



KPK Series

High-Performance Cut-Off Solutions



Unique Design for Superior Performance in Cut-Off Operations

Easy insert replacement

Strong clamping mechanism for added safety and security

Long tool life and stable machining with unique chipbreaker designs

Jet coolant-through styles available (JCT)

NEW New Inch Siz Shank Style Toolholders and Tool Blocks Available



KPK Series

High-Performance Cut-Off Solutions



Easy Insert Replacement Reduces Downtime

High-Performance, Long Tool Life and Stable Machining with Strong Clamping Mechanism

CUT-OFF SOLUTIONS

During cut-off operations, insert cutting widths of only a few millimeters are used to cut to the center of the workpiece.

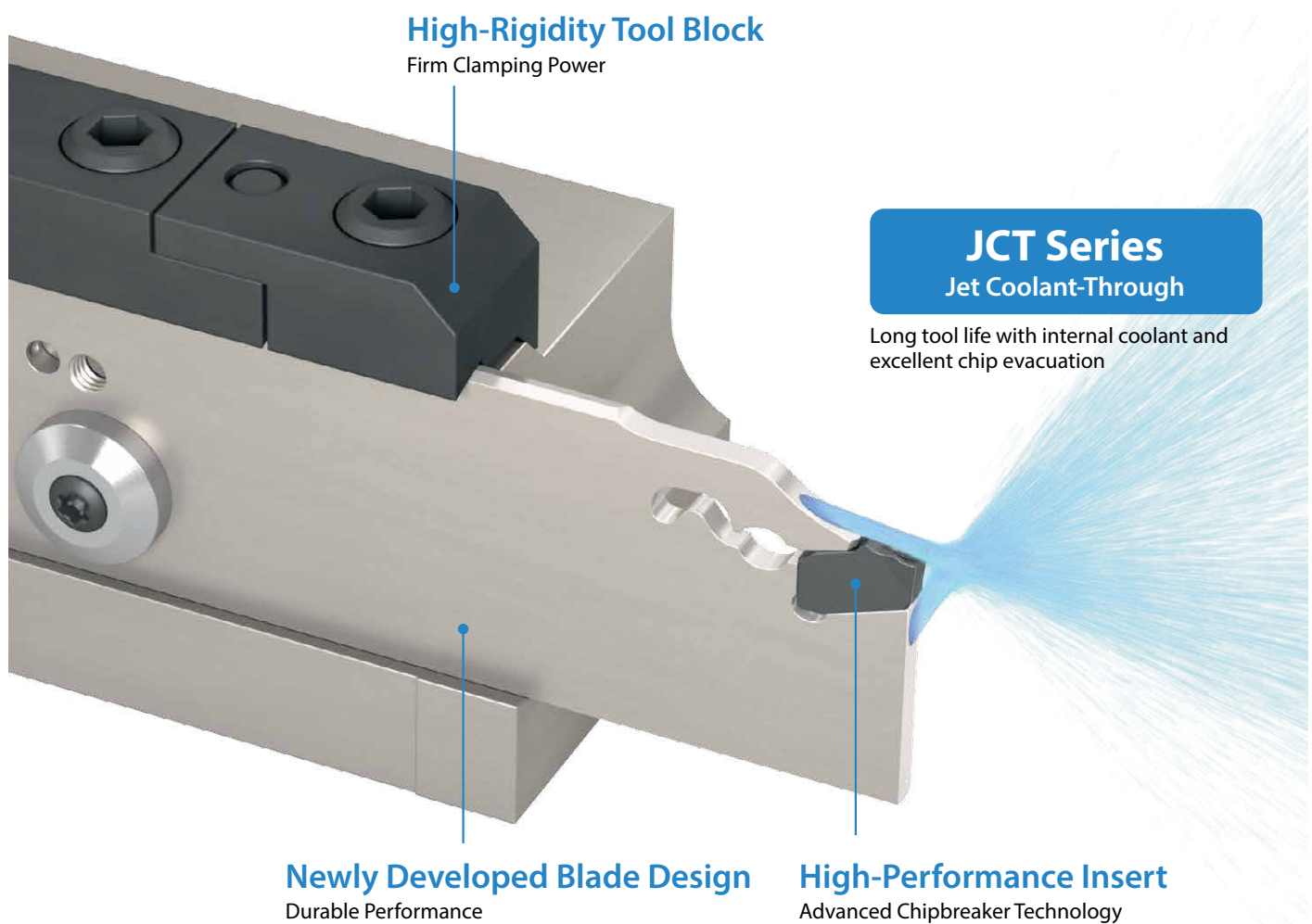
This is usually the final process and is often the bottleneck. Stable tool life without sacrificing productivity is required.

CHALLENGE

Due to the narrow insert and blade widths, rigidity is difficult to achieve. Cutting speed reaches zero at the center of the workpiece, increasing cutting load. Chip control issues and tool damage are common problems.

SOLUTION

The KPK Series features new insert, blade, and tool block designs for rigid, safe, and secure cut-off operations.



High-Rigidity Tool Block

Firm Clamping Power

JCT Series

Jet Coolant-Through

Long tool life with internal coolant and excellent chip evacuation

Newly Developed Blade Design

Durable Performance

High-Performance Insert

Advanced Chipbreaker Technology

1 Easy Insert Replacement

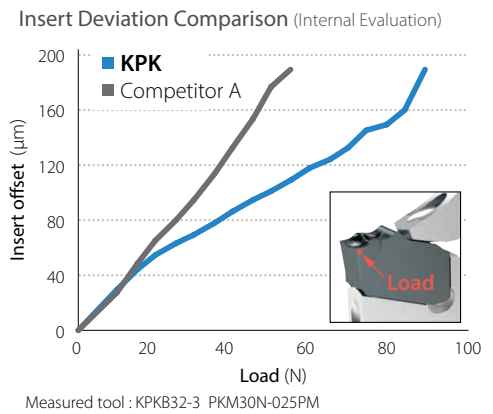
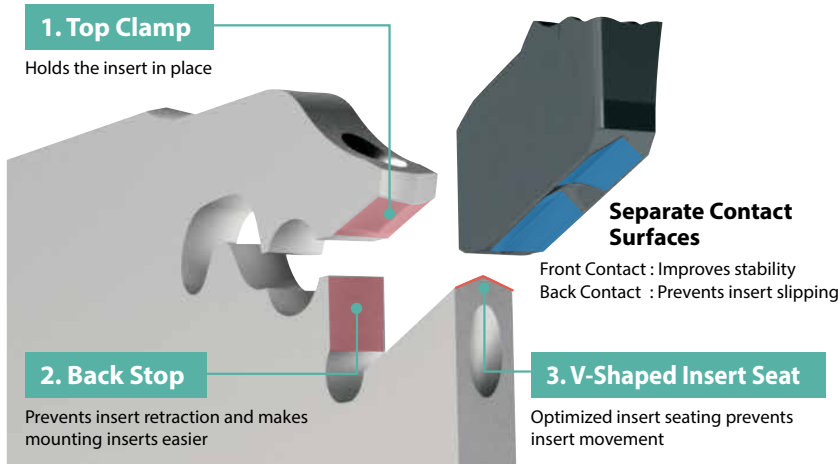


Reduce down time with fast insert replacement
Turn wrench slightly to release insert

No hammer or screw required
Self-clamping

2 Firm Insert Clamp Ensures Added Safety and Security

The firmly secured insert uses three contact surfaces to eliminate sliding or chattering



Cutting Performance Comparison (Internal Evaluation)

KPK	Competitor A	Competitor B
<p>Good Cutting Noise and Surface Finish: Good Stable Machining</p>	<p>Damaged Chip Clogging Scratches on the Finished Surface</p>	<p>Chattering Chip entanglement Chattering when entering the workpiece</p>

Cutting Conditions : n = 320 RPM (constant) , Vc = ~ 330 sfm, f = 0.005 ipr, Wet (External coolant) Workpiece : 4137 (ø 3.937") Cutting Edge Width : 0.118" (3mm), PM Chipbreaker

3 Unique Chipbreaker Designs for Long Tool Life and Stable Machining

Advanced chipbreaker technology inherited from KGD lineup provides excellent chip control



