

For ID Boring, Grooving, and Threading

STICK DUID[®] Hyper

NEW!

Index Double-ended ID Tools with Ease!!



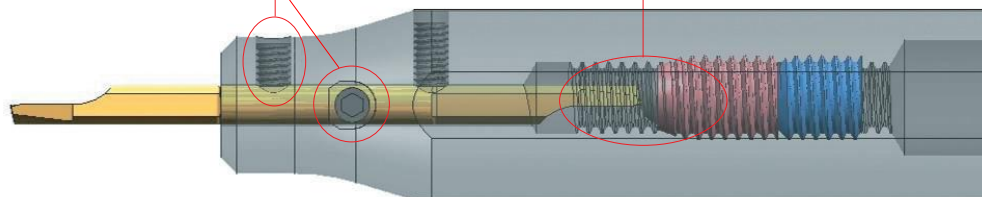
Features

- Indexable double-ended solid carbide ID tools - **No adjustment required for each index.**
- Excellent repeatability in inserts and holders (see next page for detail).
- **Adjustable overhang** amount by adjusting internal ball screw location.
- Wear resistant multi-layer PVD coating.
- **Competitive price per corner** performance.

Design

Clamp screws ensure excellent repeatability in cutting edge location.

Ball screw determines overhang amount.
• Unique insert design prevents cutting edge from chipping.

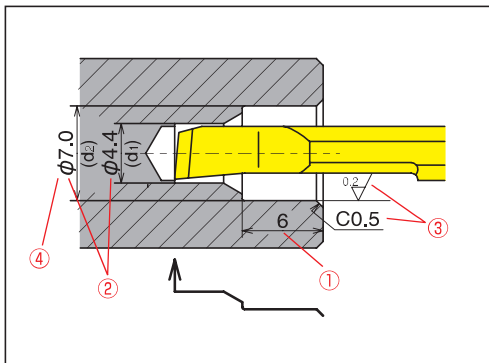


Excellence in Repeatability and Precision

Tool Tolerance

<p>Offset f: +/- .0006" Tool Length L₁: +/- .0008"</p>	<p>Centerline Z: +.002"/-.000"</p>	<p>Corner R: +/- .0006"</p>

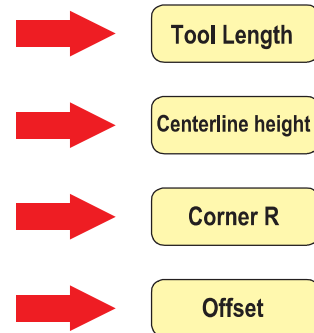
Application Example



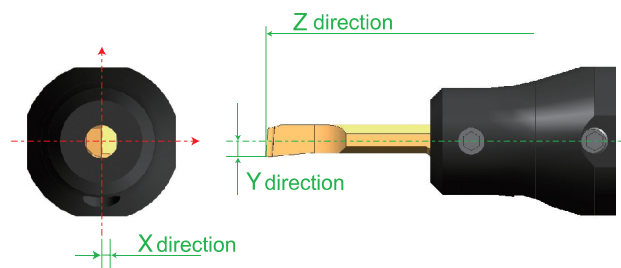
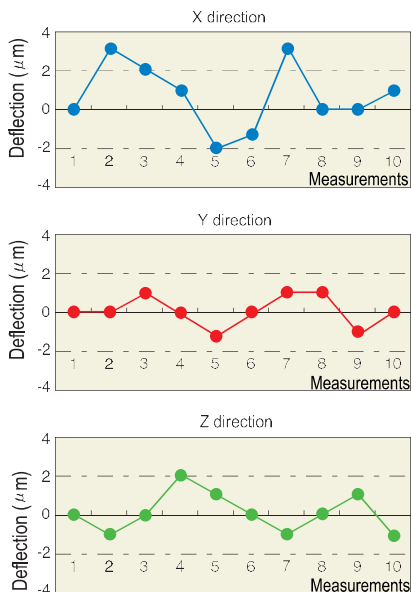
Typical issues caused by poor tolerance

1. Unstable depth
(Including dimension on face)
2. Unstable ID at d₁ & d₂
3. Unstable finish and depth of cut
4. Unstable ID

Caused by tolerance in



Repeatability

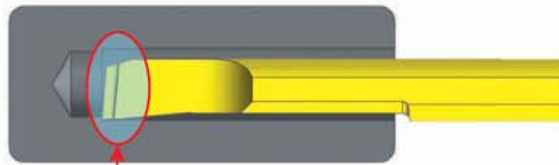


Excellent repeatability ensures high-precision machining!

