE TOOLING

**JCMI JSMI JNSL JNSR
KM12-NSR KM16-NSR**

	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	GROOVE DEPTH	GROOVE WIDTH	R	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND		G (±0.005")	W (±0.001")		
	JG-2031R-CG55 98138	JG-2031L-CG55 98143		PVD Coated	0.050"		
JG-2047R-CG55 98139	JG-2047L-CG55 98144	PVD Coated	0.050"	0.047"	0.002"/0.005"	0.1875"	
JG-2062R-CG55 98140	JG-2062L-CG55 98145	PVD Coated	0.110"	0.062"	0.005"/0.010"	0.1875"	
JG-2094R-CG55 98141	JG-2094L-CG55 98146	PVD Coated	0.110"	0.094"	0.005"/0.010"	0.1875"	
JG-2125R-CG55 98142	JG-2125L-CG55 98147	PVD Coated	0.110"	0.125"	0.005"/0.010"	0.1875"	

	INSERT CATALOG NUMBER EDP NO.		INSERT DESCRIPTION	GROOVE DEPTH	GROOVE WIDTH	R	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND		G (±0.005")	W (±0.001")		
	JG-2031RK-CG55 98128	JG-2031LK-CG55 98133		PVD Coated	0.050"		
JG-2047RK-CG55 98129	JG-2047LK-CG55 98134	PVD Coated	0.050"	0.047"	0.002"/0.005"	0.1875"	
JG-2062RK-CG55 98130	JG-2062LK-CG55 98135	PVD Coated	0.110"	0.062"	0.005"/0.010"	0.1875"	
JG-2094RK-CG55 98131	JG-2094LK-CG55 98136	PVD Coated	0.110"	0.094"	0.005"/0.010"	0.1875"	
JG-2125RK-CG55 98132	JG-2125LK-CG55 98137	PVD Coated	0.110"	0.125"	0.005"/0.010"	0.1875"	

	INSERT CATALOG NUMBER EDP NUMBER		INSERT DESCRIPTION	GROOVE DEPTH	GROOVE WIDTH	R	INSERT GAGE DIAMETER
	RIGHT HAND	LEFT HAND		G (±0.005")	W (±0.001")		
	JR-2031R-CG55 98148	JR-2031L-CG55 98151		PVD Coated	0.110"		
JR-2047R-CG55 98149	JR-2047L-CG55 98152	PVD Coated	0.110"	0.094"	0.047"	0.1875"	
JR-2062R-CG55 98150	JR-2062L-CG55 98153	PVD Coated	0.110"	0.125"	0.062"	0.1875"	

NOTES

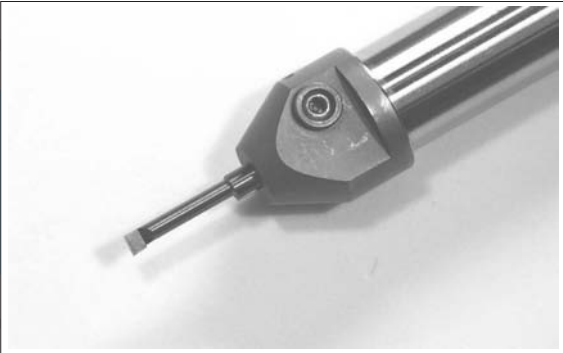
A large grid of graph paper for taking notes, consisting of 20 columns and 40 rows of small squares.

BORING BARS

SECTION INTRODUCTION

A SERIES Multi-Operation Holders

Minimum Bore Range...0.062" with a
Replaceable Type Insert



pages
79-82

B SERIES Multi-Operation Holders

Minimum Bore Range...0.187" with a
Replaceable Type Insert



pages
83-85

C SERIES Boring Bars

Minimum Bore Range...0.180" with an
Indexable 80 degree, 0.156" I.C. Type Insert



pages
87-97

F SERIES Boring Bars

Minimum Bore Range...0.275" with a
Indexable 60 degree Triangle, 0.160" I.C. Type Insert



pages
99-110

BORING BARS

SECTION INTRODUCTION

G SERIES Trigon Boring Bars

Minimum Bore Range...0.260" with an
Indexable 0.187" I.C. Trigon Type Insert



pages
111-116

Q SERIES Boring Bars

Minimum Bore Range...0.438" with an
Indexable 60 Degree Triangle, 0.250" I.C. Type Insert

Minimum Bore Range...421" with an
Indexable 80 Degree Diamond, 0.250" I.C. Type Insert

Minimum Bore Range...0.415" with an
Indexable Trigon, 0.250" I.C. Type Insert



pages
117-130

S SERIES Boring Bars

Minimum Bore Range...0.668" with an
Indexable 60 Degree Triangle, 0.375" I.C. Type Insert

Minimum Bore Range...680" with an
Indexable 80 Degree Diamond, 0.375" I.C. Type Insert

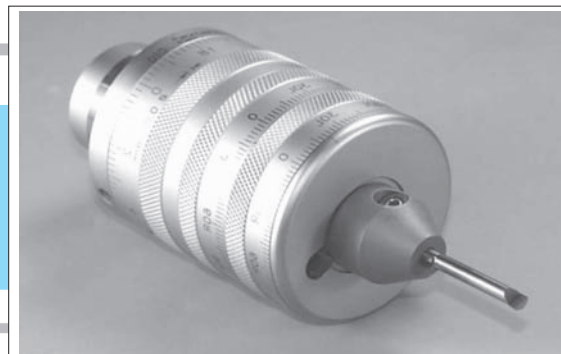
Minimum Bore Range...0.675" with an
Indexable Trigon, 0.375" I.C. Type Insert



pages
131-144

ROMICRON Precision Boring Heads

Consistent adjustments within...0.000080"



pages
145-154

**BORING
PROFILING
GROOVING
THREADING**



A SERIES MULTI-OPERATION TOOLHOLDERS

featuring...

**BORE, GROOVE, PROFILE OR THREAD
(WITH "A" SERIES TOOL HOLDER AND REPLACEABLE TYPE INSERTS)**

MINIMUM BORE RANGE...0.062" & UP!

GROOVE IN A...0.110" DIAMETER HOLE!

PROFILE IN HOLES AS SMALL AS...0.062" AND UP!

THREAD TO A ...NO.5 (0.100")!

UNIQUE LOCKING SYSTEM ALLOWS FOR QUICK CHANGE

INSERT REPEATABILITY WITHIN ± 0.0005 "

UTILIZES REPLACEABLE TYPE INSERTS

COATED OR UNCOATED GRADES

CUBIC BORON NITRIDE TIPPED INSERTS

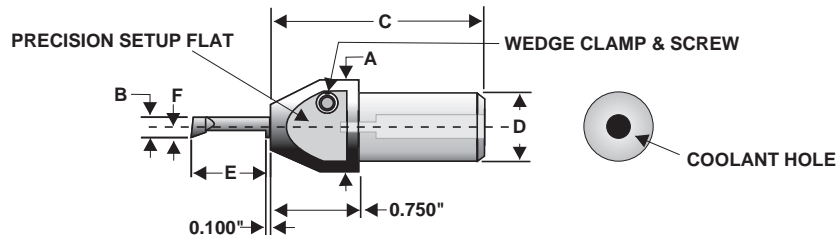
POLYCRYSTALLINE DIAMOND TIPPED INSERTS

COST EFFECTIVE SET AVAILABLE

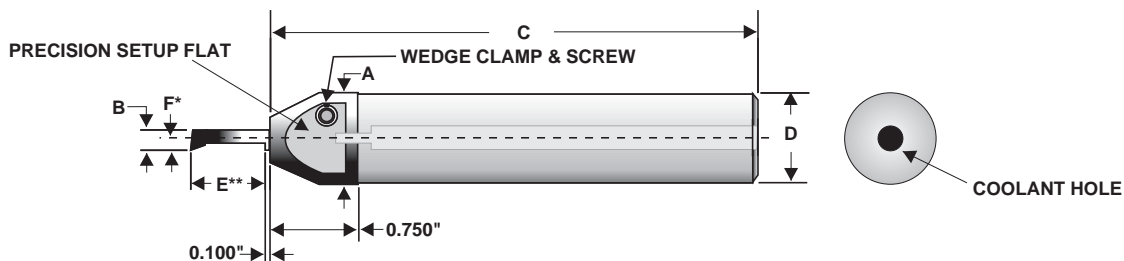
CUTTING TOOL ACCESSORIES

**BORE HOLES
AS SMALL AS
...0.062"
WITH AN
REPLACEABLE
INSERT!**

MINIMUM BORE RANGE: 0.062" AND UP!	MULTI-OPERATION TOOLING WITH COOLANT THROUGH HOLE	<h1 style="margin: 0;">ATBI</h1> <h2 style="margin: 0;">STEEL SHANK TOOLHOLDERS WITH REPLACEABLE BORING INSERTS</h2> <p style="margin: 0;">3/8", 1/2", 5/8", 3/4" & 1" DIAMETER SHANKS</p>
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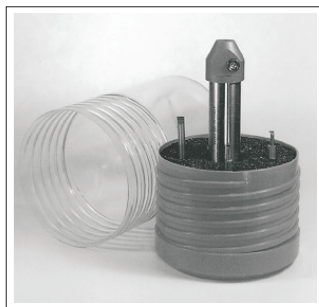


STEEL TOOLHOLDERS WITH COOLANT THROUGH HOLES



A SERIES TOOLHOLDER CATALOG NUMBER EDP NUMBER	A SERIES BORING INSERT TYPE(S)	LOCKING WEDGE NUMBER EDP NUMBER	WEDGE SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NO.
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F	HEAD DIA. A	
ATBI-375-1 1/2 11005	ABC ABD	AW-250 10001	AS-8-32 10002	FOR BORING INSERT SELECTION SEE PAGES 10-11	FOR BORING INSERT SELECTION SEE PAGES 10-11	0.375"	1.500"	FOR BORING INSERT SELECTION SEE PAGES 10-11	0.760"	A BIT 10003
ATBI-500-1 1/2 11006	FOR BORING INSERT SELECTION SEE PAGES 10-11	AW-250 10001	AS-8-32 10002			0.500"	1.500"		0.760"	
ATBI-500-4 11007		AW-250 10001	AS-8-32 10002			0.500"	4.000"		0.760"	
ATBI-625-4 11008		AW-250 10001	AS-8-32 10002			0.625"	4.000"		0.760"	
ATBI-750-4 11009		AW-250 10001	AS-8-32 10002			0.750"	4.000"		0.760"	
ATBI-1000-4 11010		AW-250 10001	AS-8-32 10002			1.000"	4.000"		0.760"	

NOTE: A Series Toolholders utilize Replacement Type Inserts that are available for Boring, Grooving, Profiling, or Threading applications, for Replaceable Insert selections for Grooving, Profiling, and or Threading...Please refer to those sections in this catalog.



COST EFFECTIVE SETS AVAILABLE... SEE PAGE 81

A-10S SET

STEEL SHANK TOOLHOLDER

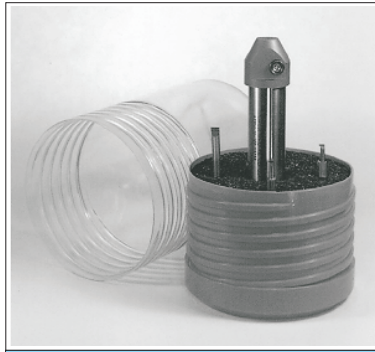
BORE, GROOVE, PROFILE, AND GROOVE

MULTI-OPERATIONS TOOLING
WITH COOLANT THROUGH HOLE

UNIQUE LOCKING SYSTEM
ALLOWS FOR QUICK CHANGE

INSERT REPEATABILITY
WITHIN $\pm 0.0005"$

GUARANTEED!



A-10S SET
EDP NUMBER: 90062

TOOLHOLDER UTILIZES REPLACEABLE TYPE BORING, GROOVING, PROFILING, OR THREADING INSERTS!

UNIQUE LOCKING SYSTEM ALLOWS FOR QUICK CHANGE IN AS LITTLE AS 0:15 SECONDS

BORE HOLES AS SMALL AS...0.062"

GROOVE IN A...0.110" DIAMETER HOLE

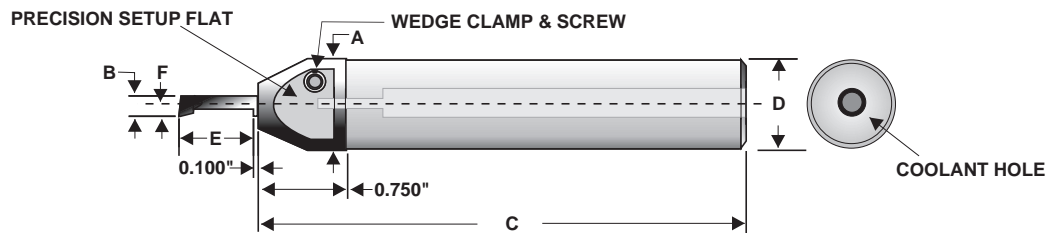
PROFILE IN DIAMETERS AS SMALL AS...0.062

THREAD TO A NO. 5 (0.100" DIAMETER)

REPLACEABLE TYPE INSERT REPEATABILITY $\pm 0.0005"$...GUARANTEED

Each set comes packaged in a protective plastic container which includes one (1) toolholder, and one (1) ABD replaceable type boring insert, one (1) AGD replaceable type grooving insert, one (1) APD replaceable type profiling insert, and one (1) ATD replaceable type threading insert. Also included, one (1) Torx Key

A-10S SET CONTENTS FOR BORING SPECIFICATIONS



A SERIES SET TOOLHOLDER CATALOG NUMBER EDP NO.	A-10S SET BORING INSERT TYPE	LOCKING WEDGE NUMBER EDP NUMBER	WEDGE SCREW NUMBER EDP NUMBER	TOOLHOLDER SPECIFICATIONS WITH BORING INSERT						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	GAGE INSERT	OVERALL LENGTH	SHANK DIA.	HEAD DIA.	
				B	E	F	C	D	A	
ATBI-625-4 11008	ABD FOR BORING INSERT SPECIFICATIONS SEE BELOW	AW-250 10001	AS-8-32 10002	FOR BORING INSERT SPECIFICATIONS SEE BELOW			4.000"	0.625"	0.760"	A KEY 10005





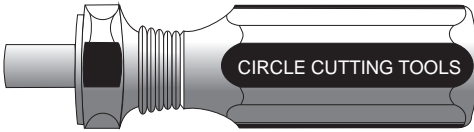
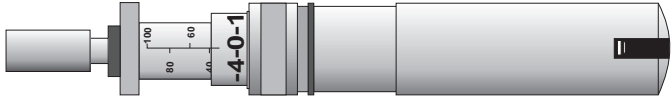
A-10S SET REPLACEABLE BORING INSERT SPECIFICATIONS

	INSERT CATALOG NUMBER* EDP NUMBER	INSERT DESCRIPTION	R	MIN. BORE	BORE DEPTH	GAGE INSERT
				B	E**	F*
	ABD-125-375R-CG5 16065	PVD Coated	S/C	0.062"	0.187"	0.026"

* Set also includes one (1) AGD-095-03-CG5; EDP No.: 16073, one (1) APD-09-281R-CG5; EDP No.: 16081, and one (1) ATD-095-60-F2-CG5; EDP No.: 16087

ATBI

MULT-OPERATIONS TOOLHOLDERS ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A BIT	10003	
A KEY	10005	
AS-8-32	10002	
AW-250	10001	
DRIVER	00000	
CTS-30	00001	

**BORING
PROFILING**



B SERIES MULTI-OPERATION TOOLHOLDERS

featuring...

BORE OR PROFILE
(WITH "B" SERIES TOOL HOLDER AND REPLACEABLE TYPE INSERTS)

MINIMUM BORE RANGE: 0.187" & UP!

PROFILE IN HOLES AS SMALL AS...0.187" & UP"!

UNIQUE LOCKING SYSTEM ALLOWS FOR QUICK CHANGE

INSERT REPEATABILITY WITHIN ± 0.0005 "

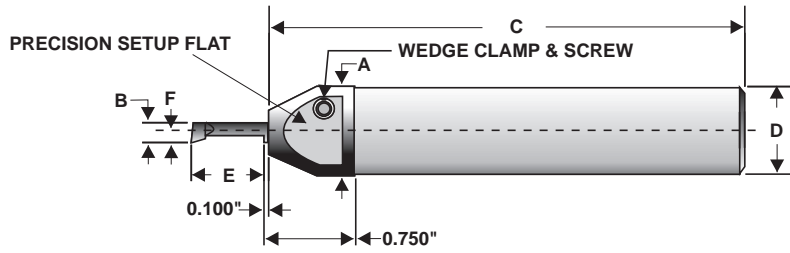
UTILIZES REPLACEABLE TYPE INSERTS

COATED OR UNCOATED GRADES

CUTTING TOOL ACCESSORIES

**BORE HOLES
AS SMALL AS
...0.187"
WITH AN
REPLACEABLE
INSERT!**





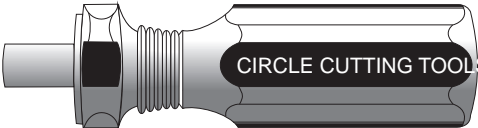

MINIMUM BORE RANGE: 0.187" AND UP! BORE DEPTH RANGE: UP TO 2.125"	MULTI-OPERATION TOOLING	<h2 style="margin: 0;">BSBI</h2> <h3 style="margin: 0;">STEEL SHANK TOOLHOLDERS WITH REPLACEABLE BORING INSERT</h3> <p style="margin: 0;">1/2", 5/8", 3/4", & 1" DIAMETER SHANKS</p>
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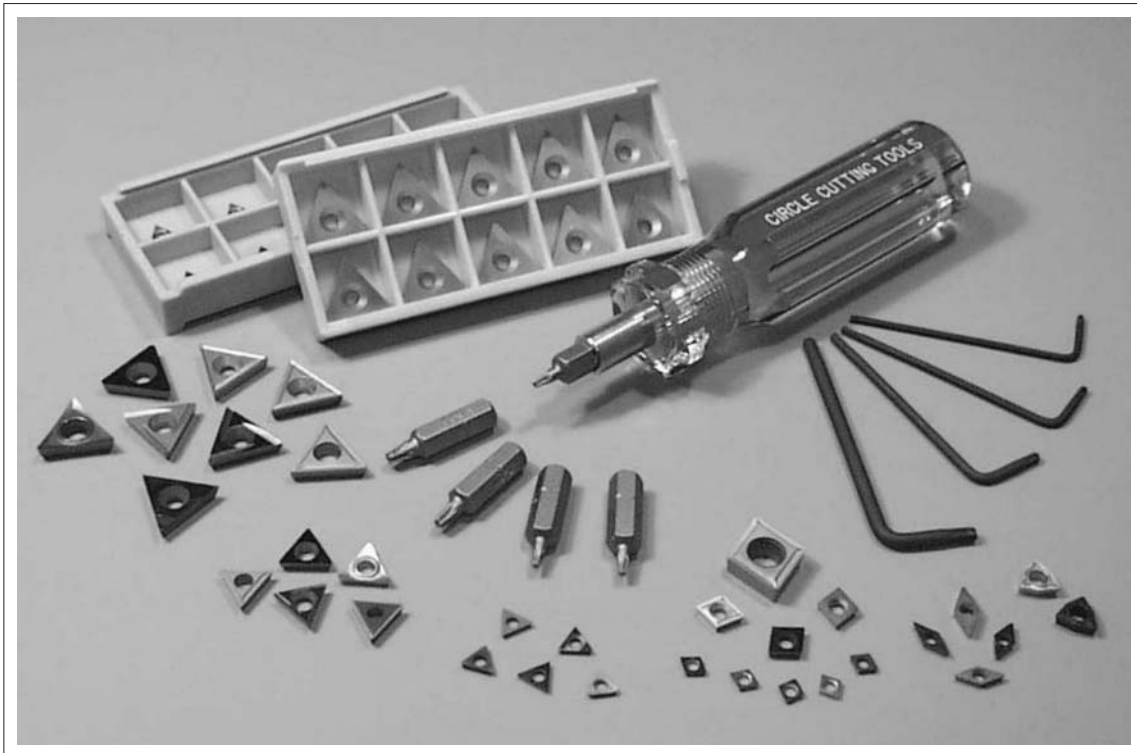
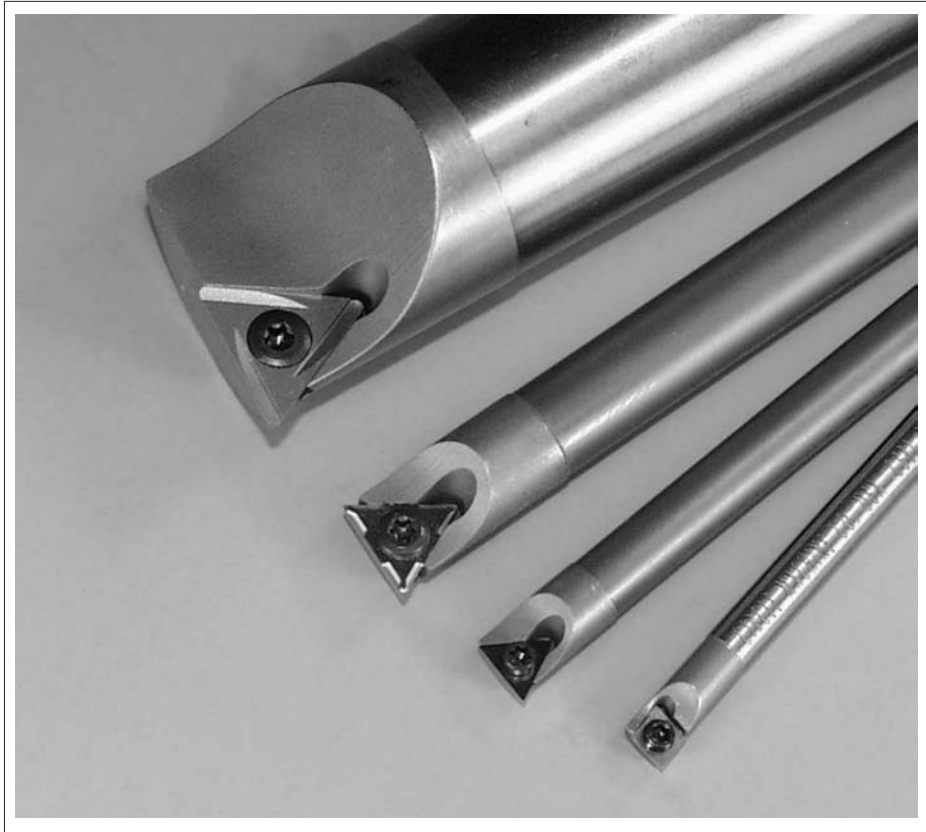
B SERIES TOOLHOLDER CATALOG NUMBER EDP NUMBER	B SERIES BORING INSERT TYPE	LOCKING WEDGE NUMBER EDP NUMBER	WEDGE SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
				B	E	D	C	F	A	
BSBI-500-6 21000	BB FOR BORING INSERT SELECTION SEE PAGE 12	BW-312 20000	BS-8-32 20001	FOR BORING INSERT SELECTION SEE PAGE 12	FOR BORING INSERT SELECTION SEE PAGE 12	0.500"	6.000"	FOR BORING INSERT SELECTION SEE PAGE 12	1.010"	A KEY 10005 OR A BIT 10003
BSBI-625-6 21001		BW-312 20000	BS-8-32 20001			0.625"	6.000"		1.010"	
BSBI-750-6 21002		BW-312 20000	BS-8-32 20001			0.750"	6.000"		1.010"	
BSBI-1000-6 21003		BW-312 20000	BS-8-32 20001			1.000"	6.000"		1.010"	

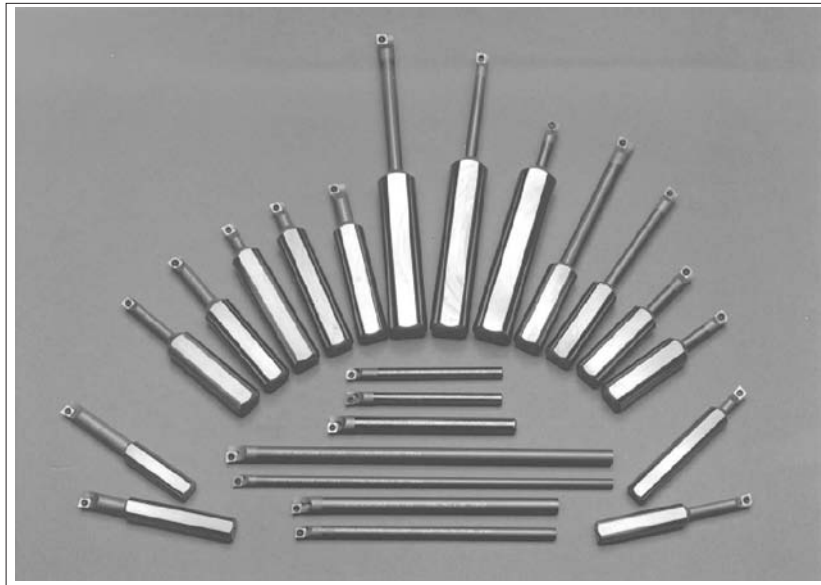
NOTE: B Series Toolholders utilize Replacement Type Inserts that are available for Boring or Profiling applications. For Replaceable Insert selections for Profiling...Please refer to those sections in this catalog.

BSBI MULTI-OPERATIONS TOOLHOLDERS ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A BIT	10003	
A KEY	10005	
BS-8-32	20000	
BW-312	20001	
DRIVER	00000	
CTS-30	00001	

ULTRA PRECISION INDEXABLE BORING BARS AND ACCESSORIES





C SERIES BORING BARS

featuring...

MINIMUM BORE RANGE: 0.180" & UP!

HIGH QUALITY STEEL OR CARBIDE SHANKS

COOLANT THROUGH TYPE BARS AVAILABLE

BARS UTILIZE; 80° DIAMOND; 0.156" INDEXABLE INSERTS

CDCD, CDCG, OR CDCT TYPE INDEXABLE INSERTS

COATED OR UNCOATED INSERT GRADES

0.002", 0.007", & 0.015" INSERT CORNER RADII AVAILABLE

GROUND IN OR PRESSED TYPE CHIPBREAKER INSERTS

CUBIC BORON NITRIDE TIPPED INSERTS

POLYCRYSTALLINE DIAMOND TIPPED INSERTS

COST EFFECTIVE SETS AVAILABLE

C SERIES CUTTING TOOL ACCESSORIES

**BORE HOLES
AS SMALL AS
...0.180"
WITH AN
INDEXABLE
INSERT!**

MINIMUM BORE RANGE:

0.180" AND UP!

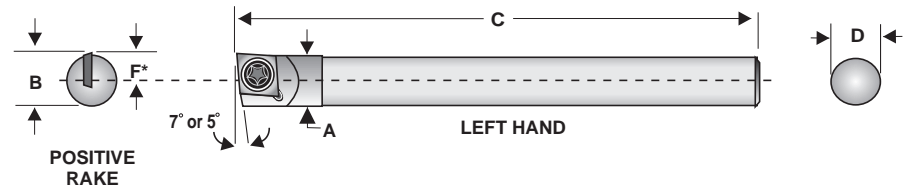
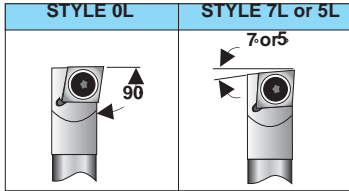
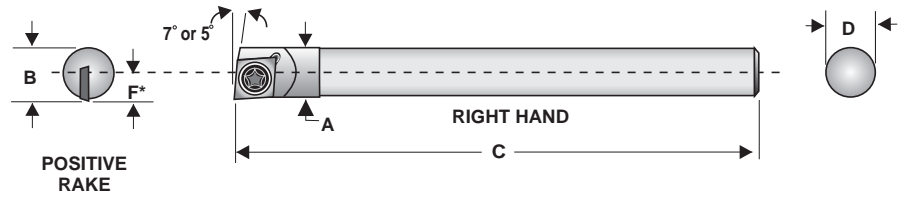
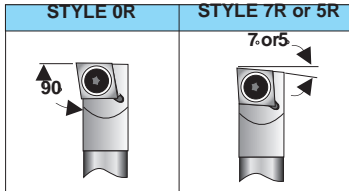
BORE DEPTH RANGE:

UP TO 1.000"***

CSBI

STEEL SHANK BORING BARS

3/16" & 1/4" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT*	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A	
CSBI-165/187-1/2-7R 31049	CSBI-165/187-1/2-7L 31050	CDCD CDCG OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-09 30001	0.180"	0.500"	0.187"	2.500"	0.095"	0.166"	C KEY 30124 OR C BIT 30000
CSBI-180/187-2 1/2-5R 31001	CSBI-180/187-2 1/2-5L 31000		CC-09 30001	0.208"		0.187"	2.500"	0.104"	0.180"	
CSBI-187-2 1/2-0R 31011	CSBI-187-2 1/2-0L 31010		CC-11 30002	0.244"	0.187"	2.500"	0.122"	0.203"		
CSBI-187-2 1/2-5R 31013	CSBI-187-2 1/2-5L 31012		CC-11 30002	0.230"	0.187"	2.500"	0.116"	0.203"		
CSBI-250-3-0R 31031	CSBI-250-3-0L 31030		CC-11 30002	0.292"	0.250"	3.000"	0.152"	0.260"		
CSBI-250-3-5R 31033	CSBI-250-3-5L 31032		CC-11 30002	0.285"	0.250"	3.000"	0.145"	0.260"		

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

**Unless otherwise specified, the Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.



**COST EFFECTIVE
SETS
AVAILABLE...
SEE PAGES
95 & 96**



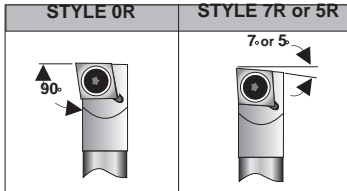
CCBI

CARBIDE SHANK BORING BARS

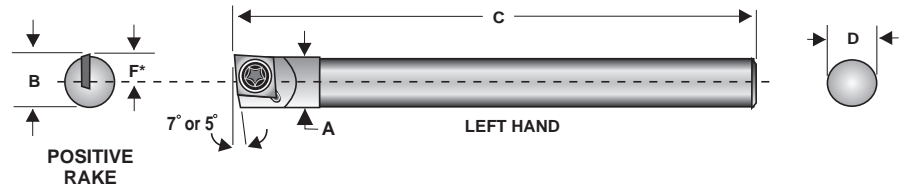
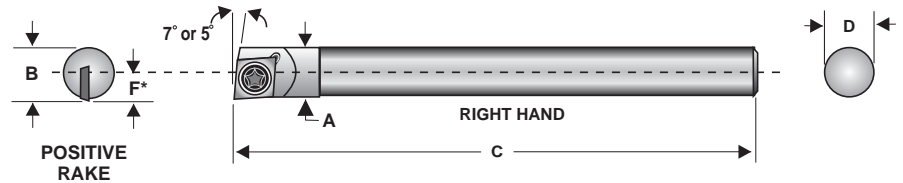
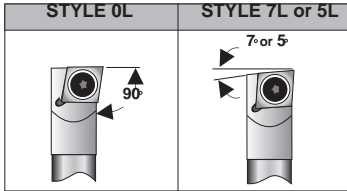
5/32", 3/16", 1/4", & 5/16" DIAMETER SHANKS

MINIMUM BORE RANGE:
0.180" AND UP!