PM Chipbreaker
General Purpose

Insert Grades

- Steel : PR1625
- Stainless Steel : PR1535
- Cast Iron and Aluminum : GW15

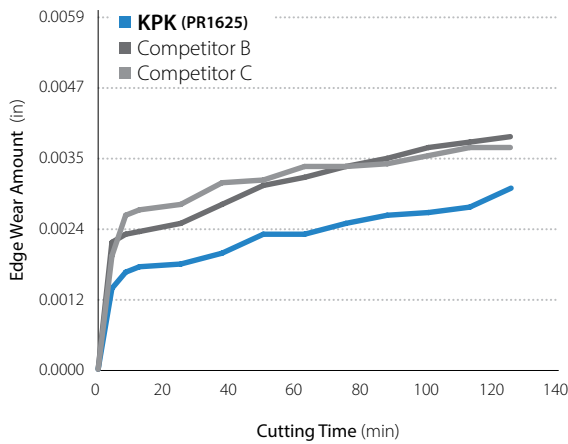


PH Chipbreaker
Tough Edge
High-Feed

Insert Grades

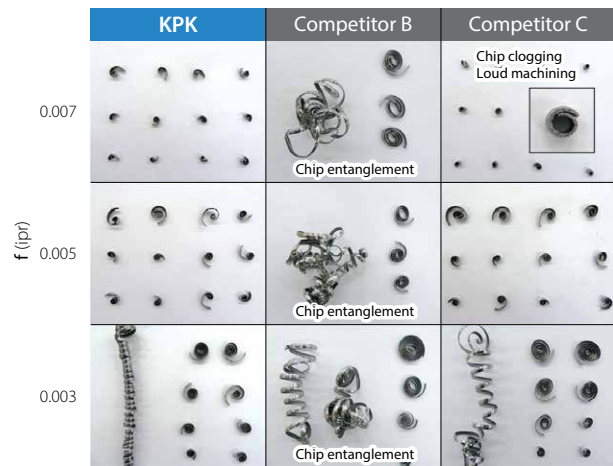
- Steel : PR1625
- Stainless Steel : PR1535

Wear Resistance Comparison (Internal Evaluation)



Cutting Conditions : n = 955 RPM (constant), Vc = ~ 490 sfm
f = 0.005 ipr (~ $\phi 0.394''$: f = 0.002 ipr) Wet (External Coolant)
Workpiece : 4131 ($\phi 1.969''$) Cutting Width : 0.118" (3mm), PM Chipbreaker

Chip Control Comparison (Internal Evaluation)

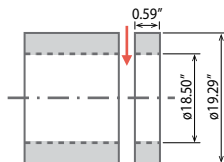


Cutting Conditions : n = RPM (constant), Vc = ~ 390 sfm, Wet (External Coolant)
Workpiece : 4131 ($\phi 1.969''$) Cutting Width : 0.118" (3mm), PM Chipbreaker

SOLUTION 1 Tool Life x 1.3
Stable chip curls

Rings
(High Carbon Chromium Steel)

External Coolant



KPK 34 pcs/corner



Competitor D 25 pcs/corner



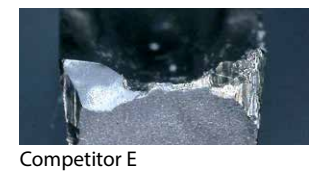
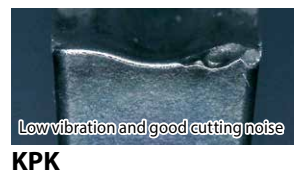
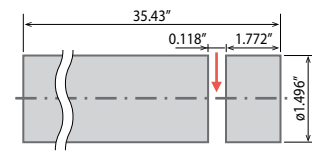
Cutting Conditions : n = 90 RPM (Constant), Vc = ~ 460 sfm, f = 0.002 ipr,
Wet (External Coolant) KPKB32-3 PKM30N-025PM PR1625

(User Evaluation)

SOLUTION 2 Machining efficiency doubled in stainless steel
Stable machining is possible

Adapter
(316)

External Coolant



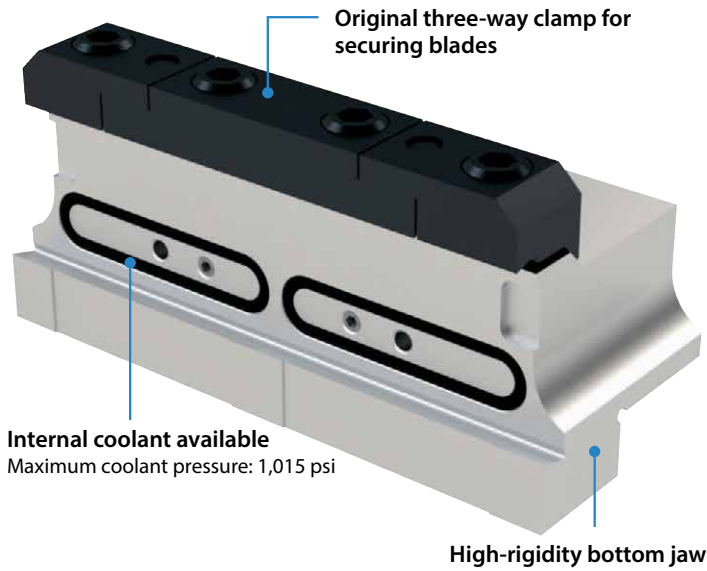
Cutting Conditions : n = 1,450 RPM (Constant), Vc = ~ 570 sfm, f = 0.002 ipr (Inching: 0.039")
Wet (External Coolant) KPKB32-3 PKM30N-025PM PR1535

(User Evaluation)

4

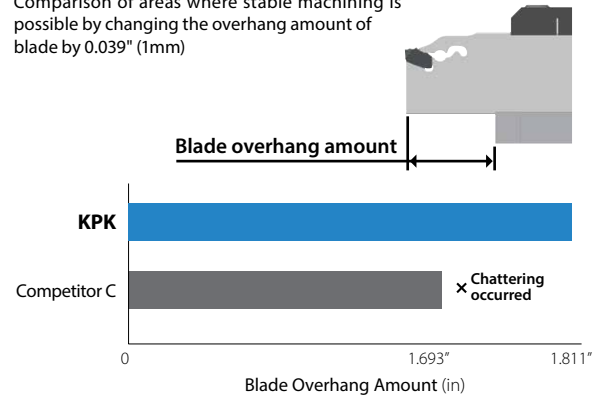
Rigid Tool Holder Block Prevents Chattering and Provides Internal Coolant

KPKTB-JCT



Chatter Resistance Comparison (Internal evaluation)

Comparison of areas where stable machining is possible by changing the overhang amount of blade by 0.039" (1mm)



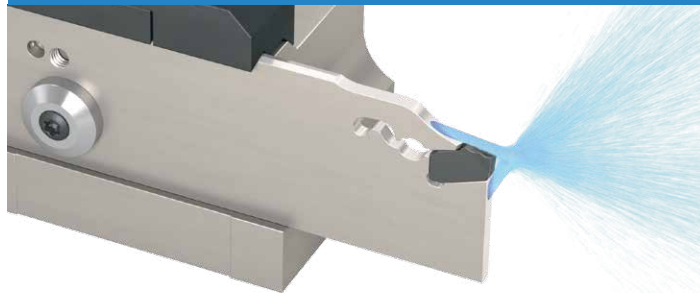
Cutting Conditions : n = 650 RPM (Constant), Vc = ~ 330 sfm, f = 0.005 ipr
Wet (Internal Coolant : Normal Pressure), Workpiece : 4137 (ø1.969")
Cutting Width : 0.118" (3mm), PM Chipbreaker

Note

KTKTB type is compatible with internal coolant with an optional internal connector. (~ 145 psi)

*Refer to page 10 for the supply method (Type C).

