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# NLS Tools

## **NLS Tools**

Station Approach  
Waltham Cross  
Hertfordshire  
EN8 7LZ  
England

**Tel** | 01992 710888

**Fax** | 01992 713938

## **Direct Lines**

Tooling Sales | 01992 709761

Bandsaw Sales | 01992 709762

Despatch | 01992 709765

Service | 01992 709766

**Email** | [sales@nlstools.co.uk](mailto:sales@nlstools.co.uk)

**Web** | [www.nlstools.co.uk](http://www.nlstools.co.uk)





## Welcome

Welcome to our latest catalogue, the NLS Tools 2002 Product Selection Guide. Our aim is to make the task of selecting and obtaining the best cutting tools for your machining process as easy as possible. With over 1,600 products in stock and the ability to manufacture most types of tooling specially to your needs, we offer a complete tooling service to you the customer.



## Effective Cutting Solutions

We chose the motto 'Effective Cutting Solutions' because it sums up what we strive to offer our customers. We realise that cutting tool value is more than just a matter of price, or even of quality. First of all, you need to select the right tool for your job. Our knowledgeable sales staff can help you do this and are happy to offer technical advice. Whatever your cutting or machining needs, we will work closely with you to make sure you get the best cutting tool for your purpose. Secondly, you need delivery on time. We keep large stocks of standard tooling, available for same-day despatch, and always quote realistic delivery times for manufacture of non-standard tooling. Last of all, you need high quality and correct manufacture and this is something we never compromise on. We only supply the highest quality precision cutting tools.

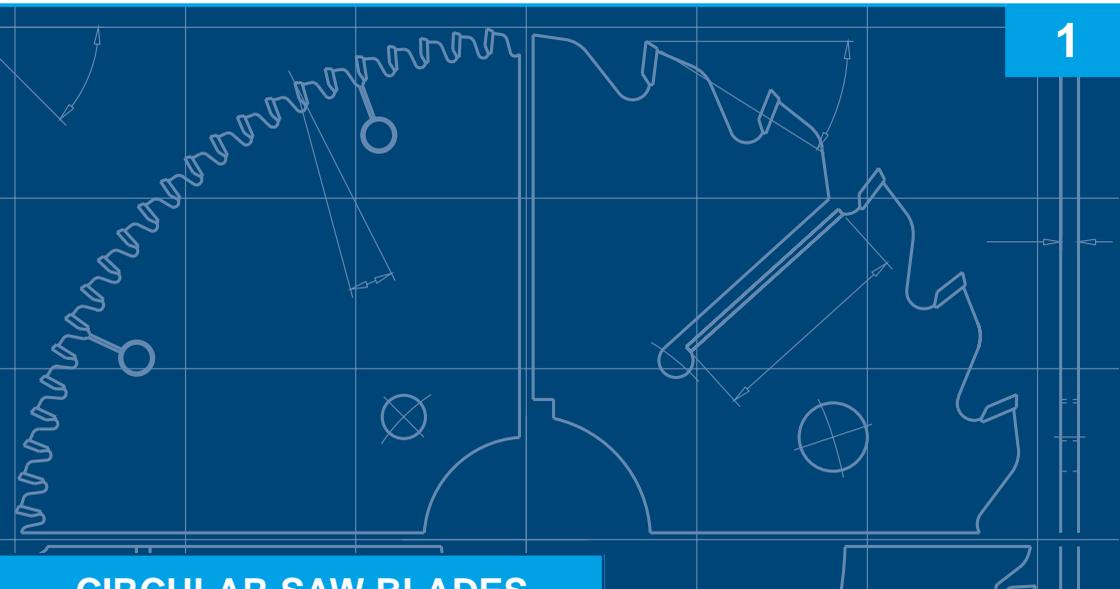


## Latest Technology

Because we use the latest production methods, you can be sure that the tooling we supply is both accurate and efficient. Where necessary, we design and manufacture your tooling using 3D solid modelling and CAD/CAM programming. This means for example that we offer shear cut on disposable tip profile tooling, which often increases the quality and speed of cut. All disposable tips, brazed profile moulding cutters and profile router cutters are CNC ground for an accurate profile form and the keenest of cutting edges. For high-volume manufacturers, we can produce your circular saw blades, profile moulding cutters and profile router cutters with polycrystalline diamond tips, reducing the cost per cut relative to tungsten carbide tipped tooling by a factor of 10. Despite all of this, it is the experience of our people which we believe makes the difference to you the customer. From tool specification to tool manufacture, there is no substitute for experience in 'getting it right'.



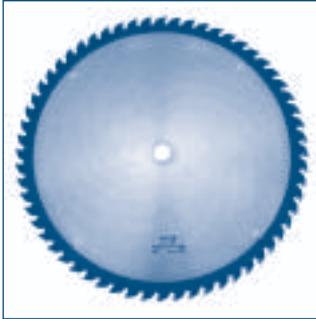




## CIRCULAR SAW BLADES

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## 8 | TCT Circular Saw Blades



### Alternate Top Bevel TCT Circular Saw Blades

Available in six types, all with alternate top bevel teeth.



**LF:** For ripping of soft- and hardwoods when the finish on the cut surface is not important.

**GW:** As for type UW but giving a higher quality of cut.

**QW:** For cross-grain cutting of natural woods. Also for cutting veneered block-board, insulation board, linoleum etc.

**KW:** A trimming saw blade for plywood and veneered and plastic-coated materials requiring a high quality of cut. Up to 50mm cutting depth.

**UW:** A general purpose saw blade for cross-grain cutting of soft- and hardwoods and trimming of single-faced veneered or laminated material, chipboard, plywood, fibre-board etc.

**VW:** Similar to type KW, but giving an even higher quality of cut for especially demanding materials. Up to 25mm cutting depth. Also for hard paper and plastics up to 10mm thick.

DØ mm	Number of Teeth	B mm	Type	n max	Part No.
150	12	3.0	LF	12700	105-150
	18		QW		120-150
	24		UW		121-150
	36		KW		123-150
	48		VW		124-150
180	12	3.0	LF	10600	105-180
	24		QW		120-180
	30		UW		121-180
	42		KW		123-180
	58		VW		124-180
200	14	3.0	LF	9500	105-200
	24		QW		120-200
	34		UW		121-200
	48		KW		123-200
	64		VW		124-200
230	24	3.0	QW	8300	120-230
	34		UW		121-230
	52		KW		123-230
	72		VW		124-230

DØ mm	Number of Teeth	B mm	Type	n max	Part No.
250	18	3.2	LF	7600	105-250
	30		QW		120-250
	40		UW		121-250
	48		GW		122-250
	60		KW		123-250
	80		VW		124-250
300	24	3.4	LF	6400	105-300
	36	3.2	QW		120-300
	48		UW		121-300
	60		GW		122-300
	72		KW		123-300
	96		VW		124-300
350	24	3.8	LF	5500	105-350
	42	3.5	QW		120-350
	54		UW		121-350
	60		UW		121-351
	72		GW		122-350
	84		KW		123-350
	108		VW		124-350
400	28	4.0	LF	4800	105-400
	40	3.7	QW		120-401
	48		QW		120-400
	60		UW		121-400
	72		GW		122-400
	96		KW		123-400
	120		VW		124-400
450	32	4.2	LF	4200	105-450
	54	4.0	QW		120-450
	66		UW		121-450
	108		KW		123-450
	132		VW		124-450
500	36	4.2	LF	3800	105-500
	60	4.0	QW		120-500
	72		UW		121-500
600	48	4.6	LF	3200	105-600

## 10 | TCT Circular Saw Blades



### Thin-Kerf TCT Saw Blades

Types **VWD & VWSD**

For thin materials e.g. single sheets of plastic, formica, perspex etc. Minimum loss of material and chip-free cutting. Up to 8mm cutting depth.

Type VWSD is bossed, to allow a very thin cutting width while retaining rigidity in the body of the blade. For use when saving of material is of prime importance.

For thin-kerf saws, the diameter of flange used should be **at least** 1/3 that of the sawblade.



DØ mm	Number of Teeth	B mm	Type	n max	Max. Depth of Cut	Part No.
150	48	2.0	VWD	10200	25	127-150
		1.5	VWSD			130-150
180	56	2.0	VWD	8500	25	127-180
		1.5	VWSD			130-180
200	64	2.0	VWD	7300	30	127-200
		1.5	VWSD			130-200
230	72	2.0	VWD	6600		127-231
250	80	2.1	VWD	6100	30	127-250
		1.5	VWSD			130-250
300	96	2.2	VWD	5100	45	127-300
		1.5	VWSD			130-300



### Heller Form TCT Circular Saw Blades for plastics and double-faced sheets

Type **TF**

The heller tooth form breaks up the cut, giving a good surface finish and minimising breakout on the bottom surface of laminated sheets on machines without pre-scoring units.



DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
200	64	3.0	2.0	9500	140-200
250	80	3.2	2.2	7600	140-250
300	72			6400	139-300
	96				140-300
350	108	3.5	2.2	5500	140-350



## Gang Rip-Saw Blades

Type LFR



For ripping with the grain of soft- and hardwoods on multi-rip machines

DØ mm	Number of Teeth	B mm	dØ mm	Keyways	Machine	Part No.
250	18	3.4	2 1/2"	2KW 5/8" x 5/16"	Wadkin	113-250-09
			70	2KW 20 x 5	Raimann, SCM	113-250-70
300	24	3.4	2 1/2"	2KW 5/8" x 5/16"	Wadkin	113-300-09
			70	2KW 20 x 5	Raimann, SCM	113-300-70
350	24	4.0	2 1/2"	2KW 5/8" x 5/16"	Wadkin	113-350-09
			70	2KW 20 x 5	Raimann, SCM	113-350-70

Other bore diameters and keyways available.



## Rip-Saw Blades with Wiper Slots

Type LFW



For ripping with the grain of soft- and hardwoods, wet or dry

DØ mm	Number of Teeth	Wiper Slots	B mm	dØ mm	Keyways	Max. Depth of Cut	Part No.
250	18	2	3.6	30	—	50	114-250-30
300	18	2	3.6	70	2+2KW	60	114-300-70
300	20	2+2	3.6	30	—	85	115-300-30
300	20	2+2	3.6	70	2+2KW	85	115-300-70
				80	2+2KW	85	115-300-80
350	24	2+2	3.8	70	2KW	110	115-350-70

## 12 | TCT Circular Saw Blades

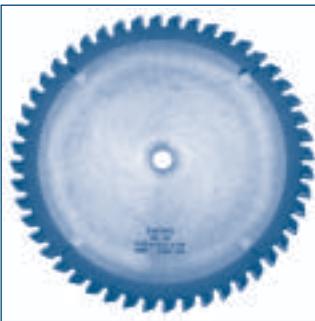


### Rip Saw Blade for Wadkin PUA Straight Line Edging Machine



For ripping with power feed and straight line edging. 2" bore diameter with 9/16" pinhole on 2.1/2" centres.

DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
17"	34	4.2	3.0	4400	105-430-08



### Crosscut Saw Blades with negative rake



Type **GWN**

For the cross-cutting of soft- and hardwoods on pull-over, radial arm and pendulum machines. The negative rake prevents jamming or climb of the workpiece.

DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
250	48	3.2	2.2	7600	109-250
300	60	3.2	2.2	6400	109-300



### Splitting Saw Blades for Weing Moulders



Type **UWD**

For multiple splitting on four-sided moulders.  
Thin kerf for minimum timber wastage.

DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
180	30	2.8	1.8	10600	121-181



### Trimming Saw Blades for Sulby Bookbinding Machines



Type **GWB**

For trimming of pages prior to bookbinding. 3" bore with 3 slots, 3 countersunk holes and 1 pinhole to suit Sulby machine.

DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
178	50	4.7	3.4	10600	176-178-10
	70	4.7	3.4		176-179-10
	T.C. Stylus for use with the above saw blade				514-902

## 14 | TCT Circular Saw Blades



### Fine Toothed Saw Blade with negative rake

Negative Rake Angle

Type TWN



For cross-cutting and mitring of light aluminium and upvc thin-walled sections. With square tops.

DØ mm	Number of Teeth	B mm	dØ mm	n max	Part No.
210	96	2.2	30	7300	125-210-30
235	112			6400	125-235-30
250	126			6100	125-250-30
250	154				125-251-30
300	120			5100	125-300-30



### Engravers' Saw Blade for Vitos/Gravograph Engraving Machines

For cutting sheets of plastic on the Vitos machine. Used for signmaking etc.



DØ mm	Number of Teeth	B mm	dØ mm	n max	Part No.
120	36	1.7	20	12700	175-120-20



### Edging Saw Blades for edge-banding machines



Negative Rake Angle      Type FS

For trimming overhanging veneer or laminate edges. Available with left or right hand top bevel.

DØ mm	Number of Teeth	dØ	Type	Machine	Part No.	
					LH	RH
100	20	32	Neg.	Wilmsmeyer	161-100	161-101



### TCT Circular Saw Blades for Wall-Mounted Panel Sizing Machines



Types **WP** and **TFP**

Type **TFP**

For use on wall saws. With alternate top bevel (tooth type W) for solid wood panels or with heller form (tooth type TF) for laminated chipboard and MDF panels.



Type **WP**

DØ mm	Number of Teeth	Tooth Type	B mm	dØ mm	Pin-holes	For	n max	Part No.
220	34	W	3.2	30	2/7/42	Holz-Her	8700	151-220-30
	64	W	3.2	30	2/7/42	Holz-Her		153-220-30
	64	TF	3.2	30	2/7/42	Holz-Her		153-221-30

## 16 | TCT Circular Saw Blades



### Heller Form TCT Circular Saw Blades for Panel Sizing Machines

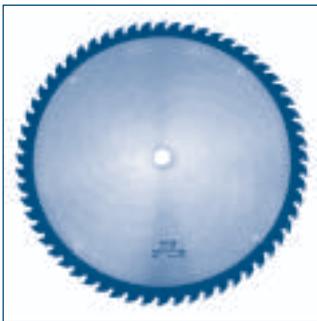


Type **TFP**

For use with laminated chipboard and MDF panels on sliding table and dimension saw benches with or without pre-scoring units.

DØ mm	Number of Teeth	B mm	dØ mm	Pin-holes	For	n max	Part No.
<b>240</b>	54	3.2	30	2/7/42	Scheer	8000	153-240-30
<b>300</b>	72	3.2	30	2/10/60		6400	139-300-30
	96	3.2	30	2/10/60			140-300-30

Other bore sizes available on request.



### Alternate Top Bevel TCT Circular Saw Blades for Panel Sizing Machines



Type **WP**

For use with solid wood panels on sliding table and dimension saw benches with or without pre-scoring units.

DØ mm	Number of Teeth	Tooth Type	B mm	dØ mm	Pin-holes	For	n max	Part No.
<b>300</b>	48	W	3.2	30	2/10/60		6400	121-300-30
	60	W	3.2	30	2/10/60			122-300-30
	72	W	3.2	30	2/10/60			123-300-30
	96	W	3.2	30	2/10/60			124-300-30

Other bore sizes available on request.



TCT Circular Saw Blades for heavy duty panel sizing machines



Type **TFP**

For continuous cutting of stacked panels. Made with extra-heavy plate for strength and rigidity under load and large, high-grade tips for long life.

DØ mm	Number of Teeth	Tooth Type	B mm	dØ mm	For	Part No.
300	60	TF	4.4	30	SCM	152-300-30
	72	TF	4.4	30	SCM	153-300-30
350	54	TF	4.4	30	SCM, Panhans	151-350-30
		TF	4.4	75	Mayor, Schelling Giben, Euromac	151-350-75
380	72	TF	4.4	30	SCM, Panhans	152-350-30
		TF	4.4		Mayor, Schelling	153-350-30
400	60	TF	4.4	60	Holzma	152-380-60
		TF	4.4	30	SCM, Schelling	151-400-30
420	72	TF	4.4	30	Scheer	152-400-30
		TF	4.4	60	Holzma	152-420-60
430	72	TF	4.8	60	Holzma	152-421-60
		TF	4.4	60	Holzma	152-430-60
450	72	TF	4.4	30	Smid, Teutomatic	151-450-30
		TF	4.4	60	Holzma	151-450-60
500	42	TF	4.8	60	Holzma	151-451-60
		TF	5.0	60	Holzma	151-502-60
520	72	TF	4.4	60	Holzma	151-500-60
		TF	5.0	60	Holzma	151-501-60
550	42	TF	5.0	60	Holzma	151-521-60
		TF	5.0	60	Holzma	151-520-60
600	72	TF	5.0	60	Holzma	151-550-60
		TF	5.0	80	Schwabedissen	150-600-80

Other tooth shapes and/or bore sizes available on request.  
 Pinholes drilled and/or keyways cut to order.  
 Also available diamond tipped – see page 23



## Split Type TCT Scoring Saw Blades for panel sizing machines



Type **RS-V**

For pre-scoring the bottom face of double-laminated boards on machines equipped with a pre-scoring unit.

Two blades with interlocking teeth. The cutting width is adjusted with spacing rings to suit that of the main saw blade.

DØ mm	B mm	dØ mm	Number of Teeth	Machine	n max	Part No.
<b>80</b>	2.8-3.6	20	2 x 10	Startrite, Casadei	23900	155-080-20
<b>100</b>	2.8-3.6	20	2 x 12	Schelling	19100	155-100-20
		22	2 x 12	Altendorf, Panhans, Schneider, Martin, Kamro		155-100-22
<b>105</b>	2.8-3.6	20	2 x 10	Wadkin	17400	155-105-20
		20	2 x 12	Holz-Her, SCM	15900	155-120-20
<b>120</b>	2.8-3.6		22	2 x 12		Altendorf, Mayor, Kamro
		50	2 x 12	Altendorf, Rapido	155-121-50	
<b>125</b>	2.8-3.6	20	2 x 12	ACM, Griggio	14700	155-125-20
		22	2 x 12	Martin, Panhans		155-125-22
			2 x 12	Martin, Panhans		155-126-22
<b>150</b>	4.2-5.0	20	2 x 12	SCM	12700	155-150-20
		<b>160</b>	2.8-3.6	20	2 x 20	Holzma
<b>180</b>	4.2-5.0	45	2 x 20	Holzma	10600	155-160-45
		45	2 x 20	Holzma		155-180-45
		45	2 x 20	Holzma		155-181-45
		45	2 x 24	Holzma		9500
<b>220</b>	4.2-5.0	45	2 x 24	Holzma	8700	155-220-45
<b>290</b>	4.6-5.4	45	2 x 24	Holzma	6600	155-290-45
<b>320</b>	4.6-5.4	45	2 x 24	Holzma	6000	155-320-45
<b>340</b>	4.6-5.4	45	2 x 24	Holzma	5600	155-340-45

Other sizes and bores available ..... details on request.



## Conic Type TCT Scoring Saw Blades for panel sizing machines



### Type RS-K

For pre-scoring the bottom face of double-laminated boards on machines equipped with a pre-scoring unit.

A single blade with conic tapered tips, the cutting width is determined by the vertical height of the saw blade and is adjusted to suit that of the main saw blade.

DØ mm	B mm	dØ mm	Number of Teeth	Machine	n max	Part No.
80	3.2-4.2	20	12	Startrite, Casadei	23900	156-080-20
100	3.2-4.2	20	16	Schelling	19100	156-100-20
		22	16	Altendorf, Panhans, Schneider Martin, Kamro		156-100-22
105	3.2-4.2	20	16	Wadkin	17400	156-105-20
120	3.2-4.2	20	24	Holz-Her, SCM	15900	156-120-20
		22	24	Altendorf, Mayor, Kamro		156-120-22
125	4.4-5.4	20	24	ACM, Griggio	14700	156-125-20
		22	24	Martin, Panhans		156-125-22
150	4.4-5.4	45	24	Giben, Euromac	12700	156-125-45
		20	24	Schelling		156-150-20
		30	24	SCM		156-150-30
		1 1/4"	24	SCM		156-150-05
160	4.4-5.4	55	24	Gabbiani	11900	156-160-55
170	4.4-5.4	45	28	Holzma	11200	156-170-45
180	3.2-4.2	16	36	Scheer (+PH)	10600	156-180-16
		20	36	Schelling		156-180-20
200	4.4-5.4	20	36	Schelling	9500	156-200-20
		4.4-5.4	30	Smid, Teutomatic		156-200-30
		4.8-5.8	36	Holzma		156-201-45

Other sizes and bores available ..... details on request.



## TCT Circular Saw Blades for non-ferrous metals

**Heller Form Teeth** Type **NE-PRO neg.**  
**Negative Rake Angle**



For use on mitring saws, cut-off machines and mobile machines.  
 Especially suitable for thin-shelled aluminium profiles.

DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
200	60	3.2	2.6	9500	185-200
215	60			8700	185-215
225	72			8300	185-225
250	60			7600	185-250
	80				185-251
	100				185-252
275	88			6800	185-275
300	96			6400	185-300
330	84	3.8	3.2	5800	185-331
	108	3.4	2.6		185-330
350	84	3.8	3.2	5500	185-350
	108	3.4	2.6		185-351
370	96	3.8	3.2	5200	185-370
400	96			4800	185-400
420	96			4500	185-420
450	96			4200	185-450



## TCT Circular Saw Blades for non-ferrous metals

**Heller Form Teeth** Type **NE positive**  
**Positive Rake Angle**



For use on bench-type circular saws (workpiece firmly clamped).  
 For sizing, mitring and lengthwise cuts in profiled and solid materials of aluminium and other non-ferrous metals.