For Boring

- .087" minimum boring diameter
- Available in two styles: SBFS and SBFB
- Two corner radius available: .002" & .006" *

SBFS Type



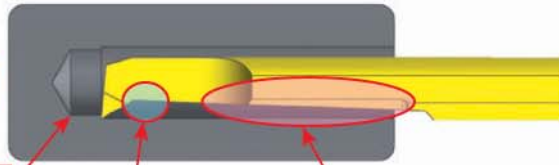
Sharp cutting edge

S Chipbreaker



High shearing design

SBFB Type



30 deg. cutting edge

For profiling and creating sholder

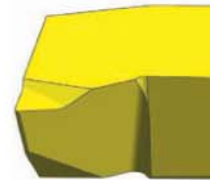
Large chip evacuation space

Evacuating chips backward

Back taper

Increased rigidity

F Chipbreaker

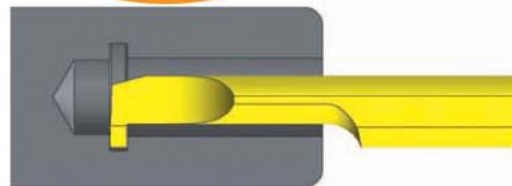


Evacuates chips backward
Great chip control prevents scratching work surface

For Grooving

- .118" minimum boring diameter
- Groove width available: .020", .030" & .059"

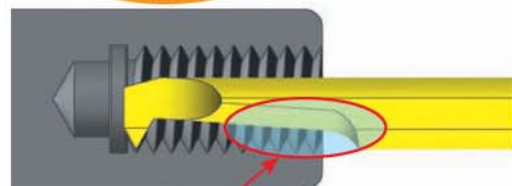
SBG Type



For Threading

- Minimum machinable pitch: .020"
- Tapered design provides high rigidity

SBT Type



Tapered design

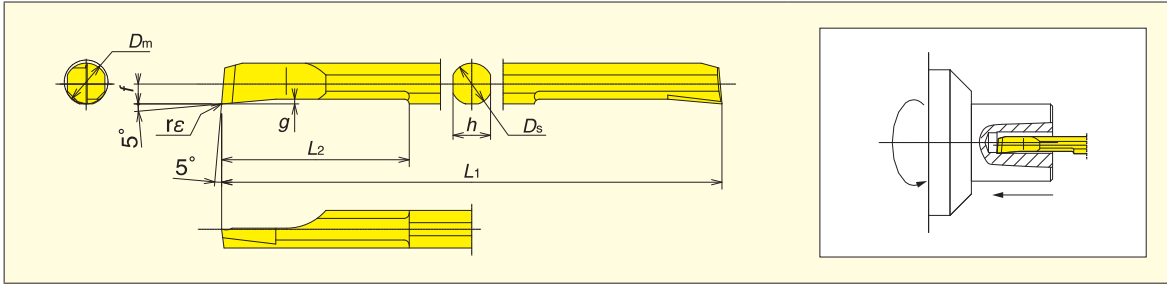
Increased rigidity

* .079" shank size is available only in .002" nose radius.

SHFS-S type (for ID Boring)

Solid Carbide Bar

Minimum Boring Dia. 2.2mm (.087")