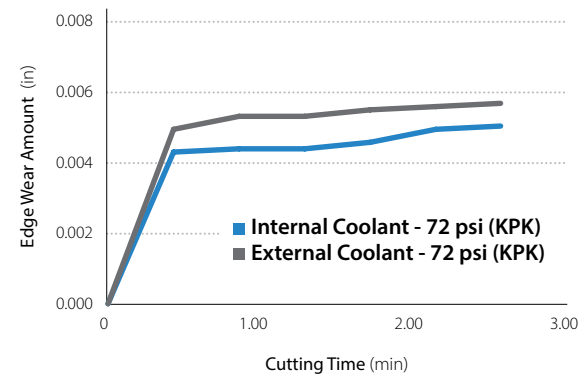
JCT series supports internal coolant for improved tool life under normal pressure



KPKB-JCT maximum overhang length while using internal coolant is as follows:
Size 26 : 1.575" (40mm) Size 32 : 2.323" (59mm)

Coolant is supplied directly to the rake and the flank face of the cutting edge for increased tool life and improved chip control

Wear Resistance Comparison (Internal Evaluation)



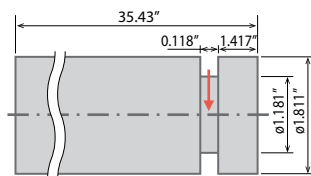
Cutting Conditions : Vc = 100 sfm (Constant), f = 0.004 ipr,
Cutting Depth : 0.394", Wet
Workpiece : Inconel 718 (ø3.937") Cutting Width : 0.118" (3mm), PM Chipbreaker

SOLUTION 3

**Doubled tool life
Reduced fracturing**

Machine Part (304)

Internal Coolant



KPK

60 pcs/corner (Stable)

Competitor F

30 pcs/corner (Unstable)

Cutting conditions : Vc = 215 sfm (Constant), f = 0.002 ipr,
Wet (Internal Coolant 508 psi) KPKB32-3JCT PKM30N-025PM PR1535

(User Evaluation)

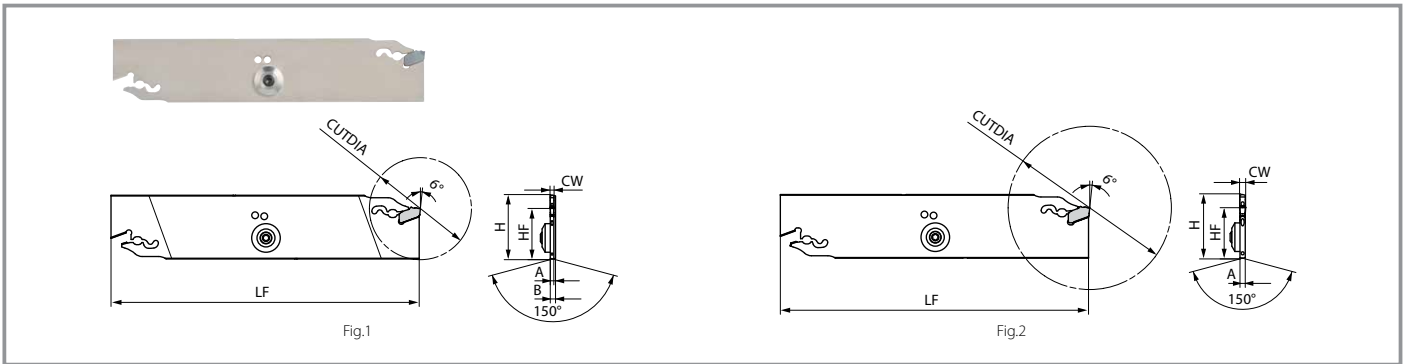
Chip Control Comparison (Internal Evaluation)



Cutting conditions : n = 780 RPM (Constant), Vc = 390 sfm, f = 0.003 ipr,
Wet Workpiece : 4131 (ø1.969") Cutting Width : 0.118" (3mm), PM Chipbreaker

Blades (Coolant-Through)

KPKB-JCT



Blade Dimensions (Metric Sizes)

Pressure Resistance: 1,015 psi

Part Number	Stock	Cutting Dia.	Dimensions (mm)					Edge Width (mm)	Drawing	Parts				Applicable Inserts	Applicable Tool Block							
			*H	HF	B	LF	A			CW	Insert Wrench	Coolant Plug	Screw			Wrench						
KPKB 26-1JCT	●	35	26	21.4	2.6	110	1.4	1.6	Fig. 1	LPW-5	CCP-4	SB-4065TR	FT-15	PKM16...	KPKTB○○-26JCT KTKTB○○-26							
KPKB 26-2JCT	●	50					1.8	2.0						2.4								
KPKB 26-3JCT	●	75			-		4.0	4.0	Fig. 2					2.6		3.0	PKM30...					
KPKB 26-4JCT	●	80												3.4		4.0	PKM40...					
KPKB 26-5JCT	●	80												4.2		4.8	5.0	PKM48...	PKM50...			
KPKB 32-1JCT	●	35	32	25.0	2.6	150	1.4	1.6	Fig. 1					Coolant Plug Screw Tightening Torque 3.0 Nm				PKM16...	KPKTB○○-32JCT KTKTB○○-32 KTKTBF○○-32			
KPKB 32-2JCT	●	50					1.8	2.0										2.4				
KPKB 32-3JCT	●	100			-		4.0	4.0	Fig. 2									2.6		3.0	PKM30...	
KPKB 32-4JCT	●	100																3.4		4.0	PKM40...	
KPKB 32-5JCT	●	120																4.2		4.8	5.0	PKM48...
KPKB 32-6JCT	●	120			5.4		6.0					PKM60...										

See page 18 for insert mounting and removal instructions.

● Standard Item

When using internal coolant with KTKTB, KTKTBF type tool holder blocks, coolant supply piping (CCN -5) sold separately.

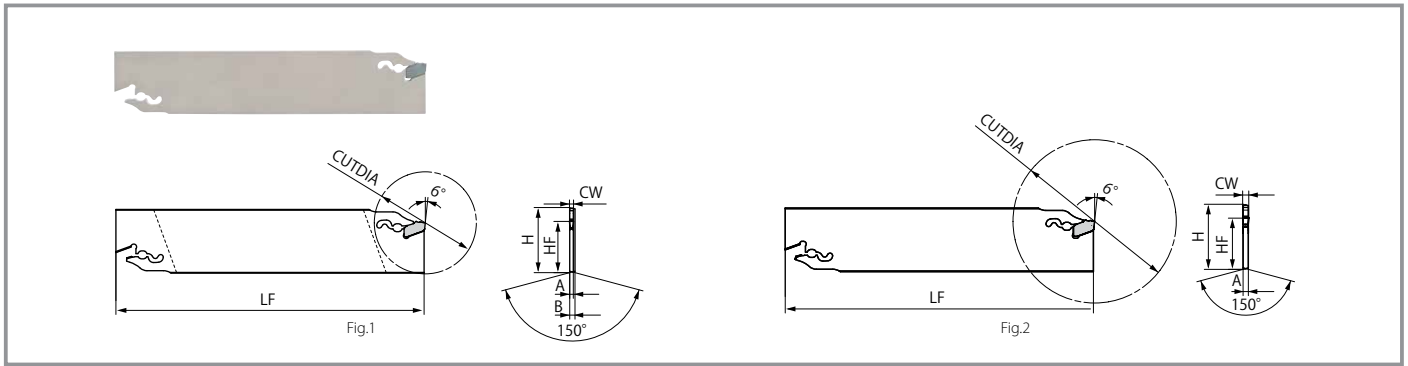
*H : Length between virtual vertices

Minimum / Maximum Overhang Length While Using Internal Coolant

	Part Number		Overhang Length	
	Blade	Tool Holder Block	Min.	Max.
	KPKB26-1JCT	KPKTB20-26JCT	15	34.5
	KPKB26-2/3/4JCT		20	40
	KPKB26-5JCT		23	43
	KPKB32-1JCT	KPKTB20-32JCT	18	49
		KPKTB25-32JCT	13	
	KPKB32-2/3/4JCT	KPKTB20-32JCT	27.5	59
		KPKTB25-32JCT	22.5	
		KPKTB32-32JCT		
	KPKB32-5/6JCT	KPKTB20-32JCT	31.5	63
		KPKTB25-32JCT	26.5	
KPKTB32-32JCT				

Blades (Not Coolant-Through)

KPKB



Blade Dimensions (Metric Sizes)

