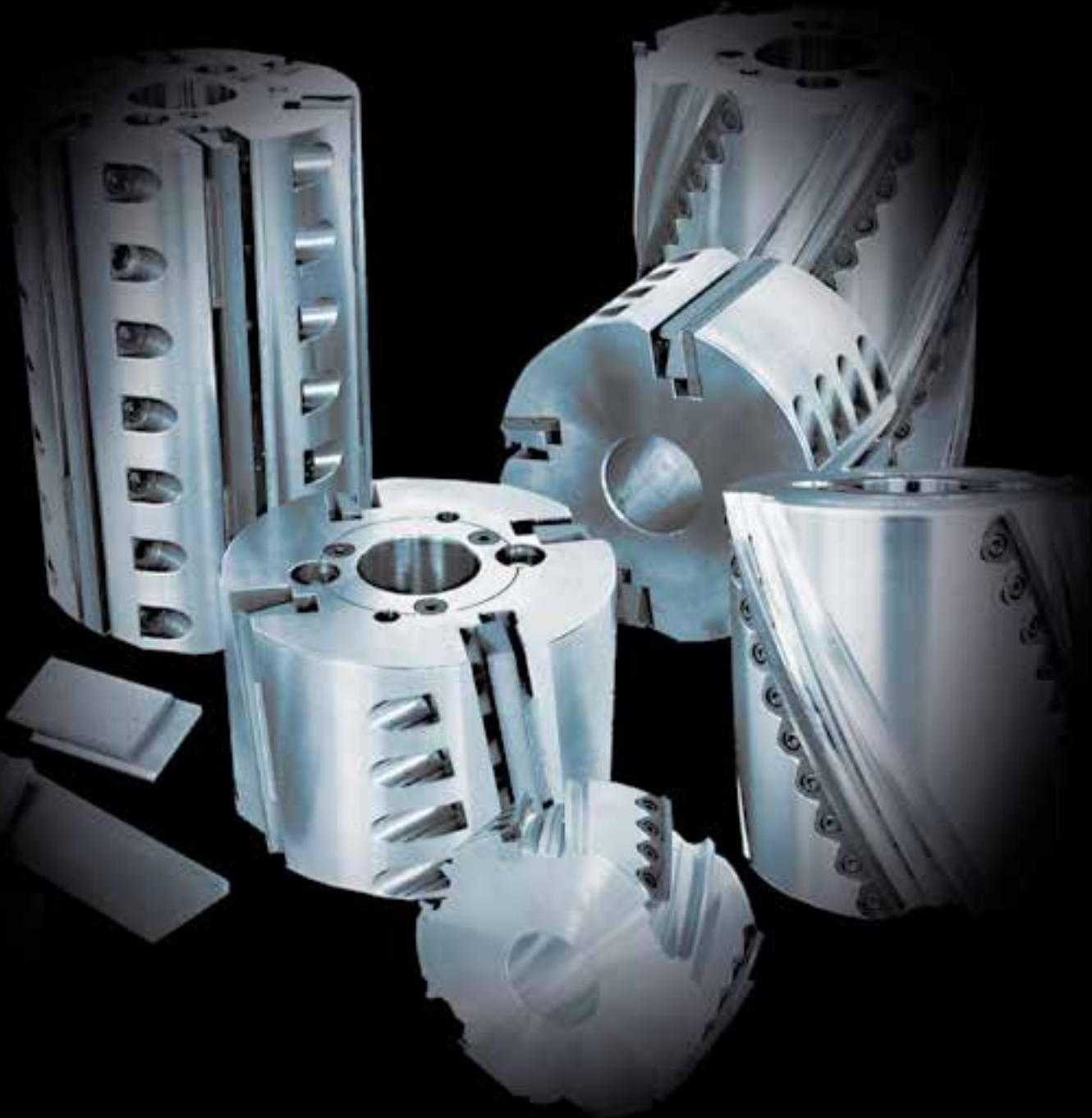


Knife Heads & Accessories



NAPGLADU

Delivering Productivity

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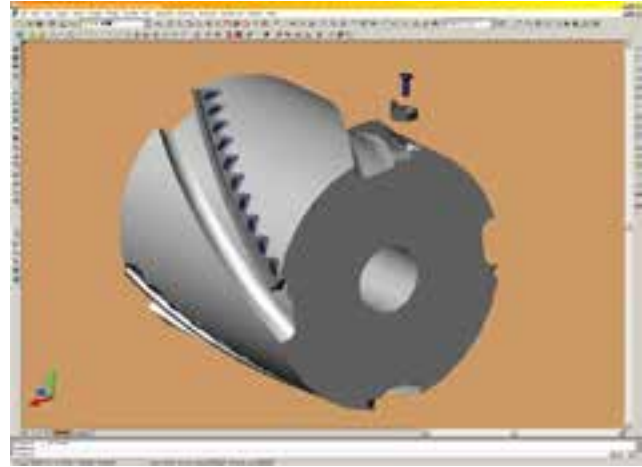
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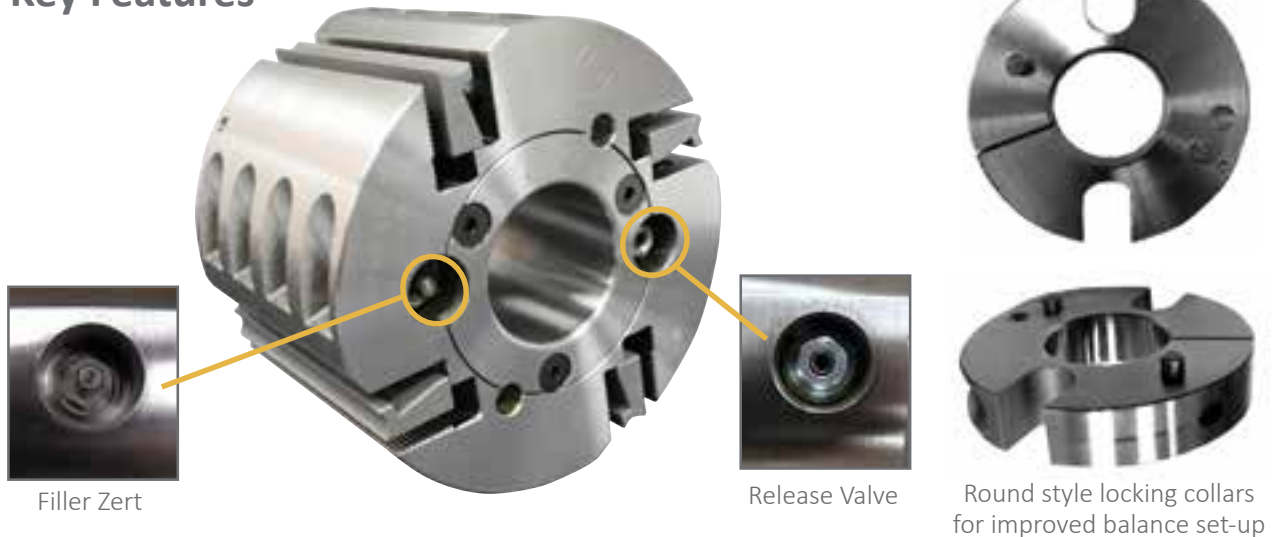
Experience Makes All The Difference