BORE DEPTH RANGE:
UP TO 3.120" **



CARBIDE SHANKS
WITH
ALLOY STEEL HEADS



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
CCBI-165/156-6-7R 32063	CCBI-165/156-6-7L 32064	CDCD CDCG OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-09 30001	0.180"		0.156"	6.000"	0.095"	0.166"	C KEY 30124 OR C BIT 30000
CCBI-180/187-4-5R 32001	CCBI-180/187-4-5L 32000		CC-09 30001	0.208"		0.187"	4.000"	0.104"	0.189"	
CCBI-180/187-6-5R 32002	CCBI-180/187-6-5L 32065		CC-09 30001	0.208"		0.187"	6.000"	0.104"	0.189"	
CCBI-187-4-0R 32016	CCBI-187-4-0L 32015		CC-11 30002	0.230"		0.187"	4.000"	0.117"	0.193"	
CCBI-187-4-5R 32018	CCBI-187-4-5L 32017		CC-11 30002	0.222"		0.187"	4.000"	0.111"	0.193"	
CCBI-187-6-0R 32020	CCBI-187-6-0L 32019		CC-11 30002	0.230"		0.187"	6.000"	0.117"	0.193"	
CCBI-187-6-5R 32022	CCBI-187-6-5L 32021		CC-11 30002	0.222"		0.187"	6.000"	0.111"	0.193"	
CCBI-250-4-0R 32040	CCBI-250-4-0L 32039		CC-11 30002	0.292"		0.250"	4.000"	0.152"	0.258"	
CCBI-250-4-5R 32042	CCBI-250-4-5L 32041		CC-11 30002	0.285"		0.250"	4.000"	0.145"	0.258"	
CCBI-250-6-0R 32044	CCBI-250-6-0L 32043		CC-11 30002	0.292"		0.250"	6.000"	0.152"	0.258"	
CCBI-250-6-5R 32046	CCBI-250-6-5L 32045		CC-11 30002	0.285"		0.250"	6.000"	0.145"	0.258"	
CCBI-312-6-0R 32009	CCBI-312-6-0L 32010		CC-11 30002	0.356"		0.312"	6.000"	0.185"	0.322"	
CCBI-312-6-5R 32003	CCBI-312-6-5L 32004		CC-11 30002	0.356"		0.312"	6.000"	0.185"	0.322"	

*Gage Insert Dimension assumes the use of our standard, CDCD-505, indexable type inserts.

**Unless otherwise specified, the Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steel using suggested light feed rates and depth of cuts.

MINIMUM BORE RANGE:

0.180" AND UP!

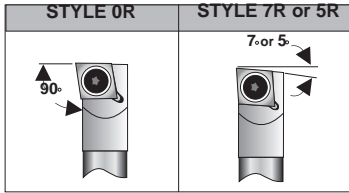
BORE DEPTH RANGE:

UP TO 2.500"***

CDBI

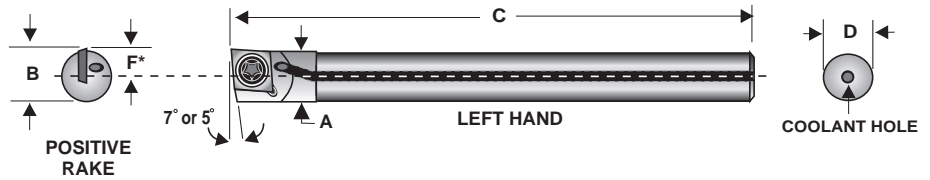
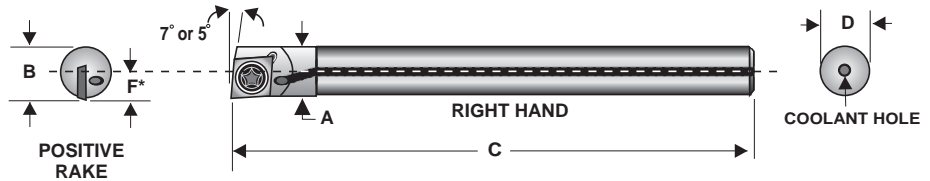
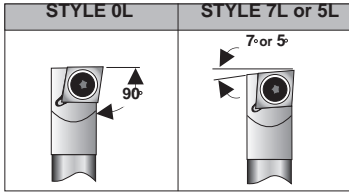
CARBIDE SHANK BORING BARS WITH COOLANT THROUGH HOLES

5/32", 3/16", & 1/4" DIAMETER SHANKS



CARBIDE SHANKS

WITH ALLOY STEEL HEADS AND COOLANT THROUGH HOLE



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						COOLANT ADAPTER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
RIGHT HAND	LEFT HAND			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.		
				B	E**	D	C	F*	A		
CDBI-165/156-7R 32066	CDBI-165/156-6-7L 32067	CDCD CDCG OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-09 30001	0.180"		0.156"	6.000"	0.095"	0.166"	A-156	C KEY 30124 OR C BIT 30000
CDBI-180/187-4-5R 32068	CDBI-180/187-4-5L 32069		CC-09 30001	0.208"		0.187"	4.000"	0.104"	0.189"	A-187	
CDBI-180/187-6-5R 32070	CDBI-180/187-6-5L 32071		CC-09 30001	0.208"		0.187"	6.000"	0.104"	0.189"	A-187	
CDBI-187-4-0R 32073	CDBI-187-4-0L 32075		CC-11 30002	0.230"		0.187"	4.000"	0.117"	0.193"	A-187	
CDBI-187-4-5R 32072	CDBI-187-4-5L 32074		CC-11 30002	0.222"		0.187"	4.000"	0.111"	0.193"	A-187	
CDBI-187-6-0R 32077	CDBI-187-6-0L 32079		CC-11 30002	0.230"		0.187"	6.000"	0.117"	0.193"	A-187	
CDBI-187-6-5R 32076	CDBI-187-6-5L 32078		CC-11 30002	0.222"		0.187"	6.000"	0.111"	0.193"	A-187	
CDBI-250-4-0R 32081	CDBI-250-4-0L 32083		CC-11 30002	0.292"		0.250"	4.000"	0.152"	0.258"	A-250	
CDBI-250-4-5R 32080	CDBI-250-4-5L 32082		CC-11 30002	0.285"		0.250"	4.000"	0.145"	0.258"	A-250	
CDBI-250-6-0R 32085	CDBI-250-6-0L 32087		CC-11 30002	0.292"		0.250"	6.000"	0.152"	0.258"	A-250	
CDBI-250-6-5R 32084	CDBI-250-6-5L 32086	CC-11 30002	0.285"		0.250"	6.000"	0.145"	0.258"	A-250		

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

**Unless otherwise specified, the Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steel using suggested light feed rates and depth of cuts.

CSBI STEP DOWN STEEL SHANK BORING BARS

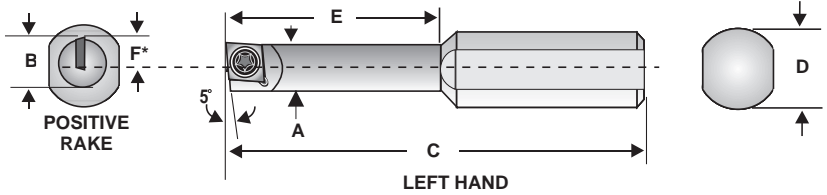
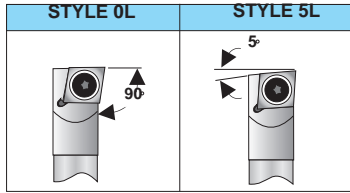
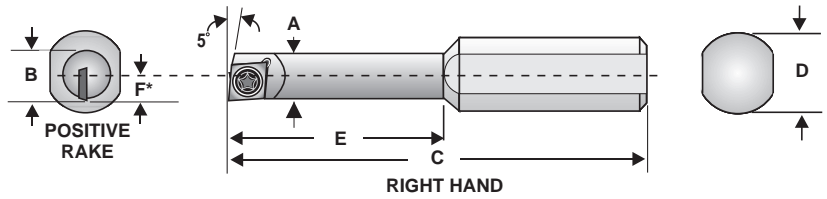
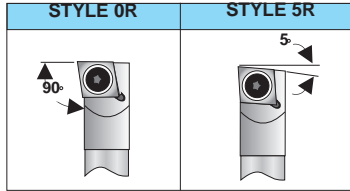
3/8" DIAMETER SHANKS

MINIMUM BORE RANGE:

0.208" AND UP!

BORE DEPTH RANGE:

UP TO 1.250"



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E	D	C	F*	A	
CSBI-180/375-1/2-5R 31005	CSBI-180/375-1/2-5L 31004	CDCD CDCG OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-09 30001	0.208"	0.500"	0.375"	2.500"	0.104"	0.180"	C KEY 30124 OR C BIT 30000
CSBI-180/375-1-5R 31003	CSBI-180/375-1-5L 31002		CC-09 30001	0.208"	1.000"	0.375"	2.500"	0.104"	0.180"	
CSBI-203/375-1/2-0R 31019	CSBI-203/375-1/2-0L 31018		CC-11 30002	0.239"	0.500"	0.375"	2.500"	0.122"	0.203"	
CSBI-203/375-1/2-5R 31021	CSBI-203/375-1/2-5L 31020		CC-11 30002	0.230"	0.500"	0.375"	2.500"	0.116"	0.203"	
CSBI-203/375-1-0R 31015	CSBI-203/375-1-0L 31014		CC-11 30002	0.239"	1.000"	0.375"	2.500"	0.122"	0.203"	
CSBI-203/375-1-5R 31017	CSBI-203/375-1-5L 31016		CC-11 30002	0.230"	1.000"	0.375"	2.500"	0.116"	0.203"	
CSBI-250/375-3/4-0R 31051	CSBI-250/375-3/4-0L 31038		CC-11 30002	0.292"	0.750"	0.375"	2.500"	0.152"	0.250"	
CSBI-250/375-3/4-5R 31040	CSBI-250/375-3/4-5L 31039		CC-11 30002	0.280"	0.750"	0.375"	2.500"	0.145"	0.250"	
CSBI-250/375-1 1/4-0R 31035	CSBI-250/375-1 1/4-0L 31034		CC-11 30002	0.292"	1.250"	0.375"	2.500"	0.152"	0.250"	
CSBI-250/375-1 1/4-5R 31037	CSBI-250/375-1 1/4-5L 31036		CC-11 30002	0.280"	1.250"	0.375"	2.500"	0.145"	0.250"	

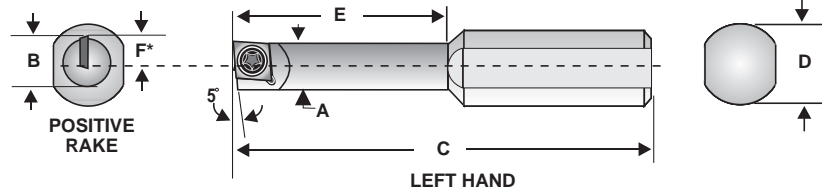
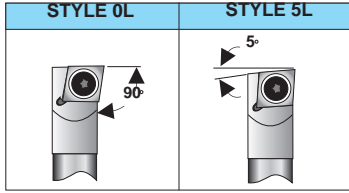
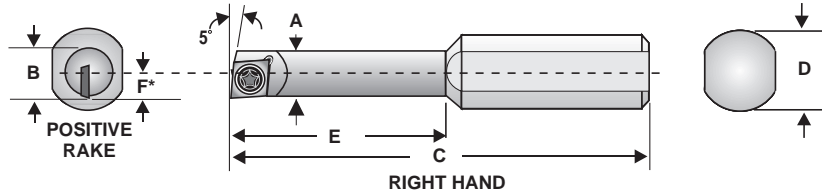
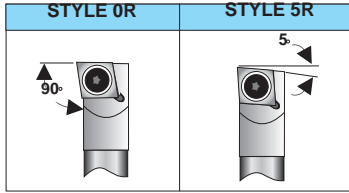
*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

**MINIMUM BORE RANGE:
0.208" AND UP!**

**BORE DEPTH RANGE:
UP TO 1.250"**

CSBI STEP DOWN STEEL SHANK BORING BARS

1/2" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
CSBI-180/500-1/2-5R 31008	CSBI-180/500-1/2-5L 31007	CDCD CDCG OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-09 30001	0.208"	0.500"	0.500"	2.750"	0.104"	0.180"	C KEY 30124 OR C BIT 30000
CSBI-180/500-1-5R 31006	CSBI-180/500-1-5L 31009		CC-09 30001	0.208"	1.000"	0.500"	2.750"	0.104"	0.180"	
CSBI-203/500-1/2-0R 31027	CSBI-203/500-1/2-0L 31026		CC-11 30002	0.239"	0.500"	0.500"	2.750"	0.122"	0.203"	
CSBI-203/500-1/2-5R 31029	CSBI-203/500-1/2-5L 31028		CC-11 30002	0.230"	0.500"	0.500"	2.750"	0.116"	0.203"	
CSBI-203/500-1-0R 31023	CSBI-203/500-1-0L 31022		CC-11 30002	0.239"	1.000"	0.500"	2.750"	0.122"	0.203"	
CSBI-203/500-1-5R 31025	CSBI-203/500-1-5L 31024		CC-11 30002	0.230"	1.000"	0.500"	2.750"	0.116"	0.203"	
CSBI-250/500-3/4-0R 31046	CSBI-250/500-3/4-0L 31045		CC-11 30002	0.292"	0.750"	0.500"	2.750"	0.152"	0.250"	
CSBI-250/500-3/4-5R 31048	CSBI-250/500-3/4-5L 31047		CC-11 30002	0.280"	0.750"	0.500"	2.750"	0.145"	0.250"	
CSBI-250/500-1 1/4-0R 31042	CSBI-250/500-1 1/4-0L 31041		CC-11 30002	0.292"	1.250"	0.500"	2.750"	0.152"	0.250"	
CSBI-250/500-1 1/4-5R 31044	CSBI-250/500-1 1/4-5L 31043		CC-11 30002	0.280"	1.250"	0.500"	2.750"	0.145"	0.250"	

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

CCBI STEP DOWN CARBIDE SHANK BORING BARS

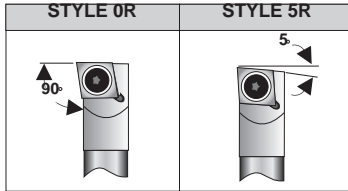
1/2" DIAMETER SHANKS

MINIMUM BORE RANGE:

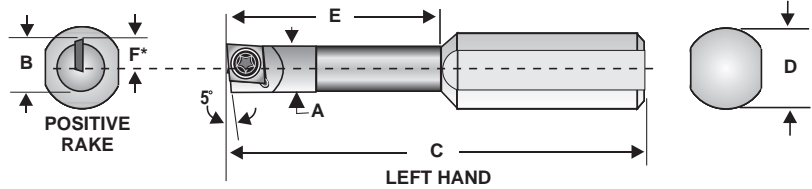
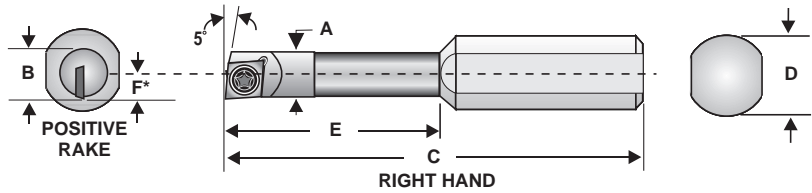
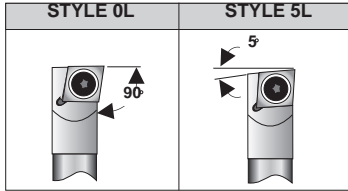
0.208" AND UP!

BORE DEPTH RANGE:

UP TO 2.500"



CARBIDE WITH
ALLOY STEEL
HEAD AND SHANK



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
CCBI-180/500-7/8-5R 32008	CCBI-180/500-7/8-5L 32007	CDCD CDCG OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-09 30001	0.208"	0.875"	0.500"	2.375"	0.104"	0.189"	C KEY 30124 OR C BIT 30000
CCBI-180/500-1 7/8-5R 32006	CCBI-180/500-1 7/8-5L 32005		CC-09 30001	0.208"	1.875"	0.500"	3.375"	0.104"	0.189"	
CCBI-203/500-1-0R 32024	CCBI-203/500-1-0L 32023		CC-11 30002	0.244"	1.000"	0.500"	2.500"	0.125"	0.210"	
CCBI-203/500-1-5R 32026	CCBI-203/500-1-5L 32025		CC-11 30002	0.230"	1.000"	0.500"	2.500"	0.119"	0.210"	
CCBI-203/500-2-0R 32028	CCBI-203/500-2-0L 32027		CC-11 30002	0.244"	2.000"	0.500"	3.500"	0.125"	0.210"	
CCBI-203/500-2-5R 32030	CCBI-203/500-2-5L 32029		CC-11 30002	0.230"	2.000"	0.500"	3.500"	0.119"	0.210"	
CCBI-250/500-1 1/4-0R 32048	CCBI-250/500-1 1/4-0L 32047		CC-11 30002	0.292"	1.250"	0.500"	2.750"	0.152"	0.260"	
CCBI-250/500-1 1/4-5R 32050	CCBI-250/500-1 1/4-5L 32049		CC-11 30002	0.285"	1.250"	0.500"	2.750"	0.145"	0.260"	
CCBI-250/500-2 1/2-0R 32052	CCBI-250/500-2 1/2-0L 32051		CC-11 30002	0.292"	2.500"	0.500"	4.000"	0.152"	0.260"	
CCBI-250/500-2 1/2-5R 32054	CCBI-250/500-2 1/2-5L 32053		CC-11 30002	0.285"	2.500"	0.500"	4.000"	0.145"	0.260"	

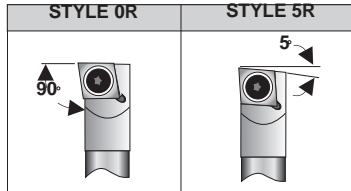
*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type inserts.

**MINIMUM BORE RANGE:
0.208" AND UP!**

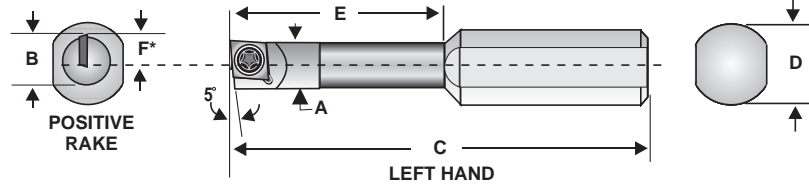
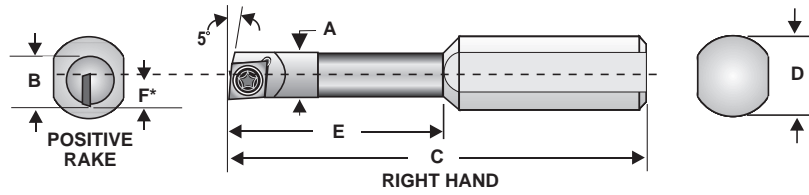
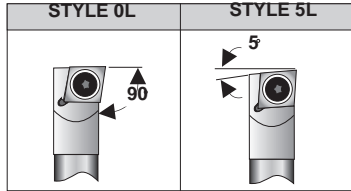
**BORE DEPTH RANGE:
UP TO 2.500"**

CCBI STEP DOWN CARBIDE SHANK BORING BARS

5/8" DIAMETER SHANKS



CARBIDE WITH
ALLOY STEEL
HEAD AND SHANK



BORING BAR CATALOG NUMBER EDP NUMBER		C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E	D	C	F*	A	
CCBI-180/625-7/8-5R 32014	CCBI-180/625-7/8-5L 32013	CDCD CDCG OR CDCT	CC-09 30001	0.208"	0.875"	0.625"	3.375"	0.104"	0.189"	C KEY 30124 OR C BIT 30000
CCBI-180/625-1 7/8-5R 32012	CCBI-180/625-1 7/8-5L 32011		CC-09 30001	0.208"	1.875"	0.625"	4.375"	0.104"	0.189"	
CCBI-203/625-1-0R 32032	CCBI-203/625-1-0L 32031	FOR INSERT SELECTION SEE PAGES 13-15	CC-11 30002	0.244"	1.000"	0.625"	3.500"	0.125"	0.210"	
CCBI-203/625-1-5R 32034	CCBI-203/625-1-5L 32033		CC-11 30002	0.230"	1.000"	0.625"	3.500"	0.119"	0.210"	
CCBI-203/625-2-0R 32036	CCBI-203/625-2-0L 32035		CC-11 30002	0.244"	2.000"	0.625"	4.500"	0.125"	0.210"	
CCBI-203/625-2-5R 32038	CCBI-203/625-2-5L 32037		CC-11 30002	0.230"	2.000"	0.625"	4.500"	0.119"	0.210"	
CCBI-250/625-1 1/4-0R 32056	CCBI-250/625-1 1/4-0L 32055		CC-11 30002	0.292"	1.250"	0.625"	3.750"	0.152"	0.260"	
CCBI-250/625-1 1/4-5R 32058	CCBI-250/625-1 1/4-5L 32057		CC-11 30002	0.285"	1.250"	0.625"	3.750"	0.145"	0.260"	
CCBI-250/625-2 1/2-0R 32060	CCBI-250/625-2 1/2-0L 32059		CC-11 30002	0.292"	2.500"	0.625"	5.000"	0.152"	0.260"	
CCBI-250/625-2 1/2-5R 32062	CCBI-250/625-2 1/2-5L 32061		CC-11 30002	0.285"	2.500"	0.625"	5.000"	0.145"	0.260"	

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

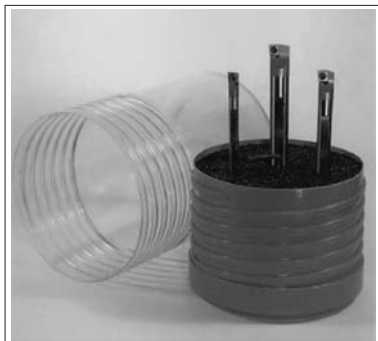
CS-40 SET STEEL SHANK BORING BARS

MINIMUM BORE RANGE:

0.180" AND UP!

BORE DEPTH RANGE:

UP TO 1.000"***



CS-40 SET
EDP NUMBER: 90052

ALL SET BARS UTILIZE 80 DIAMOND;
0.156" I.C. INDEXABLE TYPE INSERTS!

BORE HOLES AS SMALL AS...
0..180"

INSERT REPEATABILITY WITHIN...
+0.002" CORNER TO CORNER

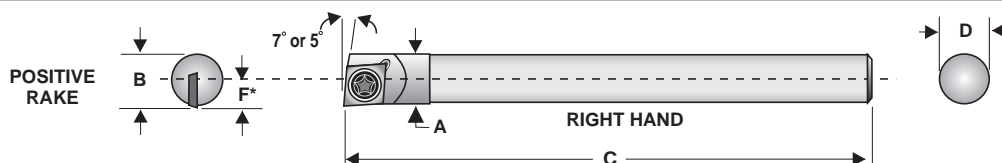
HIGH QUALITY STEEL SHANKS

CG5 PVD COATED INSERTS

COST EFFECTIVE SET

Each set comes packaged in a protective plastic container which includes; three (3) boring bars with three (3) inserts (CDCD-505-CG5 indexable type), and One (1) torx key.

CS-40 SET CONTENTS

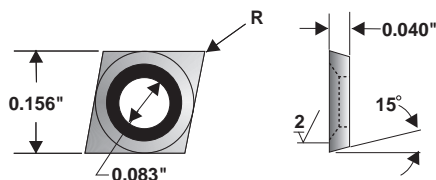


C SERIES SET BORING BAR CATALOG NUMBER EDP NUMBER	C SERIES SET INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY NUMBER EDP NUMBER
			MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
CSBI-165/187-1/2-7R 31049	CDCD FOR INSERT SPECIFICATIONS SEE BELOW	CC-09 30001	0.180"	0.500"	0.187"	2.500"	0.095"	0.166"	C KEY 30124
CSBI-180/187-2 1/2-5R 31001		CC-09 30001	0.208"		0.187"		0.104"	0.180"	
CSBI-250-3-5R 31033		CC-11 30002	0.292"	0.250"	3.000"	0.145"	0.260"		

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

**Unless otherwise specified, the Bore Depth Range is based on a 4:1 ratio (4 times the bar diameter), in mild steels using suggested light feed rates and depth of cuts. Please refer to our Technical Data Section for more application information..

CS-40 SET INDEXABLE INSERT SPECIFICATIONS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CDCD-505-CG5 36027	PVD Coated	0.007"

MINIMUM BORE RANGE:

0.180" AND UP!

BORE DEPTH RANGE:

UP TO 2.500"***

CC-40 SET

CARBIDE SHANK BORING BARS



CC-40 SET
EDP NUMBER: 90053

ALL SET BARS UTILIZE 80 DIAMOND;
0.156" I.C. INDEXABLE TYPE INSERTS!

BORE HOLES AS SMALL AS...
0.180"

INSERT REPEATABILITY WITHIN...
+0.002" CORNER TO CORNER

HIGH QUALITY CARBIDE SHANKS
WITH ALLOY STEEL HEADS

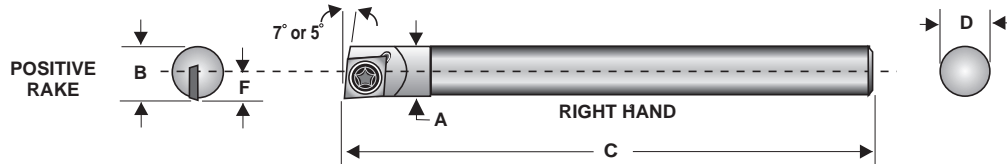
CG5 PVD COATED INSERTS

COST EFFECTIVE SET

Each set comes packaged in a protective plastic container which includes; three (3) boring bars with three (3) inserts (CDCD-505-CG5 indexable type), and one (1) torx key.