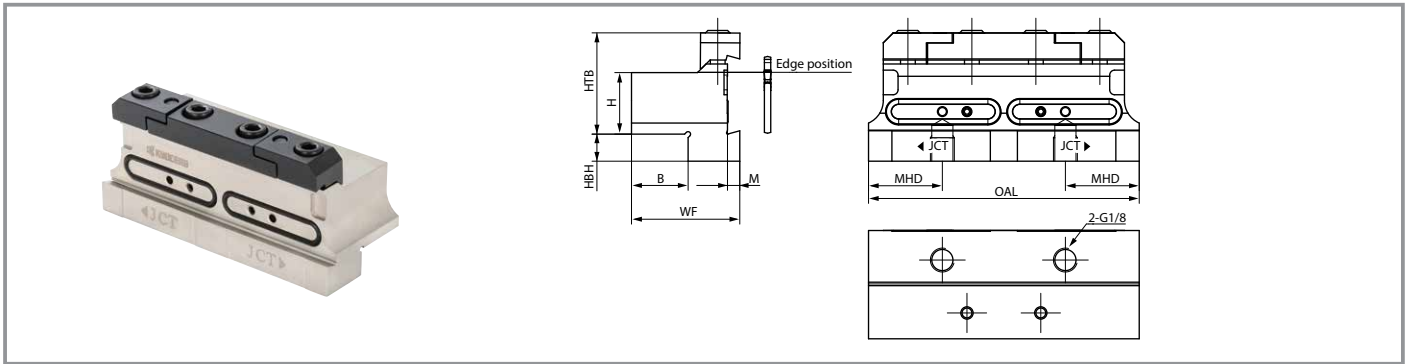
Part Number	Stock	Cutting Dia.	Dimensions (mm)						Edge Width (mm)	Drawing	Parts	Applicable Inserts	Applicable Tool Block
			CUTDIA	*H	HF	B	LF	A			CW		
KPKB 19-1	●	32	19	15.7	2.6	86	1.4	1.6	Fig.1	LPW-5	PKM16...	KTKTB○○-19	
	●	40			-		1.8	2.0	2.4		Fig.2		PKM20... PKM24...
KPKB 26-1	●	35	26	21.4	2.6	110	1.4	1.6	Fig.1		PKM16...	KPKTB○○-26JCT KTKTB○○-26	
	●	50			1.8		2.0	2.4	Fig.2		PKM20... PKM24...		
	●	75			2.6		3.0	PKM30...					
	●	80			3.4		4.0	PKM40...					
	●	80			4.2		4.8	5.0		PKM48... PKM50...			
KPKB 32-1	●	35	32	25.0	2.6	150	1.4	1.6	Fig.1	PKM16...	KPKTB○○-32JCT KTKTB○○-32 KTKTBF○○-32		
	●	50			1.8		2.0	2.4	Fig.2	PKM20... PKM24...			
	●	100			2.6		3.0	PKM30...					
	●	100			3.4		4.0	PKM40...					
	●	120			4.2		4.8	5.0		PKM48... PKM50...			
	●	120			5.4		6.0	PKM60...					

See page 18 for insert mounting and removal instructions.
*H : Length between virtual vertices

● : Standard Item

Tool Block (Coolant-Through)

KPKTB-JCT



Tool Block Dimensions (Metric Sizes)

Pressure Resistance: 1,015 psi

Unit	Part Number	Stock	Dimensions								Spare Parts					Applicable Blade					
			H	HTB	HBH	B	WF	M	MHD	OAL	Clamp Set Switchblade type	Screw	Wrench	O-ring	Plug 1		Plug 2				
inch	KPKTB 19-26JCT	●	0.75	1.260	0.525	0.720	1.508	0.157	0.925	3.386	BCS-2	HH6x16	LW-5	GR-020	HS3x4	HSG1/8X8.0	KPKB26-○JCT KTKB26-○				
	19-32JCT	●	0.75	1.299	0.667	0.720	1.547	0.197	0.984	3.937	BCS-3			GR-026	HS4x4		HSG1/8X8.0	KPKB32-○JCT KTKB32-○			
	25.4-32JCT	●	1.00	1.614	0.417	0.906	1.732		4.331	BCS-4	GR-029			HS4x4					HSG1/8X8.0	KPKB32-○JCT KTKB32-○	
	31.8-32JCT	●	1.25	1.850	0.207	1.142	1.969		4.331												
mm	KPKTB 20-26JCT	●	20	33	12.4	19	39	4	23.5	86	BCS-2	HH6x16	LW-5	GR-020	HS3x4	HSG1/8X8.0	KPKB26-○JCT KTKB26-○				
	20-32JCT	●	20	41	16		40	5	25	100	BCS-3			GR-026	HS4x4		HSG1/8X8.0	KPKB32-○JCT KTKB32-○			
	25-32JCT	●	25		11	23	44		30	110	BCS-4			GR-029					HS4x4	HSG1/8X8.0	KPKB32-○JCT KTKB32-○
	32-32JCT	●	32		5	29	50														

Includes only one **HSG1/8X8.0** plug.

KPKTB-JCT type block is also compatible with conventional KTKB type blades.

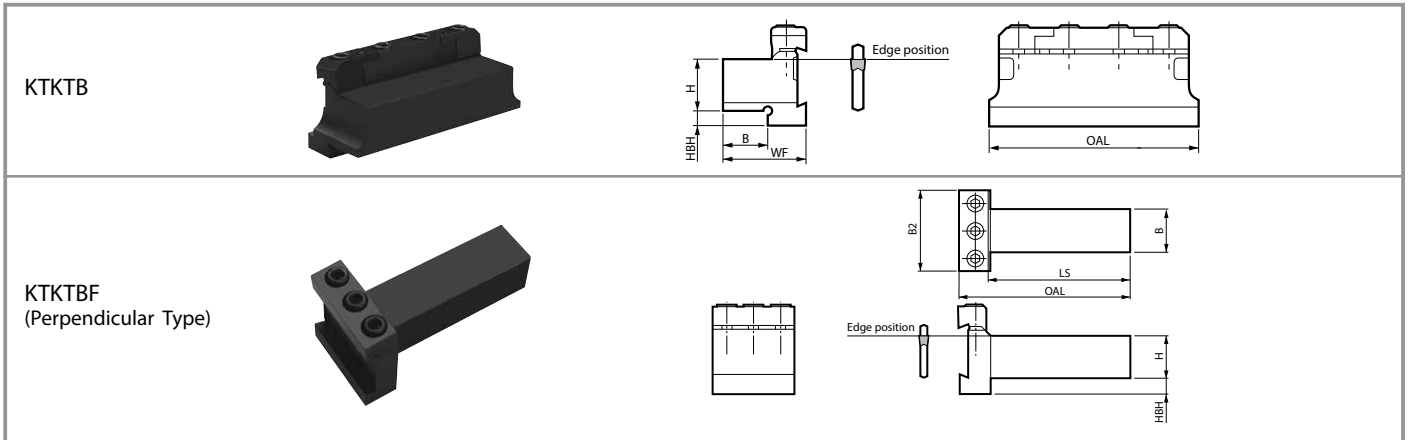
See page 17 for coolant piping parts.

When using internal coolant, the coolant may appear to leak slightly, but this should not affect machining performance. (If the O-ring is damaged, order a new one separately.)

● : Standard Item

Tool Block (Not Coolant-Through)

KTKTB / KTKTBF



Tool Block Dimensions (Inch & Metric Sizes)