A NAPGLADU has been manufacturing Knife Heads since the 1940's. Over the years we have formulated & documented over a dozen different specifications and incorporated them into our manufacturing procedures, ensuring you receive the best performance and value from your investment.

D Experience shows that it's not any one component that makes a better Knife Head, but it's the correct application of all of the key component specifications that makes the real difference!



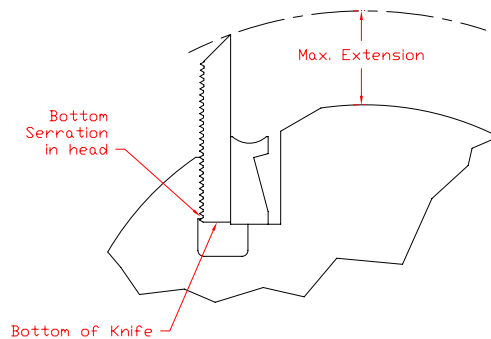
Key Features



Maximum Recommended Corrugated HSS Knife Extension

Max. knife extension = (3 x knife thickness) beyond the O.D. of the steel body.

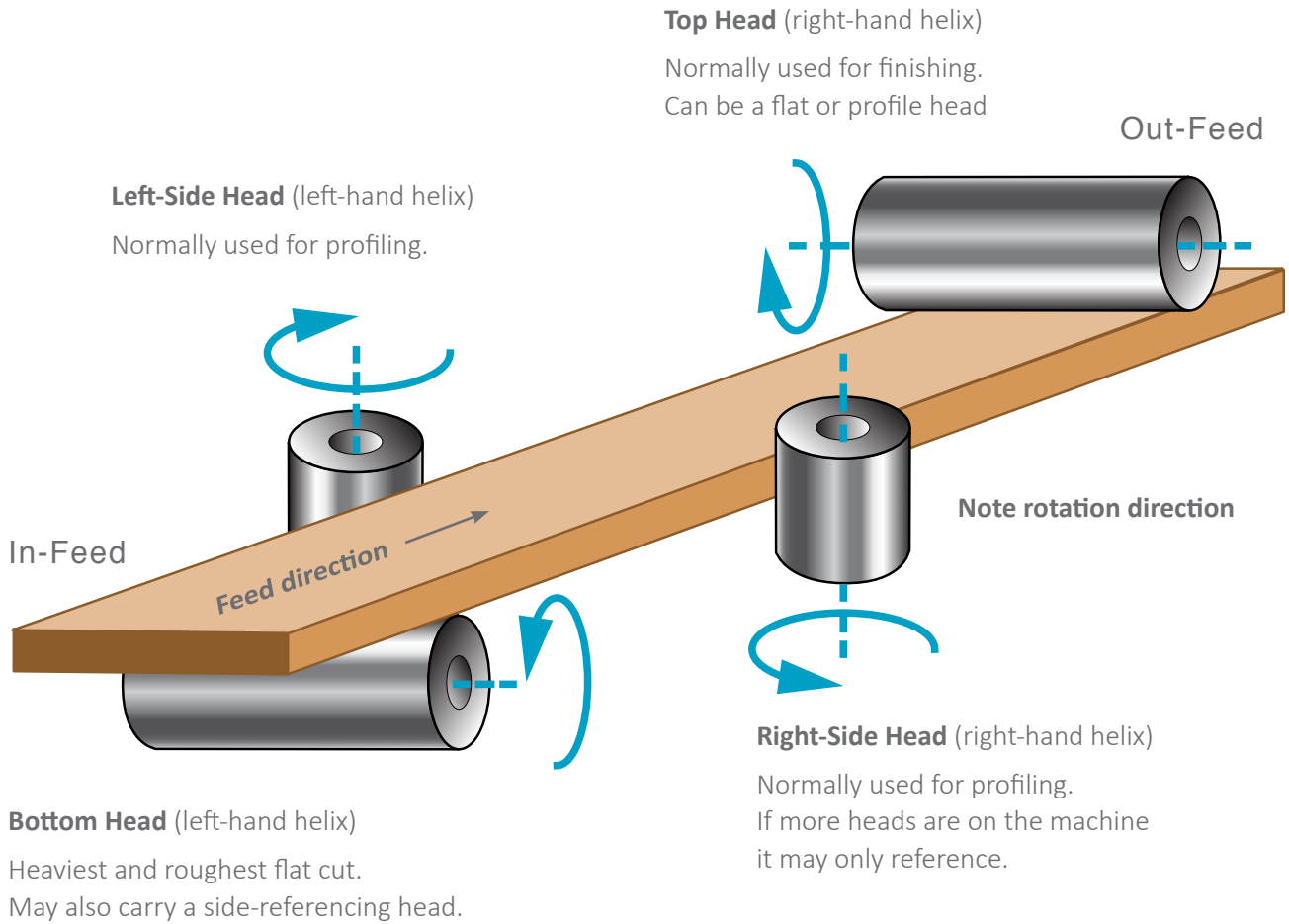
Do not raise the bottom of the knife above the lowest serration in the cutter head.