CC-40 SET CONTENTS

SOLID CARBIDE SHANK
WITH
ALLOY STEEL HEAD

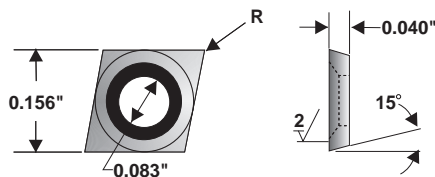


C SERIES SET BORING BAR CATALOG NUMBER EDP NUMBER	C SERIES SET INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY EDP NUMBER
			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
			B	E*	D	C	F**	A	
CCBI-165/156-6-7R 32063	CDCD FOR INSERT SPECIFICATIONS SEE BELOW	CC-09 30001	0.180"		0.156"	6.000"	0.095"	0.166"	C KEY 30124
CCBI-180/187-6-5R 32002		CC-09 30001	0.208"		0.187"	6.000"	0.104"	0.180"	
CCBI-250-4-5R 32042		CC-11 30002	0.292"		0.250"	5.000"	0.145"	0.145"	

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

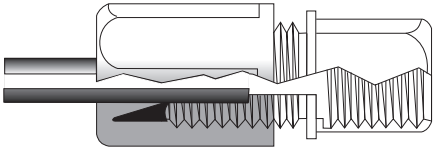



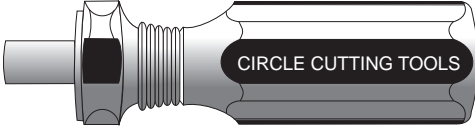
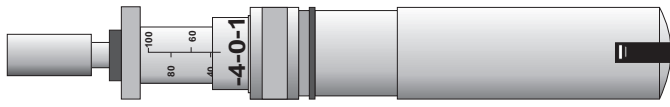
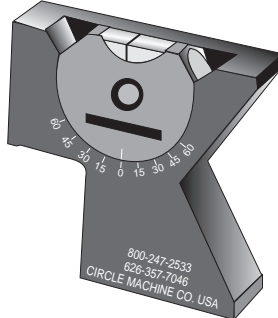
**Unless otherwise specified, the Bore Depth Range is based on a 10:1 ratio (10 times the bar diameter), in mild steels using suggested light feed rates and depth of cuts. Please refer to our Technical Data Section for more application information.

CC-40 SET INDEXABLE INSERT SPECIFICATIONS



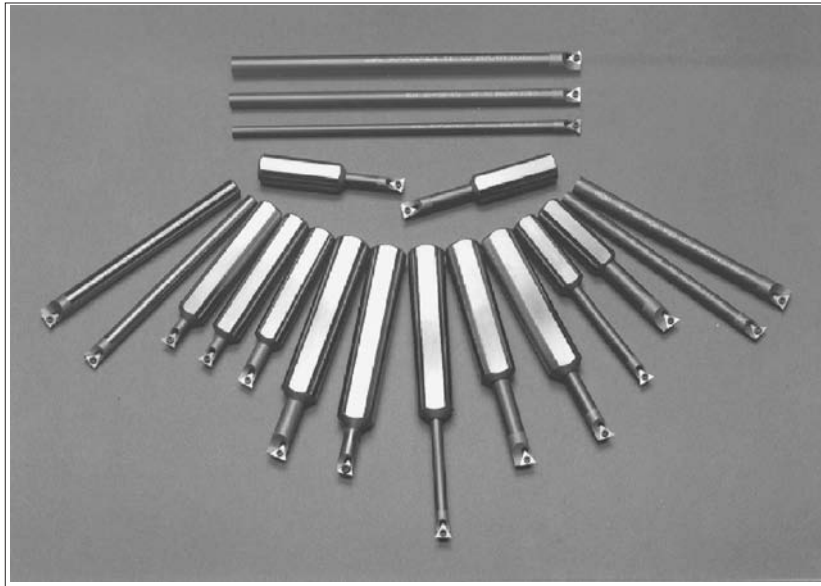
INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
CDCD-505-CG5 36027	PVD Coated	0.007"

C SERIES CUTTING TOOL ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A-156 A-187 A-250	00010 00011 00012	 <p style="text-align: right;">COOLANT BAR ADAPTER</p>
C BIT	30000	
C KEY	30124	
CC-09 CC-11	30001 30002	
DRIVER	00000	
CTS-30	00001	
UNI-LEVEL	00005	

NOTES

A large grid of graph paper for taking notes, consisting of 30 columns and 40 rows of small squares.



F SERIES BORING BARS

featuring...

MINIMUM BORE RANGE: 0.275" & UP!

HIGH QUALITY STEEL OR CARBIDE SHANKS

COOLANT THROUGH TYPE BARS AVAILABLE

REVERSE BORING AND BACK CHAMFERING BARS

BARS UTILIZE; 60° TRIANGLE; 0.160" INDEXABLE INSERTS

TDAB, TDCG, OR TDAT TYPE INDEXABLE INSERTS

COATED OR UNCOATED INSERT GRADES

0.002", 0.007", 0.015", & 0.031" INSERT CORNER RADII AVAILABLE

GROUND IN OR PRESSED TYPE CHIPBREAKER INSERTS

CUBIC BORON NITRIDE TIPPED INSERTS

POLYCRYSTALLINE DIAMOND TIPPED INSERTS

COST EFFECTIVE SETS AVAILABLE

F SERIES CUTTING TOOL ACCESSORIES

**BORE HOLES
AS SMALL AS
...0.275"**

**WITH AN
INDEXABLE
INSERT!**

MINIMUM BORE RANGE:

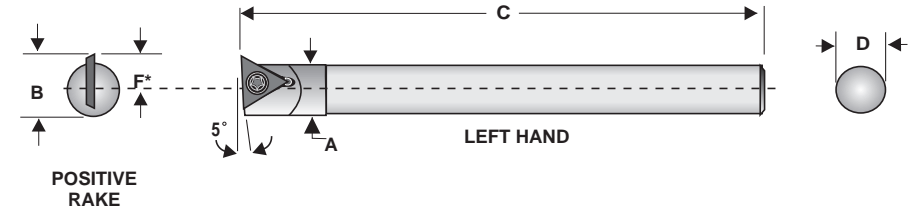
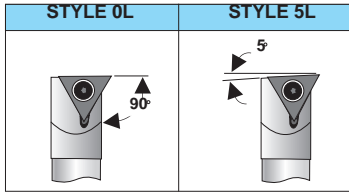
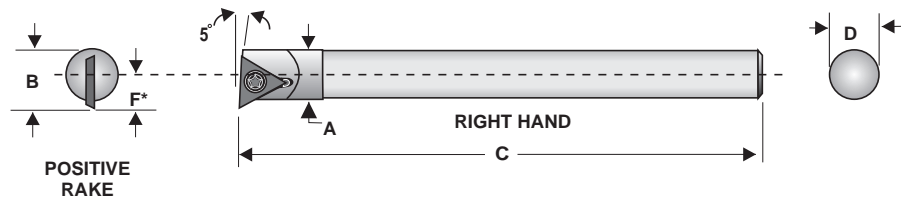
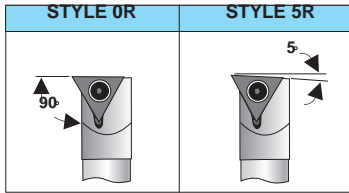
0.275" AND UP!

BORE DEPTH RANGE:

UP TO 1.256"***

FSBI STEEL SHANK BORING BARS

3/16", 1/4", & 5/16" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE DIA. B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
FSBI-187-3 1/2-0R 41001	FSBI-187-3 1/2-0L 41000	TDAB TDCG OR TDAT	FC-11 40006	0.275"		0.187"	3.500"	0.123"	0.197"	F KEY 40001 OR F BIT 40000
FSBI-187-3 1/2-5R 41003	FSBI-187-3 1/2-5L 41002		FC-11 40006	0.275"		0.187"	3.500"	0.123"	0.197"	
FSBI-250-4-0R 41021	FSBI-250-4-0L 41020	FOR INSERT SELECTION SEE PAGES 18-20	FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	
FSBI-250-4-5R 41023	FSBI-250-4-5L 41022		FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	
FSBI-312-4-0R 41041	FSBI-312-4-0L 41040		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	
FSBI-312-4-5R 41043	FSBI-312-4-5L 41042		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	

*Gage Insert Dimension assumes the use of our standard, TDAB-505 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.



**COST EFFECTIVE
SETS
AVAILABLE...
SEE PAGES
108 & 109**



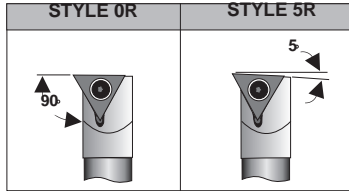
FCBI

CARBIDE SHANK BORING BARS

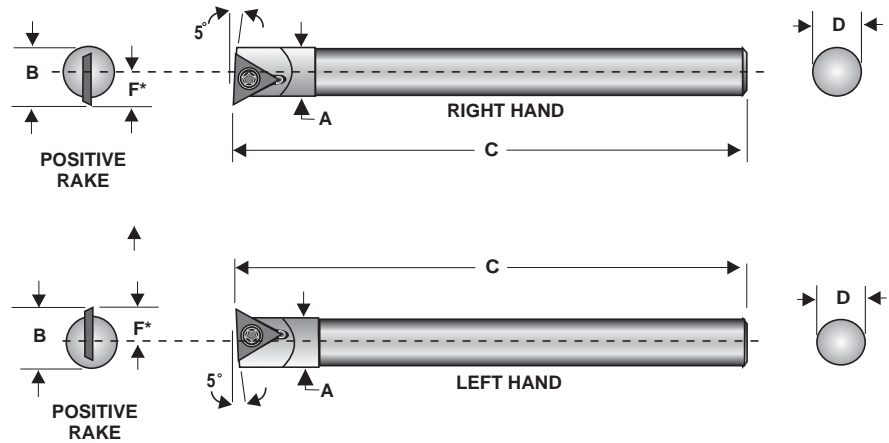
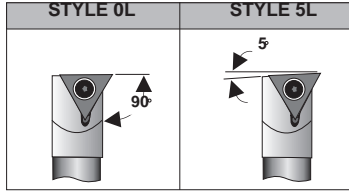
3/16", 1/4", & 5/16" DIAMETER SHANKS

MINIMUM BORE RANGE:
0.275" AND UP!

BORE DEPTH RANGE:
UP TO 3.120"***



CARBIDE SHANKS
WITH
ALLOY STEEL HEADS



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
FCBI-187-4-0R 42001	FCBI-187-4-0L 42000	TDAB TDCG OR TDAT	FC-11 40006	0.275"		0.187"	4.000"	0.134"	0.203"	F KEY 40001 OR F BIT 40000
FCBI-187-4-5R 42003	FSBI-187-4-5L 42002					0.187"	4.000"	0.126"	0.203"	
FCBI-187-6-0R 42005	FCBI-187-6-0L 42004	FOR INSERT SELECTION SEE PAGES 18-20	FC-11 40006	0.275"		0.187"	6.000"	0.134"	0.203"	
FCBI-187-6-5R 42007	FCBI-187-6-5L 42006					0.187"	6.000"	0.126"	0.203"	
FCBI-250-4-0R 42025	FCBI-250-4-0L 42024		FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	
FCBI-250-4-5R 42027	FCBI-250-4-5L 42026					0.250"	4.000"	0.156"	0.260"	
FCBI-250-6-0R 42029	FCBI-250-6-0L 42028		FC-14 40007	0.300"		0.250"	6.000"	0.156"	0.260"	
FCBI-250-6-5R 42031	FCBI-250-6-5L 42030					0.250"	6.000"	0.156"	0.260"	
FCBI-312-4-0R 42049	FCBI-312-4-0L 42048		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	
FCBI-312-4-5R 42051	FCBI-312-4-5L 42050					0.312"	4.000"	0.187"	0.322"	
FCBI-312-6-0R 42053	FCBI-312-6-0L 42052					0.312"	6.000"	0.187"	0.322"	
FCBI-312-6-5R 42055	FCBI-312-6-5R 42054					0.312"	6.000"	0.187"	0.322"	
						0.312"	6.000"	0.187"	0.322"	

*Gage Insert Dimension assumes the use of our standard, TDAB-505 indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

MINIMUM BORE RANGE:

0.275" AND UP!

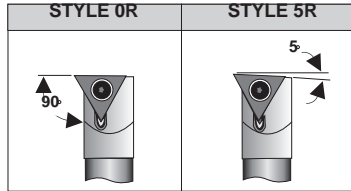
BORE DEPTH RANGE:

UP TO 3.120"***

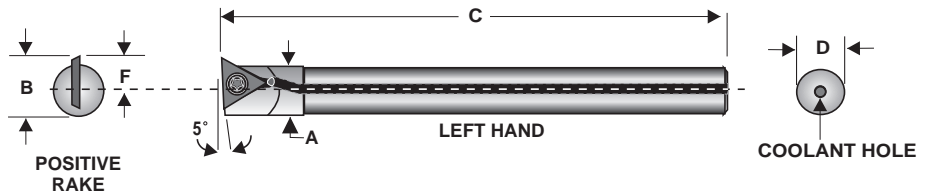
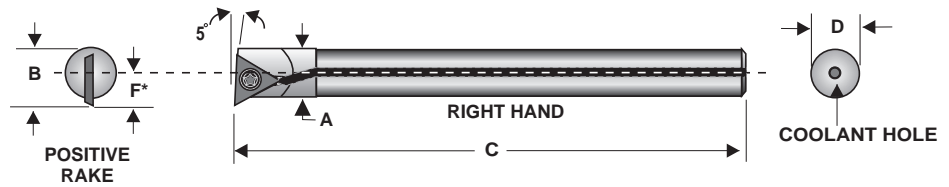
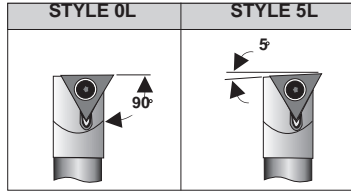
FDBI

CARBIDE SHANK BORING BARS WITH COOLANT THROUGH HOLES

3/16", 1/4", & 5/16" DIAMETER SHANKS



CARBIDE SHANKS
WITH ALLOY STEEL HEADS
AND COOLANT THROUGH HOLE



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						COOLANT ADAPTER EDP NUMBER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A		
RIGHT HAND	LEFT HAND										
FDBI-187-4-0R 42073	FDBI-187-4-0L 42075	TDAB TDCG OR TDAT SEE FOR INSERT SELECTION SEE PAGES 18-20	FC-11 40006	0.275"		0.187"	4.000"	0.134"	0.203"	A-187 00011	F KEY 40001 OR F BIT 40000
FDBI-187-4-5R 42072	FDBI-187-4-5L 42074		FC-11 40006	0.275"		0.187"	4.000"	0.126"	0.203"	A-187 00011	
FDBI-187-6-0R 42077	FDBI-187-6-0L 42079		FC-11 40006	0.275"		0.187"	6.000"	0.134"	0.203"	A-187 00011	
FDBI-187-6-5R 42076	FDBI-187-6-5L 42078		FC-11 40006	0.275"		0.187"	6.000"	0.126"	0.203"	A-187 00011	
FDBI-250-4-0R 42081	FDBI-250-4-0L 42083		FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	A-250 00012	
FDBI-250-4-5R 42080	FDBI-250-4-5L 42082		FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	A-250 00012	
FDBI-250-6-0R 42085	FDBI-250-6-0L 42087		FC-14 40007	0.300"		0.250"	6.000"	0.156"	0.260"	A-250 00012	
FDBI-250-6-5R 42084	FDBI-250-6-5L 42086		FC-14 40007	0.300"		0.250"	6.000"	0.156"	0.260"	A-250 00012	
FDBI-312-4-0R 42089	FDBI-312-4-0L 42091		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	A-312 00013	
FDBI-312-4-5R 42088	FDBI-312-4-5L 42090		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	A-312 00013	
FDBI-312-6-0R 42093	FDBI-312-6-0L 42095		FC-14 40007	0.360"		0.312"	6.000"	0.187"	0.322"	A-312 00013	
FDBI-312-6-5R 42092	FDBI-312-6-5L 42094		FC-14 40007	0.360"		0.312"	6.000"	0.187"	0.322"	A-312 00013	

*Gage Insert Dimension assumes the use of our standard, TDAB indexable type inserts.

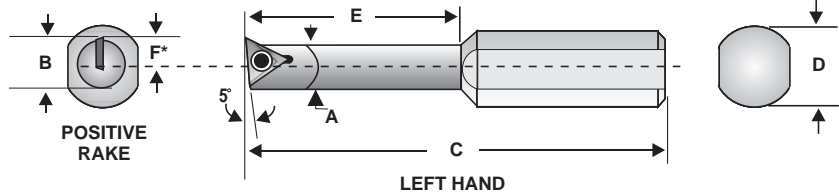
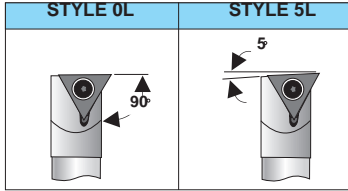
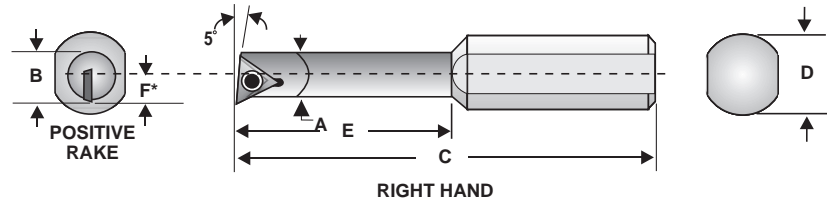
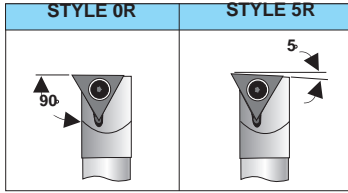
**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

FSBI STEP DOWN STEEL SHANK BORING BARS

1/2" DIAMETER SHANKS

**MINIMUM BORE RANGE:
0.275" AND UP!**

**BORE DEPTH RANGE:
UP TO 1.500"**



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
FSBI-203/500-1/2-0R 41010	FSBI-203/500-1/2-0L 41008	TDAB TDCG OR TDAT FOR INSERT SELECTION SEE PAGES 18-20	FC-11 40006	0.275"	0.500"	0.500"	3.000"	0.134"	0.203"	F KEY 40001 OR F BIT 40000
FSBI-203/500-1/2-5R 41012	FSBI-203/500-1/2-5L 41011		FC-11 40006	0.275"	0.500"	0.500"	3.000"	0.126"	0.203"	
FSBI-203/500-1-0R 41005	FSBI-203/500-1-0L 41004		FC-11 40006	0.275"	1.000"	0.500"	3.000"	0.134"	0.203"	
FSBI-203/500-1-5R 41007	FSBI-203/500-1-5L 41006		FC-11 40006	0.275"	1.000"	0.500"	3.000"	0.126"	0.203"	
FSBI-250/500-3/4-0R 41030	FSBI-250/500-3/4-0L 41028		FC-14 40007	0.300"	0.750"	0.500"	3.000"	0.156"	0.259"	
FSBI-250/500-3/4-5R 41033	FSBI-250/500-3/4-5L 41031		FC-14 40007	0.300"	0.750"	0.500"	3.000"	0.156"	0.259"	
FSBI-250/500-1 1/4-0R 41025	FSBI-250/500-1 1/4-0L 41024		FC-14 40007	0.300"	1.250"	0.500"	3.000"	0.156"	0.259"	
FSBI-250/500-1 1/4-5R 41027	FSBI-250/500-1 1/4-5L 41026		FC-14 40007	0.300"	1.250"	0.500"	3.000"	0.156"	0.259"	
FSBI-312/500-1-0R 41050	FSBI-312/500-1-0L 41048		FC-14 40007	0.360"	1.000"	0.500"	3.000"	0.187"	0.321"	
FSBI-312/500-1-5R 41053	FSBI-312/500-1-5L 41051		FC-14 40007	0.360"	1.000"	0.500"	3.000"	0.187"	0.321"	
FSBI-312/500-1 1/2-0R 41045	FSBI-312/500-1 1/2-0L 41044	FC-14 40007	0.360"	1.500"	0.500"	3.000"	0.187"	0.321"		
FSBI-312/500-1 1/2-5R 41047	FSBI-312/500-1 1/2-5L 41046	FC-14 40007	0.360"	1.500"	0.500"	3.000"	0.187"	0.321"		

*Gage Insert Dimension assumes the use of our standard, TDAB-505 indexable type insert.

MINIMUM BORE RANGE:

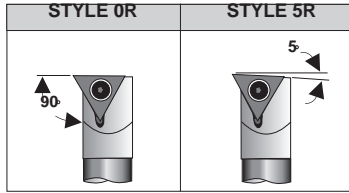
0.275" AND UP!

BORE DEPTH RANGE:

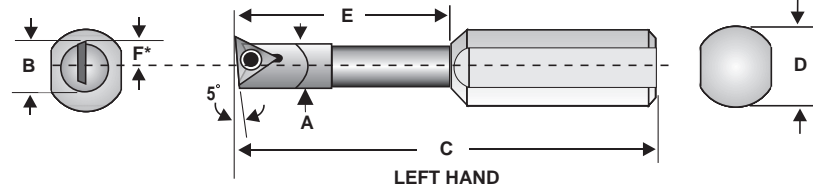
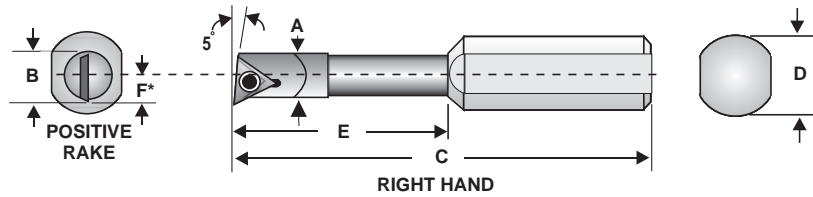
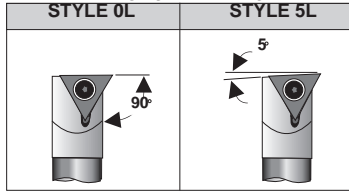
UP TO 3.125"

FCBI STEP DOWN CARBIDE SHANK BORING BARS

1/2" DIAMETER SHANKS



CARBIDE BARS
WITH
ALLOY STEEL HEADS



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
FCBI-203/500-1-0R 42009	FCBI-203/500-1-0L 42008	TDAB TDCG OR TDAT FOR INSERT SELECTION SEE PAGES 18-20	FC-11 40006	0.275"	1.000"	0.500"	2.500"	0.134"	0.207"	F KEY 40001 OR F BIT 40000
FCBI-203/500-1-5R 42011	FCBI-203/500-1-5L 42010		FC-11 40006	0.275"	1.000"	0.500"	2.500"	0.126"	0.207"	
FCBI-203/500-2-0R 42013	FCBI-203/500-2-0L 42012		FC-11 40006	0.275"	2.000"	0.500"	3.500"	0.134"	0.207"	
FCBI-203/500-2-5R 42015	FCBI-203/500-2-5L 42014		FC-11 40006	0.275"	2.000"	0.500"	3.500"	0.126"	0.207"	
FCBI-250/500-1 1/4-0R 42033	FCBI-250/500-1 1/4-0L 42032		FC-14 40007	0.300"	1.250"	0.500"	2.750"	0.156"	0.260"	
FCBI-250/500-1 1/4-5R 42035	FCBI-250/500-1 1/4-5L 42034		FC-14 40007	0.300"	1.250"	0.500"	2.750"	0.156"	0.260"	
FCBI-250/500-2 1/2-0R 42037	FCBI-250/500-2 1/2-0L 42036		FC-14 40007	0.300"	2.500"	0.500"	4.000"	0.156"	0.260"	
FCBI-250/500-2 1/2-5R 42039	FCBI-250/500-2 1/2-5L 42038		FC-14 40007	0.300"	2.500"	0.500"	4.000"	0.156"	0.260"	
FCBI-312/500-1 1/2-0R 42057	FCBI-312/500-1 1/2-0L 42056		FC-14 40007	0.360"	1.500"	0.500"	3.000"	0.187"	0.322"	
FCBI-312/500-1 1/2-5R 42059	FCBI-312/500-1 1/2-5L 42058		FC-14 40007	0.360"	1.500"	0.500"	3.000"	0.187"	0.322"	
FCBI-312/500-3 1/8-0R 42061	FCBI-312/500-3 1/8-0L 42060		FC-14 40007	0.360"	3.125"	0.500"	4.625"	0.187"	0.322"	
FCBI-312/500-3 1/8-5R 42063	FCBI-312/500-3 1/8-5L 42062		FC-14 40007	0.360"	3.125"	0.500"	4.625"	0.187"	0.322"	

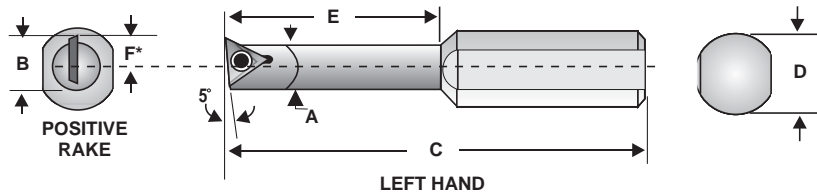
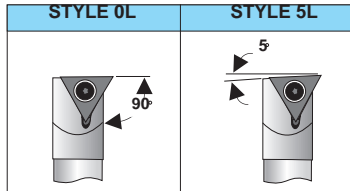
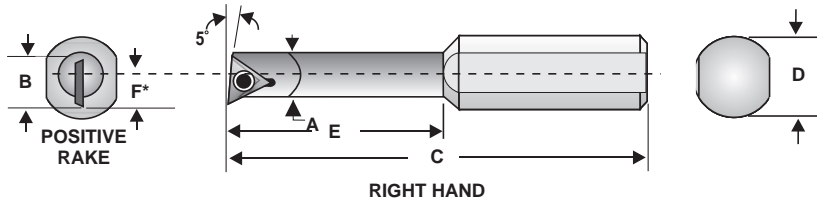
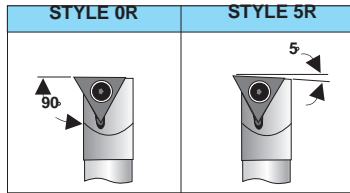
*Gage Insert Dimension assume the use of our standard; TDAB-505 indexable type insert.

FSBI STEP DOWN STEEL SHANK BORING BARS

5/8" DIAMETER SHANKS

**MINIMUM BORE RANGE:
0.275" AND UP!**

**BORE DEPTH RANGE:
UP TO 1.500"**



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E	D	C	F*	A	
FSBI-203/625-1/2-0R 41017	FSBI-203/625-1/2-0L 41009	TDAB TDCG OR TDAT FOR INSERT SELECTION SEE PAGES 18-20	FC-11 40006	0.275"	0.500"	0.625"	4.000"	0.134"	0.203"	F KEY 40001 OR F BIT 40000
FSBI-203/625-1/2-5R 41019	FSBI-203/625-1/2-5L 41018		FC-11 40006	0.275"	0.500"	0.625"	4.000"	0.126"	0.203"	
FSBI-203/625-1-0R 41014	FSBI-203/625-1-0L 41013		FC-11 40006	0.275"	1.000"	0.625"	4.000"	0.134"	0.203"	
FSBI-203/625-1-5R 41016	FSBI-203/625-1-5L 41015		FC-11 40007	0.275"	1.000"	0.625"	4.000"	0.126"	0.203"	
FSBI-250/625-3/4-0R 41038	FSBI-250/625-3/4-0L 41029		FC-14 40007	0.300"	0.750"	0.625"	4.000"	0.156"	0.259"	
FSBI-250/625-3/4-5R 41039	FSBI-250/625-3/4-5L 41032		FC-14 40007	0.300"	0.750"	0.625"	4.000"	0.156"	0.259"	
FSBI-250/625-1 1/4-0R 41035	FSBI-250/625-1 1/4-0L 41034		FC-14 40007	0.300"	1.250"	0.625"	4.000"	0.156"	0.259"	
FSBI-250/625-1 1/4-5R 41037	FSBI-250/625-1 1/4-5L 41036		FC-14 40007	0.300"	1.250"	0.625"	4.000"	0.156"	0.259"	
FSBI-312/625-1-0R 41058	FSBI-312/625-1-0L 41049		FC-14 40007	0.360"	1.000"	0.625"	4.000"	0.187"	0.321"	
FSBI-312/625-1-5R 41059	FSBI-312/625-1-5L 41052		FC-14 40007	0.360"	1.000"	0.625"	4.000"	0.187"	0.321"	
FSBI-312/625-1 1/2-0R 41055	FSBI-312/625-1 1/2-0L 41054	FC-14 40007	0.360"	1.500"	0.625"	4.000"	0.187"	0.321"		
FSBI-312/625-1 1/2-5R 41057	FSBI-312/625-1 1/2-5L 41056	FC-14 40007	0.360"	1.500"	0.625"	4.000"	0.187"	0.321"		

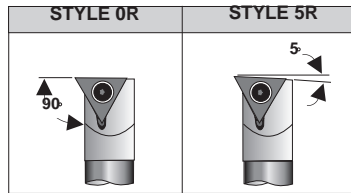
*Gage Insert Dimension assumes the use of our standard, TDAB-505 indexable type inserts.