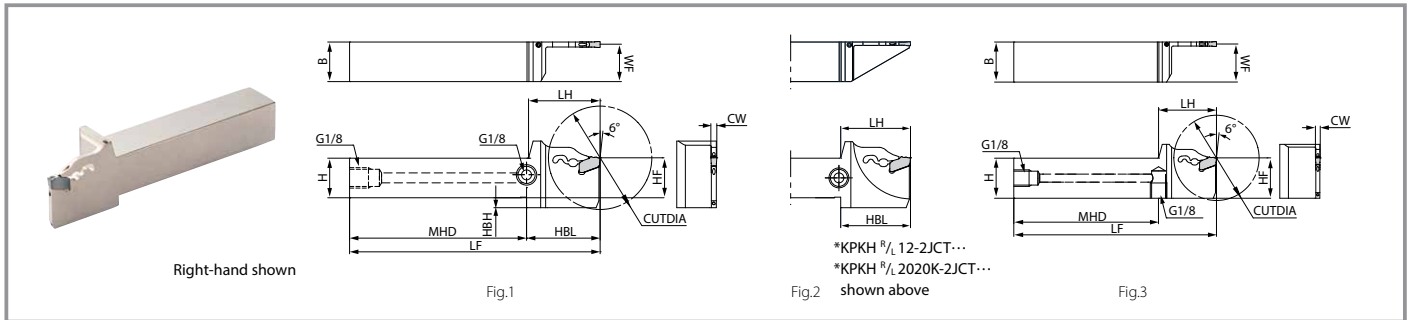
Unit	Part Number	Stock	Dimensions							Spare Parts				Applicable Blade
			H	HBH	B	WF B2	OAL	LS	Clamp Set		Screw	Wrench		
									Switchblade type	Integral type				
inch	KTKTB 19-26	●	0.75	0.39	0.720	1.39	3.39	-	BCS-2	-	HH6x30	LW-5	KPKB26-○ KPKB26-○JCT	
	25.4-32	●	1.00	0.30	0.905	1.65	4.33		BCS-4					KPKB32-○ KPKB32-○JCT
mm	KTKTB 16-19	●	16	4	15.5	29.5	76	-	BCS-2	-	HH6x30	LW-4	KPKB19-○	
	20-19	●	20		19	34								
	16-26	●	16	13	15.5	31.5	86	-	BCS-2	-	HH6x30	LW-5	KPKB26-○ KPKB26-○JCT	
	20-26	●	20	9	19	36								
	20-32	●	20	13	19	38	100	-	BCS-3	-	HH6x30	LW-5	KPKB32-○ KPKB32-○JCT	
	25-32	●	25	8	23	42	110							
	32-32	●	32	5	29	48	110							
	KTKTBF 25-32	●	25	9.5	25	48	102	84.5	-	BCS-5	HH6x30	LW-5	KPKB32-○ KPKB32-○JCT	
	32-32	●	32	2.5	32		117	99.5						

Can be used with internal coolant by utilizing compatible coolant piping (CCN-5).

● : Standard Item

Integral Style Toolholders (Coolant-Through)

KPKH-JCT



Toolholder Dimensions

Pressure Resistance : ~2,175 psi

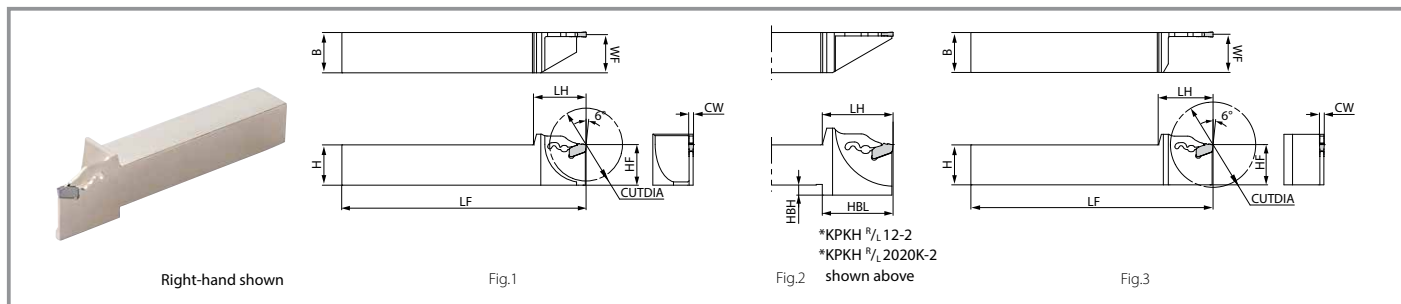
Unit	Part Number	Stock		Cutting Dia.	Dimensions										Edge Width	Drawing	Spare Parts		Applicable Inserts
		R	L		CUTDIA	H	HF	HBH	B	LF	LH	WF	HBL	MHD			CW	Insert Wrench	
inch	KPKH ⁵/₁₆ 12-2JCT	●	●	1.500	0.750	0.750	0.234	0.750	5.000	1.382	0.717	1.358	3.583	0.079 0.094	Fig.2	LPW-5	HSG1/8X8.0	PKM20...	
	12-3JCT	●	●	2.000	0.750	0.750	0.234	0.750		1.417	0.701	1.433	3.543	0.118	Fig.1			PKM24...	
	16-3JCT	●	●	2.100	1.000	1.000	-	1.000		1.417	0.951	-	3.583		Fig.3			PKM30...	
	12-4JCT	●	●	2.400	0.750	0.750	0.234	0.750		1.673	0.685	1.630	3.346	0.157	Fig.1			PKM40...	
	16-4JCT	●	●	2.600	1.000	1.000	-	1.000		1.673	0.935	-	3.346		Fig.3				
mm	KPKH ⁵/₁₆ 2020K-2JCT	●	●	38	20	20	5	20	125	35.1	19.15	35.1	89	2.0 2.4	Fig.2	LPW-5	HSG1/8X8.0	PKM20...	
	2020K-3JCT	●	●	52						36	18.75	37	88	3.0	Fig.1			PKM24...	
	2525K-3JCT	●	●	53	25	25	-	25		23.75	-	89	Fig.3		PKM30...				
	2020K-4JCT	●	●	62	20	20	5	20		42.5	18.35	42	83	4.0	Fig.1			PKM40...	
	2525K-4JCT	●	●	68	25	25	-	25			23.35	-	82		Fig.3				

See page 18 for insert mounting and removal instructions.
See page 11 for coolant piping parts.

● : Standard Item

Integral Style Toolholders (Not Coolant-Through)

KPKH




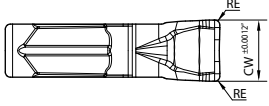

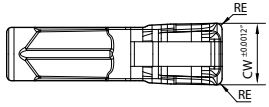

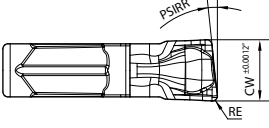
Toolholder Dimensions

Unit	Part Number	Stock		Cutting Dia.	Dimensions									Edge Width	Drawing	Spare Parts	Applicable Inserts
		R	L		CUTDIA	H	HF	HBH	B	LF	LH	WF	HBL			CW	
inch	KPKH [®] 12-2	●	●	1.500	0.750	0.750	0.234	0.750	5.000	1.303	0.717	1.303	0.079 0.094	Fig.2	LPW-5	PKM20...	
		●	●	2.000	0.750	0.750	-	0.750	5.000	1.339	0.701	-	0.118	Fig.3		PKM24...	
		●	●	2.100	1.000	1.000	-	1.000	6.000	1.339	0.951	-	0.157			PKM30...	
		●	●	2.400	0.750	0.750	-	0.750	5.000	1.594	0.685	-		0.189 0.197		PKM40...	
		●	●	2.600	1.000	1.000	-	1.000	6.000	1.594	0.935	-	0.189 0.197			PKM48...	
		●	●	3.100	1.000	1.000	-	1.000	6.000	1.807	0.919	-		0.197		PKM50...	
mm	KPKH [®] 2020K-2	●	●	38	20	20	5	20	125	33.1	19.15	33.1	2.0 2.4	Fig.2	LPW-5	PKM20...	
		●	●	52			-			34	18.75	-	3.0	Fig.3		PKM24...	
		●	●	53	25	25	-	25	150	34	23.75	-	4.0			PKM30...	
		●	●	62	20	20	-	20	125	40.5	18.35	-	4.0	PKM40...			
		●	●	68	25	25	-	25	150	45.9	23.35	-	4.8 5.0	PKM48...			
		●	●	79	25	25	-	25	150	45.9	22.95	-	5.0	PKM50...			
mm	KPKH [®] 2020K-3D35	●	●	35	20	20	-	20	125	32.5	18.75	-	3.0	Fig.1	PKM30...		
		●	●	45	25	25	-	25	150		23.75	-	4.0				
		●	●	45	20	20	-	20	125	35	18.35	-	4.0	Fig.1	PKM40...		
		●	●	45	25	25	-	25	150		23.35	-	4.0				

See page 18 for insert mounting and removal instructions.