Optional Items and Accessories

- Aluminum body knife heads
- Dual Hook
- Hubs up to 10mm wide per hub, over 10mm special quote
- O.D. grease fittings
- Spacers Custom Diameters & Thickness
- High Pressure Grease Gun
- High Pressure Hose
- Hydraulic Connector
- Grease Cartridge
- Locking Collars

Moulder Head Position Identification



NOTES:

Corrugated Knife Heads

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Straight Bore – Straight Faced

- *Straight Bore Heads are designed for mounting on threaded arbors*
- *Available in inch or metric bore sizes*
- *Dual Hook Angles also available*

Straight Bore Accessories

Set Screw for Knife Head

Knife Head Gibs

Technical Information

- 60° Corrugation in the Knife Heads Standard.
- 90° by special quotation only.
- 10° hook angle for hardwoods.
- 15° hook angle for mixed hard and soft woods.
- 20° hook angle for soft woods.
- High tensile steel body with hardened gibs.
- Accepts either 5/16" or 3/8" thick knives in one head.

Note: Specify your bore diameter when ordering.
Do not exceed the listed maximum bore diameter.

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Hydro Bore – Straight Faced

- *Available in inch or metric bore sizes*
- *Dual Hook Angles also available*

Hydro Bore Accessories

Set Screw for Knife Head

Knife Head Gibs

Filler Nipple w/Steel & Rubber Washer

Steel & Rubber Washer

Add Grease Fittings & Release to O.D.

Technical Information

- 60° Corrugation in the Knife Heads Standard.
- 90° by special quotation only.
- 10° hook angle for hardwoods.
- 15° hook angle for mixed hard and soft woods.
- 20° hook angle for soft woods.
- High tensile steel body with hardened gibs.
- Accepts either 5/16" or 3/8" thick knives in one head.

Note: Specify your bore diameter when ordering.
Do not exceed the listed maximum bore diameter.

Available Cutting Widths – Inches (mm)

Steel Diameter Inches (mm)	Max Bore Diameter	Wings			Available Cutting Widths – Inches (mm)												
		4	6	8	1.969" (50)	2.362" (60)	3.150" (80)	3.937" (100)	5.118" (130)	5.906" (150)	7.087" (180)	8.268" (210)	9.055" (230)	10.236" (260)	11.024" (280)	12.008" (305)	
3.94" (100)	32mm	✓			✓	✓	✓	✓	✓	✓	✓						
4.81" (122)	1.812	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.40" (137)	2.125	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.91" (150)	65mm	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.42" (163)	70mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.95" (176.5)	80mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Available Cutting Widths – Inches (mm)

Steel Diameter Inches (mm)	Max Bore Diameter	Wings				Available Cutting Widths – Inches (mm)											
		4	6	8	10	1.969" (50)	2.362" (60)	3.150" (80)	3.937" (100)	5.118" (130)	5.906" (150)	7.087" (180)	8.268" (210)	9.055" (230)	10.236" (260)	11.024" (280)	12.008" (305)
5.91" (150)	2.125"	✓	✓			✓	✓	✓	✓	✓	✓	✓					
6.42" (163)	60mm	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.95" (176.5)	60mm	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7.95" (202)	80mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Corrugated Knife Heads



Straight Bore – Face Shear

- Straight Bore Heads are designed for mounting on threaded arbors
- Available in inch or metric bore sizes
- Dual Hook Angles also available

Straight Bore Accessories

Set Screw for Knife Head

Knife Head Gibs

Note: Specify your bore diameter when ordering. Do not exceed the listed maximum bore diameter.

Steel Diameter Inches (mm)	Max Bore Diameter	Wings		Available Cutting Widths – Inches (mm)				
		4	6	2.362" (60)	3.150" (80)	3.937" (100)	5.118" (130)	5.906" (150)
5.40" (137)	2.125"	✓		✓	✓	✓	✓	✓
5.95" (150)	2.125"	✓		✓	✓	✓	✓	✓
6.42" (163)	60mm	✓	✓	✓	✓	✓	✓	✓

Technical Information

- 60° Corrugation in the Knife Heads Standard.
- 90° by special quotation only.
- 10° hook angle for hardwoods.
- 15° hook angle for mixed hard and soft woods.
- 20° hook angle for soft woods.
- High tensile steel body with hardened gibs.
- Accepts either 5/16" or 3/8" thick knives in one head.



Shear angle of the knife head is a direct result the hook angle and cutting width.



Hydro Bore – Face Shear

- Available in inch or metric bore sizes
- Dual Hook Angles also available

Hydro Bore Accessories

Set Screw for Knife Head

Knife Head Gibs

Filler Nipple w/Steel & Rubber Washer

Steel & Rubber Washer

Add Grease Fittings & Release to O.D.

Note: Specify your bore diameter when ordering. Do not exceed the listed maximum bore diameter.

Steel Diameter Inches (mm)	Max Bore Diameter	Wings		Available Cutting Widths – Inches (mm)				
		4	6	2.362" (60)	3.150" (80)	3.937" (100)	5.118" (130)	5.906" (150)
5.40" (137)	1.812"	✓		✓	✓	✓	✓	✓
5.95" (150)	2.125"	✓		✓	✓	✓	✓	✓
6.42" (163)	2.125"	✓	✓	✓	✓	✓	✓	✓

Technical Information

- 60° Corrugation in the Knife Heads Standard.
- 90° by special quotation only.
- 10° hook angle for hardwoods.
- 15° hook angle for mixed hard and soft woods.
- 20° hook angle for soft woods.
- High tensile steel body with hardened gibs.
- Accepts either 5/16" or 3/8" thick knives in one head.



Shear angle of the knife head is a direct result the hook angle and cutting width.

Knife Stock



Knife stock cut-to-length is available. Contact your representative.