**MINIMUM BORE RANGE:
0.275" AND UP!**

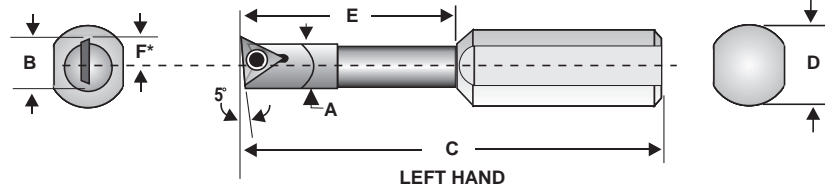
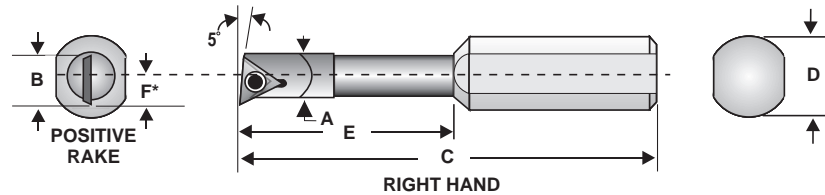
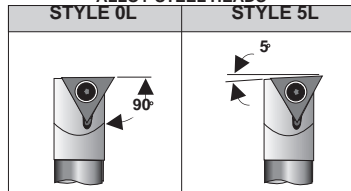
**BORE DEPTH RANGE:
UP TO 3.125"**

FCBI STEP DOWN CARBIDE SHANK BORING BARS

5/8" DIAMETER SHANKS



CARBIDE BARS
WITH
ALLOY STEEL HEADS



BORING BAR CATALOG NUMBER EDP NUMBER		F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
FCBI-203/625-1-0R 42017	FCBI-203/625-1-0L 42016	TDAB TDCG OR TDAT FOR INSERT SELECTION SEE PAGES 18-20	FC-11 40006	0.275"	1.000"	0.625"	4.000"	0.134"	0.207"	F KEY 40001 OR F BIT 40000
FCBI-203/625-1-5R 42019	FCBI-203/625-1-5L 42018		FC-11 40006	0.275"	1.000"	0.625"	4.000"	0.126"	0.207"	
FCBI-203/625-2-0R 42021	FCBI-203/625-2-0L 42020		FC-11 40006	0.275"	2.000"	0.625"	5.000"	0.134"	0.207"	
FCBI-203/625-2-5R 42023	FCBI-203/625-2-5L 42022		FC-11 40006	0.275"	2.000"	0.625"	5.000"	0.126"	0.207"	
FCBI-250/625-1 1/4-0R 42041	FCBI-250/625-1 1/4-0L 42040		FC-14 40007	0.300"	1.250"	0.625"	4.000"	0.156"	0.260"	
FCBI-250/625-1 1/4-5R 42043	FCBI-250/625-1 1/4-5L 42042		FC-14 40007	0.300"	1.250"	0.625"	4.000"	0.156"	0.260"	
FCBI-250/625-2 1/2-0R 42045	FCBI-250/625-2 1/2-0L 42044		FC-14 40007	0.300"	2.500"	0.625"	5.250"	0.156"	0.260"	
FCBI-250/625-2 1/2-5R 42047	FCBI-250/625-2 1/2-5L 42046		FC-14 40007	0.300"	2.500"	0.625"	5.250"	0.156"	0.260"	
FCBI-312/625-1 1/2-0R 42065	FCBI-312/625-1 1/2-0L 42064		FC-14 40007	0.360"	1.500"	0.625"	4.000"	0.187"	0.322"	
FCBI-312/625-1 1/2-5R 42067	FCBI-312/625-1 1/2-5L 42066		FC-14 40007	0.360"	1.500"	0.625"	4.000"	0.187"	0.322"	
FCBI-312/625-3 1/8-0R 42069	FCBI-312/625-3 1/8-0L 42068	FC-14 40007	0.360"	3.125"	0.625"	5.625"	0.187"	0.322"		
FCBI-312/625-3 1/8-5R 42071	FCBI-312/625-3 1/8-5L 42070	FC-14 40007	0.360"	3.125"	0.625"	5.625"	0.187"	0.322"		

*Gage Insert Dimension assume the use of our standard; TDAB-505 indexable type insert.

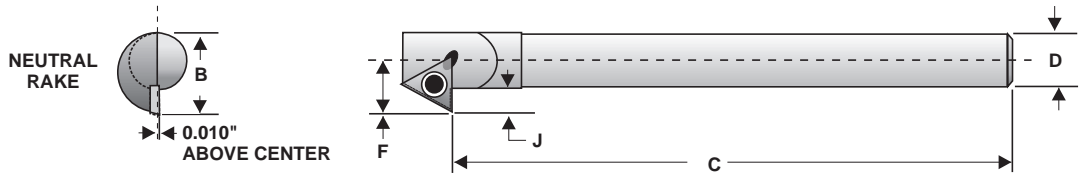
FSRI STEEL SHANK REVERSE BORING AND BACK CHAMFERING BARS

5/16" DIAMETER SHANKS

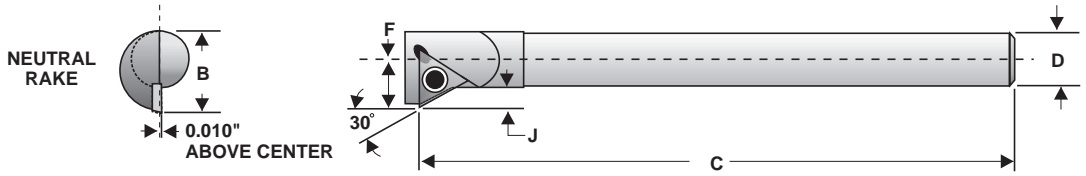
**MINIMUM BORE RANGE:
0.394" AND UP!**

**LEAD ANGLES:
0°, 30°, 45°, 60°**

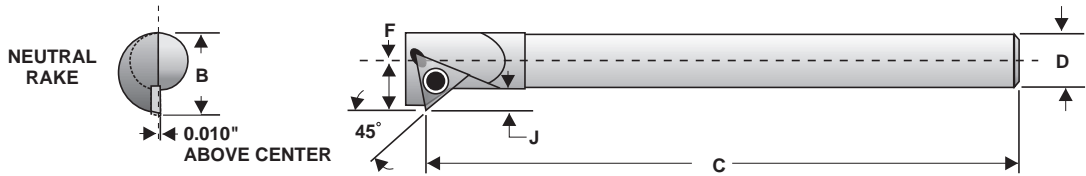
0°
FSRI-312-3 1/2-0R



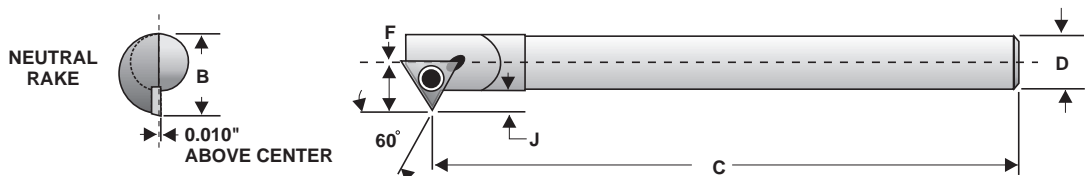
30°
FSRI-312-3 1/2-30R



45°
FSRI-312-3 1/2-45R



60°
FSRI-312-3 1/2-60R



REVERSE BORING AND BACK CHAMFERING BARS CATALOG NUMBER EDP NUMBER	F SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	ANGLE	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NUMBER.
				MIN. BORE	OVERALL LENGTH	SHANK DIA.	GAGE INSERT	INSERT OVERHANG	
				B	C	D	F*	J	
FSRI-312-3 1/2-0R 41070	TDAB TDCG OR TDAT	FC-14 40007	0°	0.394"	3.500"	0.312"	0.223"	0.062"	F KEY 40001 OR F BIT 40000
FSRI-312-3 1/2-30R 41071		FC-14 40007	30°	0.407"	3.500"	0.312"	0.236"	0.075"	
FSRI-312-3 1/2-45R 41072	FOR INSERT SELECTION SEE PAGES 18-20	FC-14 40007	45°	0.407"	3.500"	0.312"	0.236"	0.075"	
FSRI-312-3 1/2-60R 41073		FC-14 40007	60°	0.407"	3.500"	0.312"	0.236"	0.075"	

*Gage Insert Dimension assume the use of our standard; TDAB-505 indexable type insert.

MINIMUM BORE RANGE:

0.275" AND UP!

BORE DEPTH RANGE:

UP TO 1.256"***

FS-40 SET

STEEL SHANK BORING BARS

3/16", 1/4", & 5/16" DIAMETER SHANKS



FS-40 SET
EDP NUMBER: 90060

ALL SET BARS UTILIZE 60 TRIANGLE
0.160" I.C. INDEXABLE INSERTS!

BORE HOLES AS SMALL AS...
0.275"

INSERT REPEATABILITY WITHIN...
±0.0002" CORNER TO CORNER

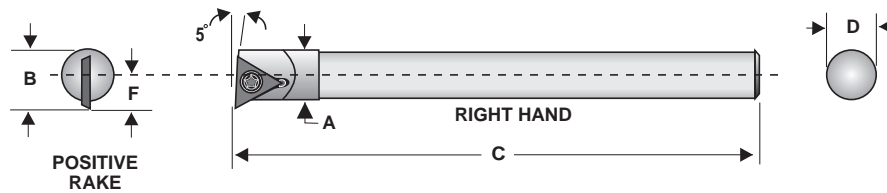
HIGH QUALITY STEEL SHANKS

CG5 PVD COATED INSERTS

COST EFFECTIVE SET

Each set comes packaged in a protective plastic container which includes; three (3) boring bars, three (3) inserts (TDAB-505-CG5 indexable type), and one (1) "F" torx key.

FS-40 SET CONTENTS



F SERIES SET BORING BAR CATALOG NUMBER EDP NO.	C SERIES SET INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY EDP NUMBER
			MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
FSBI-187-3 1/2-5R 41003	TDAB FOR INSERT SPECIFICATIONS SEE BELOW	FC-11 40006	0.275"		0.187"	3.500"	0.126"	0.197"	F KEY 40001
FSBI-250-4-5R 41023		FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	
FSBI-312-4-5R 41043		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	

*Gage Insert Dimension assumes the use of our standard, TDAB-505 indexable type inserts.

** Bore Depth Range is based on a 4:1 (4 times the bar diameter), in mild steels using suggested light feed rates and depth of cuts.

FS-40 SET INDEXABLE INSERT SPECIFICATIONS

		INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
		TDAB-505-CG5 47009	PVD Coated	0.007"

FC-40 SET

CARBIDE SHANK BORING BARS

3/16", 1/4", & 5/16" DIAMETER SHANKS

MINIMUM BORE RANGE:

0.275" AND UP!

BORE DEPTH RANGE:

UP TO 3.120"***



FC-40 SET
EDP NUMBER: 90061

**ALL SET BARS UTILIZE 60° TRIANGLE
0.160" I.C. INDEXABLE INSERTS!**

**BORE HOLES AS SMALL AS...
0.275"**

**INSERT REPEATABILITY WITHIN...
±0.0002" CORNER TO CORNER**

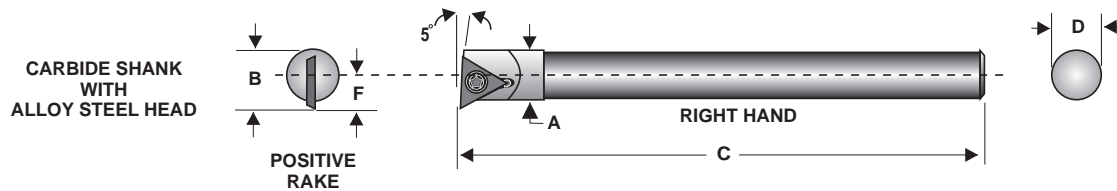
**CARBIDE SHANKS WITH
ALLOY STEEL HEADS**

CG5 PVD COATED INSERTS

COST EFFECTIVE SET

Each set comes packaged in a protective plastic container which includes; three (3) boring bars, three (3) inserts (TDAB-505-CG5 indexable type), one (1) "F" torx key.

FC-40 SET CONTENTS

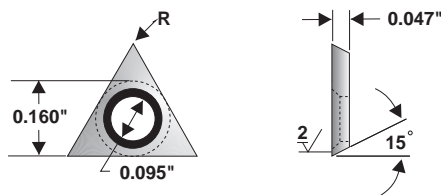


F SERIES SET BORING BAR CATALOG NUMBER EDP NUMBER	C SERIES SET INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY EDP NUMBER
			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
			B	E**	D	C	F*	A	
FCBI-187-4-5R 42003	TDAB FOR INSERT SPECIFICATIONS SEE BELOW	FC-11 40006	0.275"		0.187"	4.000"	0.126"	0.197"	F KEY 40001
FCBI-250-4-5R 42027		FC-14 40007	0.300"		0.250"	4.000"	0.156"	0.260"	
FCBI-312-4-5R 42051		FC-14 40007	0.360"		0.312"	4.000"	0.187"	0.322"	

*Gage Insert Dimension assumes the use of our standard, TDAB-505 indexable type insert.

** Bore Depth Range is based on a 10:1 (10 times the bar diameter), in mild steels using suggested light feed rates and depth of cuts.

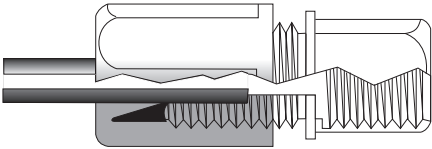



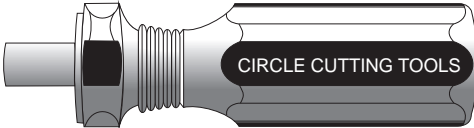

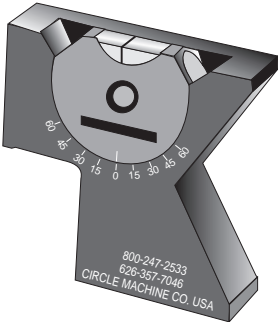
FC-40 SET INDEXABLE INSERT SPECIFICATIONS

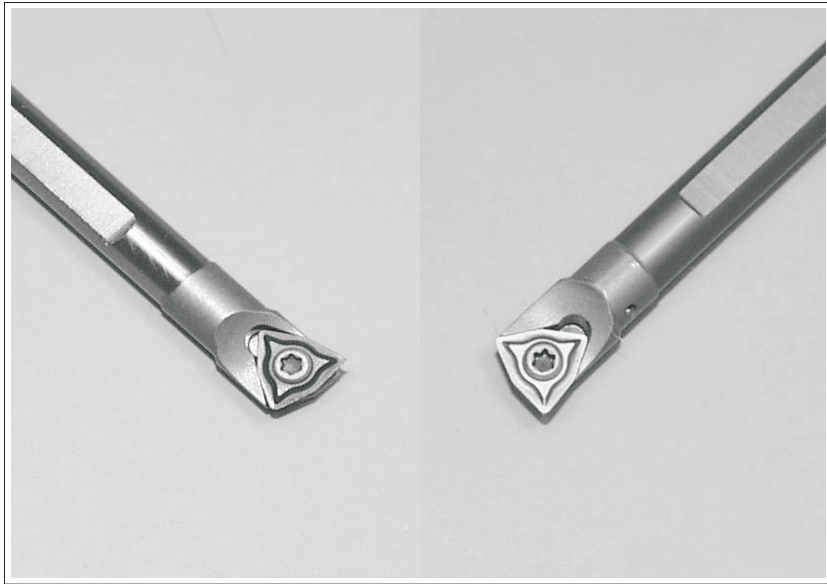


INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
TDAB-505-CG5 47009	PVD Coated	0.007"

F SERIES

CUTTING TOOL ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A-187 A-250 A-312	00011 00012 00013	 <p style="text-align: right;">COOLANT BAR ADAPTER</p>
F BIT	40000	
F KEY	40001	
FC-11 FC-14	40006 40007	
DRIVER	00000	
CTS-30	00001	
UNI-LEVEL	00005	



G SERIES TRIGON INSERT BORING BARS

featuring...

MINIMUM BORE RANGE: 0.260" & UP!

HIGH QUALITY STEEL OR CARBIDE SHANKS

UNIQUE POCKET DESIGN ALLOWS FOR
EXCEPTIONAL STRENGTH

NO INSERT MOVEMENT IN THE POCKET
WHEN CUTTING FORCES ARE APPLIED

0.004", 0.008", & 0.015" INSERT NOSE RADII
AVAILABLE FROM STOCK

UTILITY GROUND TRIGON STYLE INDEXABLE INSERTS

PERIPHERAL GROUND TRIGON STYLE INDEXABLE INSERTS

COATED OR UNCOATED INSERT GRADES

**BORE HOLES
AS SMALL AS
...0.260"**

**WITH AN
INDEXABLE
INSERT!**

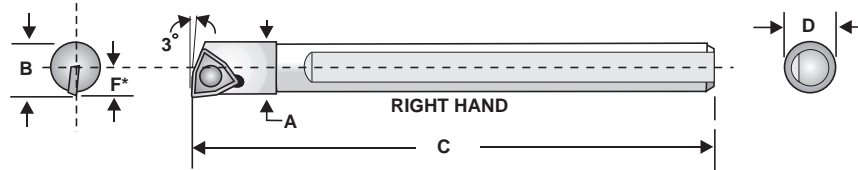
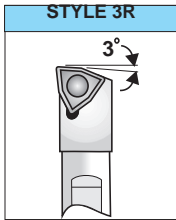
MINIMUM BORE RANGE:
0.260" AND UP!

BORE DEPTH RANGE:
UP TO 1.248"***

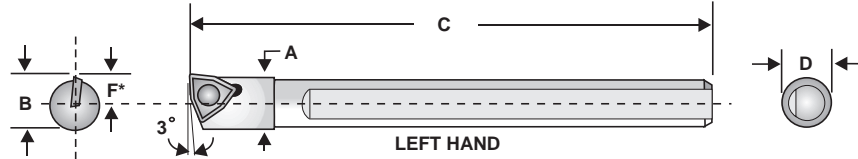
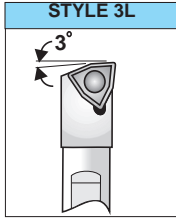
G SERIES

STEEL SHANK TRIGON BORING BARS

3/16", 1/4", & 5/16" DIAMETER SHANKS



FLAT ON BARS...POSITIONS THE INSERT AT A 3 DEGREE
NEGATIVE...0.010" ABOVE CENTERLINE.



TRIGON BORING BAR CATALOG NUMBER EDP NUMBER		G SERIES TRIGON INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER	
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.		
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A		
GSBIW-187-4-3R 51140	GSBIW-187-4-3L 51141	WPGT-6 OR WPMT-6 FOR INSERT SELECTION SEE PAGE 32	CT-11 30005	0.260"		0.187"	4.000"	0.126"	0.225"	C KEY 30124 OR C BIT 30000	
GSBIW-250-4-3R 51142	GSBIW-250-4-3L 51143			CT-15 30004	0.285"		0.250"	4.000"	0.143"		0.260"
GSBIW-312-4-3R 51144	GSBIW-312-4-3L 51145			CT-15 30004	0.347"		0.312"	4.000"	0.174"		0.322"

*Gage Insert Dimension assumes the use of our standard, WPMT-61 indexable type trigon insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.



**COST EFFECTIVE
SET
AVAILABLE...
SEE PAGE
114**

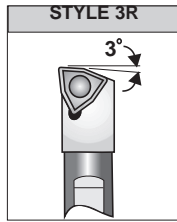
GCB IW

CARBIDE SHANK TRIGON BORING BARS

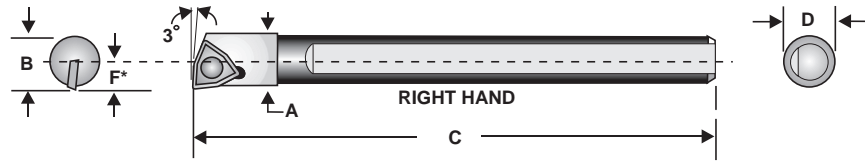
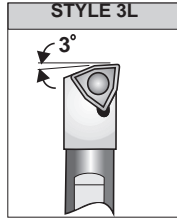
3/16", 1/4", & 5/16" DIAMETER SHANKS

MINIMUM BORE RANGE:
0.260" AND UP!

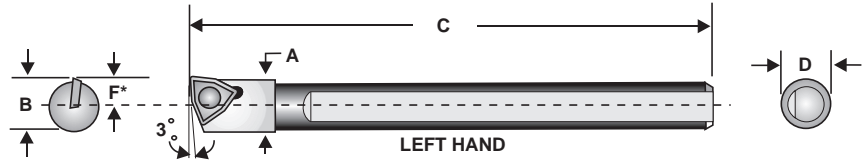
BORE DEPTH RANGE:
UP TO 3.120"***



CARBIDE SHANK WITH ALLOY STEEL HEAD



FLAT ON BARS...POSITIONS THE INSERT AT A 3 DEGREE NEGATIVE...0.010" ABOVE CENTERLINE.



TRIGON BORING BAR CATALOG NUMBER EDP NUMBER		G SERIES TRIGON INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NUMBER	
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT		HEAD DIA.
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A	
GCB IW-187-6-3R 52081	GCB IW-187-6-4L 52082	WPGT-6 OR WPMT-6	CT-11 30005	0.260"		0.187"	6.000"	0.126"	0.225"	C KEY 30124 OR C BIT 30000
GCB IW-250-6-3R 52083	GCB IW-250-6-3L 52084	FOR INSERT SELECTION SEE PAGE 32	CT-15 30004	0.285"		0.250"	6.000"	0.143"	0.260"	
GCB IW-312-6-3R 52085	GCB IW-312-6-3L 52086		CT-15 30004	0.347"		0.312"	6.000"	0.174"	0.322"	

*Gage Insert Dimension assumes the use of our standard, WPMT-61 indexable type trigon insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.



**COST EFFECTIVE
SET
AVAILABLE...
SEE PAGE
115**

MINIMUM BORE RANGE:
0.260" AND UP!

BORE DEPTH RANGE:
UP TO 1.248"***

GS-10 SET

STEEL SHANK TRIGON BORING BARS

3/16", 1/4", & 5/16" DIAMETER SHANKS



GS-10 SET
EDP NUMBER: 90050

ALL SET BARS UTILIZE...
0.187" I.C. INDEXABLE TRIGON STYLE INSERTS!

BORE HOLES AS SMALL AS...
0.260"

INSERT REPEATABILITY WITHIN...
±0.0002" CORNER TO CORNER

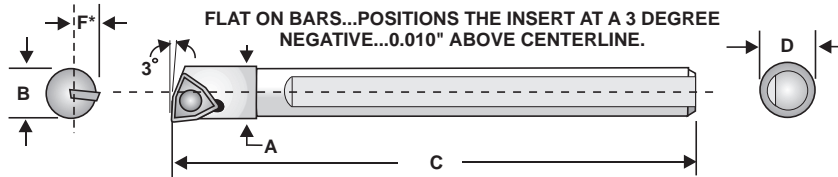
HIGH QUALITY STEEL SHANKS

CG5 PVD COATED INSERTS

COST EFFECTIVE SET

Each set comes packaged in a protective plastic container which includes; three (3) trigon boring bars, three (3) inserts (WPGT-6 CG5 indexable type trigon), and one (1) "C" torx key.

GS-10 SET CONTENTS



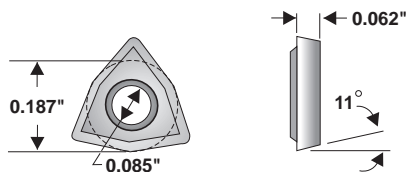
G SERIES SET BORING BAR CATALOG NUMBER EDP NUMBER	G SERIES TRIGON SET INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY NUMBER EDP NUMBER
			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
			B	E**	D	C	F*	A	
GSBIW-187-4-3R 51140	WPGT 605 FOR INSERT SPECIFICATIONS SEE BELOW	CT-11 30005	0.260"		0.187"	4.000"	0.126"	0.225"	C KEY 30124
CT-15 30004		0.285"		0.250"	4.000"	0.143"	0.260"		
CT-15 30004		0.347"		0.312"	4.000"	0.174"	0.322"		

*Gage Insert Dimension assumes the use of our standard, WPGT-6 indexable type trigon insert.

** Bore Depth Range is based on a 4:1 (4 times the bar diameter), in mild steels using suggested light feed rates and depth of cuts.

GS-10 SET INDEXABLE TRIGON INSERT SPECIFICATIONS

PERIPHERAL GROUND INDEXABLE TRIGON INSERTS



INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
WPGT-605-CG5 56182	PVD Coated	0.008"

GC-10 SET

CARBIDE SHANK TRIGON BORING BARS

3/16", 1/4", & 5/16" DIAMETER SHANKS

MINIMUM BORE RANGE:

0.260" AND UP!

BORE DEPTH RANGE:

UP TO 3.120"***



GC-10 SET
EDP NUMBER: 90051

ALL SET BARS UTILIZE...
0.187" I.C. INDEXABLE TRIGON STYLE INSERTS!

BORE HOLES AS SMALL AS...
0.260"

INSERT REPEATABILITY WITHIN...
±0.0002" CORNER TO CORNER

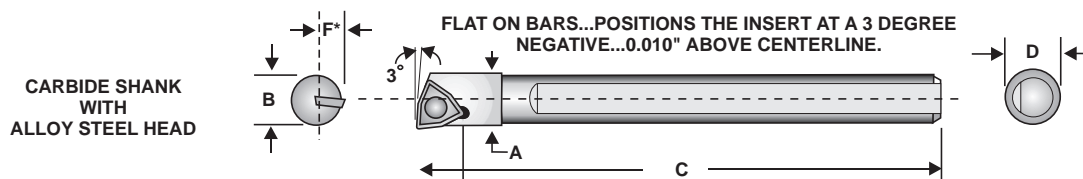
CARBIDE SHANKS WITH
ALLOY STEEL HEADS

CG5 PVD COATED INSERTS

COST EFFECTIVE SET

Each set comes packaged in a protective plastic container which includes; three (3) trigon boring bars, three (3) inserts (WPGT-6 CG5 indexable type trigon), and one (1) "C" torx key.

GC-10 SET CONTENTS



G SERIES SET BORING BAR CATALOG NUMBER EDP NUMBER	G SERIES TRIGON SET INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS					TORX KEY NUMBER EDP NUMBER	
			MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*		HEAD DIA. A
GCBIW-187-6-3R 52081	WPGT 605 FOR INSERT SPECIFICATIONS SEE BELOW	CT-11 30005	0.260"		0.187"	6.000"	0.126"	0.225"	C KEY 30124
GCBIW-250-6-3R 52083		CT-15 30004	0.285"		0.250"	6.000"	0.143"	0.260"	
GCBIW-312-6-3R 52085		CT-15 30004	0.347"		0.312"	6.000"	0.174"	0.322"	

*Gage Insert Dimension assumes the use of our standard, WPGT-6 indexable type trigon insert.

** Bore Depth Range is based on a 10:1 (10 times the bar diameter), in mild steels using suggested light feed rates and depth of cuts.




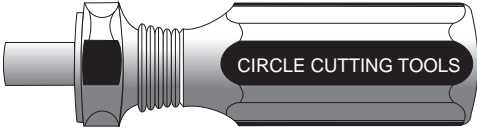
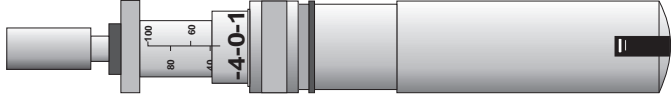
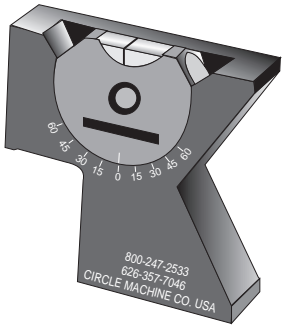
GC-10 SET INDEXABLE TRIGON INSERT SPECIFICATIONS

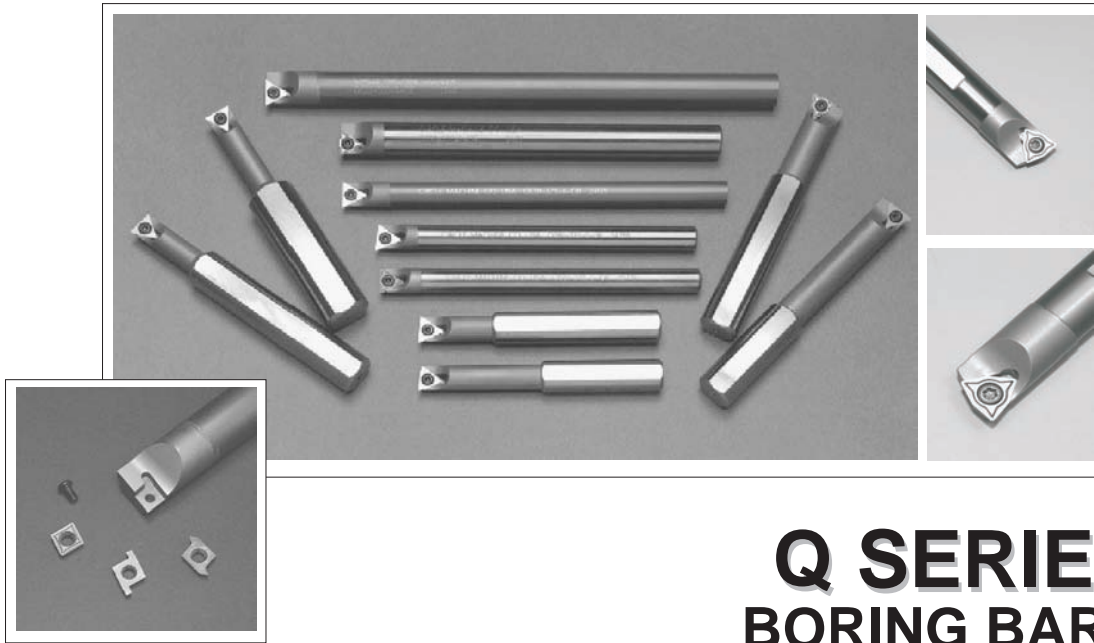
PERIPHERAL GROUND INDEXABLE TRIGON INSERTS	INSERT CATALOG NUMBER EDP NUMBER	INSERT DESCRIPTION	R
	WPGT-605-CG5 56182	PVD Coated	0.008"

G SERIES

TRIGON

CUTTING TOOL ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
C BIT	50014	
C KEY	50015	
CT-11 CT-15	30005 30004	
DRIVER	00000	
CTS-30	00001	
UNI-LEVEL	00005	



Q SERIES BORING BARS

featuring...