● : Standard Item

Applicable Inserts

Shape Right-hand (R) Shown		Part Number	Dimensions (in)			Angle	MEGACOAT NANO				Carbide		
			CW		RE	PSIR %	PR1625	PR1535	GW15				
			in	mm									
Without Lead Angle	 General Purpose		PKM 16N-015PM	0.063	1.6	0.006	-	●	●	●	●	●	●
			20N-020PM	0.079	2.0	0.008		●	●	●	●	●	
			24N-020PM	0.094	2.4	0.008		●	●	●	●	●	
			30N-025PM	0.118	3.0	0.010		●	●	●	●	●	
			40N-030PM	0.157	4.0	0.012		●	●	●	●	●	
			48N-030PM	0.189	4.8	0.012		●	●	●	●	●	
			50N-030PM	0.197	5.0	0.012		●	●	●	●	●	
			60N-035PM	0.236	6.0	0.014		●	●	●	●	●	
	 Tough Edge		PKM 20N-020PH	0.079	2.0	0.008	-	●	●				
			30N-030PH	0.118	3.0	0.012		●	●				
			40N-030PH	0.157	4.0	0.012		●	●				
			50N-030PH	0.197	5.0	0.012		●	●				
			60N-040PH	0.236	6.0	0.016		●	●				
With Lead Angle	 With Lead Angle		PKM 16 ^R L-015PM-6D	0.063	1.6	0.006	6°	●	●	●	●	●	●
			20 ^R L-020PM-6D	0.079	2.0	0.008		●	●	●	●	●	●
			24 ^R L-020PM-6D	0.094	2.4	0.008		●	●	●	●	●	●
			30 ^R L-025PM-6D	0.118	3.0	0.010		●	●	●	●	●	●
			40 ^R L-030PM-6D	0.157	4.0	0.012		●	●	●	●	●	●
			50 ^R L-030PM-6D	0.197	5.0	0.012		●	●	●	●	●	●
							R	L	R	L	R	L	

● Standard Item

PM Chipbreaker

Workpiece	Cutting Speed Vc (sfm)			Feed f (ipr)			Notes
	MEGACOAT NANO		Carbide	Edge Width CW (mm)			
	PR1625	PR1535	GW15	1.6	2 ~ 4	4.8 ~ 6	
Carbon Steel	★ 260 - 720	☆ 260 - 720	-	0.001 - 0.005	0.003 - 0.007	0.004 - 0.009	Wet
Alloy Steel	★ 230 - 660	☆ 230 - 660	-				
Stainless Steel	☆ 200 - 490	★ 200 - 490	-	0.001 - 0.003	0.002 - 0.005	0.003 - 0.006	
Cast Iron	-	-	★ 160 - 330	0.001 - 0.003	0.003 - 0.007	0.004 - 0.009	
Aluminum Alloy	-	-	★ 660 - 1480	0.001 - 0.003	0.003 - 0.007	0.004 - 0.009	
Brass	-	-	★ 330 - 660				

Reduce feed to 1/2 ~ 1/3 at the center of the workpiece.

PH Chipbreaker

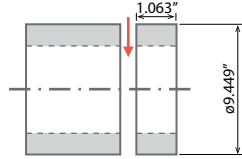
Workpiece	Cutting Speed Vc (sfm)			Feed f (ipr)			Notes
	MEGACOAT NANO		Carbide	Edge Width CW (mm)			
	PR1625	PR1535	GW15	2	3 ~ 4	5 ~ 6	
Carbon Steel	★ 260 - 720	☆ 260 - 720	-	0.004 - 0.009	0.006 - 0.011	0.006 - 0.014	Wet
Alloy Steel	★ 230 - 660	☆ 230 - 660	-				
Stainless Steel	☆ 200 - 490	★ 200 - 490	-	0.002 - 0.005	0.003 - 0.006	0.003 - 0.007	
Cast Iron	-	-	-	-	-	-	
Aluminum Alloy	-	-	-	-	-	-	
Brass	-	-	-				

Reduce feed to 1/2 ~ 1/3 at the center of the workpiece.

Case Studies

Rings Forging

Vc = 300 sfm
 f = 0.007 ipr
 Wet (External Coolant)
 Overhang Amount : 2.756"
 KPKB32-3 PKM30N-025PM PR1535



Machining Efficiency

KPK

f = 0.007 ipr



Chip control
 Surface finish

Good

Machining Efficiency

Competitor G

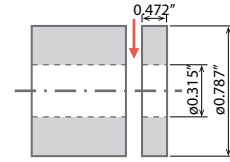
f = 0.0035 ipr

x 2.0

KPK showed good chip control and finished surface with increased feed rates.
 The machining efficiency ratio was doubled. KPK improves insert mounting speeds.
 (User Evaluation)

Machine Part SNCM20

n = 1,530 RPM (Constant)
 Vc = ~ 330 sfm
 f = 0.0035 ipr
 Wet (External Coolant)
 Overhang Amount : 0.866"
 KPKB26-3 PKM30N-025PM PR1625



Tool life

KPK

1,500 pcs/corner (Stable)

Tool Life

x 1.8

Competitor H

800 pcs/corner (Unstable)

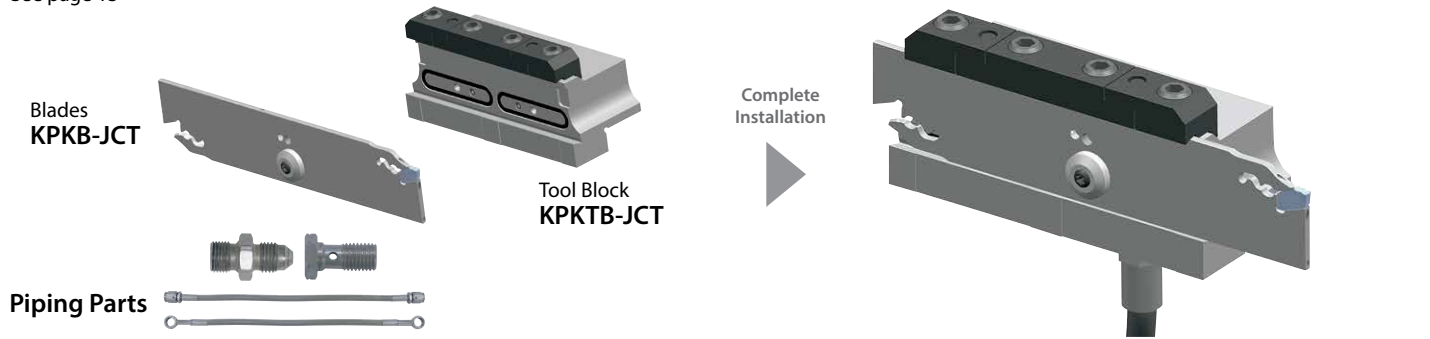
Competitor H was unstable with a sudden fracture. KPK increased tool life by 1.8 times that of competitor. Stable machining with good cutting edge
 (User Evaluation)

Superior Cut-Off Performance



A : Coolant Hose Assembly

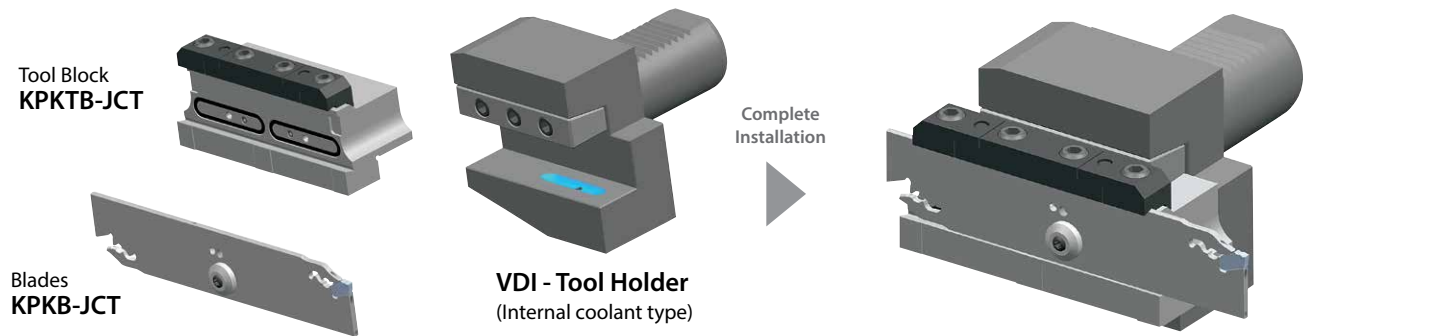
See page 13



B : VDI Holder Assembly

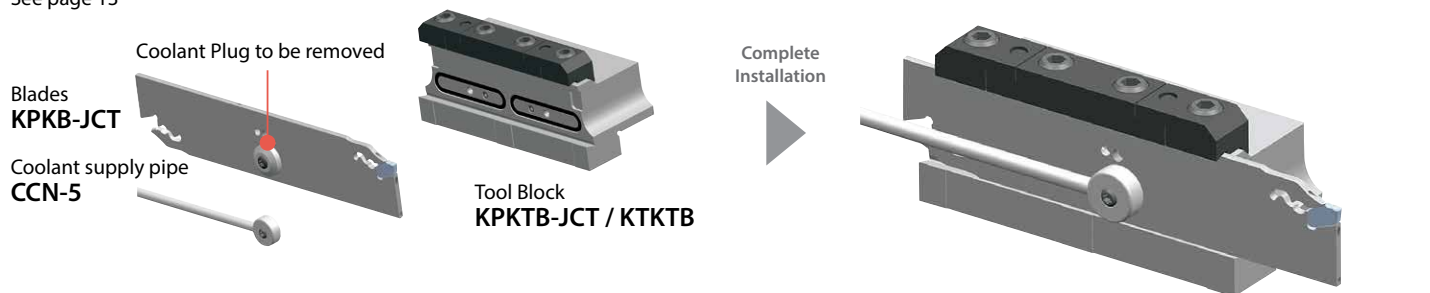
(Internal coolant type)