Applications

- For use in 60° corrugated back knife heads
- Designed for profile and straight knife grinding

Advantages

- Provides long tool life and production runs between sharpening intervals
- Can be ground with standard Borazon wheels

Technical Information

- Available in 60° serrations only
- 16 serrations per inch
- Heat treated AISI-M2 Steel to 63 Rc
- Precision ground
- Bevel Bottom / Rotary Grind

M-2 Knife Stock: Bevel Bottom

Part No.	Stock Dimensions
KM111	1/4 x 1-1/4 x 25
KM114	1/4 x 1-1/2 x 25
KM117	1/4 x 1-3/4 x 25
KM119	1/4 x 2 x 25
KM123	1/4 x 2-1/4 x 25
KM126	1/4 x 2-1/2 x 25
KM132	5/16 x 1-1/4 x 25
KM135	5/16 x 1-1/2 x 25
KM138	5/16 x 1-3/4 x 25
KM141	5/16 x 2 x 25
KM144	5/16 x 2-1/4 x 25
KM147	5/16 x 2-1/2 x 25
KM149	5/16 x 2-3/4 x 25
KM153	5/16 x 3 x 25

M-2 Knife Stock: Flat Bottom

Part No.	Stock Dimensions
311-4301	1/4 x 1 x 25
311-4303	1/4 x 1-1/4 x 25
311-4305	1/4 x 1-1/2 x 25
311-4307	1/4 x 1-3/4 x 25
311-4309	1/4 x 2 x 25
311-4311	1/4 x 2-1/4 x 25
311-4313	1/4 x 2-1/2 x 25
311-4302	5/16 x 1 x 25
311-4304	5/16 x 1-1/4 x 25
311-4306	5/16 x 1-1/2 x 25
311-4308	5/16 x 1-3/4 x 25
311-4310	5/16 x 2 x 25
311-4312	5/16 x 2-1/4 x 25
311-4314	5/16 x 2-1/2 x 25
311-4315	5/16 x 2-3/4 x 25
311-4316	5/16 x 3 x 25
311-4317	5/16 x 3-1/2 x 25
311-4318	5/16 x 4 x 25

Knife Stock

HPS Knife Stock: Bevel Bottom

Part No.	Stock Dimensions
KKF211	1/4 x 1-1/4 x 25
KKF214	1/4 x 1-1/2 x 25
KKF217	1/4 x 1-3/4 x 25
KKF219	1/4 x 2 x 25
KKF223	1/4 x 2-1/4 x 25
KKF226	1/4 x 2-1/2 x 25
KKF232	5/16 x 1-1/4 x 25
KKF235	5/16 x 1-1/2 x 25
KKF238	5/16 x 1-3/4 x 25
KKF241	5/16 x 2 x 25
KKF244	5/16 x 2-1/4 x 25
KKF247	5/16 x 2-1/2 x 25
KKF249	5/16 x 2-3/4 x 25
KKF253	5/16 x 3 x 25

Applications

- For use in 60° corrugated back knife heads
- Designed for profile and straight knife grinding
- For natural wood cutting

Advantages

- Provides long tool life and production runs between sharpening intervals
- Can be ground with standard Borazon wheels
- Easier grinding and profiling compared to M-2
- Increased breakage resistance

Technical Information

- Available in 60° serrations only
- 16 serrations per inch
- Heat treated to 61Rc
- Precision ground
- Bevel Bottom / Rotary Grind

T1 Knife Stock: Flat Bottom

Part No.	Stock Dimensions
KFF314	1/4 x 1-1/2 x 25
KFF317	1/4 x 1-3/4 x 25
KFF319	1/4 x 2 x 25
KFF332	5/16 x 1-1/4 x 25
KFF335	5/16 x 1-1/2 x 25
KFF338	5/16 x 1-3/4 x 25
KFF341	5/16 x 2 x 25
KFF344	5/16 x 2-1/4 x 25
KFF347	5/16 x 2-1/2 x 25

Applications

- For use in 60° corrugated back knife heads
- Designed for profile and straight knife grinding

Advantages

- Provides long tool life and production runs between sharpening intervals (20% longer over M-2 knife stock)

Technical Information

- Available in 60° serrations only
- 16 serrations per inch
- Heat treated to 64Rc
- Precision ground
- Bevel Bottom / Rotary Grind
- 18% tungsten groove.

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NAPAC
High-Precision Knife System

NAPAC Knife System Instructions

The NAPAC SYSTEM is a high precision knife & backing plate for extended tool life in 60° corrugated knife heads.



The NAPAC knife system is best ground in two separate steps for improved tool life of the carbide knives and grinding wheels.

1. The backer is ground to the profile using a Borazon wheel similar to the same process as grinding a HSS Knife.
2. Locate the carbide blank in the head by aligning the grooves and following the guidelines below.
3. Grind the carbide knife using a diamond wheel.
 - a. It is recommended that the SFM be somewhere between 3000-5000 ft./min for optimum results. This is calculated by using the following formula.
 $SFM = .262 \times \text{wheel diameter} \times \text{RPM}$
Example: $.262 \times 5 \times 3000 \text{ RPM} = 3901 \text{ SFM}$
 - b. Use a 100 to 120-grit diamond wheel, instead of a fine grit wheel, for roughing the pattern into the knife for reduced heat generated from profiling operations. Use a coolant when grinding any carbide knives.
 - c. Finish grind the profile using a 220-320 grit diamond wheel. Use a grit wheel of 320 or finer for best results in cutting material that has a tendency to leave resins or residue such as glue and softwoods.

4. Recommended O.D. clearance is 15-20 degrees on the carbide and 20-25 degrees on the backer plate.
5. Proper balance is essential to obtain smooth cuts and accurate profiles. Balance of both the carbide blank and the backing plate recommended within 0.1 grams as a set.

In order to balance the set, it is recommended that the backing plate be ground as opposed to the carbide insert in order to bring the set into balance with the other knife sets.

It is imperative to identify the backing plate and knife as a set by marking them with a permanent marker.