MINIMUM BORE RANGE: 0.438" & UP!

BORE, GROOVE, OR THREAD WITH ONE TOOL!
WITH QCM1 OR QSM1 TYPE TOOLING

HIGH QUALITY STEEL OR CARBIDE SHANKS

COOLANT THROUGH TYPE BARS AVAILABLE

REVERSE BORING AND BACK CHAMFERING BARS

60° TRIANGLE; 0.250" I.C. INDEXABLE INSERTS

80° DIAMOND; 0.250" I.C. INDEXABLE INSERTS

TRIGON TYPE INDEXABLE TYPE INSERTS

COATED OR UNCOATED INSERT GRADES

0.002", 0.007", 0.015", & 0.031" INSERT CORNER RADII AVAILABLE

GROUND IN OR PRESSED TYPE CHIPBREAKER INSERTS

CUBIC BORON NITRIDE TIPPED INSERTS

POLYCRYSTALLINE DIAMOND TIPPED INSERTS

Q SERIES CUTTING TOOL ACCESSORIES

**BORE HOLES
AS SMALL AS
...0.438"**

**WITH AN
INDEXABLE
INSERT!**

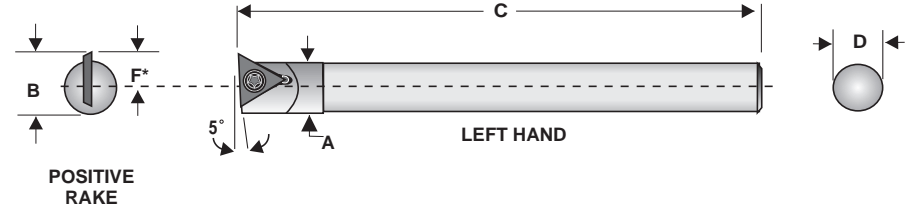
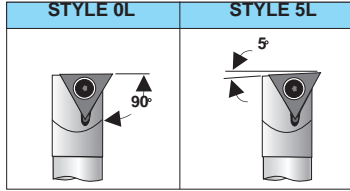
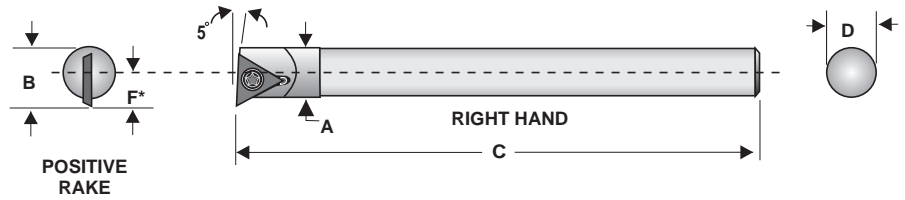
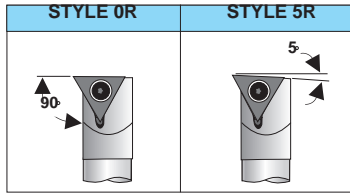
MINIMUM BORE RANGE:
0.438" AND UP!

BORE DEPTH RANGE:
UP TO 2.000"***

QSBI

STEEL SHANK BORING BARS

3/8" & 1/2" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
RIGHT HAND	LEFT HAND			MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
QSBI-375-5-0R 61001	QSBI-375-5-0L 61000	TPCB-22 TPCH-22 TPGT-22 OR TPMT-22^ FOR INSERT SELECTION SEE PAGES 21-25	QC-21 60001	0.438"		0.375"	5.000"	0.221"	0.385"	Q KEY 60010 OR Q BIT 60000
QSBI-375-5-5R 61003	QSBI-375-5-5L 61002			0.438"		0.375"	5.000"	0.221"	0.385"	
QSBI-500-6-0R 61023	QSBI-500-6-0L 61022		QC-26 60002	0.563"	0.500"	6.000"	0.296"	0.510"		
QSBI-500-6-5R 61025	QSBI-500-6-5L 61024		QC-26 60002	0.563"	0.500"	6.000"	0.296"	0.510"		

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).

QTBI

STEEL SHANK BORING BARS WITH COOLANT THROUGH HOLES

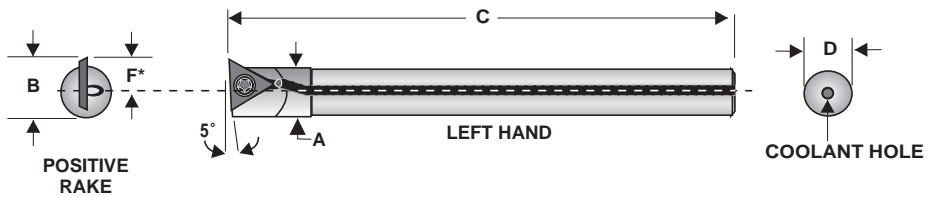
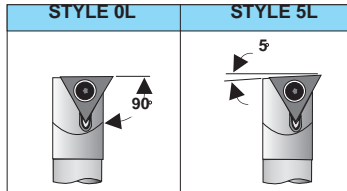
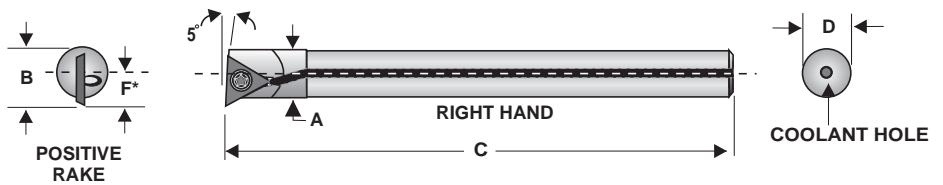
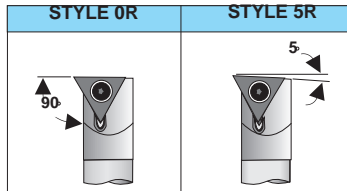
3/8" & 1/2" DIAMETER SHANKS

MINIMUM BORE RANGE:

0.438" AND UP!

BORE DEPTH RANGE:

UP TO 2.000"***



BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						COOLANT ADAPTER EDP NUMBER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.		
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A		
QTBI-375-5-0R 61076	QTBI-375-5-0L 61078	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22^ FOR INSERT SELECTION SEE PAGES 21-25	QC-21 60001	0.438"		0.375"	5.000"	0.221"	0.385"	A-375 00014	Q KEY 60010 OR Q BIT 60000
QTBI-375-5-5R 61075	QTBI-375-5-5L 61077		QC-21 60001	0.438"		0.375"	5.000"	0.221"	0.385"	A-375 00014	
QTBI-500-6-0R 61080	QTBI-500-6-0L 61082		QC-26 60002	0.563"		0.500"	6.000"	0.221"	0.510"	A-500 00015	
QTBI-500-6-5R 61079	QTBI-500-6-5L 61081		QC-26 60002	0.563"		0.500"	6.000"	0.221"	0.510"	A-500 00015	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).

MINIMUM BORE RANGE:

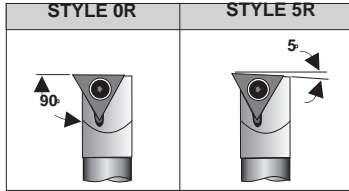
0.438" AND UP!

BORE DEPTH RANGE:

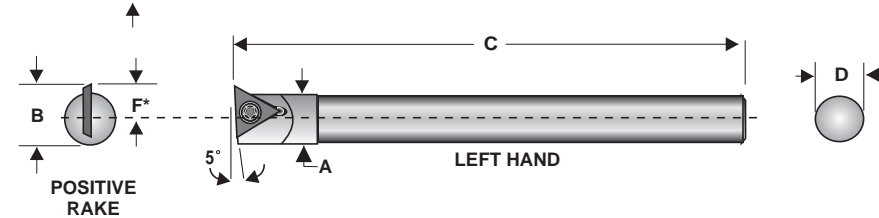
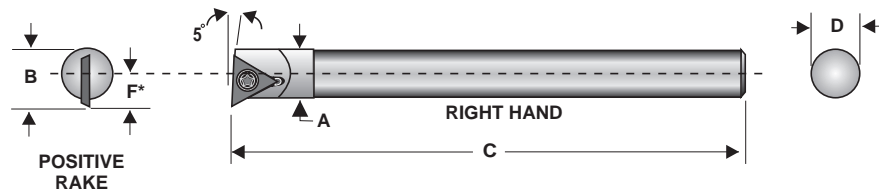
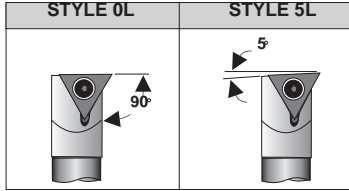
UP TO 5.000"***

QCBI CARBIDE SHANK BORING BARS

3/8" & 1/2" DIAMETER SHANKS



CARBIDE SHANKS
WITH
ALLOY STEEL HEADS



BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A	
QCBI-375-6-0R 62001	QCBI-375-6-0L 62000	TPCB-22 TPCG-22 TPGT-22 OR TPMT-22^ FOR INSERT SELECTION SEE PAGES 21-25	QC-21 60001	0.438"		0.375"	6.000"	0.221"	0.385"	Q KEY 60010 OR Q BIT 60000
QCBI-375-6-5R 62003	QCBI-375-6-5L 62002		QC-21 60001	0.438"		0.375"	6.000"	0.221"	0.385"	
QCBI-375-10-0R 62010	QCBI-375-10-0L 62011		QC-21 60001	0.438"		0.375"	10.000"	0.221"	0.385"	
QCBI-375-10-5R 62008	QCBI-375-10-5L 62009		QC-21 60001	0.438"		0.375"	10.000"	0.221"	0.385"	
QCBI-500-8-0R 62005	QCBI-500-8-0L 62004		QC-26 60002	0.563"		0.500"	8.000"	0.296"	0.510"	
QCBI-500-8-5R 62007	QCBI-500-8-5L 62006		QC-26 60002	0.563"		0.500"	8.000"	0.296"	0.510"	
QCBI-500-10-0R 62012	QCBI-500-10-0L 62015		QC-26 60002	0.563"		0.500"	10.000"	0.296"	0.510"	
QCBI-500-10-5R 62014	QCBI-500-10-5L 62013		QC-26 60002	0.563"		0.500"	10.000"	0.296"	0.510"	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).

QDBI

CARBIDE SHANK BORING BARS WITH COOLANT THROUGH HOLES

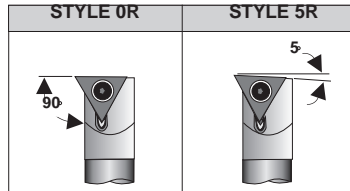
3/8" & 1/2" DIAMETER SHANKS

MINIMUM BORE RANGE:

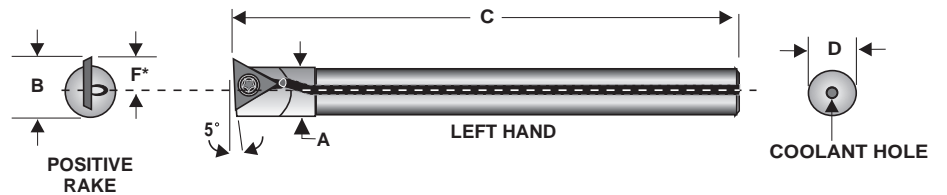
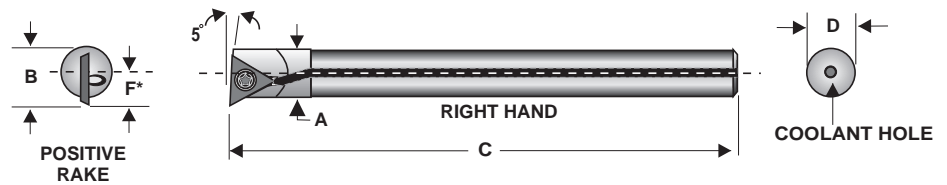
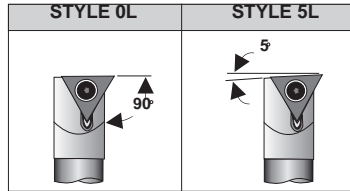
0.438" AND UP!

BORE DEPTH RANGE:

UP TO 5.000"***



CARBIDE SHANKS
WITH ALLOY STEEL HEADS
AND COOLANT THROUGH HOLE



BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						COOLANT ADAPTER EDP NUMBER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.		
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A		
QDBI-375-6-0R 62017	QDBI-375-6-0L 62019	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22^ FOR INSERT SELECTION SEE PAGES 21-25	QC-21 60001	0.438"		0.375"	6.000"	0.221"	0.385"	A-375 00014	Q KEY 60010 OR Q BIT 60000
QDBI-375-6-5R 62016	QDBI-375-6-5L 62018		QC-21 60001	0.438"		0.375"	6.000"	0.221"	0.385"	A-375 00014	
QDBI-375-10-0R 62021	QDBI-375-10-0L 62023		QC-21 60001	0.438"		0.375"	10.000"	0.221"	0.385"	A-375 00014	
QDBI-375-10-5R 62020	QDBI-375-10-5L 62022		QC-21 60001	0.438"		0.375"	10.000"	0.221"	0.385"	A-375 00014	
QDBI-500-8-0R 62025	QDBI-500-8-0L 62027		QC-26 60002	0.563"		0.500"	8.000"	0.296"	0.510"	A-500 00015	
QDBI-500-8-5R 62024	QDBI-500-8-5L 62026		QC-26 60002	0.563"		0.500"	8.000"	0.296"	0.510"	A-500 00015	
QDBI-500-10-0R 62029	QDBI-500-10-0L 62031		QC-26 60002	0.563"		0.500"	10.000"	0.296"	0.510"	A-500 00015	
QDBI-500-10-5R 62028	QDBI-500-10-5L 62030		QC-26 60002	0.563"		0.500"	10.000"	0.296"	0.510"	A-500 00015	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type inserts.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).

MINIMUM BORE RANGE:

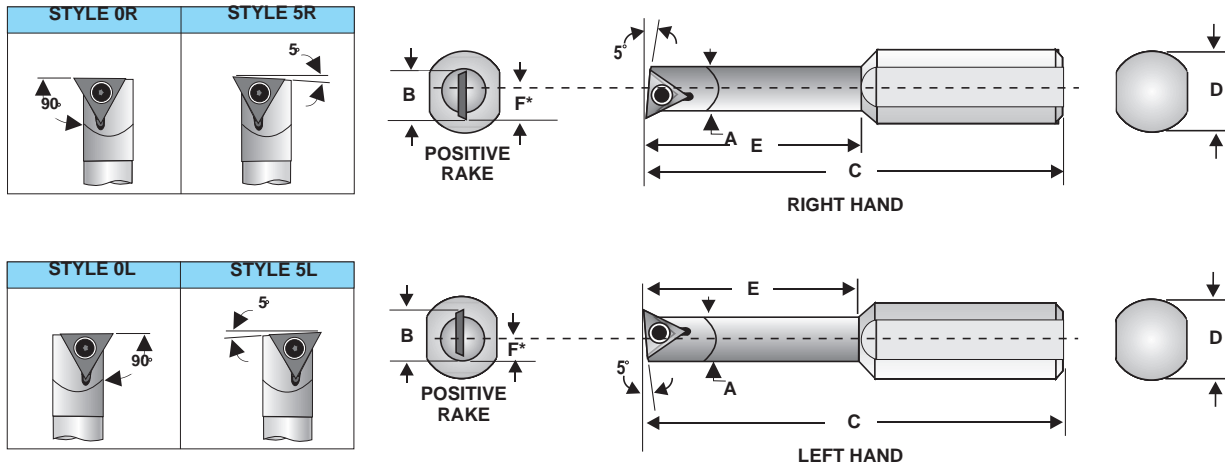
0.438" AND UP!

BORE DEPTH RANGE:

UP TO 2.500"

QSBI STEP DOWN STEEL SHANK BORING BARS

1/2" & 5/8" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E	D	C	F*	A	
QSBI-375/500-1 1/8-0R 61005	QSBI-375/500-1 1/8-0L 61004	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22 [^] FOR INSERT SELECTION SEE PAGES 21-25	QC-21 60001	0.438"	1.125"	0.500"	3.750"	0.221"	0.390"	Q KEY 60010 OR Q BIT 60000
QSBI-375/500-1 1/8-5R 61007	QSBI-375/500-1 1/8-5L 61006		QC-21 60001	0.438"	1.125"	0.500"	3.750"	0.221"	0.390"	
QSBI-375/500-1 7/8-0R 61009	QSBI-375/500-1 7/8-0L 61008		QC-21 60001	0.438"	1.875"	0.500"	3.750"	0.221"	0.390"	
QSBI-375/500-1 7/8-5R 61011	QSBI-375/500-1 7/8-5L 61010		QC-21 60001	0.438"	1.875"	0.500"	3.750"	0.221"	0.390"	
QSBI-375/625-1 1/8-0R 61013	QSBI-375/625-1 1/8-0L 61012		QC-21 60001	0.438"	1.125"	0.625"	4.250"	0.221"	0.390"	
QSBI-375/625-1 1/8-5R 61015	QSBI-375/625-1 1/8-5L 61014		QC-21 60001	0.438"	1.125"	0.625"	4.250"	0.221"	0.390"	
QSBI-375/625-1 7/8-0R 61017	QSBI-375/625-1 7/8-0L 61016		QC-21 60001	0.438"	1.125"	0.625"	4.250"	0.221"	0.390"	
QSBI-375/625-1 7/8-5R 61019	QSBI-375/625-1 7/8-5L 61018		QC-21 60001	0.438"	1.125"	0.625"	4.250"	0.221"	0.390"	
QSBI-500/625-1 1/2-0R 61027	QSBI-500/625-1 1/2-0L 61026		QC-26 60002	0.563"	1.500"	0.625"	4.250"	0.296"	0.510"	
QSBI-500/625-1 1/2-5R 61029	QSBI-500/625-1 1/2-5L 61028		QC-26 60002	0.563"	1.500"	0.625"	4.250"	0.296"	0.510"	
QSBI-500/625-2 1/2-0R 61031	QSBI-500/625-2 1/2-0L 61030		QC-26 60002	0.563"	2.500"	0.625"	4.250"	0.296"	0.510"	
QSBI-500/625-2 1/2-5R 61033	QSBI-500/625-2 1/2-5L 61032		QC-26 60002	0.563"	2.500"	0.625"	4.250"	0.296"	0.510"	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type inserts.

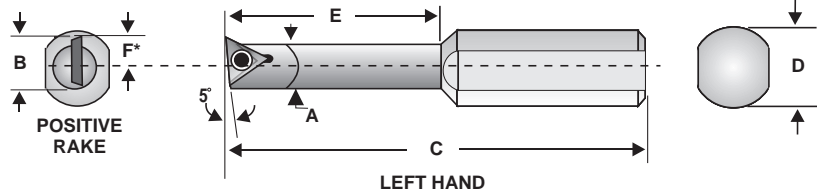
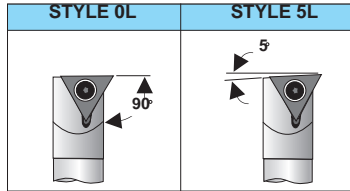
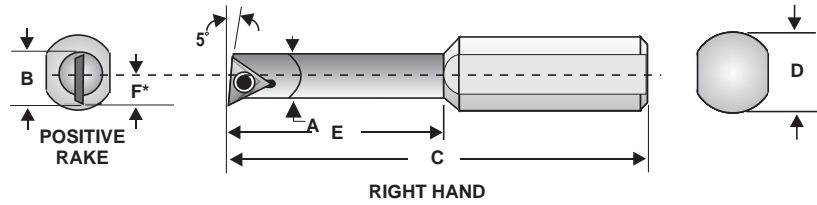
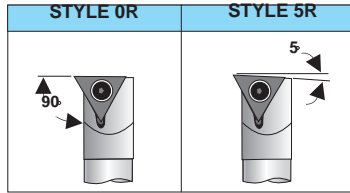
[^]TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).

QSBI STEP DOWN STEEL SHANK BORING BARS

3/4" DIAMETER SHANKS

**MINIMUM BORE RANGE:
0.438" AND UP!**

**BORE DEPTH RANGE:
UP TO 2.500"**



BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E	D	C	F*	A	
QSBI-375/750-1 1/2-0R 61020	QSBI-375/750-1 1/2-0L 61070	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22 [^]	QC-21 60001	0.438"	1.500"	0.750"	4.000"	0.221"	0.390"	Q KEY 60010 OR Q BIT 60000
QSBI-375/750-1 1/2-5R 61021	QSBI-375/750-1 1/2-5L 61069		QC-21 60001	0.438"	1.500"	0.750"	4.000"	0.221"	0.390"	
QSBI-625/750-2 1/2-0R 61034	QSBI-625/750-2 1/2-0L 61072		QC-26 60002	0.688"	2.500"	0.750"	4.500"	0.353"	0.635"	
QSBI-625/750-2 1/2-5R 61035	QSBI-625/750-2 1/2-5L 61071	FOR INSERT SELECTION SEE PAGES 21-25	QC-26 60002	0.688"	2.500"	0.750"	4.500"	0.353"	0.635"	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type inserts.

[^]TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).

MINIMUM BORE RANGE:
0.492" AND UP!

BORE DEPTH RANGE:
UP TO 2.000"***

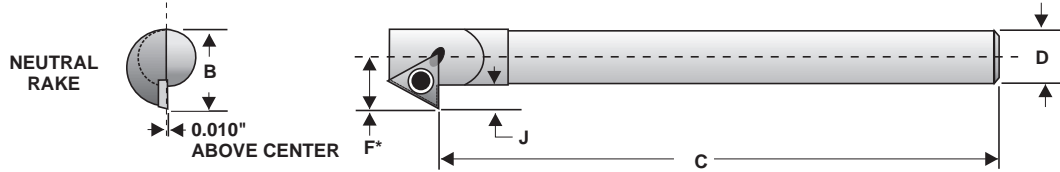
QSRI

STEEL SHANK REVERSE BORING AND BACK CHAMFERING BARS

3/8" & 1/2" DIAMETER SHANKS

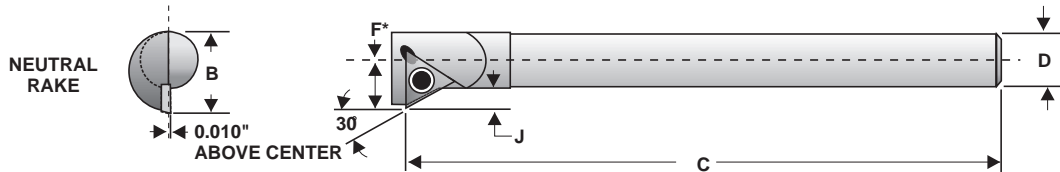
0°

QSRI-375-4 1/2-0R
QSRI-500-5-0R



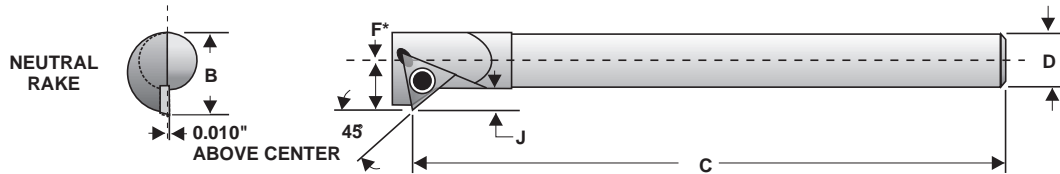
30°

QSRI-375-6-30R
QSRI-500-6-30R



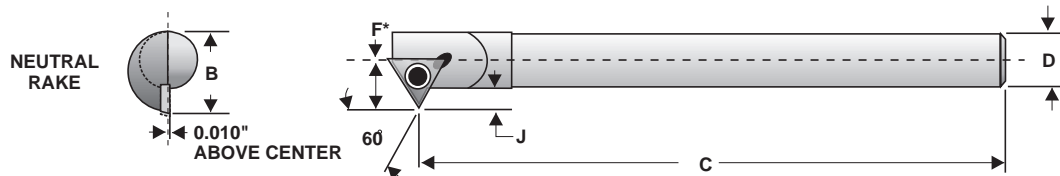
45°

QSRI-375-5-45R
QSRI-500-6-45R



60°

QSRI-375-5-60R
QSRI-500-6-60R



REVERSE BORING AND BACK CHAMFERING BAR CATALOG NUMBER EDP NUMBER	Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	ANGLE	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	OVERALL LENGTH	SHANK DIA.	GAGE INSERT	INSERT OVERHANG	
				B	C	D	F*	J	
QSRI-375-4 1/2-0R 61050	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22^ FOR INSERT SELECTION SEE PAGES 21-25	QC-21 60001	0°	0.492"	4.500"	0.375"	0.287"	0.100"	Q KEY 60010 OR Q BIT 60000
QSRI-500-5-0R 61054		QC-21 60001	0°	0.645"	5.000"	0.500"	0.380"	0.125"	
QSRI-375-5-30R 61051		QC-21 60001	30°	0.525"	5.000"	0.375"	0.320"	0.125"	
QSRI-500-6-30R 61055		QC-21 60001	30°	0.465"	6.000"	0.500"	0.380"	0.125"	
QSRI-375-5-45R 61052		QC-21 60001	45°	0.525"	5.000"	0.375"	0.320"	0.125"	
QSRI-500-6-45R 61056		QC-21 60001	45°	0.645"	6.000"	0.500"	0.380"	0.125"	
QSRI-375-5-60R 61053		QC-21 60001	60°	0.525"	5.000"	0.375"	0.320"	0.125"	
QSRI-500-6-60R 61057		QC-21 60001	60°	0.645"	6.000"	0.500"	0.380"	0.125"	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDPNO. 60014) or QT BIT (60013).

QSOI

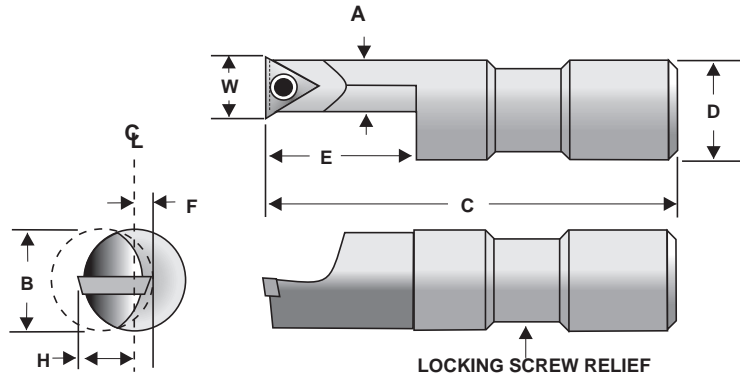
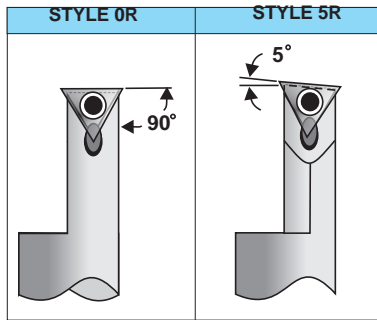
STEEL SHANK OFFSET BORING/TURNING/FACING/FACE GROOVING BARS

**MULTI-
OPERATION
TOOLING**

5/8" & 3/4"
DIAMETER SHANKS

MINIMUM BORE RANGE:
0.606" AND UP!