DØ mm	Number of Teeth	B mm	Plate Thickness	n max	Part No.
250	80	3.2	2.6	7600	180-250
300	96			6400	180-300
500	100	4.5	3.8	3800	180-500
610	128			3100	180-610



### TCT Grooving Saw Blades

Type **NF**  
12 Teeth



DØ mm	B	nmax	Part No.
150	1.5	10200	171-100*
	2.0		171-101*
	2.5		171-102*
	3.0	12700	171-103
	4.0		171-104
	5.0		171-105
	6.0		171-106

\* Max. cutting depth 25mm



### Lamello Grooving Saw Blades

With chip limitation for manual feed.

DØ mm	Number of Teeth	B mm	dØ mm	Part No.
100	Z2 + V4	4.0	22	173-100
100	Z12	4.0	22	173-200
	Biscuit Joint Dowels No. 0 (Box of 1000)			993-100
	Biscuit Joint Dowels No. 10 (Box of 1000)			993-101
	Biscuit Joint Dowels No. 20 (Box of 1000)			993-102

n max 19100

Photo shows Z2+V4 version



### Lamello Grooving Cutter

with four-sided carbide tips  
2 or 4 Cutting Teeth  
4 Scribing Teeth

DØ mm	B mm	Teeth	Part No.
100	3.97	Z2+V4	633-110
	3.97	Z4+V4	633-111

n 7600 -13300

See above for Biscuit Joint Dowels



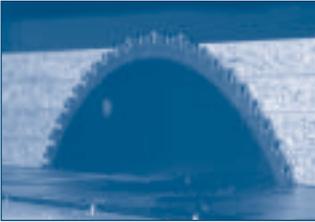
## Special Manufacture TCT Circular Saw Blades

For use where a suitable saw blade is not available from our standard range, where particular dimensions are required or in order to optimise a particular cutting process, for example by improving surface finish, increasing production throughput or reducing material wastage.

Our sales staff will be happy to advise on the best type of TCT saw blade for your application.

When specifying a non-standard saw blade, it helps us to know what material you are cutting and on what machine. Blade and feed speeds are also helpful. If we have made the same saw blade for you before, then the old saw blade's serial number, engraved near the bore hole, will be sufficient information for us.

Each saw blade is manufactured to the highest quality and individually tested before despatch.



Saw Blade Type	Part No.
Main Blade	100-000
Scoring	150-000
Trimming	160-000
Grooving	170-000



## Technical Details

Cutting diameter	80 to 920mm
Cutting width	1.5 to 10.0mm
Minimum bore diameter	12mm
Minimum tooth pitch	9.5mm

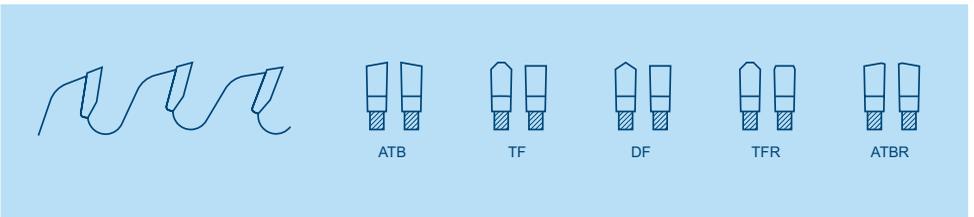




Photo courtesy of Hoffmann Timberwood PLC

## Poly-Crystalline Diamond Tipped Circular Saw Blades

PCD tipped saw blades are highly economic for long production runs, lasting typically over 100 times the life of an equivalent TCT blade. The diamond cutting material is ideal for abrasive materials such as chipboard, MDF and other fibrous boards and is also effective for many aluminium alloys, plastics and printed circuit boards.

Each PCD saw blade is manufactured to a customer's specific requirements

Our sales staff will be happy to advise on the suitability of PCD saw blades for your application.

## Advantages of 'NLS' PCD Tipped Saw Blades

- More than 70 years of NLS sawblade manufacturing expertise
- Diameters from 80mm to 600mm
- Available in all tooth configurations
- High quality chrome vanadium saw plate
- Ground gullets for smooth chip ejection and quiet running
- Up to 8 regrinds (for standard 6mm tip height, dependent on wear)

## Diamond Sawblade Economics

Before deciding to use PCD saw blades, you may find the information below useful in calculating whether or not they will be economical in your application

- A new PCD tipped sawblade costs about 10 times the price of a carbide tipped blade.
- It normally lasts between 50 times and 100 times the life of a TCT blade. This varies dramatically with the type of material being cut and the cutting conditions. Note that some grades of chipboard are unsuitable for cutting with PCD, particularly if they are of poor quality.
- A regrind costs between 15% and 20% of the purchase price of the saw blade.



## 'NLS Value' TCT Circular Saw Blades

'NLS Value' is a range of economy tooling for use where high precision or performance are not required.

'NLS Value' TCT Circular Saw Blades are available in five types:

**ATB:** With alternate top bevel teeth for general purpose cutting.

**TFL:** A low noise saw blade with heller form teeth for plastics and laminated panels.

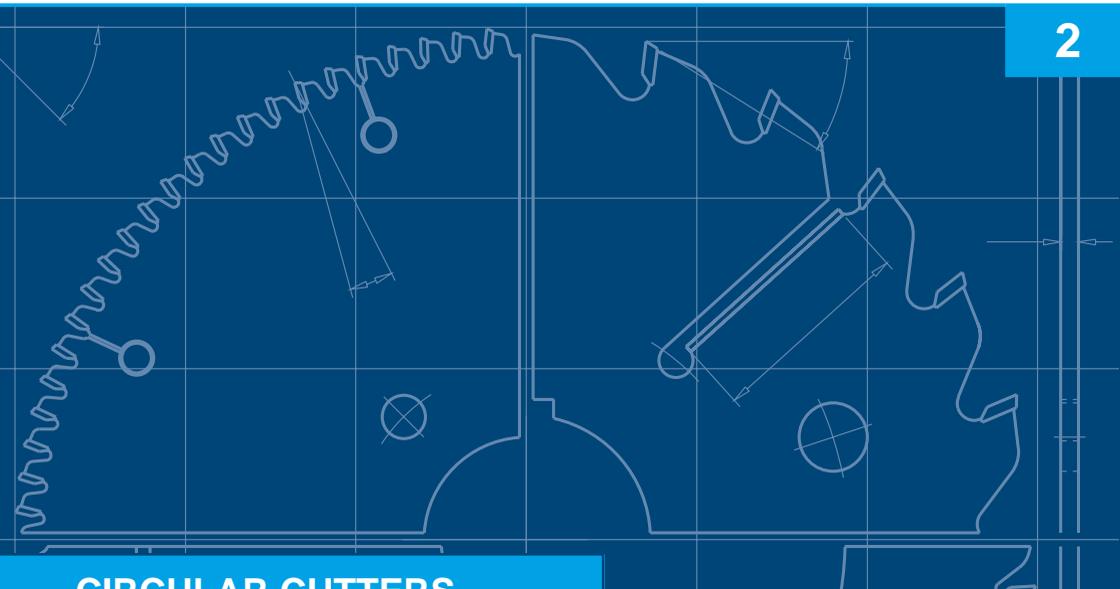
**VRS:** A split-type scoring saw blade.

**ABN:** With a negative rake and alternate top bevel teeth for pull-over crosscut machines.

**VNE:** With a negative rake and heller form teeth for aluminium and non-ferrous metals on pull-over crosscut machines.

Diam. mm	Kerf mm	No of teeth	Type	Bore mm	nmax	Part No
250	3.2	40	ATB	30	7600	212-250-30
		60	ATB	5/8"		212-250-01
		80	ATB	30		214-250-30
300	3.2	48	ATB	5/8"	6400	215-250-30
		72	ATB	30		215-250-01
		96	ATB	5/8"		212-300-30
350	3.6	84	ATB	30	5500	214-300-30
				5/8"		214-300-01
				30		215-300-30
250	3.2	60	TFL	30	7600	215-300-01
		80	TFL	5/8"		222-250-30
300	3.2	72	TFL	30	6400	222-250-01
		96	TFL	30		221-300-30
				5/8"		222-300-30
				30		222-300-01
80	2.8-3.6	2 x 10	VRS	20	23900	228-080-20
120	2.8-3.6	2 x 12	VRS	20	15900	228-120-20
				22		228-120-22
216	3.2	48	ABN	30	9000	217-216-30
		60	ABN	30		218-216-30
250	3.2	80	VNE	30	7600	219-250-30

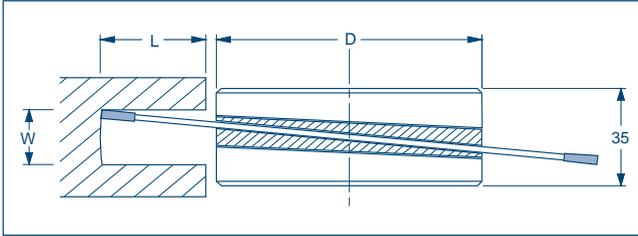
There will be an additional charge for alterations to 'NLS Value' blades.



## CIRCULAR CUTTERS

Page	Cutter Type
26	Wobble Saws
27-28	Grooving Cutters, Corner-Locking Cutters
29-32	Adjustable Grooving Cutters
32-34	Rebating & Trimming Cutters
34	Modular Planing Cutter
35	Counter-Profile Cutter
36-39	Panel Raising Cutters
40	Variable Angle Cutters
41-42	Glue-Joint Cutters
42	Spiral Hogging Cutter
43	Convex Nosing Cutters
44	Concave Quadrant Cutter Set
44	HSS Tongue & Groove Cutter Set
45-48	Safety Profile Cutter Blocks and Cutter Sets
49	Whitehill Limiter Cutter Block
50-51	Special Profile Moulding Cutters
52	Serrated Back Cutter Blocks
53-54	Replacement Tungsten Carbide Tips
55	Special Profile Tungsten Carbide Tips
56-57	Spare Wedges and Screws

### TCT Wobble Saws



The amplitude of wobble, and thus the width of the groove, is adjustable by changing the relative position of the slanting flanges.

Diameter D mm	Bore d	Width of Groove W mm	Max. Depth of Groove L mm	n max	Part No.
<b>150</b>	1 1/4"	3.2 - 23.0	38	4500	190-150-05
	30mm	3.2 - 23.0	38		190-150-30
<b>200</b>	1 1/4"	4.0 - 20.0	45	3500	190-200-05
	30mm	4.0 - 20.0	45		190-200-30
<b>250</b>	1 1/4"	4.0 - 25.0	70	3500	190-250-05
	30mm	4.0 - 25.0	70		190-250-30
<b>300</b>	1 1/4"	4.0 - 29.0	95	3000	190-300-05
	30mm	4.0 - 29.0	95		190-300-30

### Spare Saw Blades for above

DØ mm	Details	Part No.
<b>150</b>	18 teeth, 2 pinholes	191-150
<b>200</b>	34 teeth, 2 pinholes	191-200
<b>250</b>	42 teeth, 2 pinholes	191-250
<b>300</b>	48 teeth, 2 pinholes	191-300



n 5100 -8900

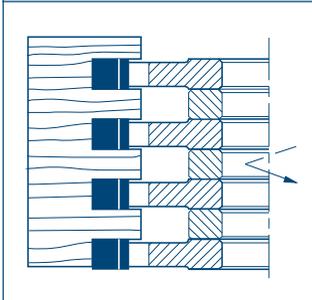
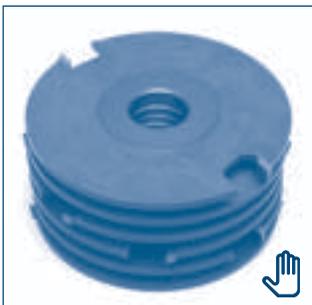
### TCT Grooving Cutters

6 teeth

For general purpose use.

DØ	B	dØ	Part No.
150	1/4"	1 1/4"	613-2311
		30	613-2211
	3/8"	1 1/4"	613-2321
		30	613-2221
	1/2"	1 1/4"	613-2331
		30	613-2231
	5/8"	1 1/4"	613-2341
		30	613-2241
	3/4"	1 1/4"	613-2351
		30	613-2251
	1"	1 1/4"	613-2361
		30	613-2261

Other cutting widths and nos. of teeth available.



n 5100 -8900

### TCT Corner Locking Cutters

2 teeth

For accurate corner joints on drawers etc. Keyways are cut so that the teeth are staggered.

DØ	B	dØ	Part No.
150	1/4"	1 1/4"	613-1001

Other sizes available on request.

### Spacing Collars for above

DØ	B	dØ	Part No.
2 1/2"	1/4"	1 1/4"	902-001

## 28 | Circular Cutters | Grooving Cutters



n 5100 -8900

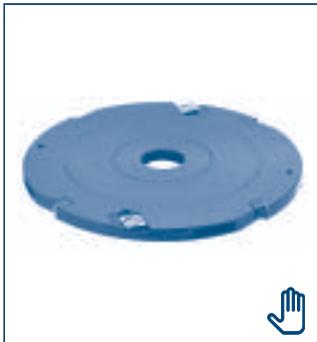
### Grooving Cutter

with reversible carbide tips

4 Cutting Teeth  
4 Scribing Teeth

For grooving of abrasive materials such as chipboard and MDF.  
For clean cutting of hardwoods, plywoods etc. with and across the grain.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
150	4	30mm	633-204	514-221
	5	30mm	633-205	514-222
	6	30mm	633-206	514-223
Replacement scribing tip				514-213



n 5100 -8900

### Grooving Cutter

with reversible carbide tips

4 Cutting Teeth  
4 Scribing Teeth

For grooving of abrasive materials such as chipboard and MDF.  
For clean cutting of hardwoods, plywoods etc. with and across the grain.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
150	8	30mm	633-208	514-107
	10	30mm	633-210	514-401
	12	30mm	633-212	514-402
Replacement scribing tip				514-213



### TCT Adjustable Grooving Cutter

4 cutting teeth  
 2 upper and 2 lower spurs  
 Adjustable by means of 0.1mm spacing rings  
 Suitable for manual feed

n 6100 -10300 (Ø120)  
 n 5100 -8900 (Ø150)

DØ mm	Width of Groove mm	Max. Depth of Groove, mm	Part No.	
			30mm bore	1¼" bore
120	3.0 - 5.8	15	194-120	
150	4.0 - 7.5	25	192-150	193-150
	7.5 - 14.5		194-150	195-150



### Adjustable Grooving Cutter

with four-sided carbide tips

4 Cutting Teeth  
 4 Scribing Teeth

For clean grooving of any material across the grain. Will give chip-free edges on veneered or plastic-faced panels.  
 Very simple adjustment by graduated scale.

n 4800 -8300

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	4 - 7.5	30mm 1.1¼"	633-001 633-001-05	514-221 514-221 514-213
Replacement scribing tip				



n 4800 -8200

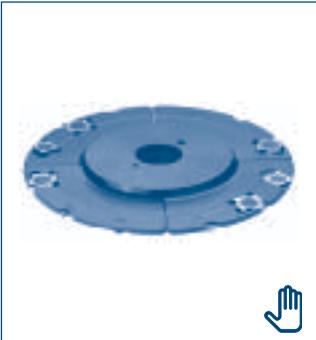
### Adjustable Grooving Cutter

with reversible carbide tips

4 Cutting Teeth  
4 Scribing Teeth

For clean grooving of any material across the grain. Will give chip-free edges on veneered or plastic-faced panels. Very simple adjustment by graduated scale.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	8 - 15	30mm	633-003	514-107
		1.1/4"	633-003-05	514-107
	12.5 - 24	30mm	633-005	514-112
		1.1/4"	633-005-05	514-112
Replacement scribing tip				514-214



n 4800 -8300

### Adjustable Grooving Cutter

with four-sided carbide tips

4 Cutting Teeth  
4 Scribing Teeth

A 2-part cutter block, adjustable by means of spacing rings. For clean grooving of any material across the grain. Will give chip-free edges on veneered or plastic-faced panels.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	4-7.5	30mm	633-1041	514-221
		1.1/4"	633-1041-05	514-221
	Replacement scribing tip			



n 4800 -8200

### Adjustable Grooving Cutter

with spacing rings and reversible carbide tips

4 Cutting Teeth  
4 Scribing Teeth

A 2-part cutter block, adjustable by means of spacing rings.  
For clean grooving of any material across the grain.  
Will give chip-free edges on veneered or plastic-faced panels.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	8-15	30mm	633-1031	514-107
		1.1/4"	633-1031-05	514-107
	12.5-24	30mm	633-1011	514-112
		1.1/4"	633-1011-05	514-112
Replacement scribing tip				514-214



n 4800 -8200

### Expansion Cutter

with reversible carbide tips

2 Cutting Teeth

To increase the grooving width of adjustable grooving cutters 633-1031 and 633-1041. Supplied without spacing rings (available separately).

DØ mm	B mm	For Cutter	Part No.	Cutting Tip Part No.
160	7	633-1041	633-1042	514-107
	15	633-1041	633-1043	514-115
	20	633-1041	633-1044	514-120
	15	633-1031	633-1032	514-115



n 5000 -8000

## Adjustable Grooving Cutter

with spacing rings and reversible carbide tips

4 Cutting Teeth  
4 Scribing Teeth

An economical 2-part alloy cutter block, adjustable by means of spacing rings. Suitable for mechanical feed. The grooving width is adjustable to 0.1mm by spacing rings (supplied).

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	14-28	30mm	633-1212	514-404
	20-39	30mm	633-1232	514-404
Replacement scribing tip				514-214



n 6100 -10300

## Trimming Cutter

with reversible carbide tips

2 Cutting Teeth

An economical cutter for end-trimming of hard and laminated materials where no rebate is required.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
125	50	30mm	632-1051	514-150



n 6100 -10300

### Rebating Cutter

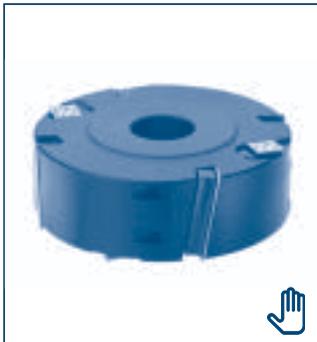
with reversible carbide tips

2 Cutting Teeth  
4 Scribing Teeth

Especially suitable for rebating hard materials, such as chipboard, MDF, hardboard, plywood, exotic woods with glue lines, compressed wood and plastics.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
125	50	1 1/4"	632-1011	514-150
	50	30mm	632-1021	514-150
	60	1 1/4"	632-1031	514-160
	60	30mm	632-1041	514-160
Replacement scribing tip				514-214

Also available with 4 cutting teeth (as shown in photo).



n 6100 -10300

### Rebating Cutter

with shear cut and reversible carbide tips

2 Cutting Teeth  
4 Scribing Teeth

Especially suitable for rebating hard and laminated materials, such as chipboard, MDF etc. The sheared cutting tips give a clean cutting action. Uses standard 50 x 12 x 1.5mm tips.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
125	50	30mm	632-110	514-150
		1.1/4"	632-110-05	514-150
Replacement scribing tip				514-214

Also available with 4 cutting teeth (as shown in photo).



n 4800 -8000

### Adjustable Rebating Cutter

with reversible carbide tips

4 Cutting Teeth  
4 Scribing Teeth

A 2-part cutter block, adjustable by spacing rings. For cutting sheet materials with or without veneers and plastic-coating, laminates and abrasive hardwoods.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	20.6 - 40	30mm	632-2011	514-120
	30.6 - 60	30mm	632-2021	514-130
	50.6 - 100	30mm	632-2031	514-150
Replacement scribing tip				514-214



n 6100 -10300

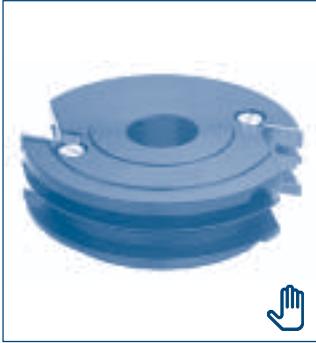
### Modular Planing Cutter

with reversible carbide tips

4 Cutting Teeth  
per section

For planing of any kind of wood or especially abrasive material on moulders. Can be stacked to any width with an overlap between successive cutters. Uses standard reversible carbide tips. With steel body. Bore diameter can be increased up to 50mm.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
125	30	30mm	630-1000	514-130
	50	30mm	630-1010	514-150



n 6400 -8400

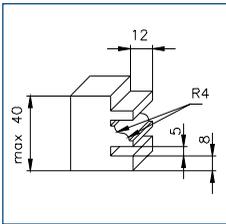
### Counter-Profile Cutter

2 Cutting Teeth

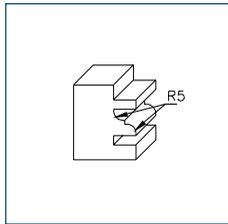
with reversible carbide tips

Designed for cutting corner joints for door, furniture and ceiling panels. With alloy body. The one cutter block can be used with 4 different knife forms as shown below.. Cutter is supplied without knives.