6. It is possible to joint the NAPAC system. Please follow the machine manufacturers recommendations when using jointing stones.
7. Repetitive regrinds can be accomplished easily with the accuracy of the corrugations. Regrinds are made on the carbide knife only. There is no need to regrind the steel backing plate.

NAPAC System Instructions

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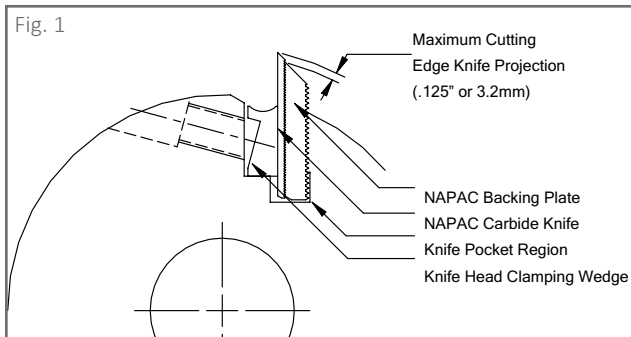
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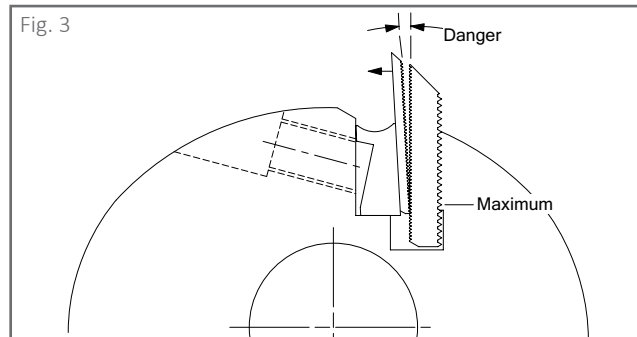
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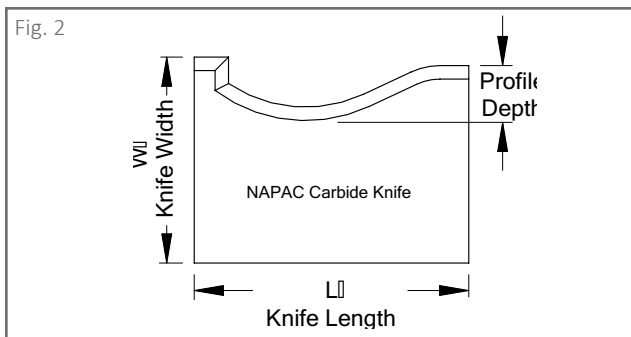
Cutting Edge Extension Limitations

- For maximum tool life and safety do not extend the carbide cutting edge more than .125 (1/8th inch) above the steel backing plate (Fig. 1).



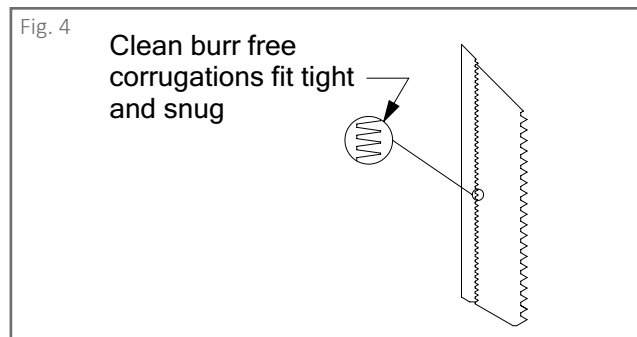
Backing Plate Extension Safety

- Never raise the bottom of the backing plate or the carbide knife above the "max." mark on the knife head in which the system is mounted (See Fig. 3).
- If the head is not marked for "max." then never raise the bottom of the backing plate or the knife above the bottom of the clamping wedge.



Maximum Profile Depth Limitations

- Do not exceed the maximum profile depth as shown in the chart below. See drawing above for representation of the profile depth (Fig. 2).
- 38 mm width: No pattern-For planning only
- 50 mm width: 12mm or .47" maximum depth
- 60 mm width: 22mm or .87" maximum depth



Cleaning & Inspection Procedure

- Be sure the cutter head is completely clean and free from all foreign material in the knife pocket regions prior to installing NAPAC System.
- Check all corrugations in the knife head and on the NAPAC steel backing plates for nicks and burrs. Do not use a knife head or a NAPAC steel backing plate that has any nicks or burrs (Fig. 4).
- Never attempt to remove a nick or burr with a file from the corrugations.
- Never exceed the recommended max. RPM or max. knife size limits.

38mm NAPAC

Part No.	Description	Stock Dimensions	Thickness
KB309	NAPAC Backing Plate	40x35x7mm	.275"
KB310	NAPAC Backing Plate	50x35x7mm	.275"
KB311	NAPAC Backing Plate	60x35x7mm	.275"
KB312	NAPAC Backing Plate	80x35x7mm	.275"
KB313	NAPAC Backing Plate	100x35x7mm	.275"
KB314	NAPAC Backing Plate	120x35x7mm	.275"
KB315	NAPAC Backing Plate	130x35x7mm	.275"
KB316	NAPAC Backing Plate	150x35x7mm	.275"
KB317	NAPAC Backing Plate	170x35x7mm	.275"
KJ309	Natural Wood Insert	40x38x3.2mm	.125"
KJ310	Natural Wood Insert	50x38x3.2mm	.125"
KJ311	Natural Wood Insert	60x38x3.2mm	.125"
KJ312	Natural Wood Insert	80x38x3.2mm	.125"
KJ313	Natural Wood Insert	100x38x3.2mm	.125"
KJ314	Natural Wood Insert	120x38x3.2mm	.125"
KJ315	Natural Wood Insert	130x38x3.2mm	.125"
KJ316	Natural Wood Insert	150x38x3.2mm	.125"
KJ317	Natural Wood Insert	170x38x3.2mm	.125"
KJ409	Man-Made Material Insert	40x38x3.2mm	.125"
KJ410	Man-Made Material Insert	50x38x3.2mm	.125"
KJ411	Man-Made Material Insert	60x38x3.2mm	.125"
KJ412	Man-Made Material Insert	80x38x3.2mm	.125"
KJ413	Man-Made Material Insert	100x38x3.2mm	.125"
KJ414	Man-Made Material Insert	120x38x3.2mm	.125"
KJ415	Man-Made Material Insert	130x38x3.2mm	.125"
KJ416	Man-Made Material Insert	150x38x3.2mm	.125"
KJ417	Man-Made Material Insert	170x38x3.2mm	.125"