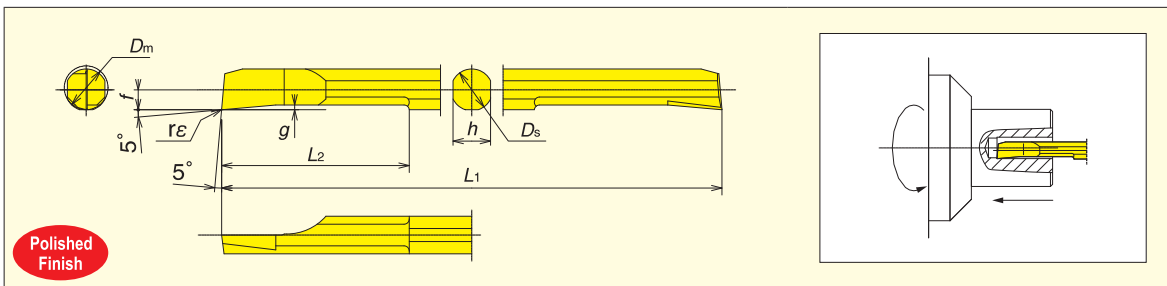


Item Number	Min. Bore Dia. (mm) D_m	Dimension (mm)								Chipbreaker	PVD Coated Micrograin Carbide	
		D_s	L_1	L_2	f	h	g	$r \epsilon$	TM4		Japan Stock	
NEW SHFS020R005S	2.2	2	50	10	0.9	1.8	0.25	0.05	Type S	5709548	●	
NEW SHFS025R005S	2.7	2.5	50	12.5	1.15	2.3	0.30	0.05		5709563	●	
NEW 025R015S								0.15		5709571	●	
NEW SHFS030R005S	3.2	3	50	15	1.4	2.7	0.40	0.05		5709589	●	
NEW 030R015S								0.15		5709597	●	
NEW SHFS035R005S	3.7	3.5	60	17.5	1.65	3.2	0.40	0.05		5709605	●	
NEW 035R015S								0.15		5709613	●	
NEW SHFS040R005S	4.2	4	60	20	1.9	3.6	0.45	0.05		5709621	●	
NEW 040R015S								0.15		5709639	●	
NEW SHFS050R005S	5.2	5	70	25	2.4	4.5	0.50	0.05		5709647	●	
NEW 050R015S								0.15	5709654	●		

SHFS-H type (for ID Boring)

Solid Carbide Bar

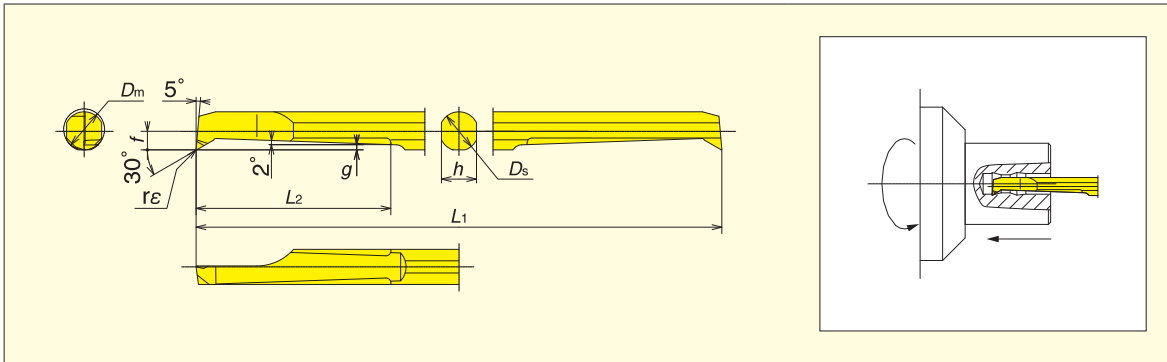
Minimum Boring Dia. 2.2mm (.087")



Item Number	Min. Bore Dia. (mm) D_m	Dimension (mm)								Chipbreaker	PVD Coated Micrograin Carbide	
		D_s	L_1	L_2	f	h	g	$r \epsilon$	TM4		Japan Stock	
NEW SHFS020R005H	2.2	2	50	10	0.9	1.8	0.25	0.05	None	5709662	●	
NEW SHFS025R005H	2.7	2.5	50	12.5	1.15	2.3	0.30	0.05		5709670	●	
NEW 025R015H								0.15		5709688	●	
NEW SHFS030R005H	3.2	3	50	15	1.4	2.7	0.40	0.05		5709696	●	
NEW 030R015H								0.15		5709704	●	
NEW SHFS035R005H	3.7	3.5	60	17.5	1.65	3.2	0.40	0.05		5709712	●	
NEW 035R015H								0.15		5709720	●	
NEW SHFS040R005H	4.2	4	60	20	1.9	3.6	0.45	0.05		5709738	●	
NEW 040R015H								0.15		5709746	●	
NEW SHFS050R005H	5.2	5	70	25	2.4	4.5	0.50	0.05		5709753	●	
NEW 050R015H								0.15	5709761	●		

SHFB-F type (for ID Boring)

Solid Carbide Bar Minimum Boring Dia. 2.2mm (.087")