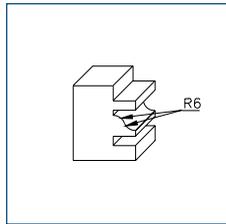
DØ mm	B mm	dØ	Part No.
120	40	30 1.1/4"	641-0611 641-0611-05
	Knives to suit form 1		517-011
	Knives to suit form 2		517-012
	Knives to suit form 3		517-013
	Knives to suit form 4		517-014



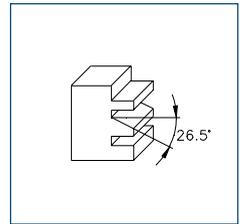
Form 1



Form 2



Form 3



Form 4



n 3900 -6600

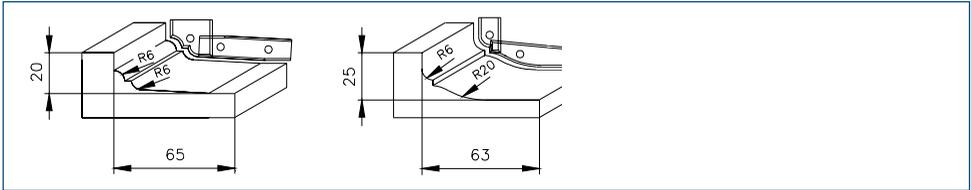
## Panel Raising Cutter

2+2 Cutting Teeth

with reversible carbide tips

For the production of raised panels in soft or hardwoods for interior doors, cabinet doors, furniture, wall and ceiling panels etc. With alloy body. Each cutter block supports 1 form only out of the 3 shown below. Form 2 available ex stock, forms 1 and 3 to order.

DØ mm	dØ	Form	Profile Depth	Part No.
200	30mm	2	63mm	631-112
		Spare panel knife (Form 2)		517-037
		Spare end knife (Form 2)		517-032



Form 1

Form 2

Form 3



n 4800 -8000

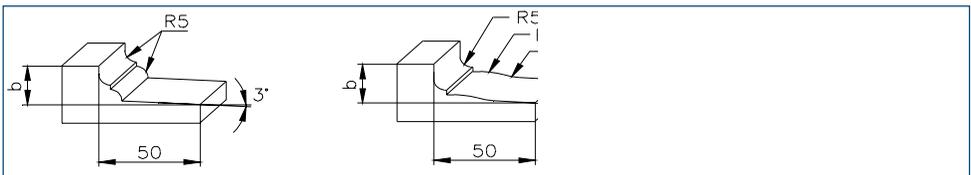
## Panel Raising Cutter

2 Cutting Teeth

with reversible carbide tips

An economical cutter block for the production of raised panels in soft or hardwoods for interior doors, cabinet doors, furniture, wall and ceiling panels etc. With alloy body. The one cutter block can be used with 3 different knife forms as shown below. Suitable for mechanical feed.

DØ mm	B mm	dØ	Profile Depth	Part No.	
160	17.5	30mm 1.1/4"	50mm	631-121	
			50mm	631-121-05	
			Knife to suit form 1	517-021	
				Knife to suit form 2	517-022
				Knife to suit form 3	517-023



Form 1

Form 2

Form 3



n 4500 -7500

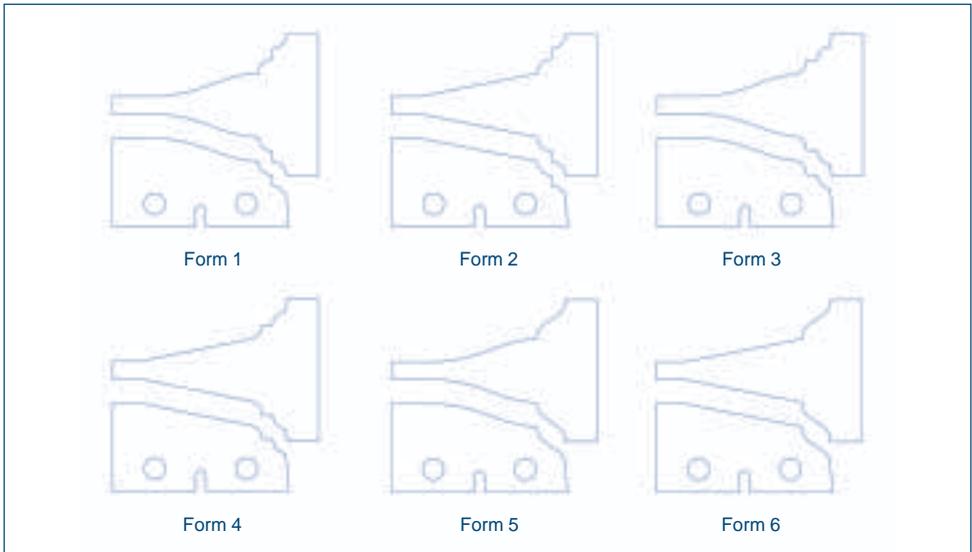
### Panel Raising Cutter

2 Cutting Teeth

with reversible carbide tips

For the production of raised panels in soft or hardwoods for interior doors, cabinet doors, furniture, wall and ceiling panels etc. With alloy body. The one cutter block can be used with 6 different knife forms as shown below.

DØ mm	B mm	dØ	Profile Depth	Part No.
180	28	30mm	70mm	631-122-30
				Knife to suit form 1
				517-041
				Knife to suit form 2
				517-042
				Knife to suit form 3
				517-043
				Knife to suit form 4
				517-044
				Knife to suit form 5
				517-045
				Knife to suit form 6
				517-046





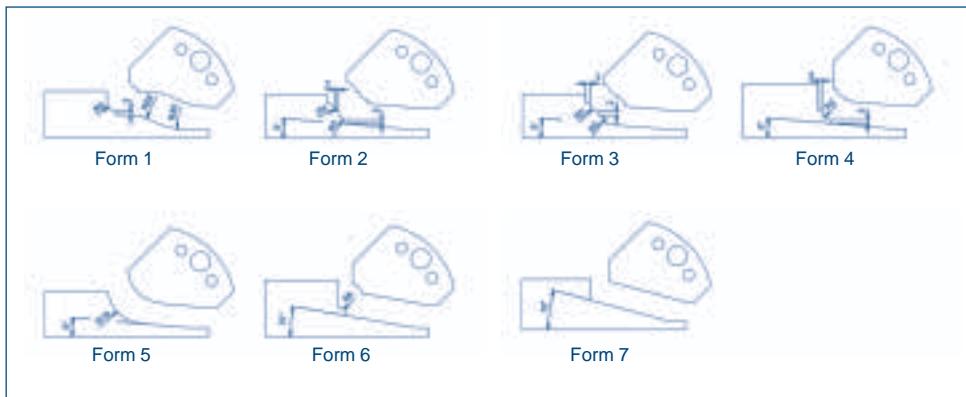
## 45° Safety-Profile Panel Raising Cutter

2 Cutting Teeth  
2 Limiters

For the economic production of raised panels in soft or hardwoods for interior doors, cabinet doors, furniture, wall and ceiling panels etc. With alloy body. 7 standard profile forms available for top or bottom cutting.

DØ mm	B mm	dØ	Max. Depth of Profile	Part No.
160	48	30mm	60mm	641-0250-30

Form No.	Top Knife	Top Limiter	Bottom Knife	Bottom Limiter
1	505-231	539-231	505-241	539-241
2	505-232	539-232	505-242	539-242
3	505-233	539-233	505-243	539-243
4	505-234	539-234	505-244	539-244
5	505-235	539-235	505-245	539-245
6	505-236	539-236	505-246	539-246
7	505-237	539-237	505-247	539-247



2 Cutting Teeth

## Multi-Profile Panel Raising Set

with disposable carbide tips

For the production of raised panels in hardwoods, chipboard and MDF for interior doors, cabinet doors, furniture, wall and ceiling panels etc. With alloy body. The set comes complete with 3 pairs of panel knives and 2 pairs of end knives in a wooden box as shown below.



DØ mm	B mm	dØ	Profile Depth	Part No.
180	40	30mm	69mm	631-131-30
				Spare panel knife (No. 1) 514-541
				Spare panel knife (No. 2) 514-542
				Spare panel knife (No. 3) 514-543
				Spare end knife (No. 4) 514-544
				Spare end knife (No. 5) 514-545



Knife no. 4 and no. 1



Knife no. 4 and no. 2



Knife no. 5 and no. 2



Knife no. 5 and no. 1



Knife no. 4 and no. 3



Knife no. 5 and no. 3



n 5200 -9000

## Variable Angle Cutter

Adjustable 0° - 75°  
in 1° increments

with reversible carbide tips

For jointing and chamfering of all materials, also for mitring work.  
Very simple adjustment by toothed ring. Angle read from graduated scale.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
150	50	1¼"	636-100	514-150
		30mm	636-101	514-150



n 4800 -6000

## Variable Angle Cutter

Adjustable 0° - 90°  
via a worm gear

with reversible carbide tips

For jointing and chamfering of all materials, also for mitring work.  
With body of high grade alloy. Very simple adjustment by worm gear.  
Angle read from graduated scale.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
160	50	1¼"	636-110	514-150
		30mm	636-111	514-150



n 6400 -11000

### Glue-Joint Cutter

120mm Diam.  
30mm Bore  
2 Teeth

HSS & TCT tipped

Profile and counter-profile can be cut with the same cutter.

#### HSS

B mm	Wood Thickness	Height of Profile	Part No.
50	45	15.4	601-100-30
60	55	23.0	601-101-30

#### TCT

B mm	Wood Thickness	Height of Profile	Part No.
50	45	15.4	611-100-30



n 5900 -9000

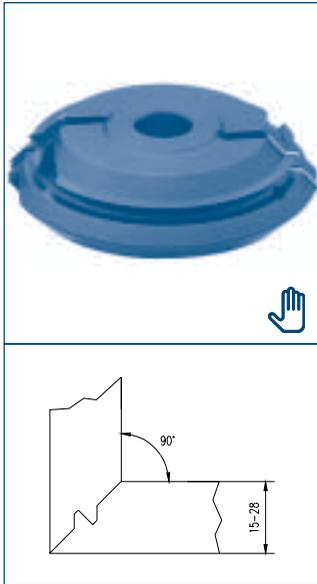
### Glue-Joint Cutter

130mm Diam.

with reversible carbide tips

For glue-jointing in softwood, hardwood and laminates.

B mm	dØ	Wood Thickness	Height of Profile	Part No.
50	30mm	45	16	631-302-30
	1.1/4"	45	16	631-302-05
60	30mm	55	24	631-303-30
	1.14"	55	24	631-303-05
			Spare 50mm tips for 631-302	514-9012
			Spare 60mm tips for 631-303	514-9072



n 4500-6000

## Mitre Glue-Joint Cutter

2 Cutting Teeth

with disposable carbide tips

For mitring work where a strong joint is required.  
Suitable for timber from 15 to 28mm wide.  
The mitre angle is 45°.

DØ mm	B mm	dØ	Part No.	Cutting Tip Part No.
170	40	30	635-101	514-906



n 8000 -12000

## Spiral Hogging Cutter

30mm Bore

with reversible carbide tips

For rapid removal of stock in shaping applications  
With alloy body.

DØ mm	B mm	Number of Teeth	Part No.	Cutting Tip Part No.
62	60	10	634-111	514-214
80	80	12	634-110	514-214



### Convex Nosing Cutter

30mm Bore

with disposable carbide tips

For nosing in softwood, hardwood and MDF. With steel body. Suitable for use with guide bearing of 120mm diam.

Radius mm	DØ mm	Max. Depth of Profile	Part No.	Cutting Tip Part No.
3	126	25	636-203	514-503
4	128	26	636-204	514-504
5	130	27	636-205	514-505



### Convex Nosing Cutter

30mm Bore

with disposable carbide tips

For nosing in softwood, hardwood and MDF. With steel body. Suitable for use with guide bearing of 120mm diam.

Radius mm	DØ mm	Max. Depth of Profile	Part No.	Cutting Tip Part No.
6	132	28	636-206	514-506
8	136	30	636-208	514-508
10	140	32	636-210	514-510
12	144	34	636-212	514-512
12.5	145	35	636-213	514-513
15	150	37	636-215	514-515
20	160	42	636-220	514-520



## Concave Quadrant Cutter Set

with disposable carbide tips

For quadrant cutting in softwood, hardwood and MDF.

Set consists of one alloy cutter block and six pairs of TC knives with 3, 4, 5, 6, 8 and 10mm radius, all in a wooden box. Suitable for manual feed. For use with guide bearing of 100mm diam.

DØ mm	B mm	dØ mm	Part No.
120	20	30	636-200-30
	Spare TC knife R3		514-533
	Spare TC knife R4		514-534
	Spare TC knife R5		514-535
	Spare TC knife R6		514-536
	Spare TC knife R8		514-538
	Spare TC knife R10		514-540



## Tongue & Groove Cutter Set

HSS tipped

6 teeth

60mm bore

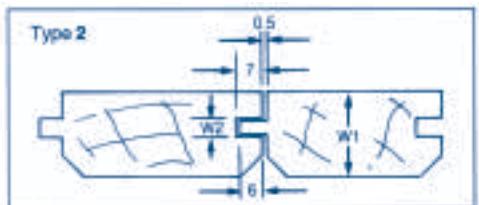
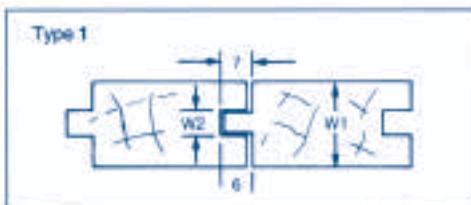
A set of two cutters, one for tonguing and one for grooving.

The width of the tongue and groove is adjustable by threaded bush.

DØ mm	Type	W1 mm	W2 mm	Part No.
180	1	12 - 36	4 - 6	601-111
	2	15 - 27	4 - 6	601-112

n max 7200

Photo shows tongue cutter only





n 5100 - 7900

### Safety Profile Cutter

2 Cutting Teeth  
2 Limiters

For use on spindle moulders to produce profiles in solid wood. With steel or alloy body.

Suitable for manual feed.

DØ mm	B mm	dØ	Body	Part No.
120	40	30mm	Alloy	641-0211
	40	30mm	Steel	641-0210
		1.1/4"	Steel	641-0210-05



n 5800 - 9000

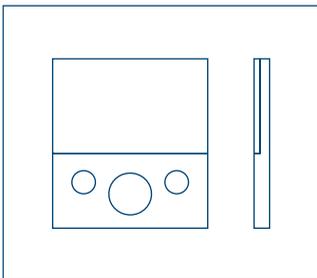
### Safety Profile Cutter Set

2 Cutting Teeth  
2 Limiters

Set consists of 1 cutterhead with alloy body, 1 pair of rebating knives and limiters, 6 pairs of profile knives and limiters – profile nos 1 to 6 (see p.68).

Suitable for manual feed.

DØ mm	dØ mm	Height mm	Knife Thick.	Part No.
100	30	40	4.0mm	641-0111



### Spare Safety Knives 40 x 4mm

Type	Quality	Max Depth of Profile*	Part No.
Rebating Knife	SP	–	535-120
	TCT		515-100
	Limiter		539-120
Blank Knife 27.5mm	SP	8mm	535-131
	HSS		505-131
	TCT		515-101
	Limiter		539-131
	SP	12.5mm	535-132
Blank Knife 32.5mm	HSS		505-132
	TCT		515-102
	Limiter		539-132
	SP	12.5mm	535-001
Special Profile Knife (see p.72)	HSS		505-001
	TCT		515-001
	Limiter		539-001

\*The maximum depth of profile quoted includes an allowance of 3mm for sharpening. Profile depths can be increased if required at the cost of sharpening life.



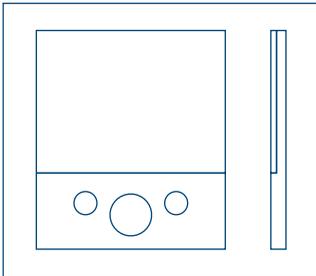
n 5500 -8500

## Safety Profile Cutter

2 Cutting Teeth  
2 Limiters

For use on spindle moulders to produce profiles in solid wood. Can be used with 40 x 4mm or 50 x 4mm knives. Suitable for manual feed. With steel body.

DØ mm	B mm	dØ	Part No.
112	40-50	30 1.1/4"	641-0220 641-0220-05



## Spare Safety Knives 50 x 4mm

Type	Quality	Max Depth of Profile*	Part No.
Blank Knife 28mm	SP	8mm	535-141
	HSS		505-141
	Limiter		539-141
Blank Knife 34mm	SP	15mm	535-142
	HSS		505-142
	TCT		515-142
	Limiter		539-142
Special Profile Knife (see p.72)	SP	15mm	535-002
	HSS		505-002
	TCT		515-002
	Limiter		539-002

\*The maximum depth of profile quoted includes an allowance of 3mm for sharpening. Profile depths can be increased if required at the cost of sharpening life.



n 4500 - 6600

### Safety Profile Cutter

2 Cutting Teeth  
2 Limiters

For use on spindle moulders to produce profiles in solid wood. With alloy or steel body.

Suitable for manual feed.

DØ mm	B mm	dØ	Body	Part No.
120	50	30mm	Alloy	641-0231
	50	30mm	Steel	641-0230
		1.1/4"	Steel	641-0230-05



n 5800 - 9000

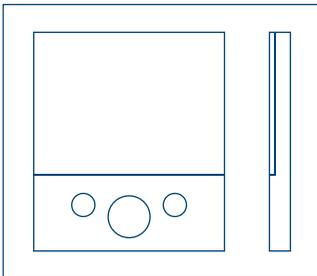
### Safety Profile Cutter Set

2 Cutting Teeth  
2 Limiters

Set consists of 1 cutterhead with alloy body, 1 pair of rebating knives and limiters, 6 pairs of profile knives and limiters – profile nos 201 to 206 (see p.71).

Suitable for manual feed.

DØ mm	dØ mm	Height mm	Knife Thick.	Part No.
100	30	50	5.5mm	641-0131



### Spare Safety Knives 50 x 5.5mm

Type	Quality	Max Depth of Profile*	Part No.
Rebating Knife	SP	-	535-123
	Limiter		539-123
Blank Knife 32mm	SP	12.5mm	535-151
	Limiter		539-151
Blank Knife 42mm	SP	22.5mm	535-152
	HSS		505-152
	TCT		515-152
	Limiter		539-152
	Special Profile Knife (see p.72)		SP
	HSS	505-003	
	TCT	515-003	
	Limiter	539-003	

\*The maximum depth of profile quoted includes an allowance of 3mm for sharpening. Profile depths can be increased if required at the cost of sharpening life.



n 4800 -7400

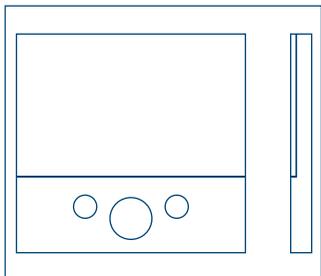
## Safety Profile Cutter

2 Cutting Teeth  
2 Limiters

For use on spindle moulders to produce profiles in solid wood. With steel body (also available with alloy body).

Suitable for manual feed.

DØ mm	B mm	dØ	Part No.
130	60	30mm 1.1/4"	641-0240 641-0240-05



## Spare Safety Knives 60 x 5.5mm

Type	Quality	Max Depth of Profile*	Part No.
Blank Knife 44mm	SP	25mm	535-161
	HSS		505-161
	TCT		515-161
	Limiters		539-161
Special Profile Knife (see p.72)	SP	25mm	535-004
	HSS		505-004
	TCT		515-004
	Limiters		539-004

\*The maximum depth of profile quoted includes an allowance of 3mm for sharpening. Profile depths can be increased if required at the cost of sharpening life.



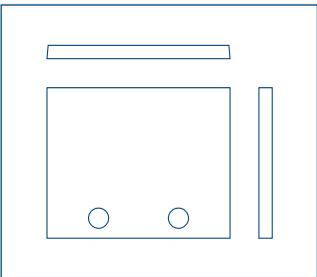
**'Whitehill' 125 x 100  
Limiter Cutterhead**

2 Cutting Teeth  
2 Limiters

For use on spindle moulders to produce profiles in solid wood. Can be used with 80 x 6mm or 100 x 6mm knives. Max cutting circle Ø175mm. With steel body (also available with alloy body).

Suitable for manual feed.

DØ mm	B mm	dØ	Part No.
125	80-100	30mm 1.1/4"	641-1050-30 641-1050-05



**Spare Knives for above**

Type	Quality	Max Depth of Profile	Part No.
Blank Knife 80 x 6mm	HSS	24mm	505-053
	Limiter	24mm	539-053
Blank Knife 100 x 6mm	HSS	24mm	505-054
	Limiter	24mm	539-054
Special Profile Knife 80mm (see p.75)	HSS	24mm	505-009
	Limiter	24mm	539-009
Special Profile Knife 100mm (see p.75)	HSS	24mm	505-010
	Limiter	24mm	539-010



## Special-Profile Moulding Cutters

Shear Cut or  
Straight Cut

For use on spindle moulders, moulders, tenoning machines etc. to produce profiles in all types of wood, chipboard, MDF and other composite materials, depending on tip material and grade used.