Maximum coolant pressure: 1,015 psi



C : Coolant Pipe Assembly

See page 13



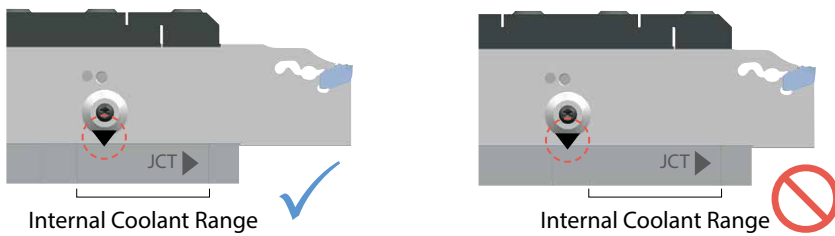
Coolant Supply Pipe Mounting Method

Attach to the blade with the supplied screw
Form pipe to the required shape and connect it to the piping of the machine.

Precautions

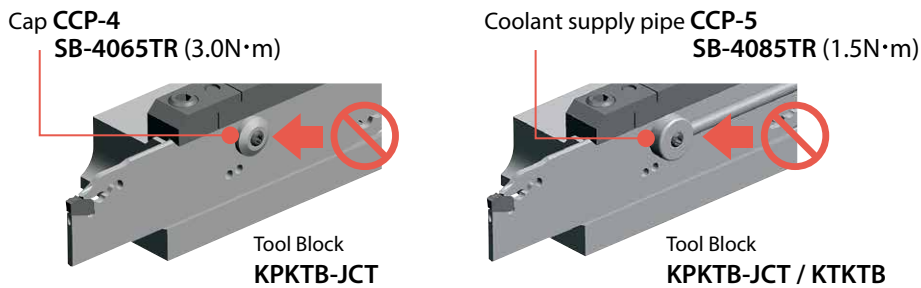
When mounting KPKB-JCT blade

When using internal coolant, keep the arrow (▼) on the blade within the range marked on the tool block.



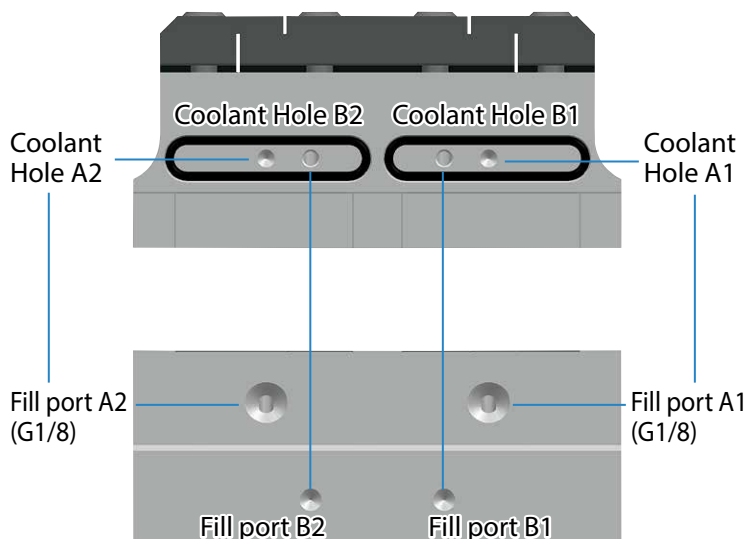
When the cap and coolant supply pipe are mounted

Coolant cannot be supplied correctly if it is mounted in the wrong position.



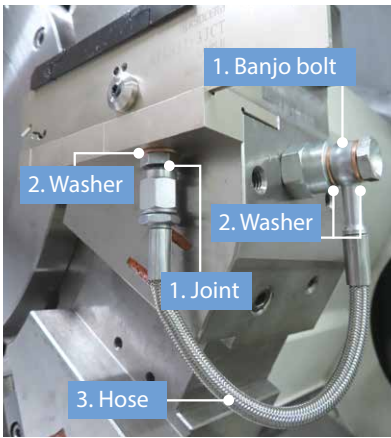
When using a tool block

When using the discharge port B1 (B2), use a sealant for the filler cap (HSG 1/8 X 8.0) provided as an accessory and attach it to the coolant supply port A1 (A2).



A : Coolant Hose Assembly

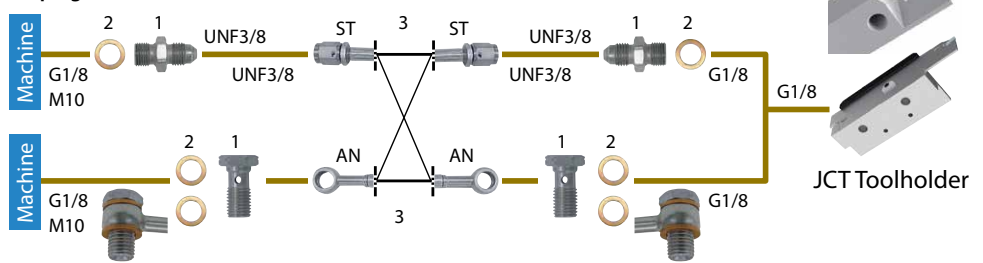
Connection Method and Piping Parts



Easy to use with high-pressure hose and joint

Can be used for internal coolant at normal pressure without a high pressure pump unit
Banjo bolts (for angled hoses) are also available.

<Piping Installation Guide>



Depending on machine specifications and piping methods, **1. Joint/Banjo bolt x2** **2. Washer x2-4** **3. Hose x1**

1. Joint / Banjo Bolt (Sold Separately)

Pressure Resistance: ~ 4,350 psi

Shape	Part Number	Stock	Thread Standard	
			Machine	Toolholder Connection Side
	J-G1/8-UNF3/8	●	G1/8	G1/8
	J-M10X1.5-UNF3/8	●	M10X1.5	M10X1.5
Banjo Bolt (for Angled Hoses)	BB-G1/8	●	G1/8	G1/8
	BB-M10X1.5	●	M10X1.5	M10X1.5

● : Standard Item

2. Washer (Sold Separately)

Pressure Resistance: ~ 4,350 psi

Shape	Part Number	Stock
	WS-10	●

*If you are using a banjo bolt, two washers are needed.

● : Standard Item

3. Hose (Sold Separately)

Pressure Resistance: ~ 4,350 psi

Shape	Part Number	Stock	Thread Standard		Dimensions (mm)	
			Machine	Toolholder Connection Side	L	
Straight/Straight	HS-ST-ST-200	●	UNF3/8	UNF3/8	200	
	HS-ST-ST-250	●			250	
Straight/Angled	HS-ST-AN-200	●	UNF3/8	-	(Banjo Bolt)	200
	HS-ST-AN-250	●				250
Angled/Angled	HS-AN-AN-200	●	-	-	-	200
	HS-AN-AN-250	●				250

● : Standard Item

Precautions

1. Make sure machine door is completely closed before use of these parts.
2. Use appropriate seal for the male thread of the piping parts and make sure the connection is secure. Use plugs to seal off unused coolant holes.
3. Connect and fasten the coolant hose firmly.
4. The use of copper washers may cause leakage but will have no effect on the performance.
5. Commercial piping parts can be used if the thread standards are same. Check the pressure resistance before use.
6. Regularly changing the coolant filter is recommended.