Item Number	Min. Bore Dia. (mm) D_m	Dimension (mm)							Chipbreaker	PVD Coated Micrograin Carbide	
		D_s	L_1	L_2	f	h	g	$r \epsilon$		TM4	Japan Stock
NEW SHFB020R005F	2.2	2	50	8	0.95	1.8	0.25	0.05	Type F	5709779	●
NEW SHFB025R005F	2.7	2.5	50	12.5	1.2	2.3	0.30	0.05		5709787	●
NEW 025R015F								0.15		5709795	●
NEW SHFB030R005F								3.2		3	50
NEW 030R015F	0.15	5709811	●								
NEW SHFB035R005F	3.7	3.5	60	17.5	1.65	3.2	0.50	0.05		5709829	●
NEW 035R015F								0.15		5709837	●
NEW SHFB040R005F	4.2	4	60	20	1.9	3.6	0.50	0.05		5709845	●
NEW 040R015F								0.15		5709852	●
NEW SHFB050R005F	5.2	5	70	25	2.4	4.5	0.70	0.05		5709860	●
NEW 050R015F								0.15	5709878	●	

Cutting Conditions

● ID Boring

	Steel (Carbon steel, Alloy steel)	Stainless Steel (Excluding 303 SS)	Free Cutting Steel (Including 303 SS)	Non-ferrous Metal (Brass, Aluminum, Copper)
Speed (SFM)	100 - 230	100 - 200	100 - 260	160 - 330
Feed (IPR)	.0004 - .002			

* Assuming depth of cut is .002" to .008"

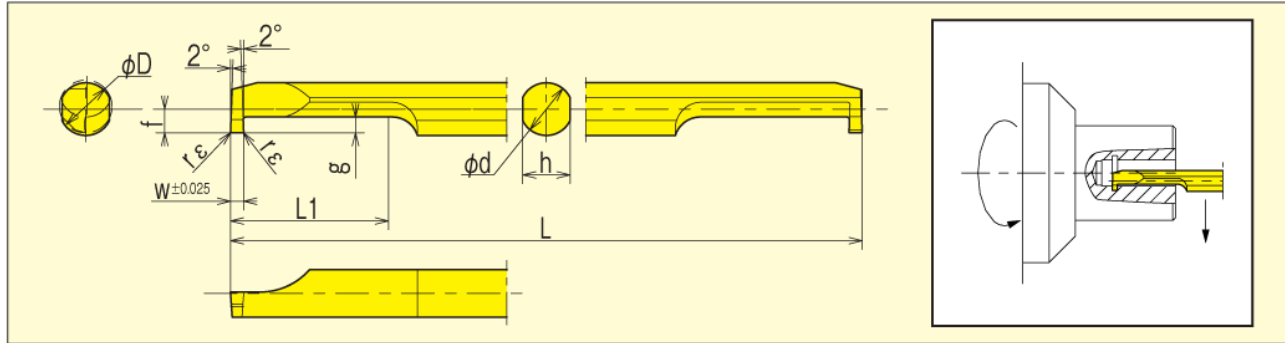
NEW

NTK

Solid Boring Bar Tools for ID Working

SBG Style (For ID Grooving)

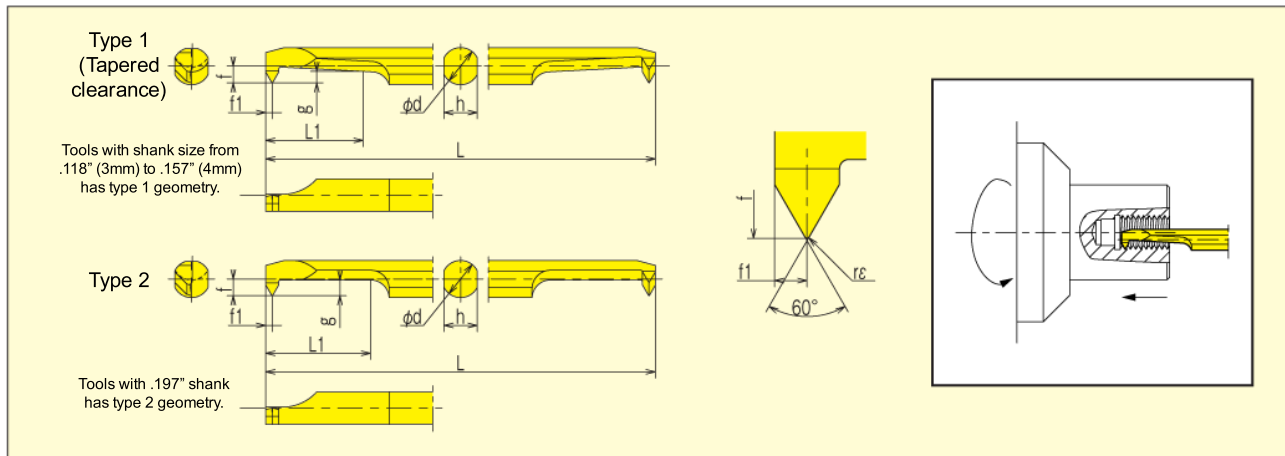
Solid Carbide Bar Min. Machining Diameter: .118" (3mm)