The profile form required may be supplied as a wood sample, section drawing or computer DXF drawing.

- Easy to set up – no adjustment required of knives or TC tips
- Quiet running due to circular body form
- Dynamically balanced to within 0.5g
- CNC ground for accurate profile form and close-fitting joints
- Excellent surface finish, often eliminating the need for sanding
- Produced to safety standard EN847-1

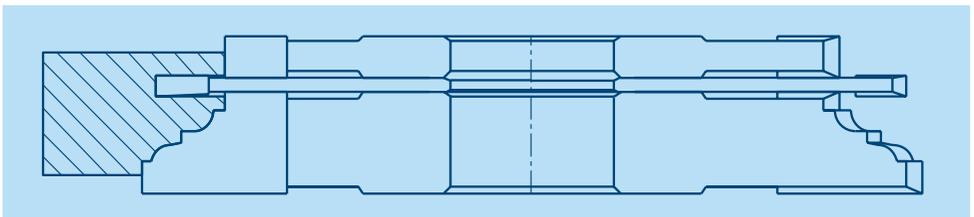


Tip Material	Feed Type	Part No.
<b>High Speed Steel</b>	Manual	601-001
	Mechanical	601-000
<b>TC (Softwood Grade)</b>	Manual	611-005
	Mechanical	611-004
<b>TC (Hardwood Grade)</b>	Manual	611-001
	Mechanical	611-000
<b>TC (Chipboard &amp; MDF)</b>	Manual	611-003
	Mechanical	611-002
<b>Polycrystalline Diamond</b>	Manual	651-001
	Mechanical	651-000



## Technical Details

Maximum diameter	250mm	
Maximum cutting width	100mm	(Bore diam. less than 40mm)
	175mm	(Bore diam. 40mm or more)
Standard tip thickness	8mm	(High speed steel)
	6mm	(Tungsten carbide)
	3.2mm	(Polycrystalline diamond)





## Special-Profile Moulding Cutters

with disposable carbide tips

Shear Cut or Straight Cut

For use on spindle moulders, moulders, tenoning machines etc. to produce profiles in all types of wood, chipboard, MDF and other composite materials, depending on tip material and grade used.

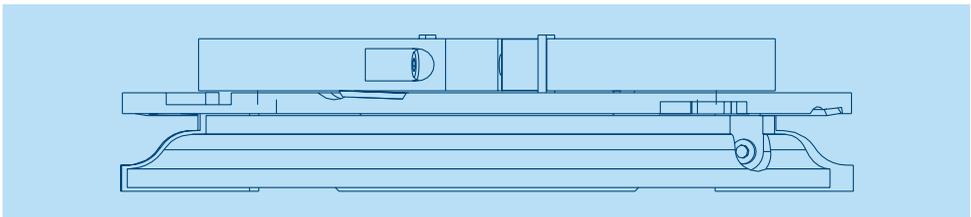
The profile form required may be supplied as a wood sample, section drawing or computer DXF drawing.

- Replaceable carbide tips, so no downtime while cutter is sharpened
- Hard grade of carbide tips gives longer life than brazed tooling
- Quiet running due to circular body form
- Dynamically balanced to within 0.5g
- Tips are CNC ground for accurate profile form and close-fitting joints
- Excellent surface finish, often eliminating the need for sanding
- Produced to safety standard EN847-1

TC Tip Grade	Feed Type	Part No.
<b>Softwood</b>	Manual	630-005
	Mechanical	630-004
<b>Hardwood</b>	Manual	630-001
	Mechanical	630-000
<b>Chipboard &amp; MDF</b>	Manual	630-003
	Mechanical	630-002

## Technical Details

Maximum diameter	250mm
Maximum cutting width	80mm
Maximum profile depth	25mm





Body Diam mm	Knife Height mm	Depth of Profile mm	Max. Circle of Cut mm
122	50	15	160
	60	22	180
	70	30	200

n max 9000

## Serrated Back Cutter Blocks 4 Knife

60° serrations

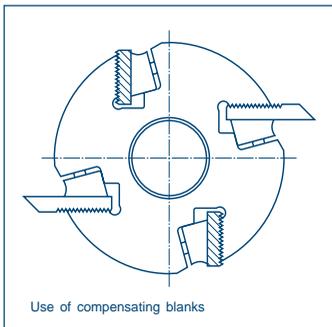
Supplied without knives (see pp. 76-78).

DØ mm	B mm	dØ mm	Part No.
122	40	40	645-504
	60		645-506
	80		645-508
	100		645-510
	130		645-513
	150		645-515
	180		645-518
230	645-523		

## Flanged Bushes

For use of above on spindle moulding machines.

DØ mm	dØ	Part No.
40	30	904-001
	1 1/4"	904-002



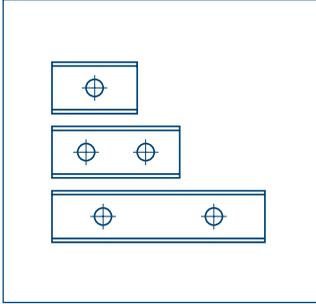
## Compensating Blanks

For use of 2 knives in a 4-knife block.

**Nominal thickness 9mm.**

Compensating blanks should not be used together with cutting knives in the same slot.

Height mm	Length mm	Part No.
25	40	536-104
	60	536-106
	80	536-108
	100	536-110
	130	536-113
	150	536-115
	180	536-118
	230	536-123
	500	536-150



## Tungsten Carbide Reversible Knives

### Standard Grade

A general purpose grade, suitable for most materials

Dimensions mm	Box Quantity	Part No.
7.5 x 12 x 1.5	10	514-107
9.6 x 12 x 1.5	10	514-401
11.6 x 12 x 1.5	10	514-402
12 x 12 x 1.5	10	514-112
15 x 12 x 1.5	10	514-115
20 x 12 x 1.5	10	514-120
30 x 12 x 1.5	10	514-130
40 x 12 x 1.5	10	514-140
50 x 12 x 1.5	10	514-150
60 x 12 x 1.5	10	514-160

### MDF Grade

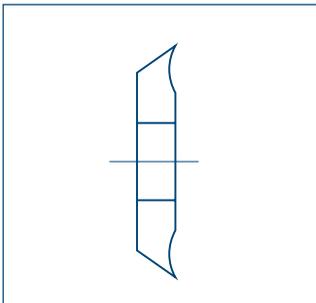
A sub-micron grade with corrosion inhibitors, giving up to 3 times the life of standard grade tips when cutting MDF

Dimensions mm	Box Quantity	Part No.
30 x 12 x 1.5	10	514-1301
50 x 12 x 1.5	10	514-1501

### HDF Grade

An ultra-micron grade, specially for high density boards. Only suitable for rigid machines, since the extreme hardness makes it susceptible to chipping. With a life of up to 9 times the standard grade tips, HDF Grade can be an economical alternative to PCD tooling.

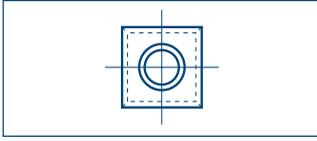
Dimensions mm	Box Quantity	Part No.
30 x 12 x 1.5	10	514-1304
50 x 12 x 1.5	10	514-1504



### Softwood Grade

A special grade, designed to replace HSS tools, with a ground chip-breaker, to allow the correct cutting angle to be obtained for pine & softwoods on standard disposable tip tooling

Dimensions mm	Box Quantity	Part No.
30 x 12 x 1.5	10	514-1303
50 x 12 x 1.5	10	514-1503



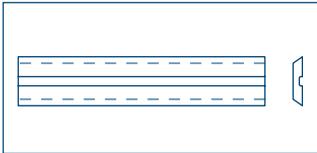
### 4-sided T.C. Scribing Knives

Dimensions mm	Box Quantity	Part No.
14 x 14 x 1.2	10	514-213
14 x 14 x 2	10	514-214



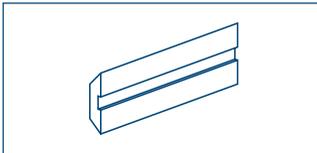
### 3-sided T.C. Scribing Knives

Dimensions mm	Box Quantity	Part No.
12 x 12 x 2	10	514-220



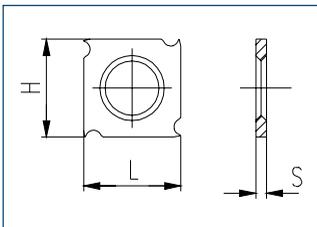
### 8mm Reversible T.C. Knives

Dimensions mm	Box Quantity	Part No.
50 x 8 x 1.5	10	514-151
60 x 8 x 1.5	10	514-161



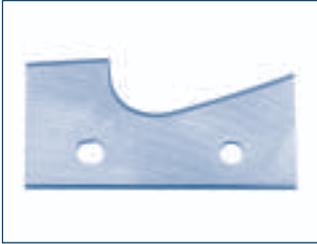
### Mini-Reversible T.C. Knives

Dimensions mm	Box Quantity	Part No.
12 x 5.5 x 1.1	10	514-312
20 x 5.5 x 1.1	10	514-320
40 x 5.5 x 1.1	10	514-340
50 x 5.5 x 1.1	10	514-350



### 4-sided T.C. Cutting Knives

Dimensions mm	Box Quantity	Part No.
18 x 18 x 1.95	10	514-221
18 x 18 x 2.45	10	514-222
18 x 18 x 2.95	10	514-223

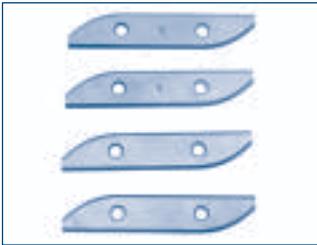


## Special-Profile Disposable Carbide Tips

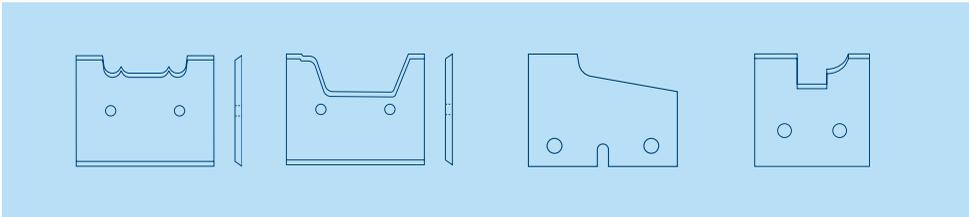
For use in disposable carbide tip cutter blocks on spindle moulders, moulders, tenoning machines etc. to produce profiles in all types of wood, chipboard, MDF and other composite materials, depending on the grade of tungsten carbide used.

The profile form required should preferably be supplied as a sample tip. If a wood sample, section drawing or computer DXF drawing is supplied and we did not manufacture the cutter block, it may be necessary for the cutter block to be supplied as well to ensure an accurate profile form.

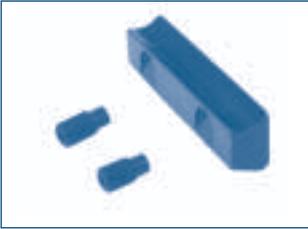
- CNC ground for accurate profile form and close-fitting joints
- Excellent surface finish, often eliminating the need for sanding



Carbide Grade	Part No.
Softwood	514-003
Hardwood	514-001
Chipboard & MDF	514-002
HDF	514-004



## Spare Wedges & Screws



### Bottom Bevel System

	B mm	Part No.
Wedges	8	902-408
	12	902-412
	15	902-415
	20	902-420
	30	902-430
	50	902-450



### Screw & Slot System

	B mm	Part No.
Wedges	12	902-112
	14	902-114
	15	902-115
	20	902-120
	30	902-130
	50	902-150
	60	902-160
Screws	M6 x 8	903-108
	M6 x 12	903-112
	M6 x 16	903-116



### Taper Screw System

	B mm	Part No.
Wedges	12	902-212
	15	902-215
	20	902-220
	30	902-230
	50	902-250
	60	902-260
	Screws	M5 x 18
M7 x 18		903-200



### Pressure Clamping System

	B mm	Part No.
Wedges	30	902-330
	50	902-350
Screws	M8	903-300
Thrust Nuts	—	903-301

Spare Screws



Screws for Scribing Knives

Dimensions	Type	Part No.
M5 x 8mm	Slotted Head	903-405
M5 x 11mm	Hex Head	903-400

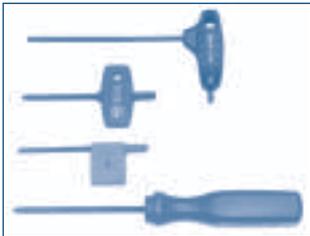
Side Screws

Dimensions	Type	Part No.
M4 x 8mm	12mm Slotted Head	903-406
M5 x 8mm	15mm Slotted Head	903-409
M6 x 10mm	14mm Slotted Head	903-407
M6 x 10mm	Adjustable	903-408



Screws and Flanges for Tip Fixing

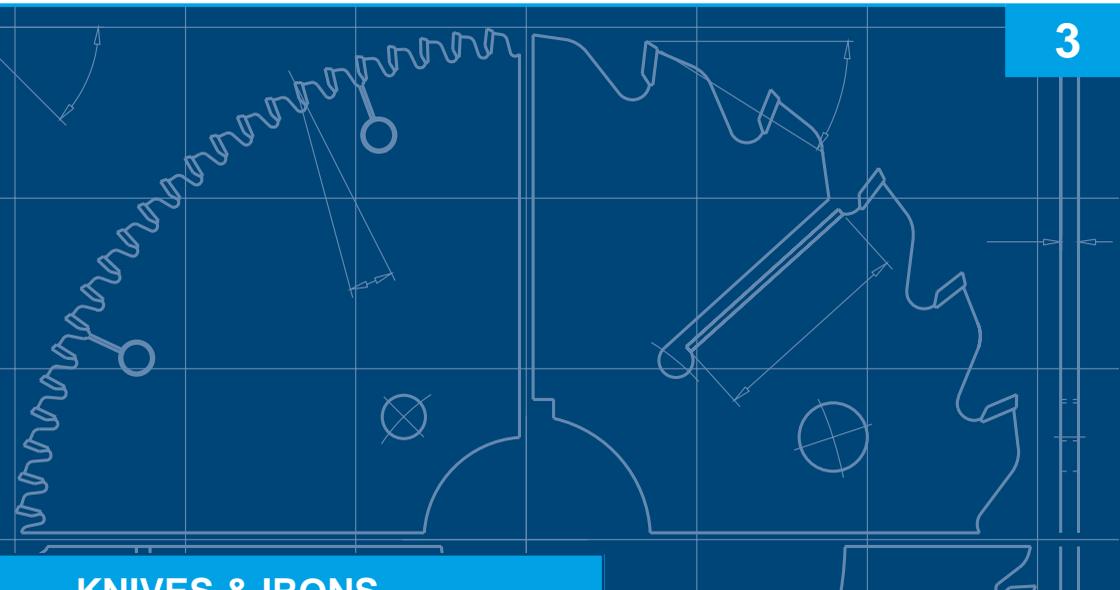
Dimensions	Type	Part No.
M4 x 6mm	Torx Dome Head	903-420
M4 x 3mm	Torx Countersunk Head	903-412
M4 x 4.2mm	Torx Countersunk Head	903-410
Flange Nut	For Tip 18 x 18 x 1.95mm	903-411
M3 x 5.5mm	Novitec	903-500
M3 x 8mm	Novitec	903-501



Hex and Torx Drivers

Dimensions	Type	Part No.
3mm	T-Handled Hex Key	905-003
4mm	T-Handled Hex Key	905-004
5mm	T-Handled Hex Key	905-005
6mm	T-Handled Hex Key	905-006
T9	T-Handled Torx Key	905-114
T15	Flag-Handled Torx Key	903-615
T15	Screwdriver Torx Key	905-118

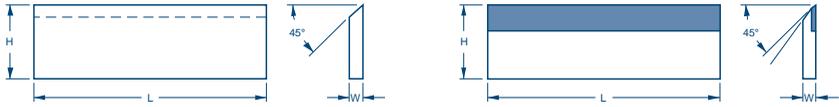




## KNIVES & IRONS

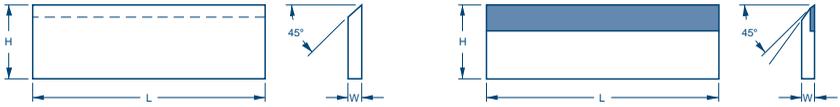
Page	Knife Type
60	Thin Planing Knives (Metric Sizes)
61	Thin Planing Knives (Imperial Sizes)
62	Thin Planing Knives (Special Metric Sizes)
63	Thin Planing Knives (Special Imperial Sizes)
64-67	Thin Planing Knives Machine Listing
68-71	Standard Profile Safety Profile Knives
72	Special Profile Safety Profile Knives
73	Cutters for Whitehill Blocks (old style)
73	Solid HSS Cutter Steel
74	Cutters for Whitehill Limiter Blocks
75	Special Profile Whitehill Knives
76-77	HSS & TCT Serrated Back Knives
78	Special Profile Serrated Back Knives
79	Tenoning Cutters
79	EK155 HSS Scribing Cutters
80	Rebate Irons
81	Square & Panel Irons

## 60 | Knives & Irons | Thin Planing Knives



### Metric Sizes

Dimensions L x H x W (mm)	HSS Part No.	TCT Part No.
60 x 30 x 3	500-100	510-100
80 x 30 x 3	500-101	510-101
100 x 30 x 3	500-103	510-103
110 x 30 x 3	500-104	510-104
120 x 30 x 3	500-105	510-105
130 x 30 x 3	500-106	510-106
150 x 30 x 3	500-109	510-109
160 x 30 x 3	500-110	510-110
180 x 30 x 3	500-112	510-112
210 x 30 x 3	500-114	510-114
230 x 30 x 3	500-115	510-115
260 x 30 x 3	500-118	510-118
300 x 30 x 3	500-119	510-119
310 x 30 x 3	500-120	510-120
320 x 30 x 3	500-135	510-135
400 x 30 x 3	500-122	510-122
410 x 30 x 3	500-123	510-123
500 x 30 x 3	500-125	510-125
510 x 30 x 3	500-126	510-126
520 x 30 x 3	500-127	510-127
610 x 30 x 3	500-128	510-128
630 x 30 x 3	500-129	510-129
640 x 30 x 3	500-130	510-130
710 x 30 x 3	500-131	510-131
810 x 30 x 3	500-132	510-132
310 x 35 x 3	500-220	510-220
400 x 35 x 3	500-222	510-222
410 x 35 x 3	500-223	510-223
500 x 35 x 3	500-225	510-225
510 x 35 x 3	500-226	510-226
610 x 35 x 3	500-228	510-228
630 x 35 x 3	500-229	510-229
640 x 35 x 3	500-230	510-230
810 x 35 x 3	500-232	510-232
100 x 30 x 4	—	510-803
130 x 30 x 4	—	510-806
150 x 30 x 4	—	510-809
180 x 30 x 4	—	510-812
230 x 30 x 4	—	510-815



Imperial Sizes

Dimensions L x H x W (in)	HSS Part No.	TCT Part No.
4 1/4 x 1 1/4 x 1/8	500-300	510-300
6 1/4 x 1 1/4 x 1/8	500-302	510-302
9 1/4 x 1 1/4 x 1/8	500-305	510-305
12 1/4 x 1 1/4 x 1/8	500-308	510-308
16 1/4 x 1 1/4 x 1/8	500-311	510-311
18 1/4 x 1 1/4 x 1/8	500-312	510-312
20 1/4 x 1 1/4 x 1/8	500-313	510-313
24 1/4 x 1 1/4 x 1/8	500-315	510-315
30 1/4 x 1 1/4 x 1/8	500-318	510-318
36 1/4 x 1 1/4 x 1/8	500-320	510-320
12 1/4 x 1 1/2 x 1/8	500-408	510-408
16 1/4 x 1 1/2 x 1/8	500-411	510-411
18 1/4 x 1 1/2 x 1/8	500-412	510-412
20 1/4 x 1 1/2 x 1/8	500-413	510-413
22 1/8 x 1 1/2 x 1/8	500-414	510-414
24 1/4 x 1 1/2 x 1/8	500-415	510-415
26 x 1 1/2 x 1/8	500-416	510-416
30 1/4 x 1 1/2 x 1/8	500-418	510-418
36 1/4 x 1 1/2 x 1/8	500-420	510-420
12 1/2 x 1 1/2 x 5/32	500-606	-
24 3/8 x 1 1/2 x 5/32	500-607	-
30 3/8 x 1 1/2 x 5/32	500-608	-
36 1/4 x 1 1/2 x 5/32	500-610	-

All intermediate sizes available on request at the price of the next highest size.  
See pp. 64-67 for slotted and plain knives to suit particular machines.