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50mm NAPAC

	Part No.	Part Description	Stock Dimensions	Thickness
A				
B	KB318	NAPAC Backing Plate	40x47x7mm	.275"
	KB319	NAPAC Backing Plate	50x47x7mm	.275"
C	KB320	NAPAC Backing Plate	60x47x7mm	.275"
	KB321	NAPAC Backing Plate	80x47x7mm	.275"
D	KB322	NAPAC Backing Plate	100x47x7mm	.275"
	KB323	NAPAC Backing Plate	120x47x7mm	.275"
E	KB324	NAPAC Backing Plate	130x47x7mm	.275"
	KB325	NAPAC Backing Plate	150x47x7mm	.275"
F	KB326	NAPAC Backing Plate	170x47x7mm	.275"
	KJ318	Natural Wood Insert	40x50x3.2mm	.125"
G	KJ319	Natural Wood Insert	50x50x3.2mm	.125"
	KJ320	Natural Wood Insert	60x50x3.2mm	.125"
H	KJ321	Natural Wood Insert	80x50x3.2mm	.125"
	KJ322	Natural Wood Insert	100x50x3.2mm	.125"
I	KJ323	Natural Wood Insert	120x50x3.2mm	.125"
	KJ324	Natural Wood Insert	130x50x3.2mm	.125"
J	KJ325	Natural Wood Insert	150x50x3.2mm	.125"
	KJ326	Natural Wood Insert	170x50x3.2mm	.125"
K	KJ418	Man-Made Material Insert	40x50x3.2mm	.125"
	KJ419	Man-Made Material Insert	50x50x3.2mm	.125"
	KJ420	Man-Made Material Insert	60x50x3.2mm	.125"
	KJ421	Man-Made Material Insert	80x50x3.2mm	.125"
	KJ422	Man-Made Material Insert	100x50x3.2mm	.125"
	KJ423	Man-Made Material Insert	120x50x3.2mm	.125"
	KJ424	Man-Made Material Insert	130x50x3.2mm	.125"
	KJ425	Man-Made Material Insert	150x50x3.2mm	.125"
	KJ426	Man-Made Material Insert	170x50x3.2mm	.125"

60mm NAPAC

Part No.	Part Description	Stock Dimensions	Thickness
KB327	NAPAC Backing Plate	40x57x7mm	.275"
KB328	NAPAC Backing Plate	50x57x7mm	.275"
KB329	NAPAC Backing Plate	60x57x7mm	.275"
KB330	NAPAC Backing Plate	80x57x7mm	.275"
KB331	NAPAC Backing Plate	100x57x7mm	.275"
KB332	NAPAC Backing Plate	120x57x7mm	.275"
KB333	NAPAC Backing Plate	130x57x7mm	.275"
KB334	NAPAC Backing Plate	150x57x7mm	.275"
KB335	NAPAC Backing Plate	170x57x7mm	.275"
KJ327	Natural Wood Insert	40x60x3.2mm	.125"
KJ328	Natural Wood Insert	50x60x3.2mm	.125"
KJ329	Natural Wood Insert	60x60x3.2mm	.125"
KJ330	Natural Wood Insert	80x60x3.2mm	.125"
KJ331	Natural Wood Insert	100x60x3.2mm	.125"
KJ332	Natural Wood Insert	120x60x3.2mm	.125"
KJ333	Natural Wood Insert	130x60x3.2mm	.125"
KJ334	Natural Wood Insert	150x60x3.2mm	.125"
KJ335	Natural Wood Insert	170x60x3.2mm	.125"
KJ427	Man-Made Material Insert	40x60x3.2mm	.125"
KJ428	Man-Made Material Insert	50x60x3.2mm	.125"
KJ429	Man-Made Material Insert	60x60x3.2mm	.125"
KJ430	Man-Made Material Insert	80x60x3.2mm	.125"
KJ431	Man-Made Material Insert	100x60x3.2mm	.125"
KJ432	Man-Made Material Insert	120x60x3.2mm	.125"
KJ433	Man-Made Material Insert	130x60x3.2mm	.125"
KJ434	Man-Made Material Insert	150x60x3.2mm	.125"
KJ435	Man-Made Material Insert	170x60x3.2mm	.125"

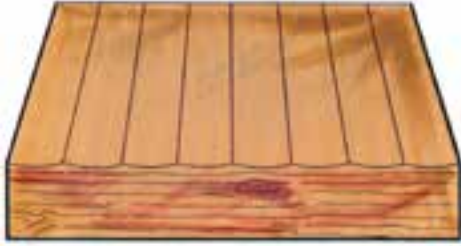
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Chip Load & Knife Marks Per Inch Reference

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D

Chip Load: The size of the chip being removed

KMPI: Knife Marks Per Inch

Finish Cross Reference Guide

Desired Finish	Chip Load	KMPI Load
Extr Corse	≥ .048"	≤ 20
Corse	.033"-.047"	30-21
Medium	.019"-.032"	53-31
Fine	.012"-.018"	83-54
Extr Fine	≤ .011"	≥ 84