Item Number	Min. Machining Diameter (mm)	Dimension (mm)										PVD Coated Micrograin Carbide	
		W	ϕ d	L	L ₁	f	h	g	r ε	Chipbreaker	ZM3	Japan Stock	
SBG030050RB	3	0.50	3	50	9	1.3	2.7	0.8	0.05	Yes	5652821	●	
SBG030075RB		0.75									5652839	●	
SBG030100RB		1.00									5652847	●	
SBG040050RB	4	0.50	4	60	12	1.8	3.6	1.0	5652797		●		
SBG040075RB		0.75							5652805		●		
SBG040100RB		1.00							5652813		●		
SBG050050RB	5	0.50	5	70	20	2.3	4.5	1.2	5652854		●		
SBG050100RB		1.00							5652862		●		
SBG050150RB		1.50							5652870		●		

SBT Style (For ID Threading)

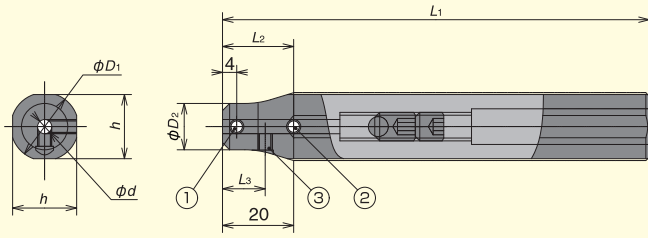
Solid Carbide Bar



Item Number	Min. Machining Diameter	Dimension (mm)										Machinable Threads			Recommended Threads		PVD Coated Micrograin Carbide (Japan Stock)	
		ϕ d	L	h	f	f ₁	L ₁	g	r ε	Metric Thread		UNF Thread	Metric	UNF	ZM3			
										M4 or more	Pitch	TPI						
SBT030M4RB	3.0	3.0	50.0	2.7	1.30	0.50	7.5	0.8	0.05 max Flat	M4 or more	0.5~0.8	No.8-32UNC or more	36~32	M4×0.7	No.8-32UNC	5658018	●	
SBT035M5RB	3.5	3.5	60.0	3.2	1.55	0.55	8.5	1.0	0.05 max Flat	M4.5 or more	0.5~1.0	No.10-24UNC or more	32~24	M5×0.8	No.10-24UNC No.12-24UNC	5658117	●	
SBT040M6RB	4.0	4.0	60.0	3.6	1.80	0.70	10.5	1.2	R0.05	M5.5 or more	0.75~1.25	No.12-24UNC or more	28~20	M6×1.0	1/4-20UNC	5658000	●	
SBT050M8RB	5.0	5.0	70.0	4.5	2.30	0.80	15.8	1.5	R0.05	M7 or more	0.75~1.5	1/4-28UNF or more	28~18	M8×1.25	5/16-18UNC	5657994	●	

HY-NBH

Toolholders Available Shank Size .630" (16mm) to 1" (25.4mm) Dia.