## Special Sizes — plain &amp; slotted for particular machines

See pp. 64-67 for alphabetical listing by machine manufacturer and for model and slot details.

## Metric Sizes

Dimensions mm	Machine	HSS Part No.	TCT Part No.
56 x 34 x 3	Adler	500-753	510-753
75 x 18 x 3	Bosch, Haffner, Metabo, Holz-Her	500-757	510-757
82 x 28 x 3	Hitachi	500-777	510-777
82 x 29 x 3	Aichi, Black & Decker, Makita	500-754	510-754
82 x 29 x 3	Skil	500-785	510-785
100 x 35 x 3	Holz-Her	500-780	510-780
110 x 29 x 3	Makita	500-772	510-772
120 x 25 x 3	SCM	500-781	510-781
136 x 25 x 3	Guilliet	500-770	510-770
150 x 19 x 3	Rockwell	500-758	510-758
150 x 20 x 2.5	Kity	500-759	510-759
155 x 32 x 3	Makita	500-778	510-778
180 x 25 x 3	SCM	500-782	510-782
186 x 25 x 3	Guilliet	500-771	510-771
200 x 20 x 2.5	Kity	500-760	510-760
210 x 20 x 2.5	Lurem, Hitachi	500-761	510-761
210 x 25 x 2.5	Lurem	500-762	510-762
210 x 25 x 3	Robland	500-783	510-783
210 x 30 x 3	Emco	500-763	510-763
220 x 25 x 2.5	Inca	500-766	510-766
231 x 25 x 3	Guilliet	500-768	510-768
250 x 25 x 3	Luna	500-774	510-774
260 x 18 x 3	Scheppach, Schleicher	500-750	510-750
260 x 20 x 2.5	Kity, Lurem, Susemihl	500-755	510-755
260 x 20 x 3	Elektra	500-775	510-775
260 x 21 x 3	DeWalt DW1150	500-767	510-767
260 x 25 x 3	Emco	500-764	510-764
260 x 25 x 3	Robland	500-769	510-769
260 x 25 x 3	DeWalt DW50	500-751	510-751
262 x 25 x 2.5	Inca	500-765	510-765
262 x 25 x 3	Inca	500-752	510-752
263 x 25 x 3	Elektra	500-773	510-773
310 x 20 x 2.5	Lurem	500-776	510-776
312 x 25 x 3	Startrite, Robland	500-756	510-756
330 x 20 x 3	Morten	500-784	510-784
410 x 35 x 3	BGU, Löwer	500-223	510-223

Other sizes available.

Both HSS and TCT knives can be manufactured to order.

## Special Sizes — plain &amp; slotted for particular machines

See pp. 64-67 for alphabetical listing by machine manufacturer and for model and slot details.

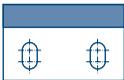
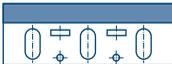
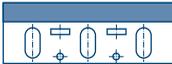
## Imperial Sizes

Dimensions in.	Machine	HSS Part No.	TCT Part No.
4 <sup>5</sup> / <sub>8</sub> " x 7 <sup>7</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Coronet	500-717	510-717
6 <sup>1</sup> / <sub>4</sub> " x 1 <sup>5</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Multico	500-700	510-700
7" x 7 <sup>7</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Coronet	500-718	510-718
9 <sup>1</sup> / <sub>4</sub> " x 3 <sup>1</sup> / <sub>32</sub> " x 3 <sup>3</sup> / <sub>16</sub> "	Multico	500-701	510-701
9 <sup>1</sup> / <sub>4</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-702	510-702
9 <sup>1</sup> / <sub>2</sub> " x 1 <sup>1</sup> / <sub>4</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Cooksley	500-703	510-703
10 <sup>1</sup> / <sub>4</sub> " x 1" x 1 <sup>1</sup> / <sub>8</sub> "	Sedgwick	500-712	510-712
12 <sup>1</sup> / <sub>8</sub> " x 1 <sup>5</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Multico	500-704	510-704
12 <sup>1</sup> / <sub>4</sub> " x 1" x 1 <sup>1</sup> / <sub>8</sub> "	Sedgwick	500-713	510-713
12 <sup>1</sup> / <sub>4</sub> " x 1 <sup>1</sup> / <sub>4</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Cooksley	500-706	510-706
12 <sup>1</sup> / <sub>4</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-705	510-705
16 <sup>1</sup> / <sub>4</sub> " x 1" x 1 <sup>1</sup> / <sub>8</sub> "	Sedgwick	500-716	510-716
16 <sup>1</sup> / <sub>4</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-707	510-707
17 <sup>1</sup> / <sub>4</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-708	510-708
17 <sup>1</sup> / <sub>2</sub> " x 1 <sup>1</sup> / <sub>4</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Cooksley	500-714	510-714
18 <sup>1</sup> / <sub>8</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-709	510-709
19 <sup>1</sup> / <sub>2</sub> " x 1 <sup>1</sup> / <sub>4</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Cooksley	500-710	510-710
22 <sup>1</sup> / <sub>8</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-715	510-715
26 <sup>1</sup> / <sub>8</sub> " x 1 <sup>9</sup> / <sub>16</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	Wadkin	500-711	510-711

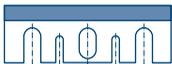
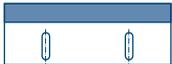
Other sizes available.

Both HSS and TCT knives can be manufactured to order.

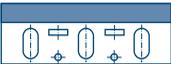
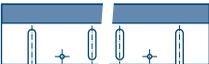
## Special Sizes — plain &amp; slotted for particular machines

Make	Model		Dimensions	Quality	Part No.
<b>Adler</b>	Rapid		56 x 34 x 3	HSS TCT	500-753 510-753
<b>Aichi</b>			82 x 29 x 3	HSS TCT	500-754 510-754
<b>BGU</b>	KAD 40N		410 x 35 x 3	HSS TCT	500-223 510-223
<b>Black &amp; Decker</b>			82 x 29 x 3	HSS TCT	500-754 510-754
<b>Bosch</b>	0590/1590 P 400		75 x 18 x 3	HSS TCT	500-757 510-757
<b>Cooksley</b>			9 1/2" x 1 1/4" x 1/8" 12 1/4" x 1 1/4" x 1/8" 17 1/2" x 1 1/4" x 1/8" 19 1/2" x 1 1/4" x 1/8"	HSS TCT HSS TCT HSS TCT HSS TCT	500-703 510-703 500-706 510-706 500-714 510-714 500-710 510-710
<b>DeWalt</b>	DW 1150		260 x 21 x 3	HSS TCT	500-767 510-767
	DW 50		260 x 25 x 3	HSS TCT	500-751 510-751
<b>Elektra</b>			260 x 20 x 3	HSS TCT	500-775 510-775
	HG 260		263 x 25 x 3	HSS TCT	500-773 510-773
<b>Emco</b>	6020 K		210 x 30 x 3	HSS TCT	500-763 510-763
	2000/B-20		260 x 25 x 3	HSS TCT	500-764 510-764

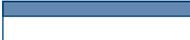
## Special Sizes — plain &amp; slotted for particular machines

Make	Model		Dimensions	Quality	Part No.
Guilliet			136 x 25 x 3	HSS	500-770
			186 x 25 x 3	TCT	510-770
				HSS	500-771
				TCT	510-771
			231 x 25 x 3	HSS	500-768
				TCT	510-768
Haffner	FH 75/222		75 x 18 x 3	HSS	500-757
				TCT	510-757
Hitachi	FU 20		82 x 28 x 3	HSS	500-777
	FU 20A				
	FP 20				
	U 210		210 x 20 x 2.5	HSS	500-761
				TCT	510-761
Holz-Her	EHO 75		75 x 18 x 3	HSS	500-757
	222/223				
	WF		100 x 35 x 3	HSS	500-780
				TCT	510-780
Inca			220 x 25 x 2.5	HSS	500-766
				TCT	510-766
				262 x 25 x 2.5	HSS
				TCT	510-765
			262 x 25 x 3	HSS	500-752
				TCT	510-752
Kity	535		150 x 20 x 2.5	HSS	500-759
				TCT	510-759
	635		200 x 20 x 2.5	HSS	500-760
				TCT	510-760
	636		260 x 20 x 2.5	HSS	500-755
				TCT	510-755
Löwer	KAD 40N		410 x 35 x 3	HSS	500-223
				TCT	510-223
Luna	L 36/W 59		250 x 25 x 3	HSS	500-774
				TCT	510-774
	L 38/310		310 x 30 x 3	HSS	500-120
	W 68			TCT	510-120
	L 39/W 69		410 x 30 x 3	HSS	500-123
				TCT	510-123

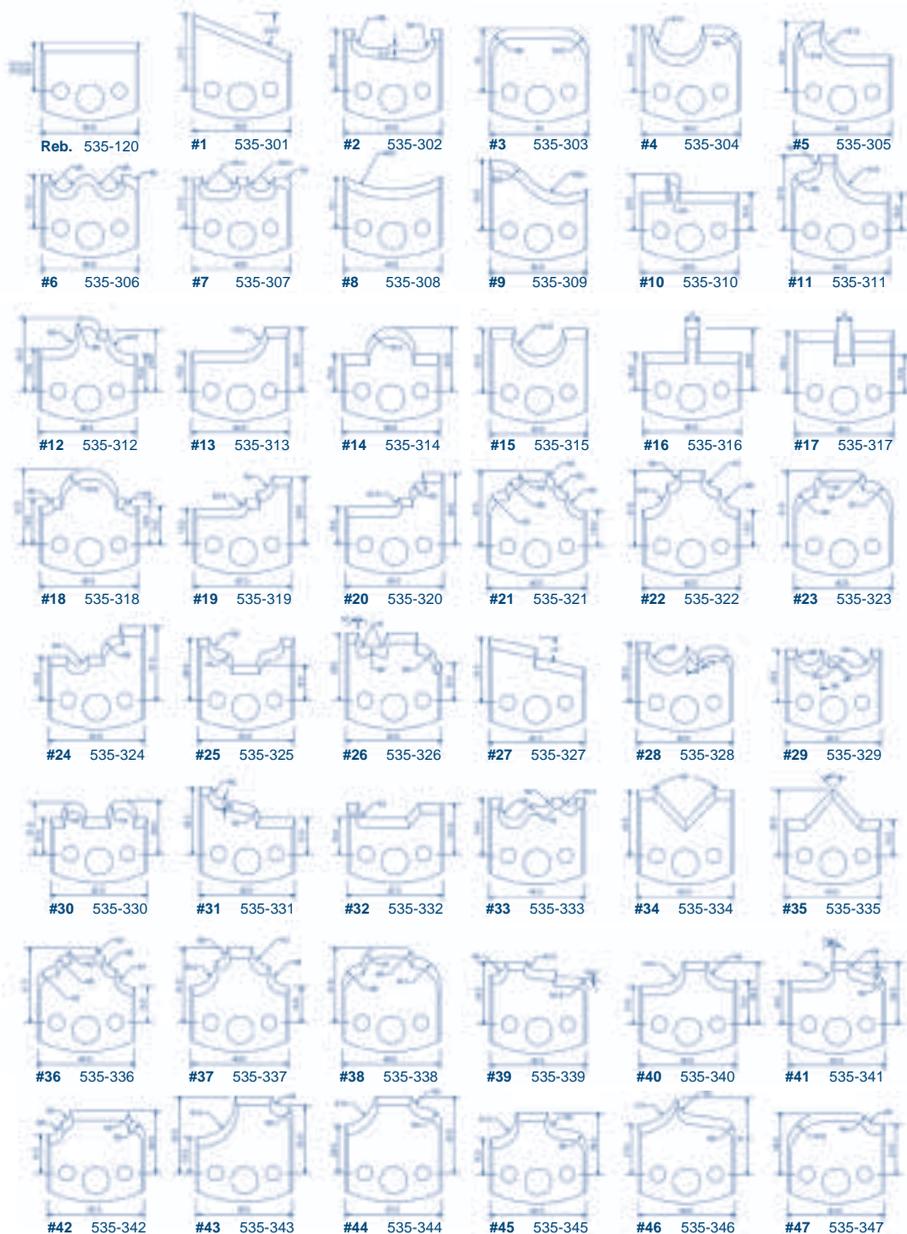
Special Sizes — plain & slotted for particular machines

Make	Model		Dimensions	Quality	Part No.
Lurem	Kombi		210 x 20 x 2.5	HSS	500-761
				TCT	510-761
			210 x 25 x 2.5	HSS	500-762
				TCT	510-762
			260 x 20 x 2.5	HSS	500-755
	TCT	510-755			
			310 x 20 x 2.5	HSS	500-776
				TCT	510-776
Makita	1900B/1923B 1100/1125 1001		82 x 29 x 3	HSS	500-754
				TCT	510-754
	1911B		110 x 29 x 3	HSS	500-772
				TCT	510-772
	1805 1805N 1805B		155 x 32 x 3	HSS	500-778
				TCT	510-778
Metabo	6375		75 x 18 x 3	HSS	500-757
				TCT	510-757
Morten	RPH 330		330 x 20 x 3	HSS	500-784
				TCT	510-784
Multico			6 1/4" x 15/16" x 1/8"	HSS	500-700
				TCT	510-700
			9 1/4" x 31/32" x 3/16"	HSS	500-701
				TCT	510-701
			12 1/8" x 15/16" x 1/8"	HSS	500-704
				TCT	510-704
Robland	K/SDB 210		210 x 25 x 3	HSS	500-783
				TCT	510-783
			260 x 25 x 3	HSS	500-769
		TCT	510-769		
		W 310		312 x 25 x 3	HSS
				TCT	510-756
Rockwell			150 x 19 x 3	HSS	500-758
				TCT	510-758
Scheppach	HM 1		260 x 18 x 3	HSS	500-750
	HM 0+2			TCT	510-750

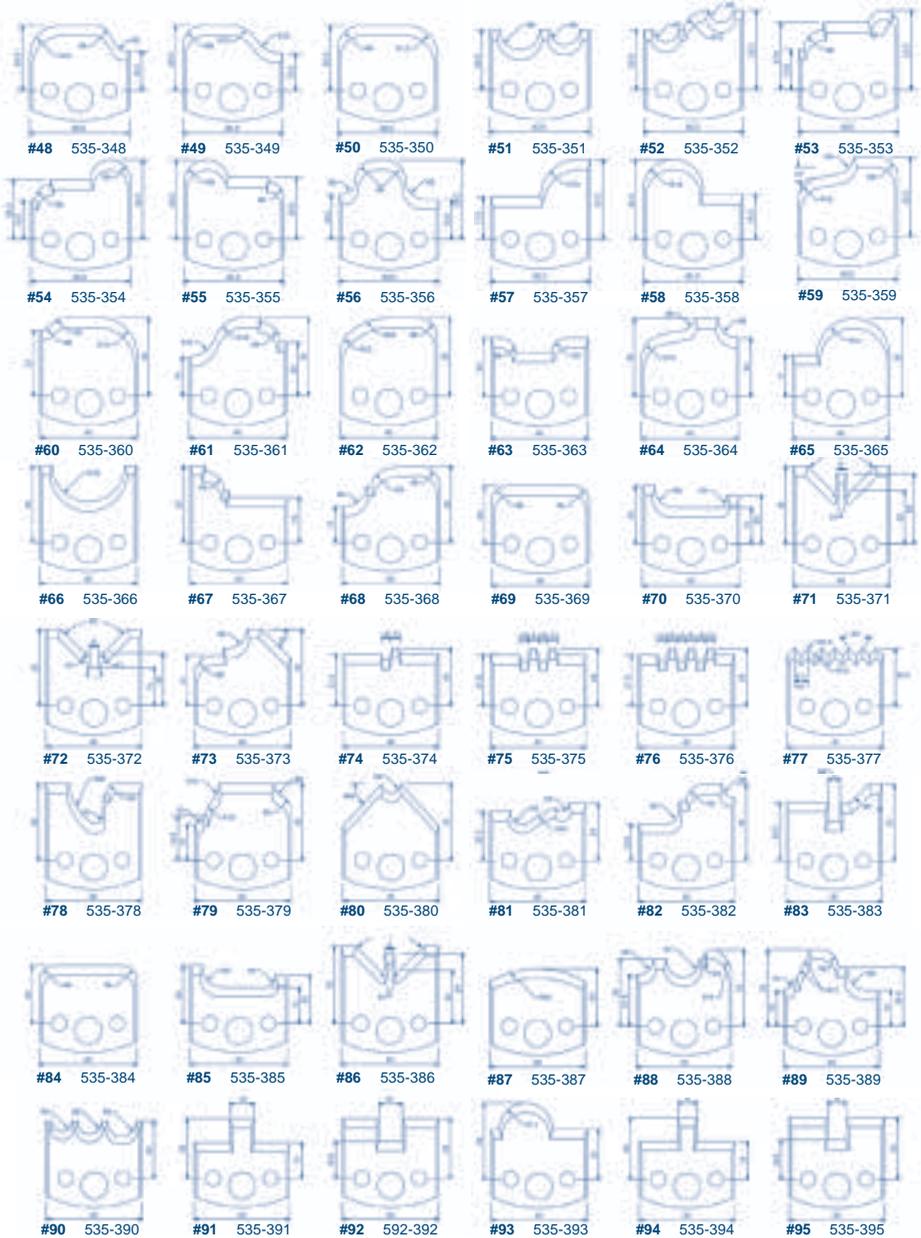
Special Sizes — plain & slotted for particular machines

Make	Model		Dimensions	Quality	Part No.
Scheppach			320 x 18 x 3	HSS TCT	500-779 –
Schleicher			260 x 18 x 3	HSS TCT	500-750 510-750
SCM			120 x 25 x 3	HSS TCT	500-786 –
			180 x 25 x 3	HSS TCT	500-787 –
Sedgwick			10 1/4" x 1" x 1/8"	HSS TCT	500-712 510-712
			12 1/4" x 1" x 1/8"	HSS TCT	500-713 510-713
			16 1/4" x 1" x 1/8"	HSS TCT	500-716 510-716
				HSS TCT	500-716 510-716
Skil	96 H		82 x 29 x 3	HSS TCT	500-785 510-785
Startrite			312 x 25 x 3	HSS TCT	500-756 510-756
Susemihl			260 x 20 x 2.5	HSS TCT	500-755 510-755
Wadkin			9 1/4" x 1 9/16" x 1/8"	HSS TCT	500-702 510-702
			12 1/4" x 1 9/16" x 1/8"	HSS TCT	500-705 510-705
			16 1/4" x 1 9/16" x 1/8"	HSS TCT	500-707 510-707
				HSS TCT	500-708 510-708
			18 1/8" x 1 9/16" x 1/8"	HSS TCT	500-709 510-709
				HSS TCT	500-715 510-715
			22 1/8" x 1 9/16" x 1/8"	HSS TCT	500-711 510-711
			26 1/8" x 1 9/16" x 1/8"	HSS TCT	500-711 510-711

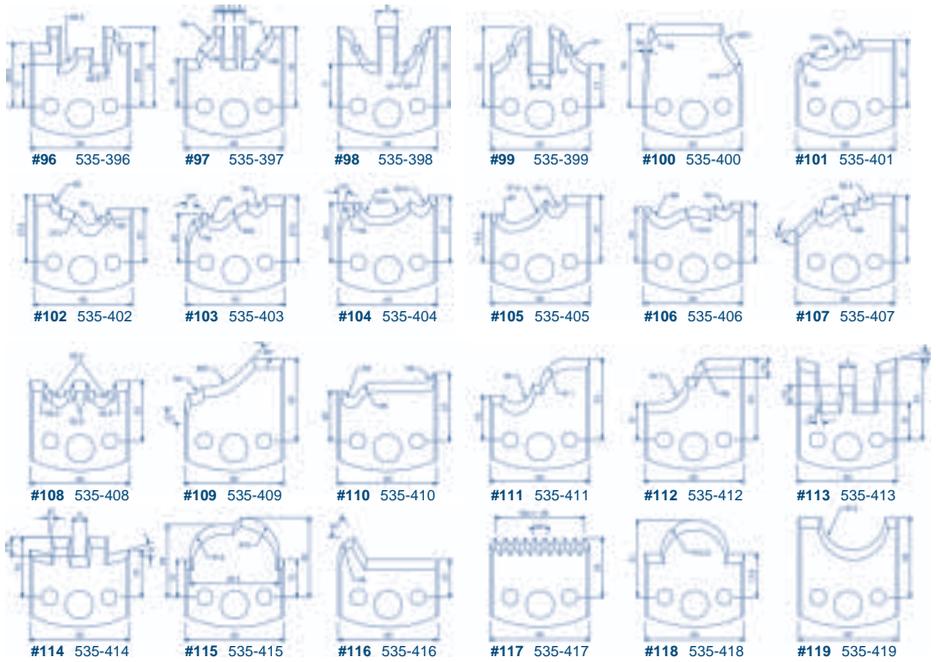
## Safety Profile Knives 40 x 4mm – Nos. 1 to 47



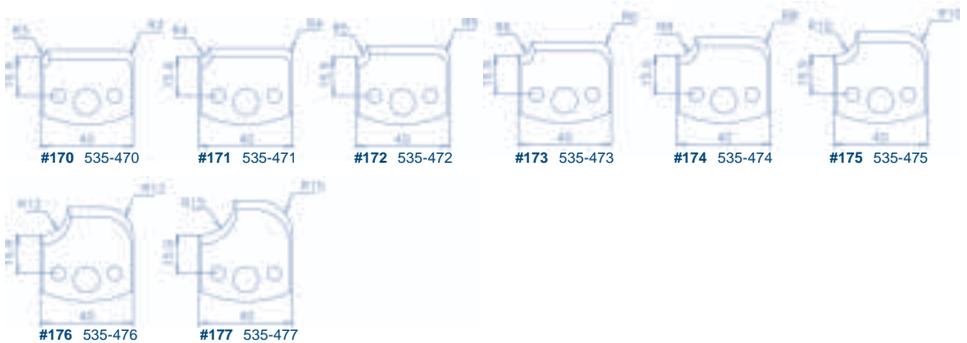
Safety Profile Knives 40 x 4mm – Nos. 48 to 95



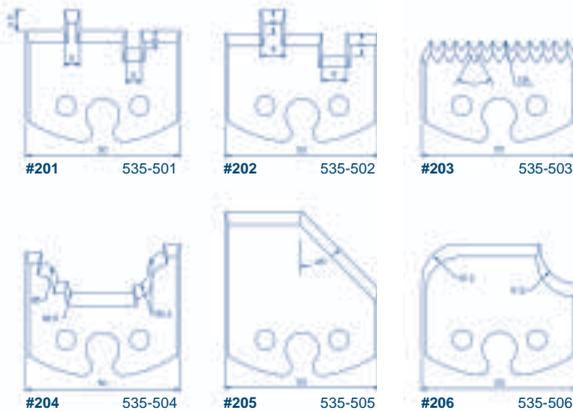
Safety Profile Knives 40 x 4mm – Nos. 96 to 119



Safety Profile Knives 40 x 4mm – Nos. 170 to 177



## Safety Profile Knives 50 x 5.5mm – Nos. 201 to 206



## Safety Profile Knives – Other Sizes

Other standard profiles are also available in 40 x 4mm, 50 x 4mm, 50 x 5.5mm and 60 x 5.5mm sizes. Special profiles can be manufactured in all sizes in SP steel, HSS and TCT. Please see p.72 or enquire for further details.