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RPMs	Feed Rate	2 Wing		3 Wing		4 Wing		6 Wing		8 Wing	
		CL	KMPI	CL	KMPI	CL	KMPI	CL	KMPI	CL	KMPI
6000	25 FPM	0.025	40	0.017	60	0.013	80	0.008	120	0.006	160
6000	50 FPM	0.050	20	0.033	30	0.025	40	0.017	60	0.013	80
6000	75 FPM	0.075	13	0.050	20	0.037	27	0.025	40	0.019	53
6000	100 FPM	0.100	10	0.067	15	0.050	20	0.033	30	0.025	40
6000	125 FPM	0.125	8	0.083	12	0.063	16	0.042	24	0.031	32
6000	150 FPM	0.150	7	0.100	10	0.075	13	0.050	20	0.037	27
6000	175 FPM	0.175	6	0.117	9	0.088	11	0.058	17	0.044	23
6000	200 FPM	0.200	5	0.133	8	0.100	10	0.067	15	0.050	20
6000	225 FPM	0.225	4	0.150	7	0.112	9	0.075	13	0.056	18
6000	250 FPM	0.250	4	0.167	6	0.125	8	0.083	12	0.063	16
6000	275 FPM	0.275	4	0.183	5	0.138	7	0.092	11	0.069	15
6000	300 FPM	0.300	3	0.200	5	0.150	7	0.100	10	0.075	13
8000	25 FPM	0.019	53	0.013	80	0.009	107	0.006	160	0.005	213
8000	50 FPM	0.037	27	0.025	40	0.019	53	0.013	80	0.009	107
8000	75 FPM	0.056	18	0.037	27	0.028	36	0.019	53	0.014	71
8000	100 FPM	0.075	13	0.050	20	0.037	27	0.025	40	0.019	53
8000	125 FPM	0.093	11	0.063	16	0.047	21	0.031	32	0.023	43
8000	150 FPM	0.112	9	0.075	13	0.056	18	0.037	27	0.028	36
8000	175 FPM	0.131	8	0.088	11	0.066	15	0.044	23	0.033	31
8000	200 FPM	0.150	7	0.100	10	0.075	13	0.050	20	0.037	27
8000	225 FPM	0.169	6	0.112	9	0.084	12	0.056	18	0.042	24
8000	250 FPM	0.188	5	0.125	8	0.093	11	0.063	16	0.047	21
8000	275 FPM	0.206	5	0.138	7	0.103	10	0.069	15	0.052	19
8000	300 FPM	0.225	4	0.150	7	0.112	9	0.075	13	0.056	18



**Spiramax™ & Sidewinder®
Roughing/Finishing Insert Heads**

Spiramax™ Insert Heads

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Applications

- Moulders • Shapers
- Similar types of machinery and applications



Specifications

- Heads can be ordered in either right-hand or left-hand spirals
- Spurs can be added to either side or both sides (See spur inserts below)

Spiramax Head Inserts

Part No.	Description	Dimensions	Carbide Grade
TJ173	Standard Inserts	15X15x2.5	General Purpose
TJ168	Spur Inserts	14x14x2.0	General Purpose

Spiramax Replacement Screws

Part No.	Dimensions	
INS-0030	3.0mm Hex Replacement screws	
	T15 Torx Replacement screws	

Spiramax Technical Information

Design

- Spiramax heads feature 3+3 wing design
- Straight bore heads are designed for mounting on threaded arbors
- Available in inches or metric bore sizes. Specify your required bore size when ordering, do not exceed maximum bore diameter.

Good tool life in natural wood & man made material

- Recommend 20-30 ft/min per effective wing at 6000 rpm or .030"-.060" chip load for good finish when planing natural wood.

Good finish quality

- Scratch free finish. Guaranteed with round insert and hydro-bore only.
- Expect slightly wavy cut due to rounded inserts (wave depth .0005"-.0015").

Insert replacement

- High performance 4 sided insert.

Spiramax™ Insert Heads



Specifications

- Heads can be ordered in either right-hand or left-hand spirals
- Spurs can be added to either side or both sides (See spur inserts below)

Straight Bore Roughing Heads

Cutting Diameter Inches (mm)	Max Bore Diameter	Available Cutting Widths – Inches (mm)											
		2.362" (60)	3.150" (80)	3.937" (100)	5.118" (130)	5.906" (150)	7.087" (180)	7.874" (200)	8.661" (220)	9.055" (230)	9.843" (250)	10.630" (270)	12.008" (305)
3.94" (100)	32mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.92" (125)	1.812	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.51" (140)	2.125	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.91" (150)	65mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.30" (160)	70mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7.87" (200)	80mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.91" (150)	2.125"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of Inserts		18	21	27	36	42	51	57	63	66	72	78	90

Hydro Bore Finishing Heads

Cutting Diameter Inches (mm)	Max Bore Diameter	Available Cutting Widths – Inches (mm)											
		2.362" (60)	3.150" (80)	3.937" (100)	5.118" (130)	5.906" (150)	7.087" (180)	7.874" (200)	8.661" (220)	9.055" (230)	9.843" (250)	10.630" (270)	12.008" (305)
5.51" (140)	1.812"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.91" (150)	2.125"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.30" (160)	60mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7.87" (200)	80mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of Inserts		18	21	27	36	42	51	57	63	66	72	78	90

Sidewinder® Insert Heads

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Applications

- Moulders • Shapers
- Similar types of machinery and applications

Features

- Precision grinding & precise location act as one continuous cutting edge.
- Eliminates the possibility of “lining” the finish of your wood.
- More “effective” wings means faster feed rates than traditional insert tooling.

Sidewinder® Technical Information

Design

- Unique Design
- Extremely Quiet
- Light Weight
- Completely Serviceable
- Patented World Wide

Excellent tool life in natural wood

- Recommend 20-30 ft/min per wing at 6000 rpm or .040”-.060” chip load for good finish when planing natural wood.

Excellent finish quality

- Scratch free finish (hydro bore only with minimum of 4 wings).
- Carbide grade suited for jointing (recommend .060” chip load when jointed).
- Request maple clearances to reduce grain tear-out on irregular grain hardwoods.

Insert sharpening and replacement

- Inserts must be finish ground in the cutter head after replacement inserts are installed. Send to service center for re-tip unless customer has ability to true up insert faces on CNC grinder.
- Customer may sharpen inserts multiple times with suitable manual profile grinder. Approximately 1mm (.04”) stock removal allowance for sharpening.