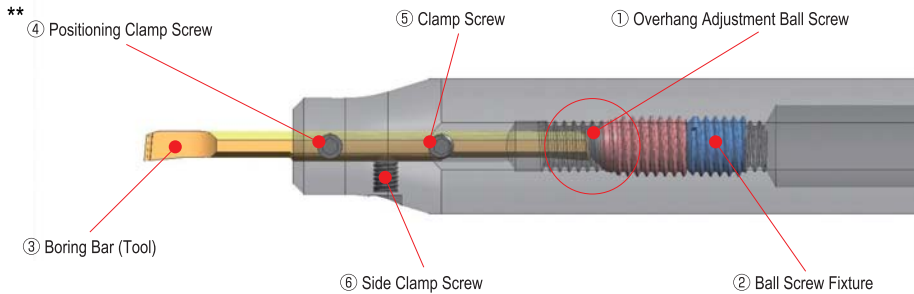
	Item Number	Japan Stock	Dimension (mm)							Clamp Screws		
			ϕd	ϕD_1	ϕD_2	h	L_1	L_2	L_3	①	②	③
NEW	5709894	●	2.0	16	11	15	100	15	9.5	SS04045FS	SS0406F	SS0404F
NEW	5709902	●	2.5		11.5							
NEW	5709910	●	3.0		12							
NEW	5709936	●	3.5		12.5							
NEW	5709944	●	4.0		13							
NEW	5709951	●	5.0		14							
NEW	5709969	●	2.0	19.05 (3/4")	11	18	125	15	9.5	SS04045FS	SS0406F	SS0404F
NEW	5709977	●	2.5		11.5							
NEW	5709985	●	3.0		12							
NEW	5709993	●	3.5		12.5							
NEW	5710009	●	4.0		13							
NEW	5710017	●	5.0		14							
NEW	5712708	●	2.0	20	11	19	125	15	9.5	SS04045FS	SS0406F	SS0404F
NEW	5712716	●	2.5		11.5							
NEW	5712724	●	3.0		12							
NEW	5712740	●	3.5		12.5							
NEW	5712757	●	4.0		13							
NEW	5712765	●	5.0		14							
NEW	5712773	●	2.0	22	11	21	125	15	9.5	SS04045FS	SS0406F	SS0404F
NEW	5712799	●	2.5		11.5							
NEW	5712831	●	3.0		12							
NEW	5712856	●	3.5		12.5							
NEW	5712872	●	4.0		13							
NEW	5712914	●	5.0		14							
NEW	5712732	●	2.0	25	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
NEW	5712823	●	2.5		11.5							
NEW	5712849	●	3.0		12							
NEW	5712864	●	3.5		12.5							
NEW	5712898	●	4.0		13							
NEW	5712922	●	5.0		14							
NEW	5713003	●	2.0	25.4 (1")	11	24	125	15	9.5	SS04045FS	SS0406F	SS0404F
NEW	5713029	●	2.5		11.5							
NEW	5713045	●	3.0		12							
NEW	5713060	●	3.5		12.5							
NEW	5713086	●	4.0		13							
NEW	5713102	●	5.0		14							

■ Spare Parts

Item Description	Item Number
Overhang Adjustment Ball Screw	SS0812R
Ball Screw Fixture	SS0808F
Clamp Screw Wrench	LW-2

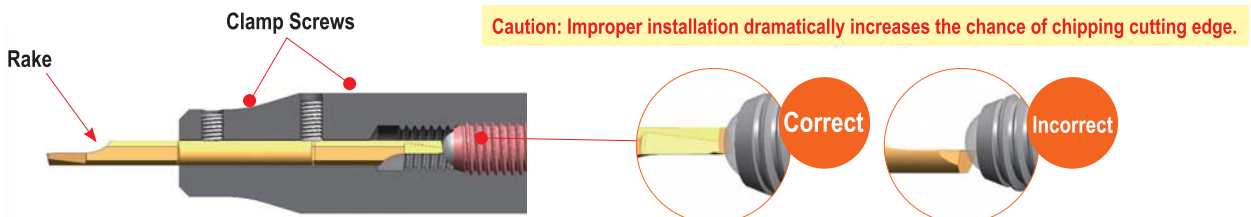
Installation Procedure

Boring Tool Clamping Procedure

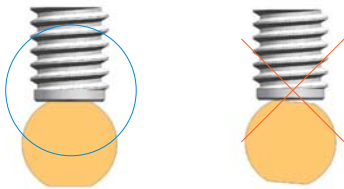


- ① Position the overhang adjustment ball screw to determine overhang amount.
- ② Slide the ball screw fixture to secure the ball screw location.
- ③ Insert a boring bar (tool).

Note: Make sure to insert the boring bar correctly so that the rake faces toward the side clamp screws are located.



- ④ Secure the boring bar by clamping the positioning clamp screw. ▶ Recommended Clamping Torque: 17.7 lb in
- ** Make sure to clamp the boring bar so that flat surface of the bar make proper contacts with clamp screws.



Improper clamping of boring bar causes unstable centerline height and offset.

- ⑤ Secure the boring bar by clamping the remaining clamp screws. ▶ Recommended Clamping Torque: 17.7 lb in
- ⑥ Even if 4 and 5 cannot be applied due to tool clearance and layout, the tool can be used only by using side clamp.

Once the initial setup is complete, repeat the above procedures 3 thru 5 for each index.

When tool is installed upside down

Toolholder must be installed so that clamp screws and rake of the tool face toward the same side.