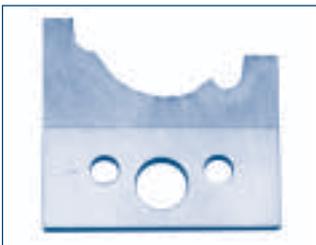
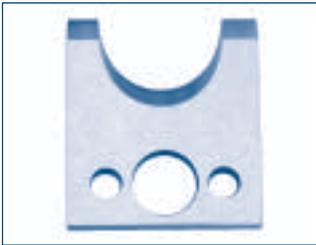


## Special-Profile Safety Profile Knives

For use in safety profile cutter blocks (see pp. 45-48) on spindle moulders, moulders, tenoning machines etc. to produce profiles in all types of wood, chipboard, MDF and other composite materials, depending on the tip material used.

The profile form required may be supplied as a wood sample, section drawing or computer DXF drawing.

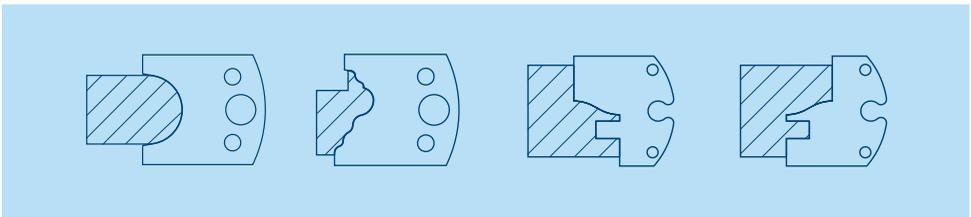
Suitable for manual feed when used together with limiter knives in accordance with safety standard EN847-1 (see p.122).

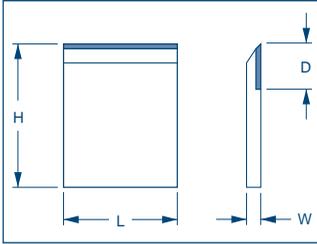


Dimensions mm	Type	Max. Depth of Profile*	Part No.
40 x 4	SP	12.5mm	535-001
	HSS		505-001
	TCT		515-001
	Limiter		539-001
50 x 4	SP	15mm	535-002
	HSS		505-002
	TCT		515-002
	Limiter		539-002
50 x 5.5	SP	22.5mm	535-003
	HSS		505-003
	TCT		515-003
	Limiter		539-003
60 x 5.5	SP	25mm	535-004
	HSS		505-004
	TCT		515-004
	Limiter		539-004

\*The maximum depth of profile quoted includes an allowance of 3mm for sharpening. Profile depths can be increased if required at the cost of sharpening life.

We can also supply profile knives for cutter blocks from other manufacturers. Please enquire for further details.





### Square Cutters for Whitehill blocks (old style)

All cutters have height (H) = 1 1/2", thickness (W) = 5/32" and depth of carbide (D) = 1/2".

Length L in.	HSS Part No.	TCT Part No.
3/4	400-100	410-100
1	400-101	410-101
1 1/4	400-102	410-102
1 1/2	400-103	410-103
1 3/4	400-104	410-104
2	400-105	410-105
2 1/4	400-108	410-108
2 1/2	400-106	410-106
3	400-107	410-107

### TCT Blank Profile Cutters for Whitehill blocks (old style)

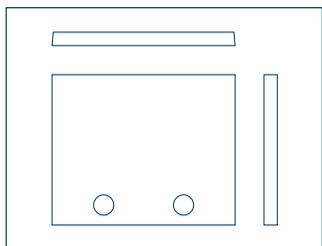
Available in 2 depths of carbide (D), 20mm or 25mm.

Length L in.	Height H in.	D = 20mm Part No.	D = 25mm Part No.
1	2	410-201	410-301
1 1/4		410-202	410-302
1 1/2		410-203	410-303
1 3/4		410-204	410-304
2		410-205	410-305
2 1/2		-	410-307

### Solid HSS Bar

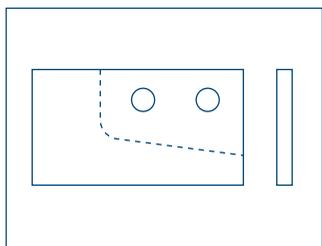
For economical production of shaped knives for use in Whitehill blocks and similar tools. Each bar is 18" long and 5/32" thick

Width in.	Part No.	Width in.	Part No.
1	503-104	2	503-108
1 1/4	503-105	2 1/4	503-109
1 1/2	503-106	2 1/2	503-110
1 3/4	503-107	3	503-112



## Blank Profile Knives for Whitehill Limiter Cutterheads

Dimensions mm	Type	Quality	Profile Area	Part No.
30 x 45 x 4	A1	HSS	15mm	505-030
		Limiter	15mm	539-030
55 x 45 x 4	B	HSS	15mm	505-032
		TCT	15mm	515-032
55 x 55 x 6	C	HSS	15mm	539-032
		Limiter	15mm	505-052
80 x 55 x 6	D	HSS	24mm	505-052
		Limiter	24mm	539-052
100 x 55 x 6	E	HSS	24mm	505-053
		Limiter	24mm	539-053
100 x 55 x 6	E	HSS	24mm	505-054
		Limiter	24mm	539-054
100 x 40 x 4	F	HSS	15mm	505-024
		Limiter	15mm	539-024
30 x 55 x 6	Tenon	HSS	24mm	505-050
		Limiter	24mm	539-050



## Blank Profile Knives for Whitehill Panel Raising Limiter Cutterheads

Supplied square for use either over or under the wood.

Dimensions mm	Quality	Part No.
30 x 55 x 4	HSS	505-140
	Limiter	539-140
35 x 80 x 6	HSS	505-161
	Limiter	539-161



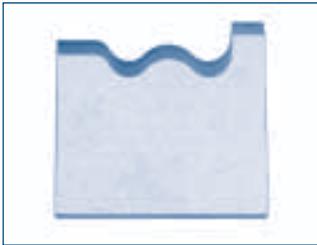
## Special-Profile Whitehill Knives

For limiter and old-style cutter blocks

For use in Whitehill cutter blocks on spindle moulders, moulders, tenoning machines etc. to produce profiles in all types of wood, chipboard, MDF and other composite materials, depending on tip material used.

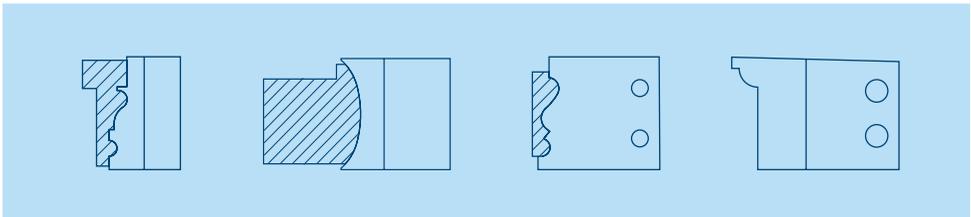
The profile form required may be supplied as a wood sample, section drawing or computer DXF drawing.

Suitable for manual feed when used together with limiter knives in accordance with safety standard EN847-1 (see p.122).



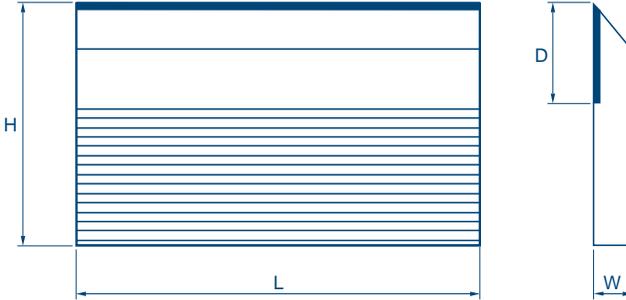
Dimensions mm	Type	Quality	Profile Area	Part No.
<b>Any x 4</b>	Old Style	HSS	–	400-000
		TCT	–	410-000
<b>30 x 4</b>	A1	HSS	15mm	505-006
		TCT		515-006
		Limiter		539-006
<b>55 x 4</b>	B	HSS	15mm	505-007
		TCT		515-007
		Limiter		539-007
<b>55 x 6</b>	C	HSS	24mm	505-008
		TCT		515-008
		Limiter		539-008
<b>80 x 6</b>	D	HSS	24mm	505-009
		TCT		515-009
		Limiter		539-009
<b>100 x 6</b>	E	HSS	24mm	505-010
		TCT		515-010
		Limiter		539-010
<b>100 x 4</b>	F	HSS	15mm	505-011
		TCT		515-011
		Limiter		539-011
<b>30 x 6</b>	Tenon	HSS	24mm	505-012
		TCT		515-012
		Limiter		539-012
<b>30 x 4</b>	Panel	HSS	–	505-013
		Limiter		539-013
<b>35 x 6</b>	Panel	HSS	–	505-014
		Limiter		539-014

We can also supply profile knives for cutter blocks from other manufacturers. Please enquire for further details.



Serrated Back Knives for profile and hydro blocks

60° serrations



High Speed Steel

8mm thick

40mm high

Dimensions L x H x W	Quality	Part No.
40 x 40 x 8	M2	501-400-040
60 x 40 x 8	M2	501-400-060
80 x 40 x 8	M2	501-400-080
100 x 40 x 8	M2	501-400-100
130 x 40 x 8	M2	501-400-130
650 x 40 x 8	M2	501-400-650
650 x 40 x 8	T1	501-401-650

50mm high

Dimensions L x H x W	Quality	Part No.
40 x 50 x 8	M2	501-500-040
60 x 50 x 8	M2	501-500-060
80 x 50 x 8	M2	501-500-080
100 x 50 x 8	M2	501-500-100
130 x 50 x 8	M2	501-500-130
650 x 50 x 8	M2	501-500-650
650 x 50 x 8	T1	501-501-650

60mm high

Dimensions L x H x W	Quality	Part No.
40 x 60 x 8	M2	501-600-040
60 x 60 x 8	M2	501-600-060
80 x 60 x 8	M2	501-600-080
100 x 60 x 8	M2	501-600-100
130 x 60 x 8	M2	501-600-130
150 x 60 x 8	M2	501-600-150
180 x 60 x 8	M2	501-600-180
650 x 60 x 8	M2	501-600-650
650 x 60 x 8	T1	501-601-650

70mm high

Dimensions L x H x W	Quality	Part No.
40 x 70 x 8	M2	501-700-040
60 x 70 x 8	M2	501-700-060
80 x 70 x 8	M2	501-700-080
100 x 70 x 8	M2	501-700-100
130 x 70 x 8	M2	501-700-130
650 x 70 x 8	M2	501-700-650
650 x 70 x 8	T1	501-701-650

Other combinations of length and height available to order.

## Serrated Back Knives for profile and hydro blocks

60° serrations

3

## Tungsten Carbide Tipped

10mm thick

## 50mm high

Dimensions L x H x W	Tip Depth mm	Part No.
40 x 50 x 10	15	511-515-040
60 x 50 x 10	15	511-515-060
80 x 50 x 10	15	511-515-080
100 x 50 x 10	15	511-515-100
130 x 50 x 10	15	511-515-130
150 x 50 x 10	15	511-515-150
180 x 50 x 10	15	511-515-180

## 60mm high

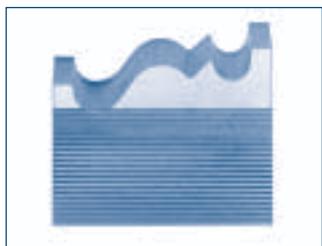
Dimensions L x H x W	Tip Depth mm	Part No.
40 x 60 x 10	25	511-625-040
60 x 60 x 10	25	511-625-060
80 x 60 x 10	25	511-625-080
100 x 60 x 10	25	511-625-100
130 x 60 x 10	25	511-625-130
150 x 60 x 10	25	511-625-150
180 x 60 x 10	25	511-625-180

Dimensions L x H x W	Tip Depth mm	Part No.
40 x 60 x 10	30	511-630-040
60 x 60 x 10	30	511-630-060
80 x 60 x 10	30	511-630-080
100 x 60 x 10	30	511-630-100
130 x 60 x 10	30	511-630-130

## 70mm high

Available to order. Please state depth of tip required.

Other combinations of length, height and tip depth available to order.



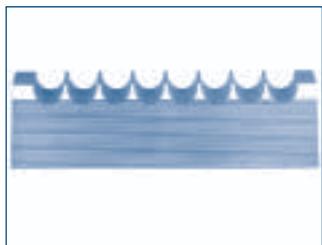
## Special-Profile Serrated Back Knives

60° Serrations

For use in serrated back cutter blocks (see p. 52) on moulders, tenoning machines etc. to produce profiles in all types of wood, chipboard, MDF and other composite materials, depending on tip material used.

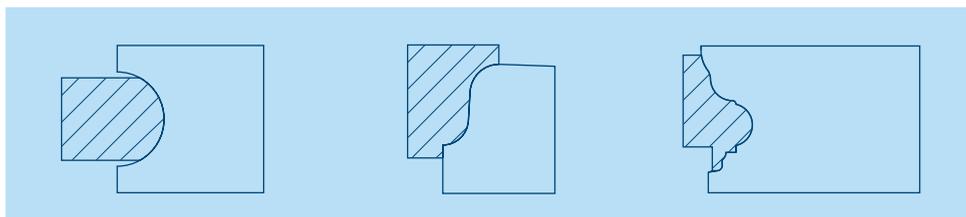
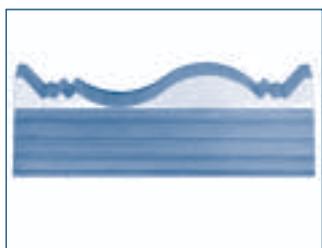
The profile form required may be supplied as a wood sample, section drawing or computer DXF drawing.

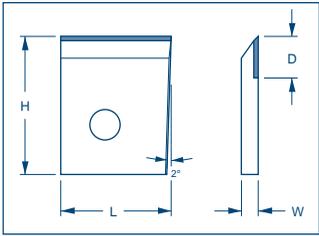
Suitable for manual feed when used together with limiter knives in accordance with safety standard EN847-1 (see p.122).



Height mm	Thick. mm	Max. Depth of Profile	Type	Part No.
50	8	20mm	HSS	501-500
	10	15mm	TCT	511-515
	10	20mm	TCT+	511-525
60	8	25mm	HSS	501-600
	10	22mm	TCT	511-625
	10	25mm	TCT+	511-630
70	8	35mm	HSS	511-700
	10	30mm	TCT	511-735
	10	35mm	TCT+	511-740

Other knife heights and thicknesses can be manufactured to order. Please enquire for further details.





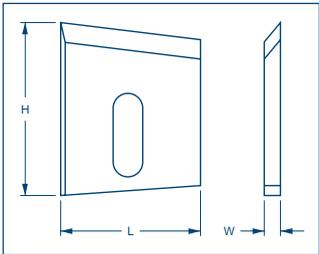
Drawing shows bottom cutter

## Multico Tenoning Cutters

All carbide tipped cutters have depth of carbide (D) = 15mm.

Dimensions mm		HSS Tipped Part No.	TCT Part No.
40 x 50 x 6	Top	406-100	416-100
40 x 50 x 6	Bottom	406-101	416-101
55 x 50 x 6	Top	406-102	416-102
55 x 50 x 6	Bottom	406-103	416-103

These cutters are also available with special profiles.



Drawing shows EK151

## 'EK150/151' Tenoning Cutters

7° Bevel Angle to suit Wadkin EKA tenoning machines.

Dimensions in		HSS Tipped Part No.	TCT Part No.
3 <sup>1</sup> / <sub>4</sub> x 4 x 3 <sup>3</sup> / <sub>8</sub>	EK150 (RH)	406-300	416-300
	EK151 (LH)	406-301	416-301

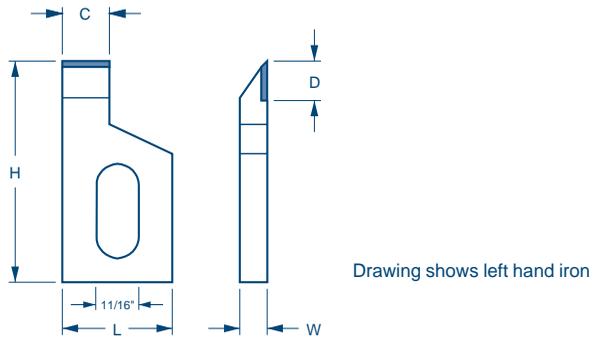


## HSS Scribing Cutters 'EK155'

To suit Wadkin EKA tenoning machines.

Dimensions in	Part No.
1 x 2 <sup>1</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>4</sub>	406-304

## HSS & TCT Rebate Irons with closed slots

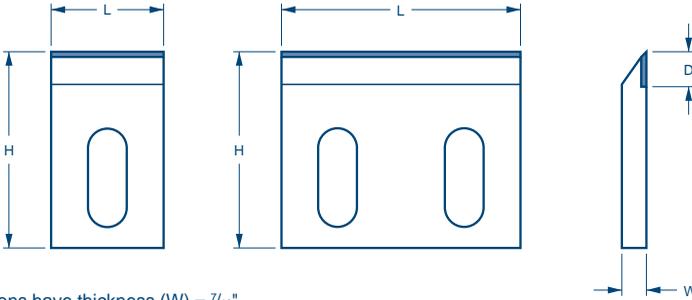


All irons have thickness (W) = 7/16" and width (L) = 1 3/4". Slots are to suit a 5/8" bolt.

Width of cut C in.	Height H in.	HSS		TCT	
		L. Hand	R. Hand	L. Hand	R. Hand
1/2	4	402-131	402-132	412-131	412-132
3/4	4	402-231	402-232	412-231	412-232
1	4	402-331	402-332	412-331	412-332
1 1/4	4	402-431	402-432	412-431	412-432

Other sizes are available on request.

HSS & TCT Square & Panel Irons with closed slots



Slots are to suit a 5/16" bolt.

All irons have thickness (W) = 7/16".

Length L in.	Height H in.	HSS Tipped Part No.	Carbide Tipped Part No.
1½	3½	404-012	414-012
	4	404-013	414-013
1¾	3½	404-022	414-022
	4	404-023	414-023
2	3½	404-032	414-032
	4	404-033	414-033
2½	3½	404-042	414-042
	4	404-043	414-043
3	3½	404-052	414-052
	4	404-053	414-053
3½	3½	404-062	414-062
	4	404-063	414-063
4¼	3½	405-072	415-072
	4	405-073	415-073
5¼	3½	405-082	415-082
	4	405-083	415-083
6¼	3½	—	415-092
	4	405-093	415-093
7¼	3½	405-102	415-102
	4	405-103	415-103
8¼	3½	405-112	415-112
	4	—	415-113
9¼	3½	—	415-122
	4	405-123	415-123
12¼	4	405-133	415-133

Other sizes are available on request.