C: Coolant Pipe Assembly

Piping Parts

Coolant Supply Pipe (Sold Separately)

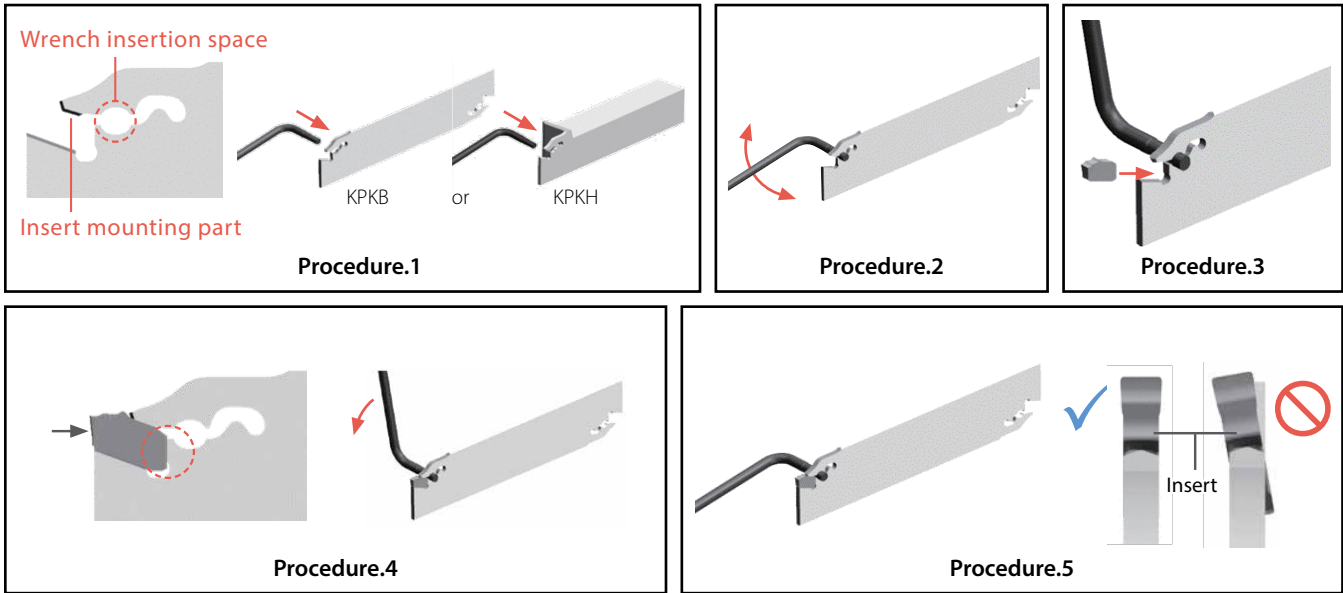
Pressure Resistance: 145 psi

Shape	Part Number	Stock	Dimensions (mm)				Spare Parts (Screw)
			A	B	C	D	
	CCN-5	●	190	16	5	6	SB-4085TR

Use wrench (FT-15) supplied with the blade when connecting.

● : Standard Item

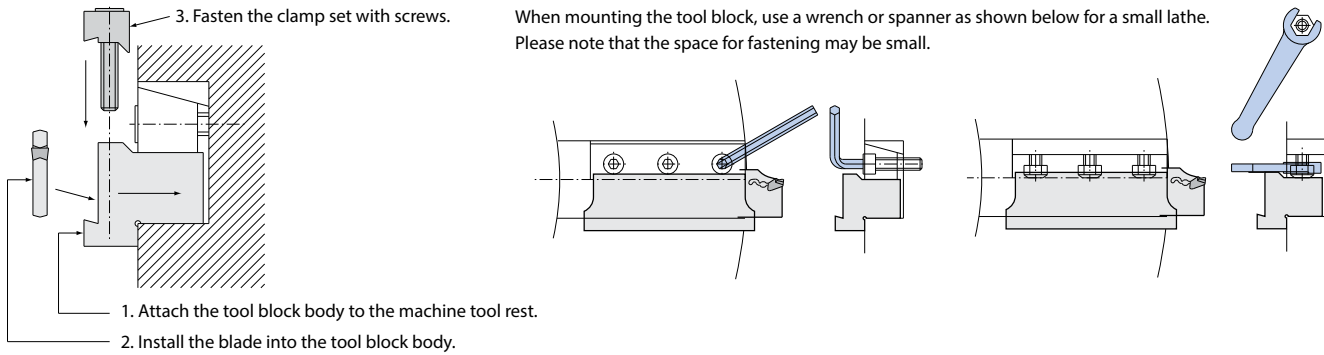
How to Mount and Remove Inserts from Holder or Blade



Procedure

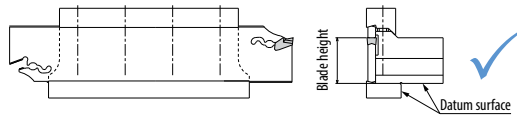
1. Use compressed air or other measures to remove chips from the insert mounting area and slide wrench into hole shown.
2. Turn the wrench.
3. Slide the insert into the insert pocket. (When removing the insert, follow the same procedure and remove it at step 3.)
4. Push insert in until the back of the insert contacts the blade's back stop surface.
5. Make sure that the insert is set straight.

Tool Block and Blade Installation Guide

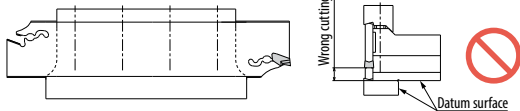


How to Install the Tool Block and Blade

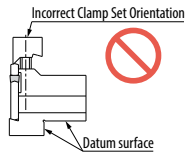
Correct blade installation



Incorrect blade installation



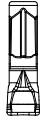
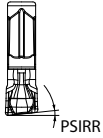
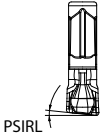
Incorrect Clamp Set Orientation

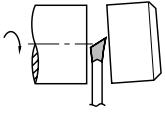
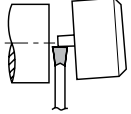
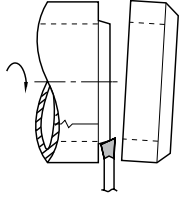
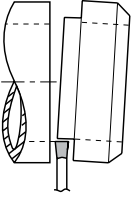


If the clamp set is mounted in the reverse direction, a large gap is created between the tool block main body and the clamp set as shown in the left figure. If you continue to use the product, the blade may break off. Reinstall in the correct orientation.

Lead Angle Direction and Usage

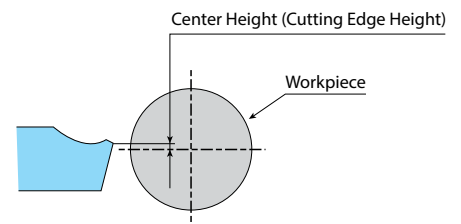
1. If there is no restriction on the finished shape, use an insert without lead angle.
2. Insert with lead angle is recommended to prevent remaining boss.
3. If you want to make the remaining boss smaller when machining small or thin parts, use insert with lead angle.

	N (Neutral)	R (Right hand)	L (Left hand)
Handed insert with lead angle			
	<ul style="list-style-type: none"> · Inserts with lead angle (PSIR^{R/L}) reduce burrs at cut-off machining. · The larger the lead angle (PSIR^{R/L}), the smaller the cutting force. The feed also needs to be smaller. 		

	Right hand (R) Lead Neutral	Neutral	Right hand (R) Lead Neutral	Neutral	
Solid Workpiece			Hollow Workpiece (Pipe)		

Machining Precautions

1. Set cutting edge height 0.004" (0.1 mm) above core height.
 2. Machining with ample supply of coolant is recommended
 3. Machine at constant speeds to gain stable tool life
 4. Make the cut-off as close as possible to the chuck
 5. To prevent impacts, reduce feed rate by 1/2 ~ 1/3 when nearing the center of the workpiece
- Excessive use of the insert may cause chipping or damage to the holder





KYOCERA Precision Tools

102 Industrial Park Road
Hendersonville, NC 28792
Customer Service | 800.823.7284 - Option 1
Technical Support | 800.823.7284 - Option 2



Official Website | www.kyoceraprecisiontools.com
Distributor Website | portal.kyoceraprecisiontools.com
Email | cuttingtools@kyocerapti.com