Sidewinder® Insert Heads for Natural Wood



Straight Bore Roughing Heads

Cutting Diameter Inches (mm)	Max Bore Diameter	Wings					
		2	3	4	6	8	10
4.02" (102)	32mm	✓	✓	-	-	-	-
5.00" (127)	1.812"	✓	✓	-	-	-	-
5.47" (139)	2.125"	-	✓	✓	✓	-	-
5.98" (152)	65mm	-	✓	✓	✓	-	-
6.50" (165)	70mm	-	-	✓	✓	✓	-
7.76" (197)	80mm	-	-	✓	✓	✓	✓

Hydro Bore Finishing Heads

Cutting Diameter Inches (mm)	Max Bore Diameter	Wings					
		2	3	4	6	8	10
5.00" (127)	1.812"	✓	✓	-	-	-	-
5.47" (139)	1.812"	-	✓	✓	✓	-	-
5.98" (152)	2.125"	-	✓	✓	✓	-	-
6.50" (165)	60mm	-	-	✓	✓	✓	-
7.76" (197)	80mm	-	-	✓	✓	✓	✓

Number of inserts per head

(Match the number of wings on the left to your desired cutting width, for the number of inserts required.)

Wings	Available Cutting Widths – Inches (mm)													
	2.461" (62.5)	2.953" (75)	4.016" (102)	5.118" (130)	5.906" (150)	6.496" (165)	7.087" (180)	7.480" (190)	8.661" (220)	9.449" (240)	10.315" (262)	11.496" (292)	12.205" (310)	12.992" (330)
2	8	10	14	18	20	22	24	26	30	32	36	40	42	44
3	12	15	21	27	30	33	36	39	45	48	54	60	63	66
4	16	20	28	36	40	44	48	52	60	64	72	80	84	88
6	24	30	42	54	60	66	72	78	90	96	108	120	126	132
8	32	40	56	72	80	88	96	104	120	128	144	160	168	176
10	40	50	70	90	100	110	120	130	150	160	180	200	210	220

Sidewinder® Insert Heads for Man-Made Materials

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Straight Bore Roughing Heads

Cutting Diameter Inches (mm)	Max Bore Diameter	Wings					
		2	3	4	6	8	10
3.94" (100)	32mm	✓	✓	-	-	-	-
4.92" (125)	1.812"	✓	✓	-	-	-	-
5.39" (137)	2.125"	-	✓	✓	✓	-	-
5.90" (150)	65mm	-	✓	✓	✓	-	-
6.42" (163)	70mm	-	-	✓	✓	✓	-
7.68" (195)	80mm	-	-	✓	✓	✓	✓

Hydro Bore Finishing Heads

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Cutting Diameter Inches (mm)	Max Bore Diameter	Wings					
		2	3	4	6	8	10
4.92" (125)	1.812"	✓	✓	-	-	-	-
5.39" (137)	1.812"	-	✓	✓	✓	-	-
5.90" (150)	2.125"	-	✓	✓	✓	-	-
6.42" (163)	60mm	-	-	✓	✓	✓	-
7.68" (195)	80mm	-	-	✓	✓	✓	✓

Number of inserts per head

(Match the number of wings on the left to your desired cutting width, for the number of inserts required.)

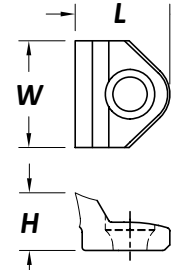
Wings	Available Cutting Widths – Inches (mm)													
	2.461" (62.5)	2.953" (75)	4.016" (102)	5.118" (130)	5.906" (150)	6.496" (165)	7.087" (180)	7.480" (190)	8.661" (220)	9.449" (240)	10.315" (262)	11.496" (292)	12.205" (310)	12.992" (330)
2	8	10	14	18	20	22	24	26	30	32	36	40	42	44
3	12	15	21	27	30	33	36	39	45	48	54	60	63	66
4	16	20	28	36	40	44	48	52	60	64	72	80	84	88
6	24	30	42	54	60	66	72	78	90	96	108	120	126	132
8	32	40	56	72	80	88	96	104	120	128	144	160	168	176
10	40	50	70	90	100	110	120	130	150	160	180	200	210	220

Sidewinder® Inserts & Replacement Screws



Sidewinder Inserts

- Long service life.
- Available in application-specific carbide grades.
- Simple service on clearance angle maintains accuracy & finish.



Sidewinder® Head Inserts

For Natural Woods



Part No.	Head Diameter	Dimensions WxLxH
TJ450R	102mm	16.8x15x9
TJ456L	102mm	16.8x15x9
TJ460R	127mm	16.8x15x9
TJ466L	127mm	16.8x15x9
TJ411R	139mm	16.8x15x9
TJ416L	139mm	16.8x15x9
TJ421R	152mm	16.8x15x9
TJ426L	152mm	16.8x15x9
TJ431R	165mm	16.8x15x9
TJ436L	165mm	16.8x15x9
TJ442R	197mm	16.8x15x9
TJ446L	197mm	16.8x15x9

Sidewinder® Head Inserts

For Man-Made Materials

Part No.	Head Diameter	Dimensions WxLxH
TJ450R	102mm	16.8x15x9
TJ456L	102mm	16.8x15x9
TJ460R	127mm	16.8x15x9
TJ466L	127mm	16.8x15x9
TJ411R	139mm	16.8x15x9
TJ416L	139mm	16.8x15x9
TJ421R	152mm	16.8x15x9
TJ426L	152mm	16.8x15x9
TJ431R	165mm	16.8x15x9
TJ436L	165mm	16.8x15x9
TJ442R	197mm	16.8x15x9
TJ446L	197mm	16.8x15x9

Sidewinder® Replacement Screws

Part No.	Description	
INS-0039	M4 (Torx T20) Replacement Screws for heads ordered prior to 08/01/10 M4 ws 5N/m (44 lb/in) of torque	
INS-0040	M4.5 (Torx Plus 15IP) Replacement Screws for heads ordered on or after 08/01/10 M4.5 is 7N/m (61 lb/in) of torque	
NP040	T-Hndle Wrench Torx Plus 15IP	