## DRILLS, BORING & MORTICING TOOLS

Page	Tool Type
84	Right Hand HSS Jobber Drills
85	Left Hand & Long Series HSS Jobber Drills
86	Slow Spiral HSS Jobber Drills
87	Cylinder Boring Bits & Plug Cutters
88	TCT Through-Hole Drills
89	TCT Dowel Drills
90	TCT Security Boring Bits
90	Drill Shank Adapters
91	Countersinks
92	Counterbores
93	Mortice Chisels & Augers
94	Chair Mortice Bits

## HSS Jobber Drills — Right Hand



### Imperial

DØ in.	Overall Length mm	Part No.	DØ in.	Overall Length mm	Part No.
1/64	20	800-101	17/64	109	800-117
1/32	30	800-102	9/32	109	800-118
3/64	38	800-103	19/64	117	800-119
1/16	43	800-104	5/16	117	800-120
5/64	49	800-105	21/64	117	800-121
3/32	57	800-106	11/32	125	800-122
7/64	61	800-107	23/64	125	800-123
1/8	65	800-108	3/8	133	800-124
9/64	70	800-109	25/64	133	800-125
5/32	75	800-110	13/32	133	800-126
11/64	80	800-111	27/64	142	800-127
3/16	86	800-112	7/16	142	800-128
13/64	86	800-113	29/64	142	800-129
7/32	93	800-114	15/32	151	800-130
15/64	93	800-115	31/64	151	800-131
1/4	101	800-116	1/2	151	800-132

### Metric

DØ mm	Overall Length mm	Part No.	DØ mm	Overall Length mm	Part No.
1.0	34	800-201	7.0	109	800-213
1.5	40	800-202	7.5	109	800-214
2.0	49	800-203	8.0	117	800-215
2.5	57	800-204	8.5	117	800-216
3.0	61	800-205	9.0	125	800-217
3.5	70	800-206	9.5	125	800-218
4.0	75	800-207	10.0	133	800-219
4.5	80	800-208	10.5	133	800-220
5.0	86	800-209	11.0	142	800-221
5.5	93	800-210	11.5	142	800-222
6.0	93	800-211	12.0	151	800-223
6.5	101	800-212	12.5	151	800-224

HSS Jobber Drills — Left Hand



Imperial

DØ in.	Overall Length mm	Part No.
3/32	57	800-306
1/8	65	800-308
5/32	75	800-310
3/16	86	800-312
1/4	101	800-316
5/16	117	800-320
3/8	133	800-324

Metric

DØ mm	Overall Length mm	Part No.
2.0	49	800-403
2.5	57	800-404
3.0	61	800-405
3.5	70	800-406
4.0	75	800-407
4.5	80	800-408
5.0	86	800-409
5.5	93	800-410
6.0	93	800-411
7.0	109	800-413
8.0	117	800-415
9.0	125	800-417

HSS Jobber Drills — Long Series

Right Hand



DØ in.	Overall Length mm	Part No.
1/8	106	800-508
9/64	112	800-509
5/32	119	800-510
11/64	126	800-511
3/16	132	800-512
13/64	132	800-513

DØ in.	Overall Length mm	Part No.
7/32	139	800-514
15/64	139	800-515
1/4	148	800-516
17/64	156	800-517
5/16	165	800-520
3/8	184	800-524

## HSS Jobber Drills — Slow Spiral



### Imperial

DØ in.	Overall Length mm	Part No.
1/8	65	800-708
5/32	75	800-710
3/16	86	800-712
7/32	93	800-714
1/4	101	800-716
9/32	109	800-718
5/16	117	800-720
3/8	133	800-724
7/16	142	800-728
1/2	151	800-732

### Metric

DØ mm	Overall Length mm	Part No.	DØ mm	Overall Length mm	Part No.
3.0	61	800-805	8.0	117	800-815
3.5	70	800-806	8.5	117	800-816
4.0	75	800-807	9.0	125	800-817
4.5	80	800-808	9.5	125	800-818
5.0	86	800-809	10.0	133	800-819
5.5	93	800-810	10.5	133	800-820
6.0	93	800-811	11.0	142	800-821
6.5	101	800-812	11.5	142	800-822
7.0	109	800-813	12.0	151	800-823
7.5	109	800-814	12.5	151	800-824

The above drills can be altered to lip and spur type for wood-cutting



Cylinder Boring Bits

Cutting Diam. in.	Shank Diam. in.	Part No.
1/2	1/2	806-208
9/16		806-209
5/8		806-210
3/4		806-212
7/8		806-214
1		806-216
1 1/8		806-218

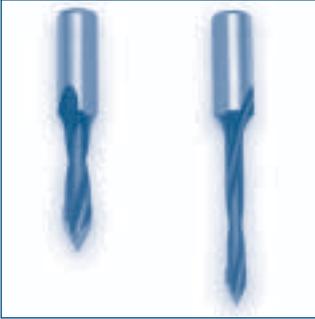
Cutting Diam. in.	Shank Diam. in.	Part No.
1 1/4	1/2	806-220
1 3/8		806-222
1 1/2		806-224
1 5/8		806-226
1 3/4		806-228
1 7/8		806-230
2		806-232



Spiral Plug Cutters

Plug Diam. in.	Shank Diam. in.	Part No.
1/2	1/2	807-208
5/8		807-210
3/4		807-212
1		807-216

## TCT Through-Hole Drills

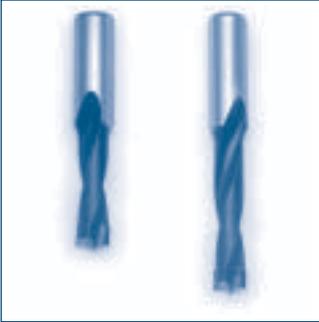


10mm shank with flat edge and adjusting screw

Cutting Diam. mm	Overall Length mm	Flute Length* mm	Part No.	
			Left Hand	Right Hand
4.0	58	25	813-091	813-092
5.0	58	25	813-101	813-102
	70	35	813-201	813-202
6.0	58	25	813-111	813-112
	70	35	813-211	813-212
7.0	58	25	813-121	813-122
	70	35	813-221	813-222
8.0	58	25	813-131	813-132
	70	35	813-231	813-232
9.0	58	25	813-141	813-142
	70	35	813-241	813-242
10.0	58	25	813-151	813-152
	70	35	813-251	813-252

\* Flute length is measured from shoulder of drill tip.

## TCT Dowel Drills



10mm shank with flat edge and adjusting screw.

Cutting Diam. mm	Overall Length mm	Flute Length mm	Part No.	
			Left Hand	Right Hand
3.0	57.5	27	812-081	812-082
3.5	57	27	812-083	812-084
4.0	57	27	812-091	812-092
	70	35	812-391	812-392
4.5	57	27	812-093	812-094
5.0	57	27	812-101	812-102
	70	35	812-201	812-202
5.5	57	27	812-103	812-104
	70	35	812-203	812-204
6.0	57	27	812-111	812-112
	70	35	812-211	812-212
6.5	57	27	812-113	812-114
	70	35	812-221	812-222
7.0	57	27	812-121	812-122
	70	35	812-221	812-222
7.5	57	27	812-123	812-124
	70	35	812-223	812-224
8.0	57	27	812-131	812-132
	70	35	812-231	812-232
8.5	57	27	812-133	812-134
	70	35	812-233	812-234
9.0	57	27	812-141	812-142
	70	35	812-241	812-242
9.5	57	27	812-143	812-144
	70	35	812-151	812-152
10.0	57	27	812-151	812-152
	70	35	812-251	812-252
11.0	57	27	812-161	812-162
	70	35	812-261	812-262
12.0	57	27	812-171	812-172
	70	35	812-271	812-272
15.0	57	27	812-181	812-182

## TCT Security Boring Bits



**Type 1:** L = 57mm, S1 = 10mm  
 2 cutting tips, 2 scribing tips and centre point.  
 Shank has flat edge and internal adjusting thread.

Diam. D1 mm	Part Number	
	Left Hand	Right Hand
15.0	814-111	814-112
16.0	814-121	814-122
18.0	814-131	814-132
20.0	814-141	814-142
22.0	814-151	814-152
25.0	814-161	814-162
26.0	814-171	814-172
30.0	814-181	814-182
35.0	814-191	814-192

## Drill Shank Adaptors

Convert plain shank drills to a threaded shank.  
 Available with right or left hand thread to accept 10mm plain shank drills and boring bits.



### M8 Threaded Shank

For Nottmeyer

Drill Shank Size	Part No.	
	Left Hand	Right Hand
10mm	805-101	805-102



### M10 Threaded Shank with seat

For Torwegge, Weeke, Morbidelli

Drill Shank Size	Part No.	
	Left Hand	Right Hand
10mm	805-111	805-112



### M10 Threaded Shank with 30° centring cone

For Alberti, Dubus, Schleicher, Vitap, Weeke

Drill Shank Size	Part No.	
	Left Hand	Right Hand
10mm	805-121	805-122



### Shank-type Countersinks 1/2" shank

Drill Diam.	Countersink Diam.	Part No.
5/32"	1/2"	723-200
3/16"	5/8"	723-201



### Shankless Countersinks

Drill Diam.	Countersink Diam.	Part No.
1/8"	1/2"	723-101
5/32"	1/2"	723-103
3/16"	5/8"	723-105
7/32"	5/8"	723-106
1/4"	5/8"	723-107
9/32"	3/4"	723-108
5/16"	3/4"	723-109



### TCT Shell-type Shankless Countersinks

Drill Diam.	Countersink Diam.	Part No.
10mm	20mm	LH RH 713-101 713-102



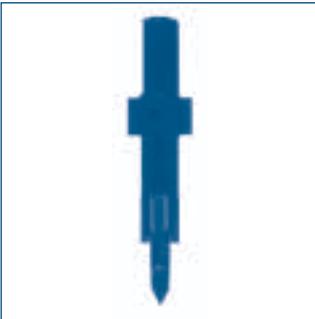
### Split-shank Counterbores 1/2" shank

Drill Diam.	Counterbore Diam.	Part No.
5/32"	3/8"	723-400
3/16"	3/8"	723-401
	1/2"	723-402
	5/8"	723-403
7/32"	5/8"	723-404



### Shankless Counterbores

Drill Diam.	Counterbore Diam.	Part No.
3/16"	3/8"	723-300
	1/2"	723-301
1/4"	1/2"	723-302
	5/8"	723-303
	3/4"	723-304
	7/8"	723-305
5/16"	1"	723-306
	3/4"	723-307
	1"	723-308
3/8"	3/4"	723-309
	7/8"	723-310
7/16"	1"	723-311
	7/8"	723-312
	1"	723-313
1/2"	1"	723-314



### TCT Counterbores with Scribes

10mm shank with flat edge.  
Supplied with TCT Through Hole Drill.

Drill Diam.	Counterbore Diam.		Part No.
5mm	9.8mm	LH	713-401
		RH	713-402
Spare 5mm drills		LH	813-301
		RH	813-302



## Hollow Square Mortice Chisels &amp; Augers

## 150 Series

Size in.	Chisel & Auger Part No.	Chisel only Part No.	Auger only Part No.
1/4	900-100	900-200	900-300
5/16	900-101	900-201	900-301
3/8	900-102	900-202	900-302
7/16	900-103	900-203	900-303
1/2	900-104	900-204	900-304
1/2 LS	900-124	900-224	900-324
9/16	900-105	900-205	900-305
5/8	900-106	900-206	900-306
11/16	900-110	900-210	900-310
3/4	900-107	900-207	900-307
13/16	900-111	900-211	900-311
7/8	900-108	900-208	900-308
1	900-109	900-209	900-309

## Hollow Square Mortice Chisels &amp; Augers

## 170 Series

For Multico machines

Size in.	Chisel & Auger Part No.	Chisel only Part No.	Auger only Part No.
1/4	900-700	900-800	900-900
3/8	900-702	900-802	900-902
1/2	900-704	900-804	900-904
5/8	900-706	900-806	900-906
3/4	900-707	900-807	900-907
7/8	900-708	900-808	900-908
1	900-709	900-809	900-909

## Chisel Sharpening Tools

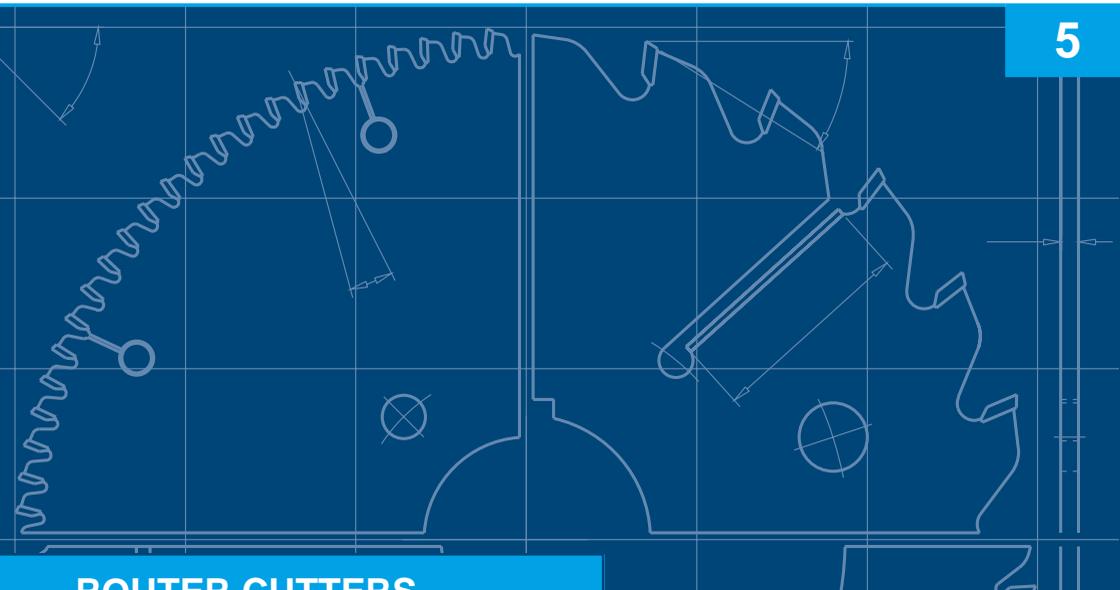
These are countersinks, used in a brace, to sharpen chisels evenly and with the correct bevel. They are available either with a fixed pilot for one size of chisel, or in sets with interchangeable pilots. Please enquire for further details.



## 2-wing Chair Mortice Bits (Birdsmouth Type)

All with 1/2" diam. shank.

Cutting Diameter in.	Approx. Overall Length in.	Part Number
3/16	3.3/4	901-100
6mm	4	901-206
1/4	4	901-101
5/16	4.1/8	901-102
3/8	4.1/4	901-103
10mm	4.1/4	901-210
7/16	4.1/2	901-104
1/2	4.3/4	901-105
9/16	5	901-106
5/8	5.1/4	901-107
3/4	5	901-108
7/8	5	901-109
1	5	901-110



## ROUTER CUTTERS

Page	Router Cutter Type
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109	PCD Tipped Router Cutters
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## HSS Single Flute Router Cutters



### Concentric type for use in eccentric chucks

**Type 1:** Shank size 9.5mm diam. x 20mm long.

Cutter Diam. D mm	Part No.
3.0	700-100
3.5	700-101
4.0	700-102
4.5	700-103
5.0	700-104
5.5	700-105
6.0	700-106

Cutter Diam. D mm	Part No.
7.0	700-108
8.0	700-110
9.0	700-112
10.0	700-114
11.0	700-116
12.0	700-118

**Type 2:** Shank size 12mm diam. x 20mm long.

Cutter Diam. D mm	Part No.
12.0	700-218
13.0	700-220
14.0	700-222
15.0	700-224
16.0	700-226

Cutter Diam. D mm	Part No.
17.0	700-228
18.0	700-230
19.0	700-232
20.0	700-234
24.0	700-242

TCT Single Flute Router Cutters



Concentric type for use in eccentric chucks

Type 1: Shank size 9.5mm diam. x 20mm long.

Cutter Diam. D mm	Cutting Length L mm	Part No.
3.0	5	710-100*
4.0	6	710-102*
4.0	12	710-302*
5.0	7	710-104*
5.0	14	710-304*
6.0	8	710-106*
6.0	22	710-706*
6.5	9	710-107*
6.5	22	710-507*
7.0	10	710-108*
7.0	22	710-308*
8.0	14	710-110**
8.0	20	710-310**
8.0	25	710-510**
8.0	32	710-710**
9.0	18	710-112**
9.0	25	710-312**
9.5	20	710-113**
9.5	25	710-313**
10.0	20	710-114
10.0	25	710-314
10.0	25	710-514**
10.0	32	710-714**
10.5	22	710-115
10.5	32	710-315**
11.0	24	710-116
11.0	30	710-316
12.0	26	710-118
12.0	30	710-318

\* indicates solid tungsten carbide body.

\*\* indicates solid tungsten carbide throughout.

Type 2: Shank size 12mm diam. x 20mm long.

Cutter Diam. D mm	Cutting Length L mm	Part No.
20.0	38	710-234

## HSS Panel Router Cutters For use in concentric chucks



Type 1: 1/2" shank

Cutting Diam. D in.	Cutting Length L in.	Approx. Overall Length	Part No.
1/4	1	2 <sup>3</sup> / <sub>4</sub>	702-104
5/16	1	2 <sup>3</sup> / <sub>4</sub>	702-105
3/8	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-106
7/16	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-107
1/2	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-108
1/2	2	3 <sup>5</sup> / <sub>8</sub>	702-208
9/16	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-109
5/8	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-110
5/8	2	3 <sup>5</sup> / <sub>8</sub>	702-210
11/16	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-111
3/4	1 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	702-112
3/4	2	3 <sup>5</sup> / <sub>8</sub>	702-212
13/16	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-113
7/8	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-114
15/16	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-115
1	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-116
1.1/8	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-118
1.1/4	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-120
1.3/8	1 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	702-122

## HSS Panel Router Cutters

For use in concentric chucks



**Type 2:** 3/8" shank

Cutting Diam. D in.	Cutting Length L in.	Part No.
3/8	1	702-306
1/2	3/4	702-308
5/8	5/8	702-310
3/4	5/8	702-312
7/8	1/2	702-314
1	3/8	702-316



**Type 3:** 1/4" shank

Cutting Diam. D in.	Cutting Length L in.	Part No.
1/4	1	702-604
5/16	3/4	702-505
3/8	11/16	702-506
7/16	11/16	702-507
1/2	3/4	702-508
9/16	5/8	702-509
5/8	5/8	702-510
11/16	5/8	702-511
3/4	5/8	702-512
13/16	5/8	702-513

TCT Panel Router Cutters  
For use in concentric chucks



Type 1: 1/2" shank

Cutting Diam. D in.	Cutting Length L in.	Part No.
1/8	3/8	712-004*
5/32	3/8	712-005*
3/16	3/8	712-006*
1/4	1	712-208*
9/32	5/8	712-009*
5/16	5/8	712-010*
3/8	1	712-212*
3/8	1 1/4	712-412
7/16	1 1/4	712-014
1/2	1 1/4	712-016
1/2	1 1/2	712-216
1/2	2	712-416
9/16	1 1/4	712-018
5/8	1 1/4	712-020
5/8	1 3/4	712-220
5/8	2 1/4	712-420
11/16	1 1/4	712-022
3/4	1 1/4	712-024
3/4	2 1/4	712-224
7/8	1 1/4	712-028
15/16	1 1/4	712-030
1	1 1/4	712-032
1.1/8	1 1/4	712-036
1.1/4	1 1/4	712-040
1.3/8	1 1/4	712-044
mm	mm	
6	16	712-606*
6	25	712-806*
8	16	712-608*
8	25	712-808
10	25	712-610
12	30	712-612
14	25	712-614
16	30	712-616

\* indicates solid tungsten carbide body.

## TCT Panel Router Cutters

For use in concentric chucks

**Type 2:** 3/8" shank

Cutting Diam. D in.	Cutting Length L in.	Part No.
1/4	5/8	712-058*
1/2	1	712-066
5/8	5/8	712-070
3/4	5/8	712-074

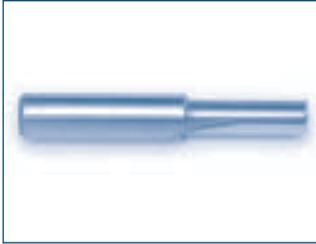
\* indicates solid tungsten carbide body.

**Type 3:** 1/4" shank

Cutting Diam. D in.	Cutting Length L in.	Part No.
1/8	5/16	712-104*
5/32	1/2	712-105*
3/16	1/2	712-106**
7/32	3/4	712-107**
1/4	3/4	712-108*
1/4	7/8	712-308**
1/4	1 1/8	712-508**
3/8	1 1/16	712-112
3/8	1	712-312
1/2	3/4	712-116
5/8	5/8	712-120
3/4	5/8	712-124

\* indicates solid tungsten carbide body.

\*\* indicates solid tungsten carbide throughout.