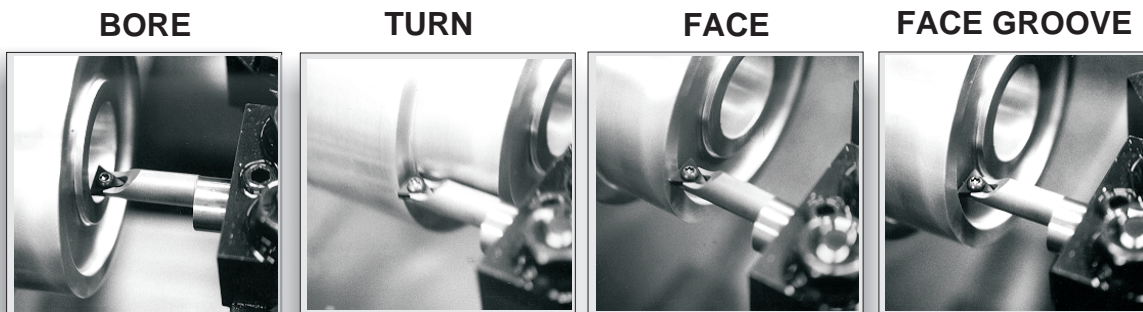
BORE DEPTH RANGE:
UP TO 1.500"***



OFFSET BORING BAR CATALOG NUMBER EDP NUMBER	Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS								TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT		INSERT WIDTH	HEAD DIA.	
			B	E	D	C	F*	H	W	A	
QSOI-312/625-1 1/4-0R 61046	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22^ FOR INSERT SELECTION SEE PAGES 21-25	QC-26 60002	0.606"	1.250"	0.625"	3.125"	0.055"	0.368"	0.423"	0.312"	Q KEY 60010 OR Q BIT 60000
QSOI-312/625-1 1/4-5R 61047		QC-26 60002	0.606"	1.250"	0.625"	3.125"	0.055"	0.368"	0.423"	0.312"	
QSOI-375/750-1 1/2-0R 61048		QC-26 60002	0.727"	1.500"	0.750"	3.750"	0.024"	0.399"	0.423"	0.375"	
QSOI-375/750-1 1/2-5R 61049		QC-26 60002	0.727"	1.500"	0.750"	3.750"	0.024"	0.399"	0.423"	0.375"	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205, indexable type insert.

^TPMT type inserts require QT-25 (EDP NO. 60008) insert holding screws with QT KEY (EDP NO. 60014) or QT BIT (60013).



WITH ONE TOOL...FROM ONE TOOL STATION!

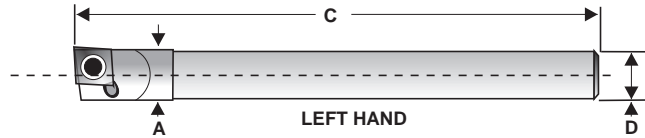
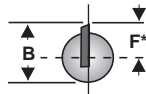
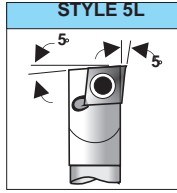
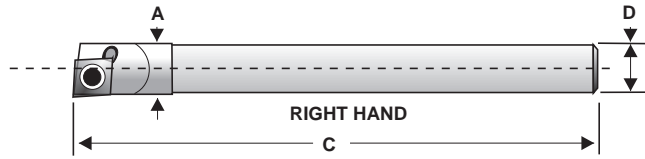
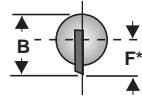
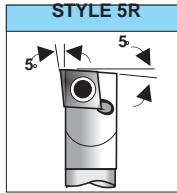
MINIMUM BORE RANGE:
0.421" AND UP!

BORE DEPTH RANGE:
UP TO 2.500"***

**MULTI-
OPERATION
TOOLING**

3/8", 1/2", & 5/8"
DIAMETER SHANKS

**QSMI
STEEL SHANK
BORING/GROOVING/THREADING BARS**



BORING/GROOVING/THREADING BAR CATALOG NUMBER EDP NUMBER		Q SERIES BORING INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS WITH BORING INSERT						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
QSMI-375-4-5R 61085	QSMI-375-4-5L 61086	CPCA CPCM	QC-15 60006	0.421"		0.375"	4.000"	0.218"	0.385"	Q8 KEY 60011 OR Q8 KEY 60012
QSMI-500-5-5R 61087	QSMI-500-5-5L 61088	FOR INSERT SELECTION SEE PAGE 16	QC-15 60006	0.545"		0.500"	5.000"	0.280"	0.510"	
QSMI-625-6-5R 61101	QSMI-625-6-5L 61102		QC-15 60006	0.671"		0.625"	6.000"	0.343"	0.635"	

*Gage Insert Dimension assumes the use of our standard, CPCA-2105; indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steel using suggested light feed rates and depth of cuts

NOTE: The Q Series Bars listed on this page, utilize indexable type inserts for boring, grooving, or threading applications.

QCFI

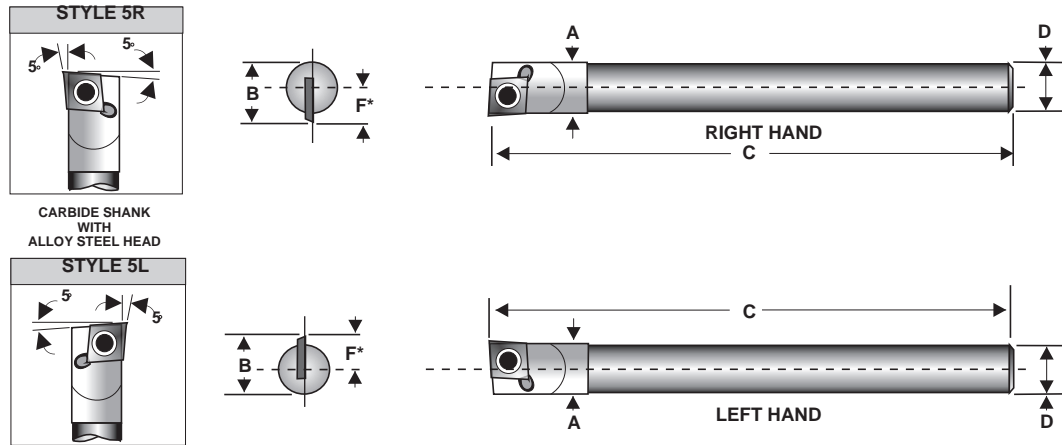
CARBIDE SHANK BORING/GROOVING/THREADING BARS

**MULTI-
OPERATION
TOOLING**

3/8", 1/2", & 5/8"
DIAMETER SHANKS

**MINIMUM BORE RANGE:
0.421" AND UP!**

**BORE DEPTH RANGE:
UP TO 6.250"*****



BORING/GROOVING/THREADING BAR CATALOG NUMBER EDP NUMBER		Q SERIES BORING INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS WITH BORING INSERT						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A	
QCFI-375-6-5R 62034	QCFI-375-6-5L 62035	CPCA CPCM	QC-15 60006	0.421"		0.375"	6.000"	0.218"	0.385"	Q8 KEY 60011 OR Q8 BIT 60012
QCFI-500-8-5R 62036	QCFI-500-8-5L 62037	FOR INSERT SELECTION SEE PAGE 16	QC-15 60006	0.545"		0.500"	8.000"	0.280"	0.510"	
QCFI-625-10-5R 62038	QCFI-625-10-5L 62039		QC-15 60006	0.671"		0.625"	10.000"	0.343"	0.635"	

*Gage Insert Dimension assumes the use of our standard, CPCA-2105; indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steel using suggested light feed rates and depth of cuts.

NOTE: The Q Series Bars listed on this page, utilize indexable type inserts for boring, grooving, or threading applications.

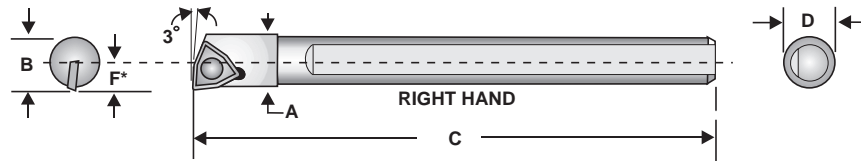
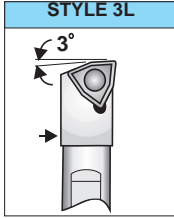
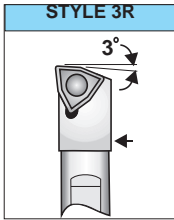
MINIMUM BORE RANGE:
0.415" AND UP!

BORE DEPTH RANGE:
UP TO 2.000" **

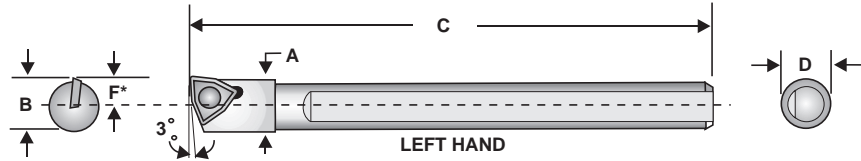
QSB IW

STEEL SHANK TRIGON BORING BARS

3/8" & 1/2" DIAMETER SHANKS



FLAT ON BARS...POSITIONS THE INSERT AT A 3 DEGREE
 NEGATIVE...0.010" ABOVE CENTERLINE.



TRIGON BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES TRIGON INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A	
QSB IW-375-5-3R 61992	QSB IW-375-5-3L 61993	WPGT-22 OR WPMT-22	QTM-20 60016	0.415"		0.375"	5.000"	0.211"	0.385"	QT KEY 60014 OR QT BIT 60013
QSB IW-500-6-3R 61994	QSB IW-500-6-3L 61995	FOR INSERT SELECTION SEE PAGE 33	QTM-26 60015	0.540"		0.500"	6.000"	0.273"	0.510"	

*Gage Insert Dimension assumes the use of our standard, WPMT-22 indexable type trigon insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

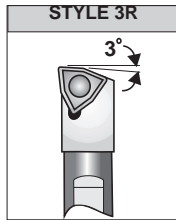
QCBIW

CARBIDE SHANK TRIGON BORING BARS

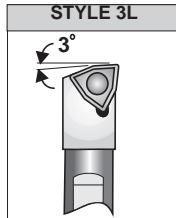
3/8" & 1/2" DIAMETER SHANKS

MINIMUM BORE RANGE:
0.415" AND UP!

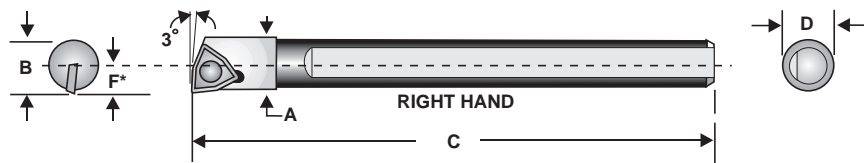
BORE DEPTH RANGE:
UP TO 5.000"***



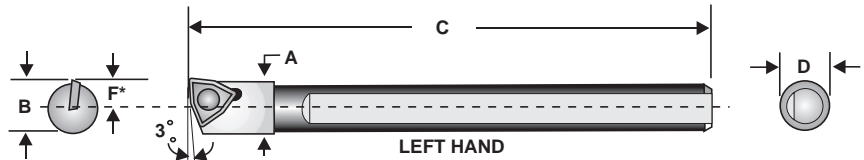
CARBIDE SHANK WITH ALLOY STEEL HEAD



STYLE 3L



RIGHT HAND
C
FLAT ON BARS...POSITIONS THE INSERT AT A 3 DEGREE NEGATIVE...0.010" ABOVE CENTERLINE.



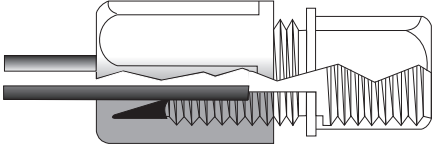



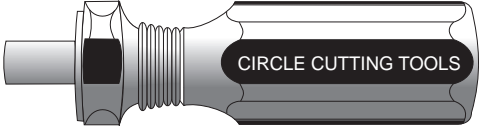

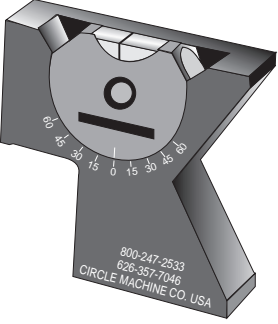
LEFT HAND

TRIGON BORING BAR CATALOG NUMBER EDP NUMBER		Q SERIES TRIGON INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
QCBIW-375-6-3R 61996	QCBIW-375-6-3L 61997	WPMT-22 OR WPMT-22	QTM-20 60016	0.415"		0.375"	6.000"	0.211"	0.385"	QT KEY 60014 OR QT BIT 60013
QCBIW-500-8-3R 61998	QCBIW-500-8-3L 61999	FOR INSERT SELECTION SEE PAGE 33	QTM-26 60015	0.540"		0.500"	8.000"	0.273"	0.510"	

*Gage Insert Dimension assumes the use of our standard, WPMT-22 indexable type trigon insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

Q SERIES CUTTING TOOL ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A-375 A-500	00014 00015	 <p style="text-align: right;">COOLANT BAR ADAPTER</p>
Q BIT Q8 BIT QT BIT	60000 60012 60013	
Q KEY Q8 KEY QT KEY	60010 60011 60014	
QC-15 QC-21 QC-26 QT-21 QTM-20 QTM-26	60006 60001 60002 60008 60016 60015	
DRIVER	00000	
CTS-30	00001	
UNI-LEVEL	00005	



S SERIES BORING BARS

featuring...

MINIMUM BORE RANGE: 0.668" & UP!

HIGH QUALITY STEEL OR CARBIDE SHANKS

COOLANT THROUGH TYPE BARS AVAILABLE

TRIGON INSERT TYPE TOOLING

REVERSE BORING AND BACK CHAMFERING BARS

30°, 45°, & 60° INTERNAL & EXTERNAL CHAMFERING BARS

60° TRIANGLE; 0.375" I.C. INDEXABLE INSERTS

80° DIAMOND, 0.375" I.C. INDEXABLE INSERTS

TRIGON TYPE INDEXABLE INSERTS

CPGT AND CPMT INDEXABLE INSERTS

COATED OR UNCOATED INSERT GRADES

0.002", 0.007", 0.015", 0.031", & 0.063" INSERT CORNER RADII AVAILABLE

GROUND IN OR PRESSED TYPE CHIPBREAKER INSERTS

CUBIC BORON NITRIDE TIPPED INSERTS

POLYCRYSTALLINE DIAMOND TIPPED INSERTS

**BORE HOLES
AS SMALL AS
...0.668"**

MINIMUM BORE RANGE:

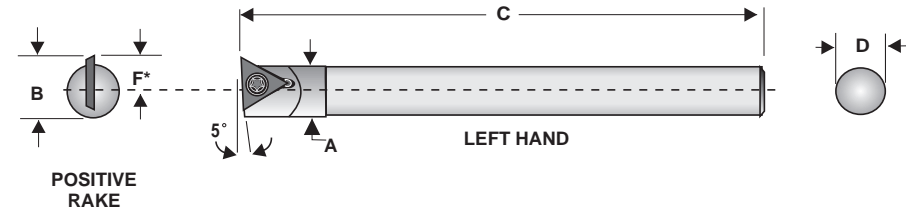
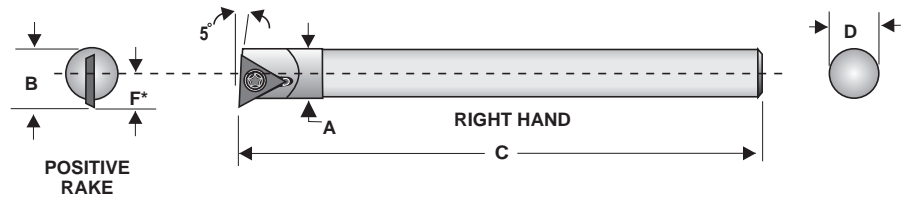
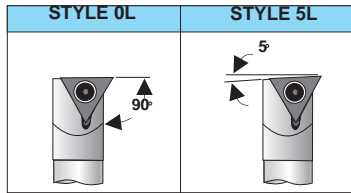
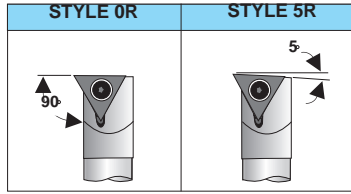
0.668" AND UP!

BORE DEPTH RANGE:

UP TO 5.000"***

SSBI STEEL SHANK BORING BARS

1/2", 5/8", & 3/4" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
RIGHT HAND	LEFT HAND			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
				B	E**	D	C	F*	A	
SSBI-500-2 1/2-OR 81014	SSBI-500-2 1/2-OL 81013	TD-6P TPGH-32 TPGT-32 OR TPMT-32^ FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0.668"		0.500"	2.500"	0.339"	0.572"	S KEY 80045 OR S BIT 80000
SSBI-500-2 1/2-5R 81016	SSBI-500-2 1/2-5L 81015		SC-30 80001	0.668"		0.500"	2.500"	0.339"	0.572"	
SSBI-500-6-OR 81018	SSBI-500-6-OL 81017		SC-30 80001	0.668"		0.500"	6.000"	0.339"	0.572"	
SSBI-500-6-5R 81020	SSBI-500-6-5L 81019		SC-30 80001	0.668"		0.500"	6.000"	0.339"	0.572"	
SSBI-625-4-OR 81022	SSBI-625-4-OL 81021		SC-30 80001	0.731"		0.625"	4.000"	0.393"	0.635"	
SSBI-625-4-5R 81026	SSBI-625-4-5L 81025		SC-30 80001	0.731"		0.625"	4.000"	0.393"	0.635"	
SSBI-625-7-OR 81029	SSBI-625-7-OL 81028		SC-30 80001	0.731"		0.625"	7.000"	0.393"	0.635"	
SSBI-625-7-5R 81031	SSBI-625-7-5L 81030		SC-30 80001	0.731"		0.625"	7.000"	0.393"	0.635"	
SSBI-750-4-OR 81033	SSBI-750-4-OL 81032		SC-30 80001	0.855"		0.750"	4.000"	0.460"	0.760"	
SSBI-750-4-5R 81035	SSBI-750-4-5L 81034		SC-30 80001	0.855"		0.750"	4.000"	0.460"	0.760"	
SSBI-750-8-OR 81037	SSBI-750-8-OL 81036		SC-30 80001	0.855"		0.750"	8.000"	0.460"	0.760"	
SSBI-750-8-5R 81039	SSBI-750-8-5L 81038		SC-30 80001	0.855"		0.750"	8.000"	0.460"	0.760"	

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^ TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with ST KEY (EDP NO. 80006) or ST BIT (EDP NO. 80005)

SSBI

STEEL SHANK BORING BARS

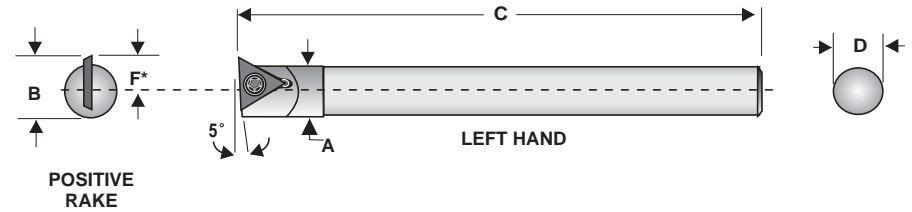
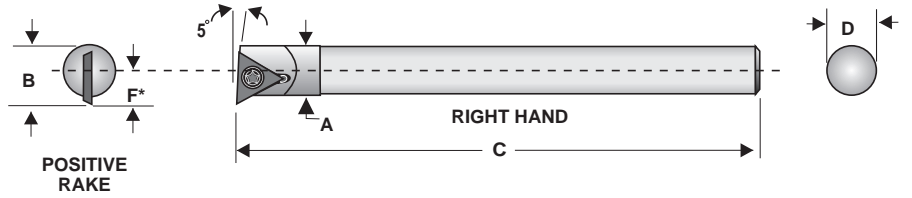
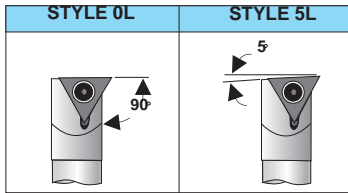
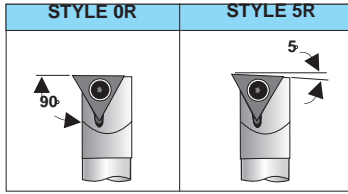
1" & 1 1/4" DIAMETER SHANKS

MINIMUM BORE RANGE:

0.668" AND UP!

BORE DEPTH RANGE:

UP TO 5.000"***



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
SSBI-1000-5-0R 81006	SSBI-1000-5-0L 81005	TD-6P TPCG-32 TPGH-32 TPGT-32 OR TPMT-32^ SEE FOR INSERT SELECTION SEE PAGES 26-31	SC-38 80002	1.105"		1.000"	5.000"	0.585"	1.010"	S KEY 80045 OR S BIT 80000
SSBI-1000-5-5R 81008	SSBI-1000-5-5L 81007		SC-38 80002	1.105"		1.000"	5.000"	0.585"	1.010"	
SSBI-1000-10-0R 81002	SSBI-1000-10-0L 81001		SC-38 80002	1.105"		1.000"	10.000"	0.585"	1.010"	
SSBI-1000-10-5R 81004	SSBI-1000-10-5L 81003		SC-38 80002	1.105"		1.000"	10.000"	0.585"	1.010"	
SSBI-1250-12-0R 81010	SSBI-1250-12-0L 81009		SC-38 80002	1.355"		1.250"	12.000"	0.710"	1.260"	
SSBI-1250-12-5R 81012	SSBI-1250-12-5L 81011		SC-38 80002	1.355"		1.250"	12.000"	0.710"	1.260"	

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^ TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with ST KEY (EDP NO. 80006) or ST BIT (EDP NO. 80005)

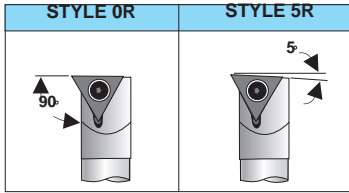
MINIMUM BORE RANGE:
0.668" AND UP!

BORE DEPTH RANGE:
UP TO 5.000" **

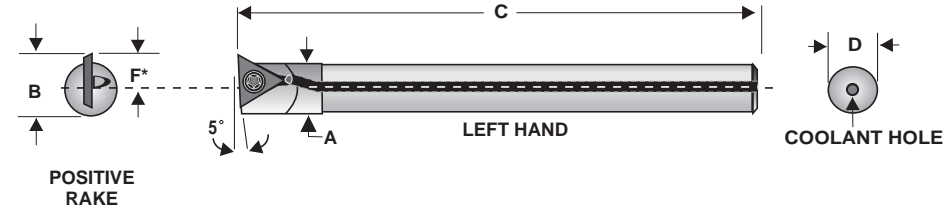
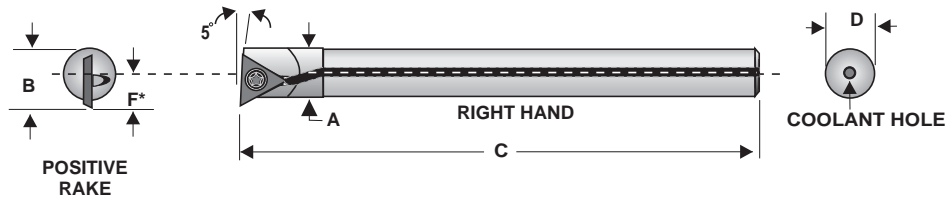
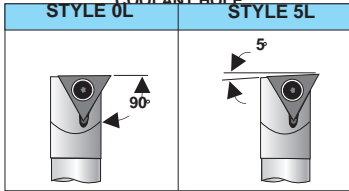
STBI

STEEL SHANK BORING BARS WITH COOLANT THROUGH HOLES

1/2", 5/8", 3/4", 1", & 1 1/4" DIAMETER SHANKS



STEEL BARS WITH COOLANT HOLE



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS					COOLANT ADAPTER EDP NUMBER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
RIGHT HAND	LEFT HAND			MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*		
STBI-500-6-0R 81074	STBI-500-6-0L 81076	TD-6P TPCG-32 TPGH-22 TPGT-32 OR TPMT-32 [^] FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0.668"	0.500"	6.000"	0.339"	0.510"	A-500 00015	S KEY 80045 OR S BIT 80000
STBI-500-6-5R 81073	STBI-500-6-5L 81075		SC-30 80001	0.668"	0.500"	6.000"	0.339"	0.510"	A-500 00015	
STBI-625-7-0R 81078	STBI-625-7-0L 81080		SC-30 80001	0.731"	0.625"	7.000"	0.339"	0.635"	A-625 00016	
STBI-625-7-5R 81077	STBI-625-7-5L 81079		SC-30 80001	0.731"	0.625"	7.000"	0.339"	0.635"	A-625 00016	
STBI-750-8-0R 81082	STBI-750-8-0L 81084		SC-38 80002	0.855"	0.750"	8.000"	0.393"	0.760"	A-750 00017	
STBI-750-8-5R 81081	STBI-750-8-5L 81083		SC-38 80002	0.855"	0.750"	8.000"	0.393"	0.760"	A-750 00017	
STBI-1000-10-0R 81086	STBI-1000-10-0L 81088		SC-38 80002	1.105"	1.000"	10.000"	0.460"	1.010"	A-1000 00018	
STBI-1000-10-5R 81085	STBI-1000-10-5L 81087		SC-38 80002	1.105"	1.000"	10.000"	0.460"	1.010"	A-1000 00018	
STBI-1250-12-0R 81090	STBI-1250-12-0L 81092		SC-38 80002	1.105"	1.250"	12.000"	0.585"	1.260"	A-1250 00019	
STBI-1250-12-5R 81089	STBI-1250-12-5L 81091		SC-38 80002	1.105"	1.250"	12.000"	0.585"	1.260"	A-1250 00019	

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

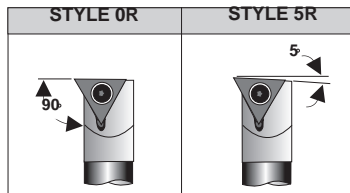
[^] TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with ST KEY (EDP NO. 80006) or ST BIT (EDP NO. 80005)

SCBI CARBIDE SHANK BORING BARS

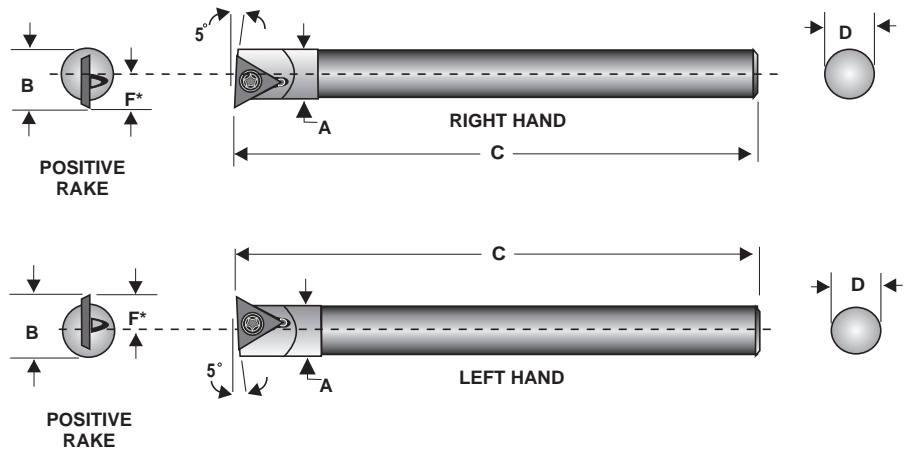
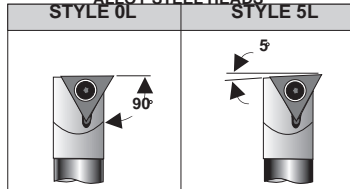
5/8", 3/4", 7/8", & 1" DIAMETER SHNKS

**MINIMUM BORE RANGE:
0.668" AND UP!**

**BORE DEPTH RANGE:
UP TO 10.000"*****



CARBIDE SHANKS
WITH
ALLOY STEEL HEADS



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
SCBI-625-6-0R 82013	SCBI-625-6-0L 82012	TD-6P TPCG-32 TPGH-32 TPGT-32 OR TPMT-32 [^] FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0.731"		0.625"	6.000"	0.393"	0.635"	S KEY 80045 OR S BIT 80000
SCBI-625-6-5R 82015	SCBI-625-6-5L 82014		SC-30 80001	0.731"		0.625"	6.000"	0.393"	0.635"	
SCBI-625-10-0R 82009	SCBI-625-10-0L 82008		SC-30 80001	0.731"		0.625"	10.000"	0.393"	0.635"	
SCBI-625-10-5R 82011	SCBI-625-10-5L 82010		SC-30 80001	0.731"		0.625"	10.000"	0.393"	0.635"	
SCBI-750-6-0R 82021	SCBI-750-6-0L 82020		SC-30 80001	0.855"		0.750"	6.000"	0.460"	0.760"	
SCBI-750-6-5R 82023	SCBI-750-6-5L 82022		SC-30 80001	0.855"		0.750"	6.000"	0.460"	0.760"	
SCBI-750-10-0R 82017	SCBI-750-10-0L 82016		SC-30 80001	0.855"		0.750"	10.000"	0.460"	0.760"	
SCBI-750-10-5R 82019	SCBI-750-10-5L 82018		SC-30 80001	0.855"		0.750"	10.000"	0.460"	0.760"	
SCBI-875-12-0R 82049			SC-38 80002	0.955"		0.875"	12.000"	0.500"	0.885"	
SCBI-875-12-5R 82048			SC-38 80002	0.955"		0.875"	12.000"	0.500"	0.885"	
SCBI-1000-6-0R 82005	SCBI-1000-6-0L 82004	SC-38 80002	1.105"		1.000"	6.000"	0.585"	1.010"		
SCBI-1000-6-5R 82007	SCBI-1000-6-5L 82006	SC-38 80002	1.105"		1.000"	6.000"	0.585"	1.010"		
SCBI-1000-12-0R 82001	SCBI-1000-12-0L 82000	SC-38 80002	1.105"		1.000"	12.000"	0.585"	1.010"		
SCBI-1000-12-5R 82003	SCBI-1000-12-5L 82002	SC-38 80002	1.105"		1.000"	12.000"	0.585"	1.010"		

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

[^] TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with STKEY (EDP NO. 80006) or ST BIT (EDP NO. 80005)

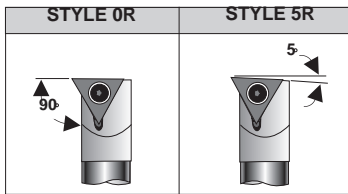
**MINIMUM BORE RANGE:
0.668" AND UP!**

**BORE DEPTH RANGE:
UP TO 10.000"*****

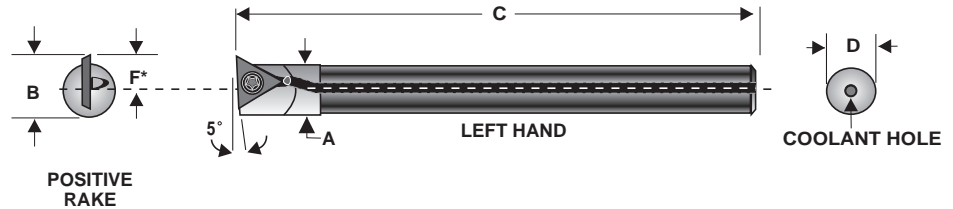
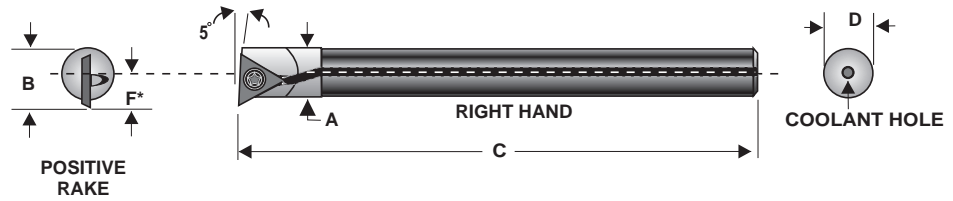
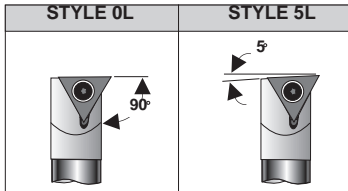
SDBI

CARBIDE SHANK BORING BARS WITH COOLANT THROUGH HOLES

5/8", 3/4", & 1" DIAMETER SHANKS



CARBIDE SHANKS
WITH ALLOY STEEL HEADS
AND COOLANT THROUGH HOLE



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS					COOLANT ADAPTER EDP NUMBER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*		
RIGHT HAND	LEFT HAND									
SDBI-625-6-0R 82025	SDBI-625-6-0L 82027	TD-6P TPCG-32 TPGH-32 TPGT-32 OR TPMT-32 [^] SEE FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0.731"	0.625"	6.000"	0.393"	0.635"	A-625 00016	S KEY 80045 OR S BIT 80000
SDBI-625-6-5R 82024	SDBI-625-6-5L 82026		SC-30 80001	0.731"	0.625"	6.000"	0.393"	0.635"	A-625 00016	
SDBI-625-10-0R 82029	SDBI-625-10-0L 82031		SC-30 80001	0.731"	0.625"	10.000"	0.393"	0.635"	A-625 00016	
SDBI-625-10-5R 82028	SDBI-625-10-5L 82030		SC-30 80001	0.731"	0.625"	10.000"	0.393"	0.635"	A-625 00016	
SDBI-750-6-0R 82033	SDBI-750-6-0L 82035		SC-38 80002	0.855"	0.750"	6.000"	0.460"	0.760"	A-750 00017	
SDBI-750-6-5R 82032	SDBI-750-6-5L 82034		SC-38 80002	0.855"	0.750"	6.000"	0.460"	0.760"	A-750 00017	
SDBI-750-10-0R 82037	SDBI-750-10-0L 82039		SC-38 80002	0.855"	0.750"	10.000"	0.460"	0.760"	A-750 00017	
SDBI-750-10-5R 82036	SDBI-750-10-5L 82038		SC-38 80002	0.855"	0.750"	10.000"	0.460"	0.760"	A-750 80002	
SDBI-1000-6-0R 82041	SDBI-1000-6-0L 82043		SC-38 80002	1.105"	1.000"	6.000"	0.585"	1.010"	A-1000 00017	
SDBI-1000-6-5R 82040	SDBI-1000-6-5L 82042		SC-38 80002	1.105"	1.000"	6.000"	0.585"	1.010"	A-1000 00018	
SDBI-1000-12-0R 82045	SDBI-1000-12-0L 82047	SC-38 80002	1.105"	1.000"	12.000"	0.585"	1.010"	A-1000 00018		
SDBI-1000-12-5R 82044	SDBI-1000-12-5L 82046	SC-38 80002	1.105"	1.000"	12.000"	0.585"	1.010"	A-1000 00018		

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

[^] TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with ST KEY (EDP NO. 80006) or ST BIT (EDP NO. 80005)

SSBI & SSCI STEEL SHANK INTERNAL AND EXTERNAL CHAMFER BARS

5/8" DIAMETER SHANKS

MINIMUM BORE RANGE:

0.731" AND UP!

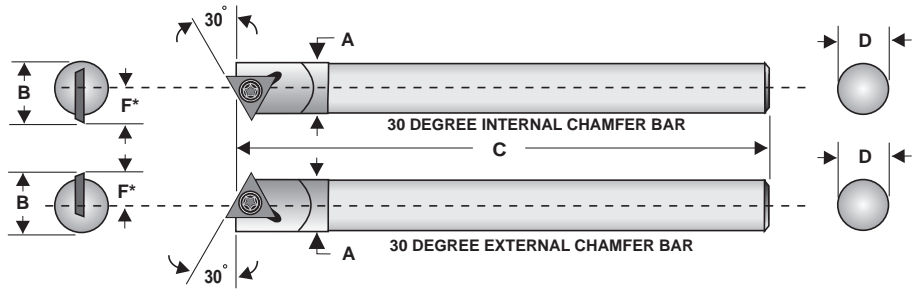
BORE DEPTH RANGE:

UP TO 2.500"***

30°

SSBI-625-4-30

INSERT
0.010"
ABOVE
CENTERLINE



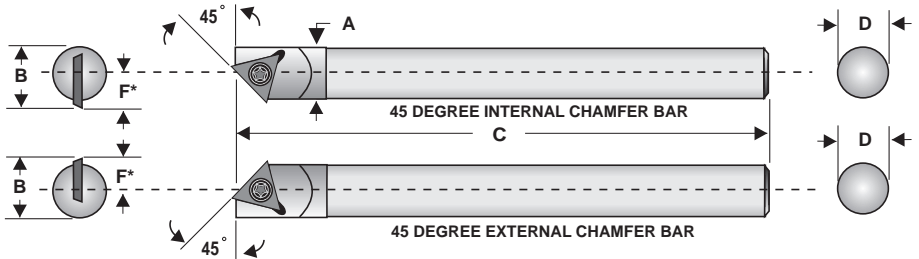
SSCI-625-4-30

INSERT
ON
CENTER

45°

SSBI-625-4-45

INSERT
0.010"
ABOVE
CENTERLINE



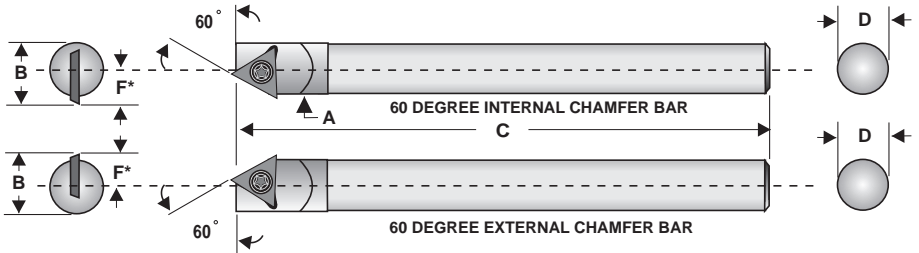
SSCI-625-4-45

INSERT
ON
CENTER

60°

SSBI-625-4-60

INSERT
0.010"
ABOVE
CENTERLINE



SSCI-625-4-60

INSERT
ON
CENTER

CHAMFERING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	ANGLE	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
					MIN. BORE	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
INTERNAL BARS	EXTERNAL BARS				B+	D	C	F*	A	
SSBI-625-4-30R 81023	SSCI-625-4-30L 81040	TD-6P TPCG-32 OR TPMT-32 [^] FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	30°	0.731"	0.625"	4.000"	0.402"	0.635"	S KEY 80045 OR S BIT 80000
SSBI-625-4-45R 81024	SSCI-625-4-45L 81041			45°	0.731"	0.625"	4.000"	0.402"	0.635"	
SSBI-625-4-60R 81027	SSCI-625-4-60L 81042			60°	0.731"	0.625"	4.000"	0.402"	0.635"	

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

[^] TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with ST KEY (EDP NO. 80006) or ST BIT (EDP NO. 80005).

+Minimum Bore Dimension is for internal bars only.

MINIMUM BORE RANGE:

0.827" AND UP!

BORE DEPTH RANGE:

UP TO 4.000"***

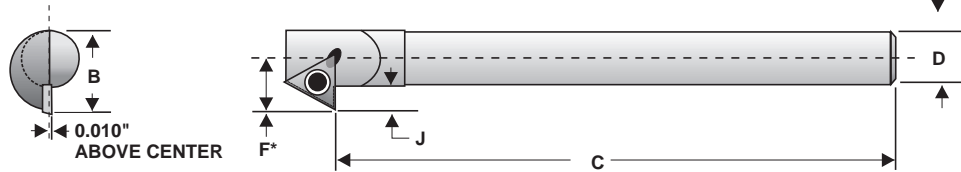
SSRI STEEL SHANK REVERSE BORING AND BACK CHAMFERING BARS

5/8", 3/4" & 1" DIAMETER SHANKS

0°

SSRI-625-5-0R

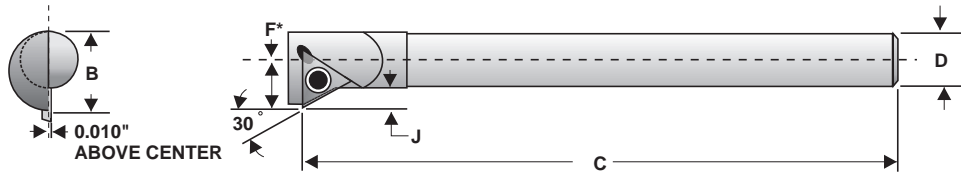
NEUTRAL
RAKE



30°

**SSRI-625-7-30R
SSRI-750-8-30R
SSRI-1000-10-30R**

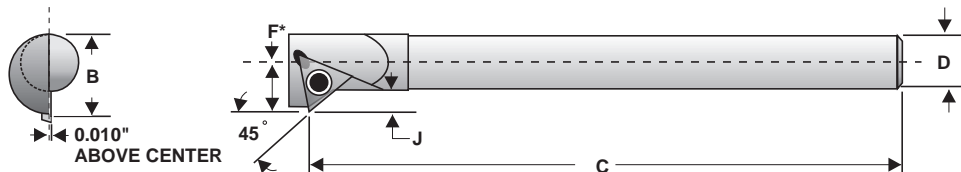
NEUTRAL
RAKE



45°

**SSRI-625-7-45R
SSRI-750-8-45R
SSRI-1000-10-45R**

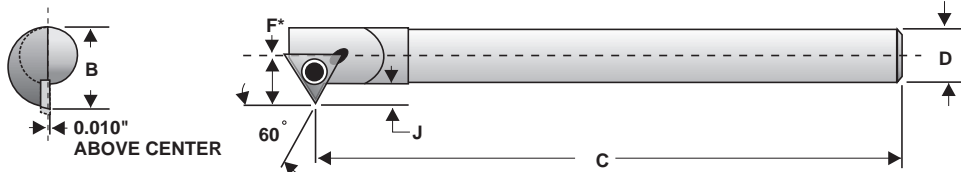
NEUTRAL
RAKE



60°

**SSRI-625-7-60R
SSRI-750-8-60R
SSRI-1000-10-60R**

NEUTRAL
RAKE



REVERSE BORING AND BACK CHAMFERING BAR CATALOG NUMBER EDP NUMBER	S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	ANGLE	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	OVERALL LENGTH	SHANK DIA.	GAGE INSERT	INSERT OVERHANG	
				B	C	D	F*	J	
SSRI-625-5-0R 81060	TD-6P TPCG-32 TPCH-32 TPGT-32 OR TPMT-32^ FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0°	0.909"	5.000"	0.625"	0.581"	0.264"	S KEY 80045 OR S BIT 80000
SSRI-625-7-30R 81061		SC-30 80001	30°	0.827"	7.000"	0.625"	0.499"	0.182"	
SSRI-750-8-30R 81064		SC-30 80001	30°	0.955"	8.000"	0.750"	0.562"	0.182"	
SSRI-1000-10-30R 81057		SC-30 80001	30°	1.205"	10.000"	1.000"	0.687"	0.182"	
SSRI-625-7-45R 81062		SC-30 80001	45°	0.827"	7.000"	0.625"	0.499"	0.182"	
SSRI-750-8-45R 81065		SC-30 80001	45°	0.955"	8.000"	0.750"	0.562"	0.182"	
SSRI-1000-10-45R 81058		SC-30 80001	45°	1.205"	10.000"	1.000"	0.687"	0.182"	
SSRI-625-7-60R 81063		SC-30 80001	60°	0.827"	7.000"	0.625"	0.499"	0.182"	
SSRI-750-8-60R 81066		SC-30 80001	60°	0.955"	8.000"	0.750"	0.562"	0.182"	
SSRI-1000-10-60R 81059		SC-30 80001	60°	1.205"	10.000"	1.000"	0.679"	0.174"	

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert..

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

^ TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with STKEY (EDP NO. 80006) or ST BIT (EDP NO. 80005)

SSOI

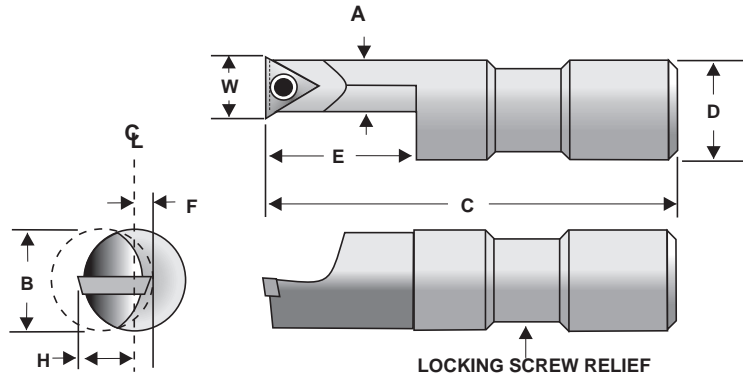
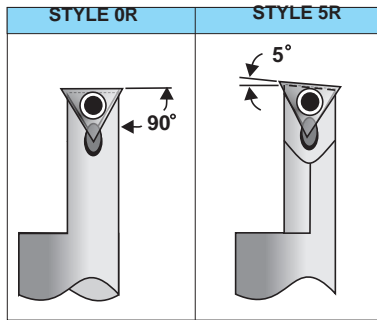
STEEL SHANK OFFSET BORING/TURNING/FACING/FACE GROOVING BARS

**MULTI-
OPERATION
TOOLING**

1"
DIAMETER SHANKS

**MINIMUM BORE RANGE:
0.969" AND UP!**

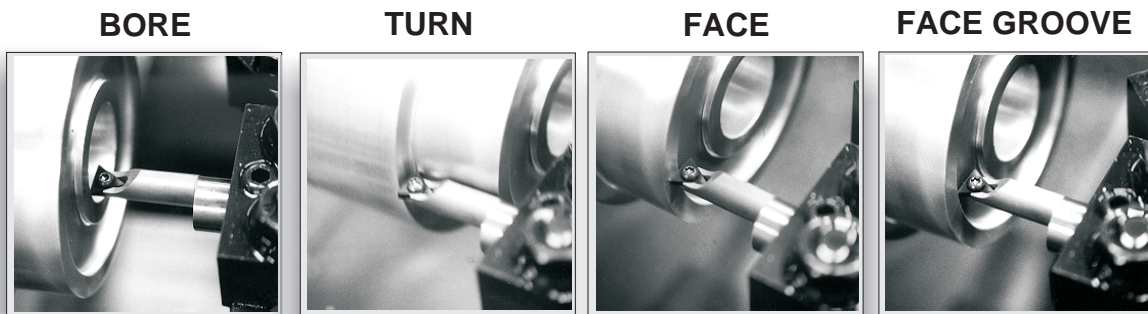
**BORE DEPTH RANGE:
UP TO 2.500"*****



OFFSET BORING BAR CATALOG NUMBER EDP NUMBER	Q SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS							TORX KEY OR DRIVER BIT NUMBER EDP NUMBER	
			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	INSERT WIDTH	HEAD DIA.		
			B	E	D	C	F*	H	W		A
SSOI-500/1000-1 1/2-0R 81045	TD-6P TPCB-32 TPCG-32 TPCH-32 TPGT-32 OR TPMT-32^ FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0.969"	1.500"	1.000"	3.750"	0.070"	0.569"	0.639"	0.500"	S KEY 80045 OR S BIT 80000
SSOI-500/1000-1 1/2-5R 81048			0.969"	1.500"	1.000"	3.750"	0.070"	0.569"	0.639"	0.500"	
SSOI-500/1000-2 1/2-0R 81046		SC-30 80001	0.969"	2.500"	1.000"	4.750"	0.070"	0.569"	0.639"	0.500"	
SSOI-500/1000-2 1/2-5R 81047		SC-30 80001	0.969"	2.500"	1.000"	4.750"	0.070"	0.569"	0.639"	0.500"	

*Gage Insert Dimension assumes the use of our standard, TD-6P, indexable type insert.

^TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws with ST KEY (EDPNO. 80006) or ST BIT (80005).



WITH ONE TOOL...FROM ONE TOOL STATION!

MINIMUM BORE RANGE:

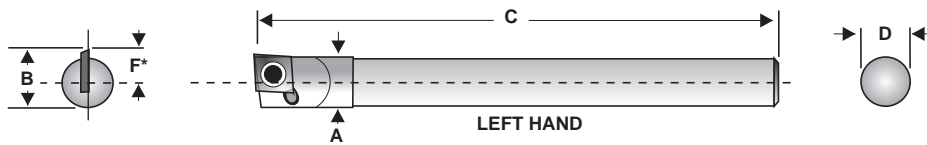
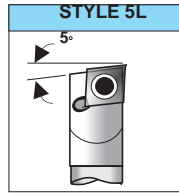
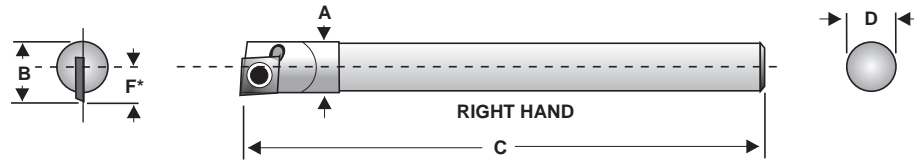
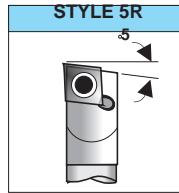
0.680" AND UP!

BORE DEPTH RANGE:

UP TO 3.000"***

SSBIC STEEL SHANK ROUGHING BARS

5/8" & 3/4" DIAMETER SHANKS



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
RIGHT HAND	LEFT HAND			MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
SSBIC-625-7-5R 81095	SSBIC-625-7-5L 81094	CPGT-32 OR CPMT-32 FOR INSERT SELECTION SEE PAGE 17	STM-31 80004	0.680"		0.625"	7.000"	0.353"	0.635"	ST KEY 80006 OR ST BIT 80005
SSBIC-750-8-5R 81097	SSBIC-750-8-5L 81096			0.805"		0.750"	8.000"	0.415"	0.760"	

*Gage Insert Dimension assumes the use of our standard, CPMT-32 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

SDBIC

CARBIDE SHANK ROUGHING BARS WITH COOLANT THROUGH HOLE

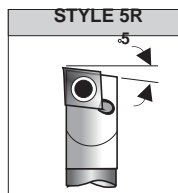
5/8" & 3/4" DIAMETER SHANKS

MINIMUM BORE RANGE:

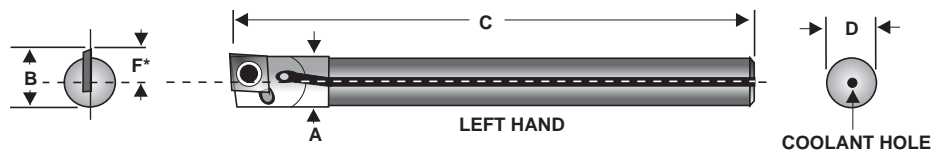
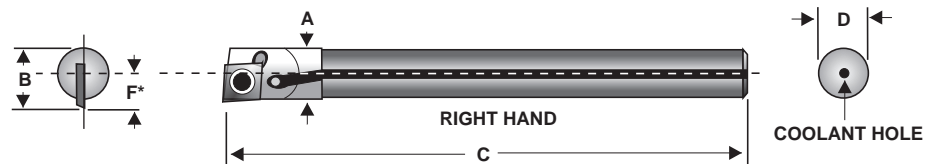
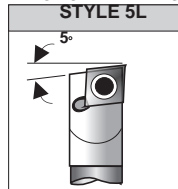
0.680" AND UP!

BORE DEPTH RANGE:

UP TO 7.500"***



**CARBIDE SHANKS
WITH
ALLOY STEEL HEADS
STYLE 5L**



BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						COOLANT ADAPTER EDP NUMBER	TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.		
RIGHT HAND	LEFT HAND			B	E**	D	C	F*	A		
SDBIC-625-6-5R 82054	SDBIC-625-6-5L 82053	CPGT-32 CPMT-32 FOR INSERT SELECTION SEE PAGE 17	STM-31 80004	0.680"		0.625"	6.000"	0.353"	0.635"	A-625 00016	ST KEY 80006 OR ST BIT 80005
SDBIC-625-10-5R 82056	SDBIC-625-10-5L 82055		STM-31 80004	0.680"		0.625"	10.000"	0.353"	0.635"		
SDBIC-750-6-5R 82058	SDBIC-750-6-5L 82057		STM-31 80004	0.805"		0.750"	6.000"	0.415"	0.760"		
SDBIC-750-10-5R 82060	SDBIC-750-10-5L 82059		STM-31 80004	0.805"		0.750"	10.000"	0.415"	0.760"		

*Gage Insert Dimension assumes the use of our standard, CPMT-32 indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steel using suggested light feed rates and depth of cuts.

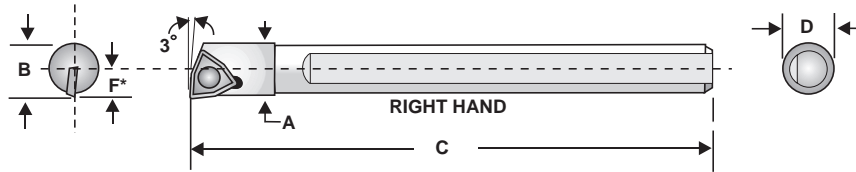
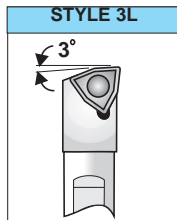
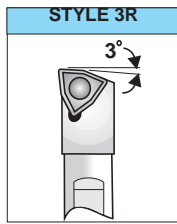
MINIMUM BORE RANGE:
0.675" AND UP!

BORE DEPTH RANGE:
UP TO 3.000"***

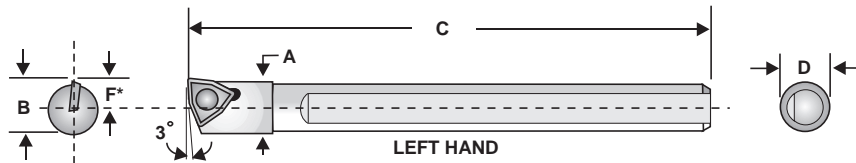
SSBIW

STEEL SHANK TRIGON BORING BARS

5/8" & 3/4" DIAMETER SHANKS



FLAT ON BARS...POSITIONS THE INSERT AT A 3 DEGREE
NEGATIVE...0.010" ABOVE CENTERLINE.



TRIGON BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES TRIGON INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
RIGHT HAND	LEFT HAND			MIN. BORE	BORE DEPTH	SHANK DIA.	OVERALL LENGTH	GAGE INSERT	HEAD DIA.	
				B	E**	D	C	F*	A	
SSBIW-625-7-3R 80997	SSBIW-625-7-3L 80998	WPMT-32 FOR INSERT SELECTION SEE PAGE 34	STM-31 80004	0.675"		0.625"	7.000"	0.345"	0.635"	ST KEY 80006 OR ST BIT 80005
SSBIW-750-8-3R 80999	SSBIW-750-8-3L 81000			0.800"		0.750"	8.000"	0.407"	0.760"	

*Gage Insert Dimension assumes the use of our standard, WPMT-32 indexable type insert.

**Bore Depth Range is based on a 4:1 ratio (4 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

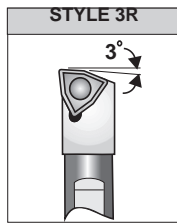
SCBIW

CARBIDE SHANK TRIGON BORING BARS

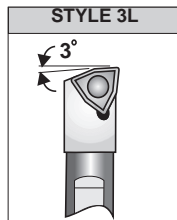
5/8" & 3/4" DIAMETER SHANKS

MINIMUM BORE RANGE:
0.675" AND UP!

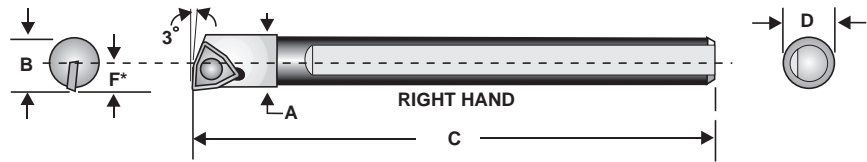
BORE DEPTH RANGE:
UP TO 7.500"***



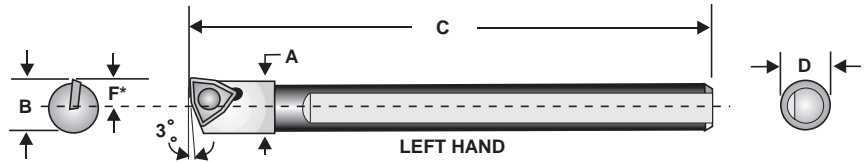
CARBIDE SHANK WITH ALLOY STEEL HEAD



STYLE 3L



FLAT ON BARS...POSITIONS THE INSERT AT A 3 DEGREE NEGATIVE...0.010" ABOVE CENTERLINE.

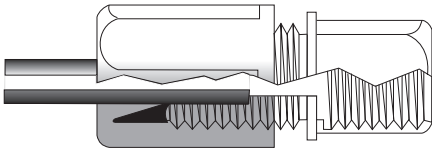



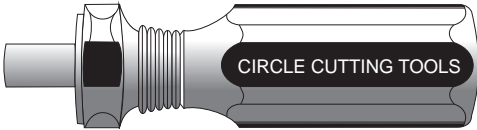

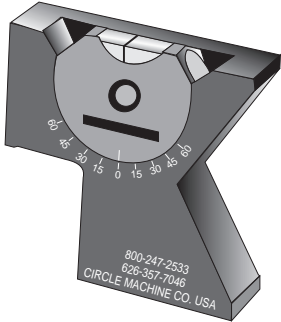


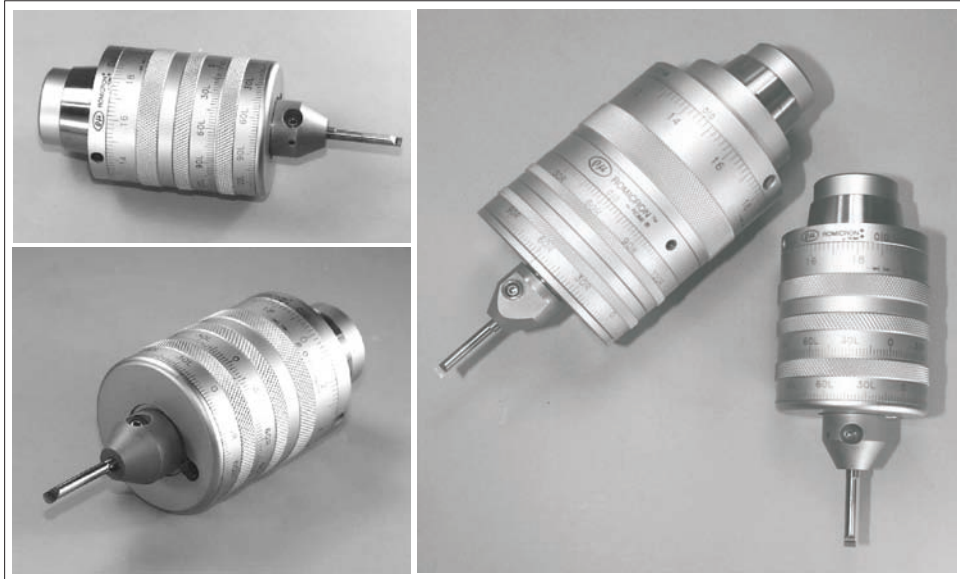
TRIGON BORING BAR CATALOG NUMBER EDP NUMBER		S SERIES TRIGON INSERT TYPE	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E**	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
RIGHT HAND	LEFT HAND									
SCBIW-625-10-3R 81996	SCBIW-625-10-3L 81997	WPMT-32 FOR INSERT SELECTION SEE PAGE 34	STM-31 80004	0.675"		0.625"	10.000"	0.345"	0.635"	ST KEY 80006 OR ST BIT 80005
SCBIW-750-10-3R 81998	SCBIW-750-10-3L 81999		STM-31 80004	0.800"		0.750"	10.000"	0.407"	0.760"	

*Gage Insert Dimension assumes the use of our standard, WPMT-32 indexable type insert.

**Bore Depth Range is based on a 10:1 ratio (10 times bar diameter), in mild steels using suggested light feed rates and depth of cuts.

S SERIES CUTTING TOOL ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A-500 A-625 A-750 A-1000 A-1250	00015 00016 00017 00018 00019	 <p style="text-align: right;">COOLANT BAR ADAPTER</p>
S BIT ST BIT	80000 80005	
S KEY ST KEY	80045 80006	
SC-30 SC-38 STM-31	80001 80002 80004	
DRIVER	00000	 <p style="text-align: center;">CIRCLE CUTTING TOOLS</p>
CTS-30	00001	
UNI-LEVEL	00005	 <p style="text-align: right; font-size: small;"> 800-247-2533 928-357-7046 CIRCLE MACHINE CO. USA </p>



ROMICRON[®]

PRECISION BORING HEADS

featuring...

CONSISTENT ADJUSTMENTS WITHIN...0.000080"

BALANCEABLE UP TO...16,000 RPM

CLEARLY MARKED GRADUATED DIAL FOR EASY TO SEE AND FEEL ADJUSTMENT

FAST, ADJUSTMENTS IN AS LITTLE AS...3 SECONDS

DEFINITE STOP ALLOWS YOU TO FEEL GRADUATION ADJUSTMENTS

AUDIBLE CLICK ALLOWS YOU TO HEAR EACH GRADUATION ADJUSTMENT

COMPLETE LINE OF REPLACEABLE AND INDEXABLE TYPE TOOLING

**MOST ACURATE,
PRECISION
BORING HEADS**

**IN TODAY'S
MARKET!**

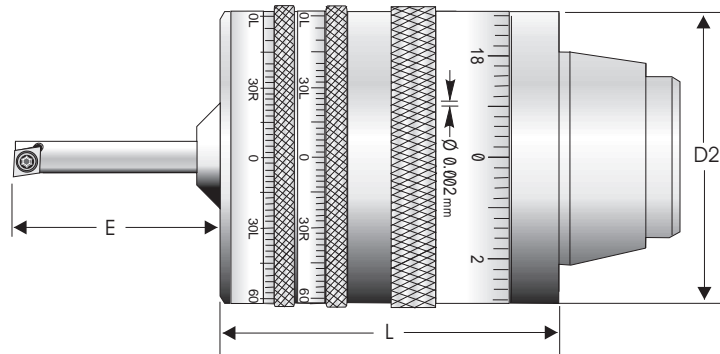
MINIMUM BORE RANGE:

0.062" AND UP!

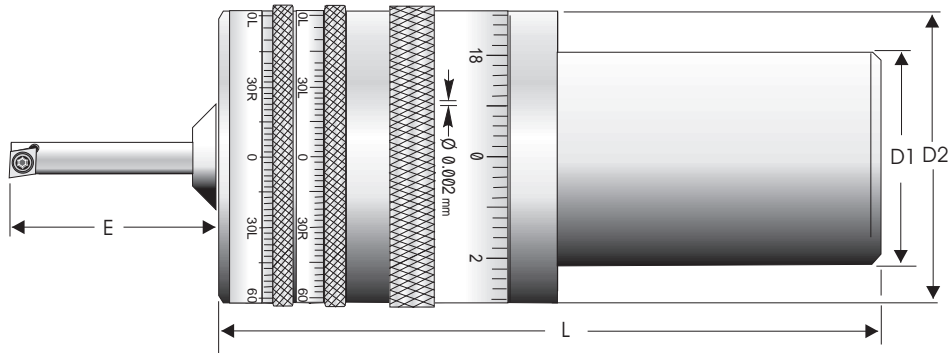
BORE DEPTH RANGE:

UP TO 3.000"

ROMICRON® BB-1 PRECISION BORING HEADS



ROMICRON® BORING HEAD CATALOG NUMBER EDP NUMBER	D1	D2	E	L	TORX KEY NUMBER EDP NUMBER
KR32-SVUBB1 BORING HEAD 91719		1.830"	FOR DEPTH OF CUT SEE PAGES 48-50	2.300"	ST KEY 80006



ROMICRON® BORING HEAD CATALOG NUMBER EDP NUMBER	D1	D2	E	L	TORX KEY NUMBER EDP NUMBER
SS1.25-SVUBB1 BORING HEAD 91718	1.250"	1.830"	FOR DEPTH OF CUT SEE PAGES 48-50	5.550"	ST KEY 80006

ROMICRON®

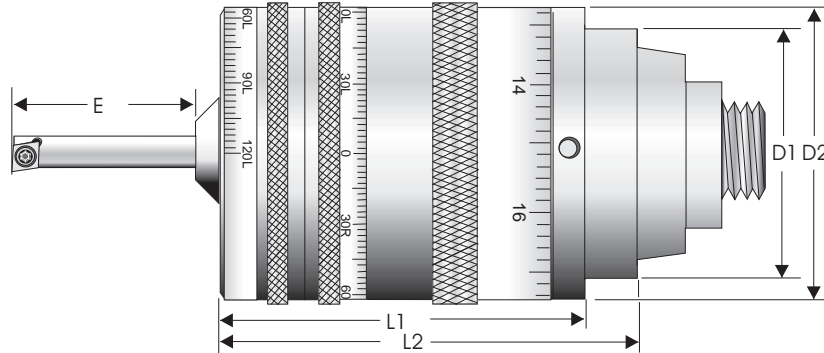
BB-2 PRECISION BORING HEAD

MINIMUM BORE RANGE:

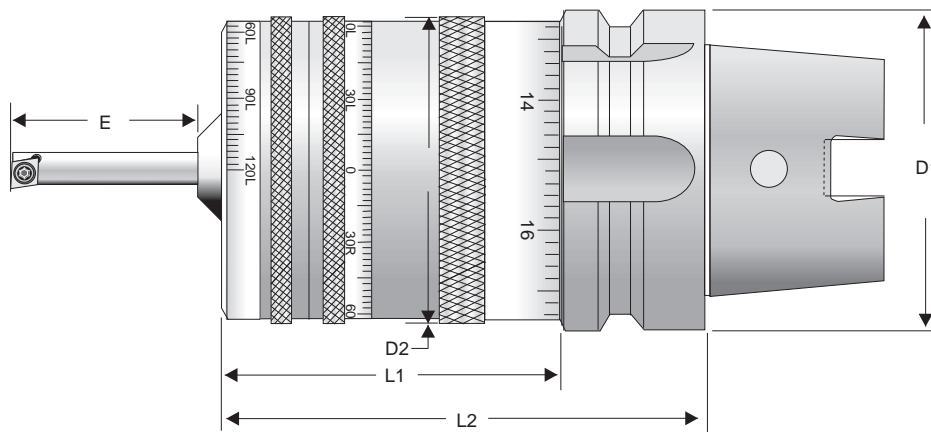
0.062" AND UP!

BORE DEPTH RANGE:

UP TO 3.000"



ROMICRON® BORING HEAD CATALOG NUMBER EDP NUMBER	D1	D2	E	L1	L2	TORX KEY NUMBER EDP NUMBER
KR32-SVUBB2 BORING HEAD 91720	1.750"	2.365"	FOR DEPTH OF CUT SEE PAGES 48-50	2.913"	3.346"	R KEY 00008
KR50-SVUBB2 BORING HEAD 91722		2.365"			2.953"	



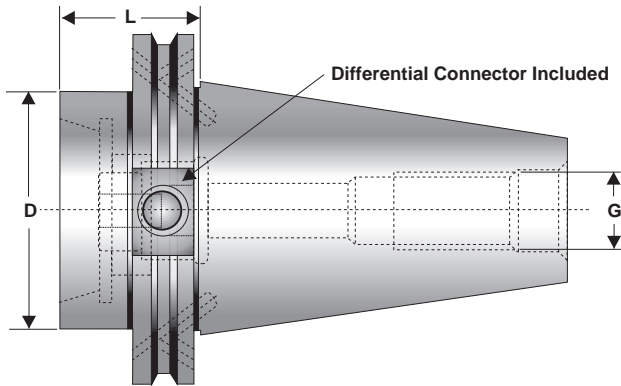
ROMICRON® BORING HEAD CATALOG NUMBER EDP NUMBER	D1	D2	E	L1	L2	TORX KEY NUMBER EDP NUMBER
HSK63-SVUBB2 BORING HEAD* 91725	2.480"	2.362"	FOR DEPTH OF CUT SEE PAGES 48-50	3.622"	4.566"	R KEY 00008
HSK100-SVUBB2 BORING HEAD* 91726	3.937"	2.362"		3.622"	4.803"	

*Available upon request.

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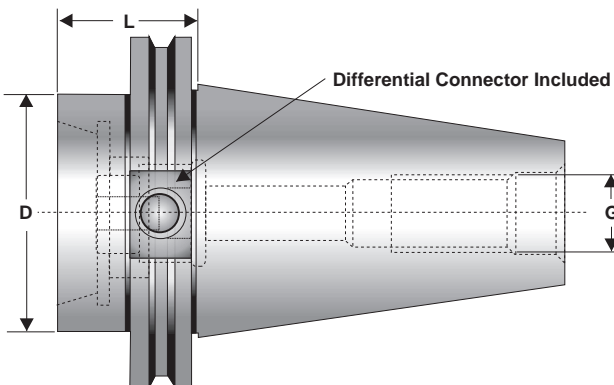
BB-1 & BB-2 PRECISION BORING HEAD ADAPTERS

BT-30, BT-40 & BT-50 ROMICRON PRECISION BORING HEAD ADAPTERS



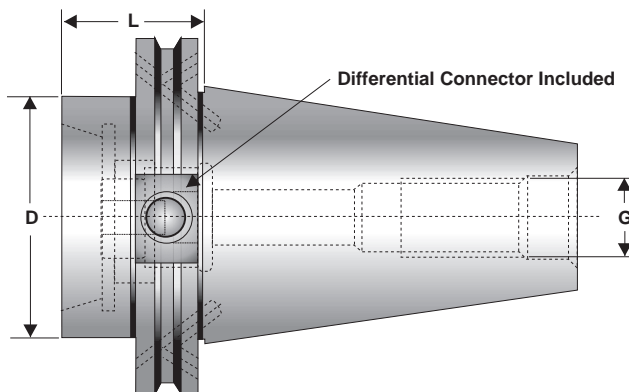
ADAPTER CATALOG NUMBER EDP NUMBER	D	G	L
BT-30-KR32 00043	1.805"	M12x1,75	0.825"
BT-40-KR32 00030	1.969"	M16x2	1.181"
BT-50-KR50 00031	2.560"	M24x3	1.575"

CV-30, CV-40 & CV-50 ROMICRON PRECISION BORING HEAD ADAPTERS



ADAPTER CATALOG NUMBER EDP NUMBER	D	G	L
CV-30-KR32 00042	1.805"	1/2" x 13	1.730"
CV-40-KR32 00032	1.750"	5/8"-11	0.985"
CV-50-KR50 00033	2.750"	1"-8	1.575"

DINV-40* & DINV-50* ROMICRON PRECISION BORING HEAD ADAPTERS (DIN 69871)

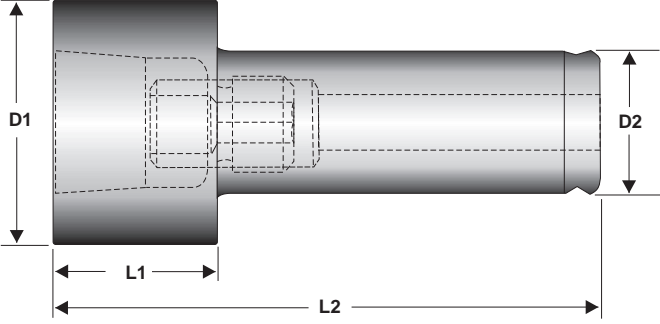


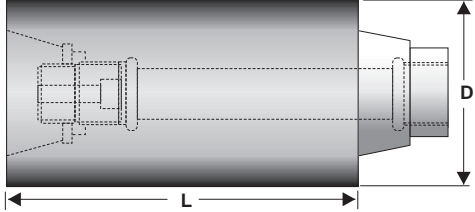
ADAPTER CATALOG NUMBER EDP NUMBER	D	G	L
DINV-40* 00038	1.732"	M16x2	1.730"
DINV-50* 00039	2.362"	M24x3	1.575"

*Available upon request.

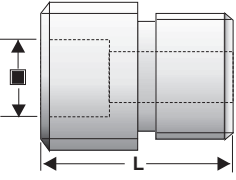
ROMICRON®

BB-1 & BB-2 PRECISION BORING ACCESSORIES

KR32 STRAIGHT HOLDER	CATALOG NUMBER EDP NUMBER	D1	D2	L1	L2
	KR32-1 1/4 00044	1.830"	1.250"	0.880"	4.130"

LENGTH EXTENDERS	CATALOG NUMBER EDP NUMBER	D	L
	KR32-EXT* 00040	1.750"	0.985"
	KR50-EXT* 00041	2.750"	1.575"

*Available upon request only.

DIFFERENTIAL CONNECTORS	CATALOG NUMBER EDP NUMBER	BACK THREAD	FRONT THREAD	L	■
	DCS-40* 00036	M20x2	M18x1	0.866"	3/8"
	DCS-50* 00037	M28x2	M26x1	0.866"	3/8"

*Available upon request only.

MULTI-OPERATION CUTTING TOOLS FOR ROMICRON BORING HEADS

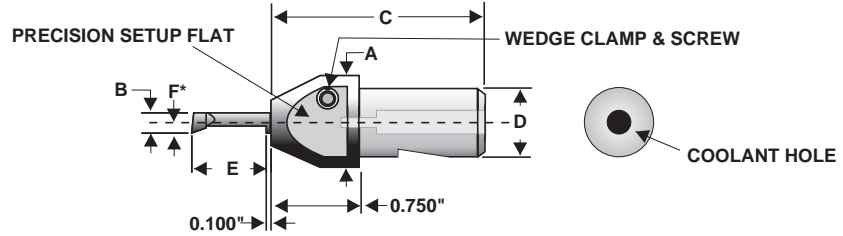
WITH COOLANT THROUGH HOLE

MINIMUM BORE RANGE:

0.062" AND UP!

BORE DEPTH RANGE:

UP TO 1.500"



ROMICRON BORING HEAD BORING BAR CATALOG NUMBER EDP NO.	ROMICRON BORING HEAD TYPE	A SERIES BORING INSERT TYPE(S)	LOCKING WEDGE NUMBER EDP NO.	WEDGE SCREW NUMBER EDP NO.	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NO.	
					MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*		HEAD DIA. A
ATBR-10-42 13026	BB-1	ABC ABD	AW-250 10001	AS-8-32 10002	FOR BORING INSERT SELECTION SEE PAGES 10-11	FOR BORING INSERT SELECTION SEE PAGES 10-11	10 mm	1.625"	FOR BORING INSERT SELECTION SEE PAGES 10-11	0.760"	A BIT 10003
ATBR-16-50 13025	BB-2	FOR BORING INSERT SELECTION SEE PAGES 10-11	AW-250 10001	AS-8-32 10002			16 mm	1.957"		0.760"	

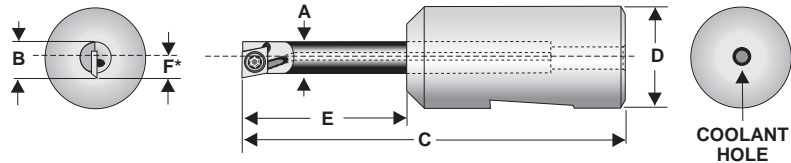
NOTE: A Series Toolholders utilize Replacement Type Inserts that are available for Boring, Grooving, Profiling, or Threading applications, for Replaceable Insert selections for Grooving, Profiling, and or Threading...Please refer to those sections in this catalog.

MINIMUM BORE RANGE:

0.234" AND UP!

BORE DEPTH RANGE:

UP TO 1.000"

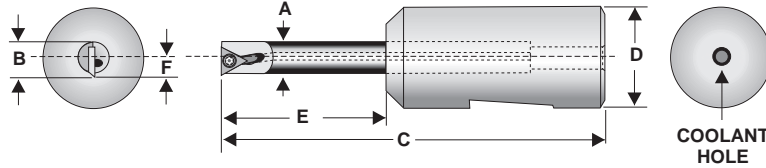


ROMICRON BORING HEAD BORING BAR CATALOG NUMBER EDP NUMBER	ROMICRON BORING HEAD TYPE	C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS					TORX KEY OR DRIVER BIT NUMBER EDP NUMBER	
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*		HEAD DIA. A
CDBR-4,9/10-50-OR 34111	BB-1	CDCD CDCG	CC-09 30001	0.234"	0.500"	10MM	2.000"	0.117"	0.193"	C KEY 30124 OR C BIT 30000
CDBR-4,9/16-25-OR 34110	BB-2	OR CDCT FOR INSERT SELECTION SEE PAGES 13-15	CC-11 30002	0.234"	1.000"	16MM	2.345"	0.117"	0.193"	

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.

MULTI-OPERATION CUTTING TOOLS FOR ROMICRON BORING HEADS

WITH COOLANT THROUGH HOLE

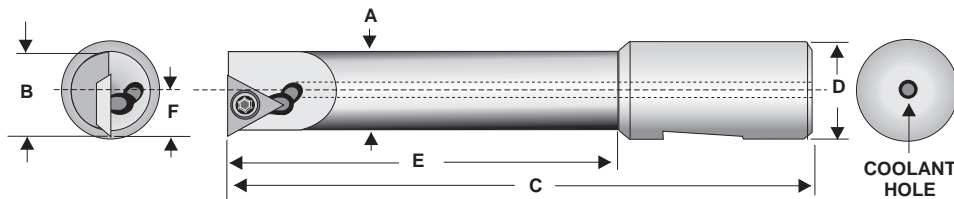


MINIMUM BORE RANGE:
0.374" AND UP!

BORE DEPTH RANGE:
UP TO 1.500"

ROMICRON BORING HEAD BORING BAR CATALOG NUMBER EDP NUMBER	ROMICRON BORING HEAD TYPE	C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
FDBR-6,6/10-56-0R 44071	BB-1	TDAB TDCG OR TDAT FOR INSERT SELECTION SEE PAGES 18-20	FC-14 40007	0.374"	1.500"	10MM	2.250"	0.187"	0.323"	F KEY 40001 OR F BIT 40000
FDBR-8,2/16-72-0R 44070	BB-2		FC-14 40007	0.374"	1.500"	16MM	2.845"	0.187"	0.323"	

*Gage Insert Dimension assumes the use of our standard, CDCD-505 indexable type insert.



MINIMUM BORE RANGE:
0.430" AND UP!

BORE DEPTH RANGE:
UP TO 2.500"

ROMICRON BORING HEAD BORING BAR CATALOG NUMBER EDP NUMBER	ROMICRON BORING HEAD TYPE	C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
QTBR-9,5/10-76-0R 64102	BB-1	TPCB-22 TPCG-22 TPCH-22 TPGT-22 OR TPMT-22^A FOR INSERT SELECTION SEE PAGES 21-25	QC-26 60002	0.430"	2.000"	10MM	3.000"	0.215"	0.385"	Q KEY 60010 OR Q BIT 60000
QTBR-10/16-70-0R 64101	BB-2		QC-26 60002	0.456"	2.000"	16MM	3.260"	0.228"	0.394"	
QTBR13/16-95,5-0R- 64100	BB-2		QC-26 60002	0.592"	2.500"	16MM	3.760"	0.296"	0.510"	

*Gage Insert Dimension assumes the use of our standard, TPCB-2205 indexable type insert.

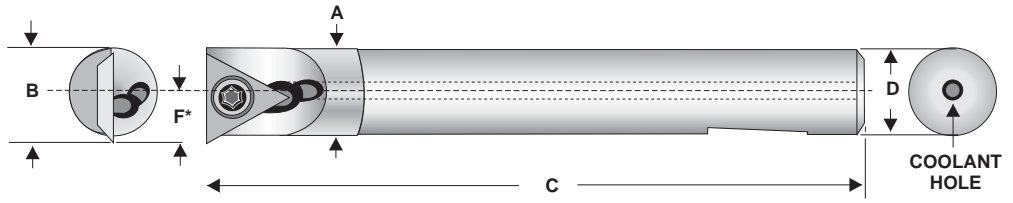
^ATPMT type inserts require QT-25 (EDP No 60008) insert holding screw with a QT KEY (EDP No 60014) or QT BIT (EDP No 60013).

MULTI-OPERATION CUTTING TOOLS FOR ROMICRON BORING HEADS

WITH COOLANT THROUGH HOLE

MINIMUM BORE RANGE:
0.374" AND UP!

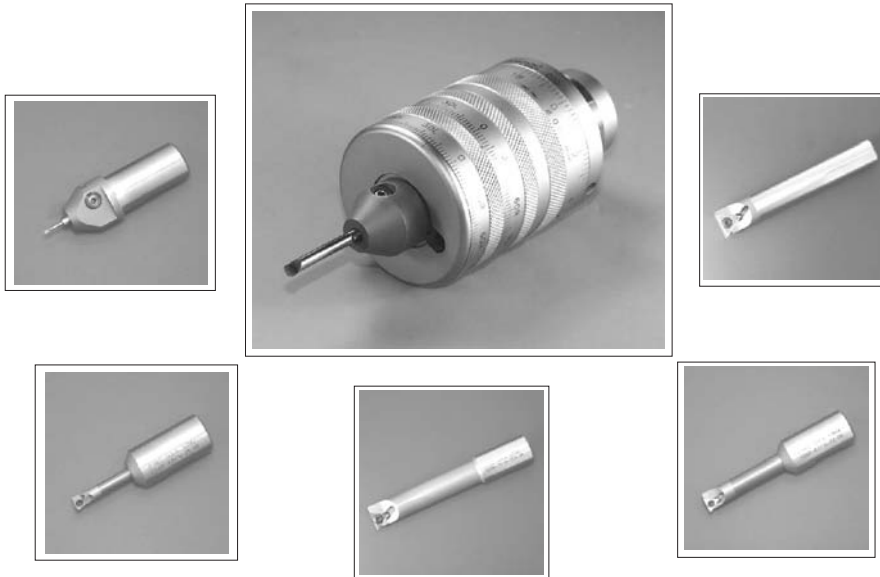
BORE DEPTH RANGE:
UP TO 1.500"



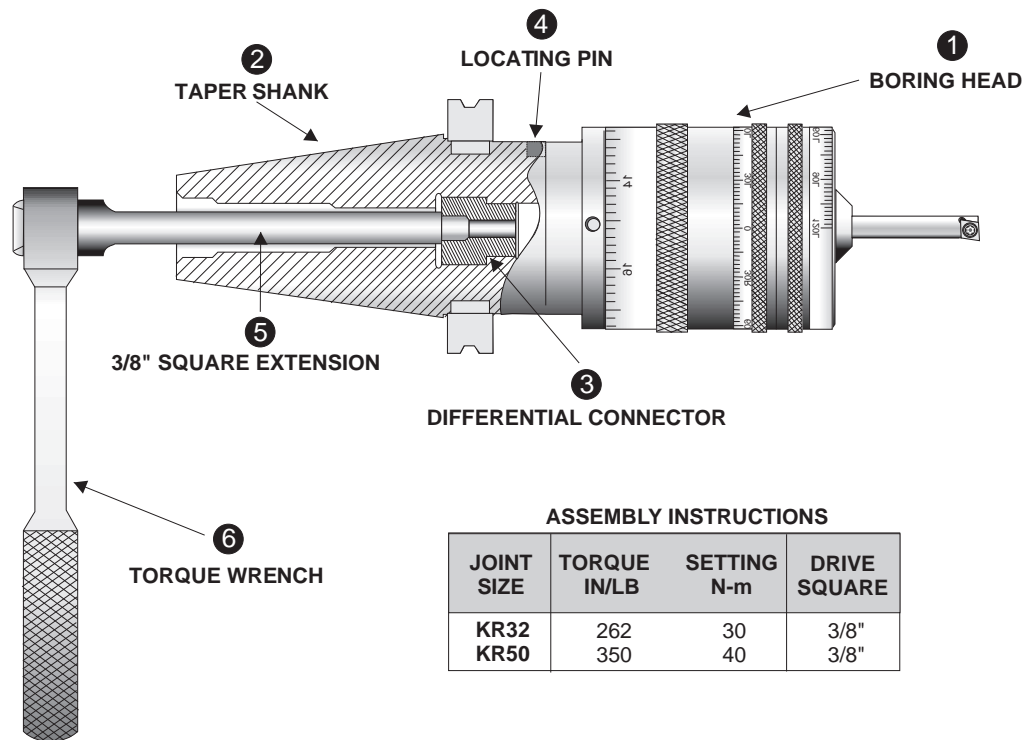
ROMICRON BORING HEAD BORING BAR CATALOG NUMBER EDP NUMBER	ROMICRON BORING HEAD TYPE	C SERIES INSERT TYPE (S)	INSERT HOLDING SCREW NUMBER EDP NUMBER	BAR SPECIFICATIONS						TORX KEY OR DRIVER BIT NUMBER EDP NUMBER
				MIN. BORE B	BORE DEPTH E	SHANK DIA. D	OVERALL LENGTH C	GAGE INSERT F*	HEAD DIA. A	
STBR-16-107-OR 83030	BB-2	TD-6P TDCG-32 TPGH-32 TPGT-32 OR TPMT^ FOR INSERT SELECTION SEE PAGES 26-31	SC-30 80001	0.700"	3.000"	16MM	4.200"	0.350"	0.635"	S KEY 80045 OR S BIT 80000

*Gage Insert Dimension assumes the use of our standard, TD-6P-05 indexable type insert.

^TPMT type inserts require ST-31 (EDP NO. 80003) insert holding screws used with ST KEY (EDP Number 80006) or ST BIT (EDP Number 80005).



ROMICRON™ PRECISION BORING HEAD ASSEMBLY DATA



ASSEMBLY INSTRUCTIONS

JOINT SIZE	TORQUE IN/LB	SETTING N-m	DRIVE SQUARE
KR32	262	30	3/8"
KR50	350	40	3/8"






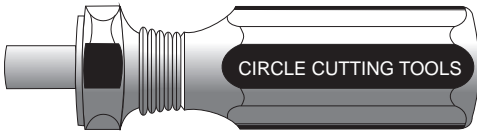
Before starting, make sure all mating surfaces are free from dirt and are perfectly clean.

Assembly requires (1) torque wrench, (1) square extension and a tightening fixture.

- A) Remove the differential connector **3** from the taper shaft **2**. Coat the differential connector threads with ASL-3G anti-sieze lubricant supplied with the taper shank. Screw the differential connector into the rear thread of the boring head **1** until it is gently resting on the face between the two differential threads.
- B) Screw front end of the taper shank **2** onto the differential connector **3** now located in the rear of the boring head **1**. **Proceed carefully** until the locating pin **4** begins to touch the taper shank face. **Stop!** Unscrew the taper shank **2** until the locating **4** pin is aligned with the locating slot on the taper shank face.
- C) Insert the square end of the socket extension **5** through the taper shank **2** and into the differential connector **3**. While maintaining alignment of locating pin **4** and relative slot, turn the extension **counterclockwise** until you see the two Romicron faces approaching each other. Make sure that the locating pin is **going into** the slot on the taper shank.
- D) Tighten the differential connector **3** to the required torque specification, as shown above, using the torque wrench **6**.

This will give you a taper/face contact connection.

ROMICRON BORING HEAD BORING BAR ACCESSORIES

ACCESSORY CATALOG NUMBER	EDP NUMBER	ACCESSORIES
A BIT C BIT F BIT Q BIT QT BIT S BIT ST BIT	10003 30000 40000 60000 60013 80000 80005	
A KEY C KEY F KEY Q KEY QT KEY R KEY S KEY ST KEY	10005 30124 40001 60010 60014 00008 80045 80006	
AS-8-32	10002	
AW-250	10001	
CC-11 FC-14 QC-26 QT-25 SC-30 ST-31	30001 40007 60002 60008 80001 80003	
DRIVER	00000	
CTS-30	00001	