### Left Hand TCT Panel Router Cutter

Diam.	Cutting Length	Shank Diam.	Part No.
1/4"	1"	1/2"	718-008*
3/8"	1.1/4"	1/2"	718-012
1/2"	1.1/4"	1/2"	718-016
5/8"	1.1/4"	1/2"	718-020



### TCT Flush Trimming Router Cutter with guide bearing

Diam.	Cutting Length	Shank Diam.	Part No.
3/4"	9/16"	6mm	715-251
		1/4"	715-252
		5/16"	715-253
		3/8"	715-254



### TCT Flush Trimming Router Cutter

Diam.	Cutting Length	Shank Diam.	Part No.
18mm	15mm	6mm	715-201



### TCT Bevel Trimming Router Cutter 6mm shank

Diam.	Cutting Length	Bevel Angle	Part No.
24mm	12mm	15°	715-102
		30°	715-103
		45°	715-104

## Solid Carbide Spiral Flute Router Cutters for CNC Machines

Micro-grain carbide for long life. Spiral flute provides clean cutting action and allows fast feeds and speeds.



### Up-Cut Type

Right Hand Spiral, Right Hand Cutting

For plunge cutting, grooving and slotting with fast chip removal  
Workpiece must be securely clamped to avoid lifting

### Imperial Sizes

Cutting Diam. in	Cutting Length in	Overall Length in	Shank Diam. in.	Part No.
1/8	1/2	2	1/4	761-004
5/32	5/8	2.1/2	1/4	761-005
3/16	3/4	2.1/2	1/4	761-006
1/4	3/4	2.1/2	1/4	761-008
1/4	1	2.1/2	1/4	761-040
5/16	1	2.1/2	5/16	761-110
5/16	1	3	1/2	761-310
3/8	1	2.1/2	3/8	761-212
3/8	1.1/4	3	1/2	761-312
1/2	1.1/4	3	1/2	761-316
1/2	1.1/2	3.1/2	1/2	761-348
1/2	2	4	1/2	761-380
5/8	2	4.1/2	5/8	761-420
3/4	2	4.1/2	3/4	761-524

### Metric Sizes

Cutting Diam. mm	Cutting Length mm	Overall Length mm	Shank Diam. mm	Part No.
3	13	50	6	761-703
4	16	63	6	761-704
5	19	63	6	761-705
6	25	63	6	761-706
8	25	63	8	761-708
10	31	75	10	761-710
12	31	75	12	761-712

## Solid Carbide Spiral Flute Router Cutters for CNC Machines

Micro-grain carbide for long life. Spiral flute provides clean cutting action and allows fast feeds and speeds.



### Down-Cut Type Left Hand Spiral, Right Hand Cutting

For pattern, template and through-cutting.  
Down-cut pushes chips below the work

### Imperial Sizes

Cutting Diam. in	Cutting Length in	Overall Length in	Shank Diam. in.	Part No.
1/8	1/2	2	1/4	762-004
5/32	5/8	2.1/2	1/4	762-005
3/16	3/4	2.1/2	1/4	762-006
1/4	3/4	2.1/2	1/4	762-008
1/4	1	2.1/2	1/4	762-040
5/16	1	2.1/2	5/16	762-110
5/16	1	3	1/2	762-310
3/8	1	2.1/2	3/8	762-212
3/8	1.1/4	3	1/2	762-312
1/2	1.1/4	3	1/2	762-316
1/2	1.1/2	3.1/2	1/2	762-348
1/2	2	4	1/2	762-380
5/8	2	4.1/2	5/8	762-420
3/4	2	4.1/2	3/4	762-524

### Metric Sizes

Cutting Diam. mm	Cutting Length mm	Overall Length mm	Shank Diam. mm	Part No.
3	13	50	6	762-703
4	16	63	6	762-704
5	19	63	6	762-705
6	25	63	6	762-706
8	25	63	8	762-708
10	31	75	10	762-710
12	31	75	12	762-712



**Up/Down-Cut Type**      Dual Spiral, Right Hand Cutting

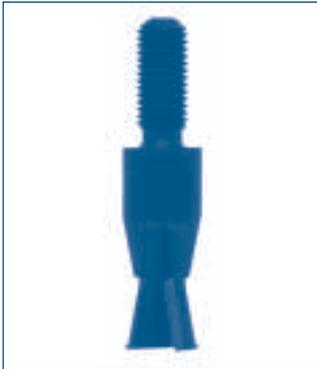
For composite and laminated materials.  
 Dual spiral provides compression cutting action into both surfaces of workpiece.

Cutting Diam. in	Cutting Length in	Overall Length in	Shank Diam. in.	Part No.
3/8	1	2.3/4	3/8	763-212
1/2	1.1/2	3.1/2	1/2	763-316
3/4	2	5	3/4	763-524



### HSS Router Cutters for Aluminium, Duralumin & Light Alloys

Diam.	Cutting Length	Shank Diam.	Part No.
1/4"	1/2"	3/8"	708-304
3/8"	1/2"	3/8"	708-306
		1/2"	708-106
1/2"	1/2"	3/8"	708-308
1/2"	3/4"	1/2"	708-108



### Brookman Type Dovetail Cutters

With 3/8" BSF threaded shank.

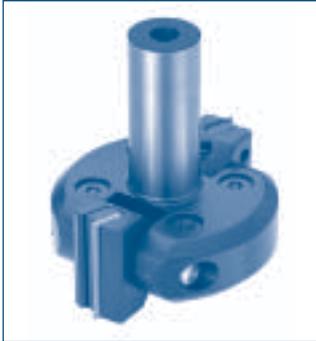
Size	HSS Part No.	TCT Part No.
F40	704-040	714-040
F41	704-041	714-041
F42	704-042	714-042



### HSS Stair Trenching Cutters for Pickles & Wadkin machines

Available in both right and left hand versions.

Cutter Size	Shank Diam.	Machine	Part No.
3/4"	1/2"	Pickles	704-106
	5/8"	Wadkin	704-206
7/8"	1/2"	Pickles	704-107
	5/8"	Wadkin	704-207



n max 12000

### Variable Angle Router Cutter

-45° to +90°

with reversible carbide tips

For jointing and chamfering of all materials on CNC machines, also for mitring work. Stepless adjustment from -45° to +90°, plus 7.5° steps via notched ring. Angle read by graduated scale from -45° to +45°. Suitable for mechanical feed.

DØ mm	B mm	dØ	Part No.
85	40	25	732-110



n max 12000

### Multi-Profile Router Cutter

2 Cutting Teeth  
Shank Ø25mm

with high-grade carbide knives

For internal profiling of abrasive materials on CNC machines. Uses high-grade TC knives with support plates. Suitable for mechanical feed. Price does not include TC knives or support plates.

DØ mm	B mm	Profile Depth	Part No.
80	40	13mm	732-201
100	40	13mm	732-202
		Blank profile knives	517-100
		Blank supporting plates	549-100
		Set of profiled knives & supporting plates	517-000



n max 12000

### Multi-Profile Router Cutter

2 Cutting Teeth  
Shank Ø25mm

with high-grade carbide knives

For single-sided profiling of abrasive materials on CNC machines. Uses high-grade TC knives with support plates. Suitable for mechanical feed. Price does not include TC knives or support plates.

DØ mm	B mm	Profile Depth	Part No.
80	40	13mm	732-211
100	40	13mm	732-212
		Blank profile knives	517-100
		Blank supporting plates	549-100
		Set of profiled knives & supporting plates	517-000



n max 24000

## 'Novitec' Roughing Router Cutter

with re-sharpenable tungsten carbide inserts

For hogging, copying, panel sizing, rebating etc. of wood composites and other composite materials on CNC machines. With interchangeable TC cutting pins and one TC knife for plunge cutting. High quality of cut due to helically-positioned cutting pins. Fast exchange of cutting pins without adjustment through patented pin clamping system.

DØ mm	B1 mm	B2 mm	Overall Length	Shank	Part No.
18	28	34	104	25	732-582
	42	48	118	25	732-584
	56	62	132	25	732-585

Also available in other diameters and cutting lengths. Cutting pins available with shear cutting angle, up or down cut.

## Spare Parts

Description	Dimensions	Part No.
TC cutting pins	Size 1, straight Ø5mm	514-910
TC end knife	Ø18mm, R.H.	514-920
Torx screw	M3 x 5.5 (T9)	903-500
Torx screw	M3 x 8 (T9)	903-501
Torx driver	T9	905-113



## PCD Tipped Router Cutters

Ultra-hard PCD cutting material lasts up to 100 times longer than an equivalent carbide tipped tool and is ideal for abrasive materials such as chipboard and MDF.

Shear cutting action provides a clean cut without breakout.

May be resharpened 2 or 3 times.

### Metric Sizes

DØ mm	Cutting Length L1 mm	Overall Length	Shank Dimensions	Part No.
12	25.4	70	12 x 35	750-112
		90	25 x 55	750-312
16	25.4	85	16 x 45	750-216
	35	95	16 x 45	750-241
	25.4	95	25 x 55	750-316
18	35	95	16 x 45	750-218
		105	25 x 55	750-318
	35			

### Imperial Sizes

DØ in	Cutting Length L1 in	Overall Length	Shank Dimensions	Part No.
1/2	1	2.3/4"	1/2" x 1.3/8"	750-508
5/8	1	2.7/8"	1/2" x 1.3/8"	750-510
	1	3.3/8"	5/8" x 1.3/4"	750-610
3/4	1	3.3/8"	5/8" x 1.3/4"	750-612
	1.5/8	3.3/8"	3/4" x 1.3/4"	750-712



## Special-Profile Router Cutters

Shear Cut or  
Straight Cut

For use on routers with or without CNC control to produce profiles in all types of wood, chipboard, MDF and other composite materials, dependent on tip material and grade used.

The profile form required may be supplied as a wood sample, section drawing or computer DXF drawing.

- CNC ground for accurate profile form and close-fitting joints
- Dynamically balanced to within 0.5g
- Produced to safety standard EN847-1



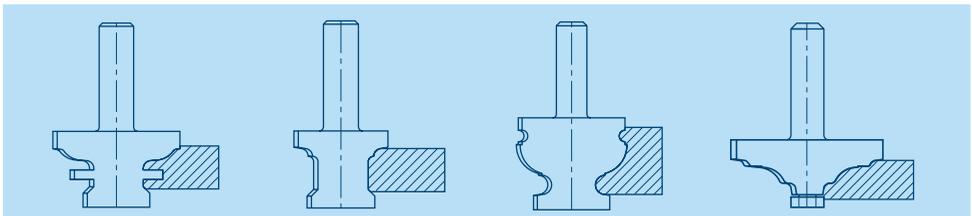
Tip Material	Feed Type	Part No.
High Speed Steel	All	707-000
TC (Softwood Grade)	All	717-002
TC (Hardwood Grade)	All	717-000
TC (Chipboard & MDF)	All	717-001
Polycrystalline Diamond	All	757-000

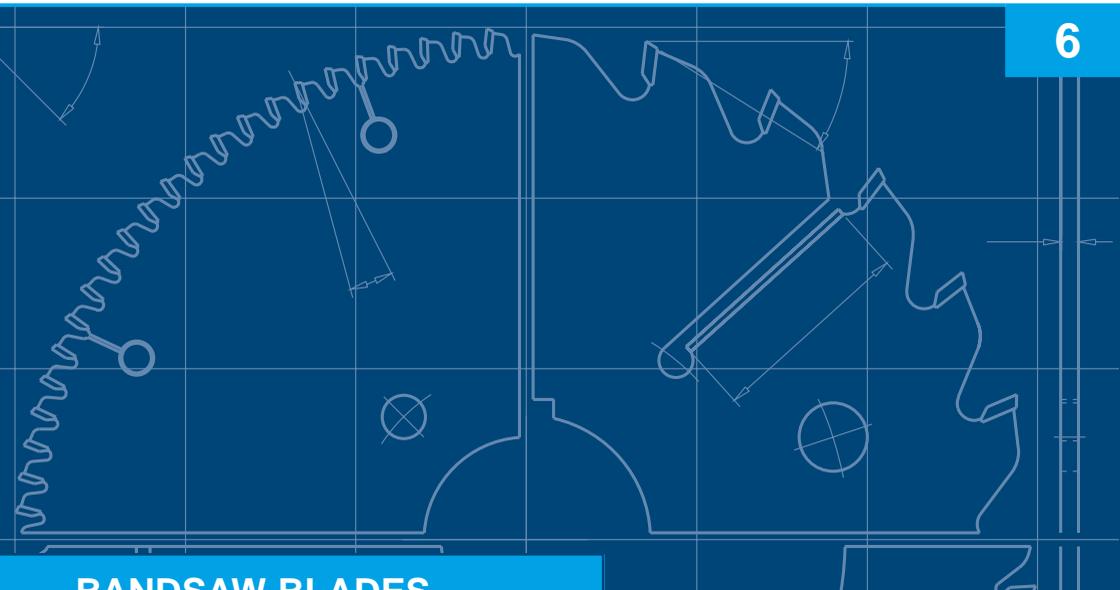


## Technical Details

Maximum diameter	125mm
Maximum length of cut	Up to 100mm, dependent on cutting diameter and shank diameter
Shank diameter	6–25mm, 1/4"–3/4"
Cutting types	Side cut only Side-and-bottom cut (ramp into job) Side-and-plunge cut (plunge into job)

It is always recommended to use the maximum shank diameter possible.





## BANDSAW BLADES

Page	Blade Type
112	Alloy Steel Bandsaw Blades for wood
112	Hakansson Band Knives
113	Hakansson 'Hobby' Bandsaw Blades
113	Starrett Thin-Gauge Bandsaw Blades
114	Hakansson 'Silco' Bandsaw Blades for wood & metal
114	Hakansson Alternate Set Bandsaw Blades for wood
115	Hakansson Bi-Metal Bandsaw Blades
116	Swedish Steel Wide Bandsaw Blades



## Alloy Steel Bandsaw Blades for Wood

Part No. 340-000

Made to order from nickel-chrome alloy steel, with alternate set for cutting soft and hardwoods. May be resharpened several times because they can be re-set. Available as strip or welded bands in all sizes with tooth pitches of 3, 4, 6, 8 or 10 teeth per inch. Min. order quantity of 5 bands or 300ft of strip.

Width in.	Available Thicknesses in.
3/8	.022,
1/2	.018, .022, .024, .028,
5/8	.028, .032
3/4	.028, .032
1	.028, .032, .036



## Hakansson Band Knives

Hakansson band knives are used on conventional bandsaw machines for cutting soft and fibrous materials, such as corrugated boxes, paper, cloth, sponge rubber etc. They produce an extremely smooth surface finish without tearing or leaving jagged edges. They are available as welded bands or as 100ft coils.

Width	Thick.	Edge	Part No.
3/8"	.020"	Straight	318-0600
1/2"	.020"	Straight	318-0800
5/8"	.020"	Straight	318-1000
5/8"	.020"	Scallop	319-1000
5/8"	.020"	Wavy	320-1000
3/4"	.020"	Straight	318-1200
1"	.020"	Straight	318-1600
1.1/4"	.032"	Straight	318-2000



## Hakansson ‘Hobby’ Bandsaw Blades

Hakansson ‘Hobby’ bandsaw blades are suitable for smaller machines, typically those with a blade length of 72" (1830mm) or less. Made from a thin-gauge, premium quality carbon steel with a hardened cutting edge and flexible blade back, they are general purpose blades, suitable for cutting wood, metal, plastics, composites etc. They are available display packed in boxes of two blades, bulk-packed in cartons of 25 blades or as 100ft coils.

Width	Thick.	Teeth per inch					Part No.	
		3	4	6	10	14		18
1/4"	.014"		✓	✓		✓	✓	331-04pp
3/8"	.014"		✓	✓	✓	✓		331-06pp
3/8"	.020"				✓			332-06pp
1/2"	.014"				✓			331-08pp
5/8"	.014"	✓	✓	✓				331-10pp



## Starrett® Thin Gauge Flex-Back Bandsaw Blades

Starrett thin gauge bandsaw blades are suitable for smaller machines, typically those with a blade length of 72" (1830mm) or less. Made from a thin-gauge, flex-back carbon steel, they are general purpose blades, suitable for cutting wood, metal, plastics, composites etc. They are available display packed in boxes of two blades, bulk-packed in cartons of 25 blades or as 100ft coils.

Width	Thick.	Teeth per inch					Part No.	
		4	6	10	14	18		24
3/16	.014"				✓			338-03pp
1/4"	.014"			✓			✓	338-04pp
1/2"	.014"	✓				✓		338-08pp





## Hakansson Constant Pitch Bi-Metal Bandsaw Blades

Hakansson bi-metal bandsaw blades consist of a high speed steel cutting edge electron-beam welded to a flexible steel back. This makes them considerably tougher than a carbon steel blade, suitable for cutting difficult materials such as stainless steel, titanium etc with longer blade life and at faster cutting speeds.

Width	Thick.	Teeth per inch								Part No.
		1.3	2	3	4	6	8	10	14	
1/4"	.035"							✓	✓	313-04pp
3/8"	.035"							✓	✓	313-06pp
1/2"	.025"					✓		✓	✓	313-08pp
1/2"	.035"			✓	✓					313-08pp
3/4"	.035"				✓	✓	✓	✓	✓	313-12pp
1"	.035"			✓	✓					313-16pp
1"	.035"					✓ <sub>m</sub>	✓ <sub>m</sub>	✓ <sub>m</sub>		312-16pp
1.1/2"	.050"			✓	✓					313-24pp
2"	.062"	✓	✓							313-32pp

✓ indicates M42 quality, ✓<sub>m</sub> indicates Matrix quality



## Hakansson Variable Pitch Bi-Metal Bandsaw Blades

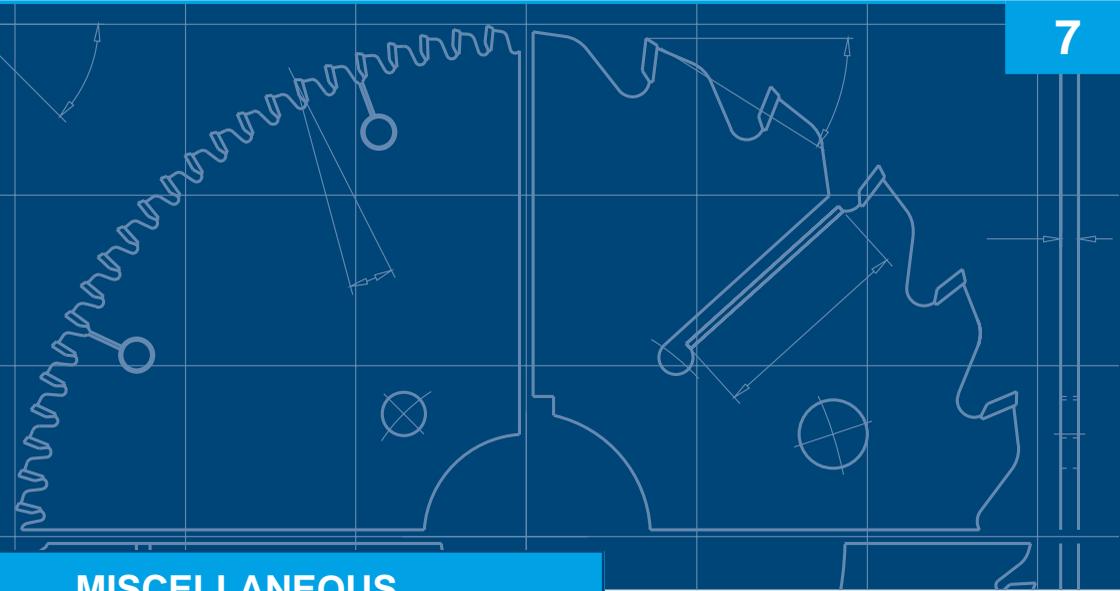
Hakansson variable pitch bi-metal bandsaw blades give the same advantages as the constant pitch blades. In addition, the variable pitch reduces vibration when cutting bundles, hollow-section or tubular steels.

Width	Thick.	Teeth per inch						Part No.
		2/3	3/4	4/6	5/8	6/10	10/14	
1/2"	.025"						✓	313-08pp
3/4"	.035"				✓			313-12pp
1"	.035"	✓	✓	✓	✓	✓	✓	313-16pp
1.1/4"	.042"	✓	✓	✓	✓	✓		313-20pp
1.1/2"	.050"	✓	✓	✓	✓			313-24pp

## Swedish Steel Wide Bandsaw Blades

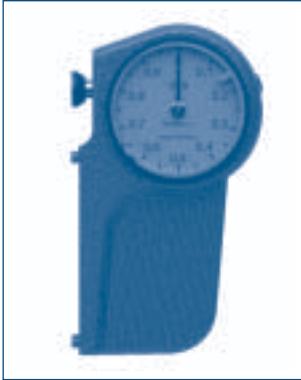
Width in.	Length	Gauge	Part No.
2½	16'8"	20	391-101
	17'10"	20	391-102
3	16'8"	20	392-101
	18'0"	20	392-105
	18'4"	20	392-103
4	17'8"	20	393-107
	18'4"	20	393-103
	19'0"	20	393-106
	22'6"	19	393-210
4½	22'6"	19	394-210
	23'1"	19	394-212
	24'0"	19	394-218
	27'0"	19	394-225
5	24'0"	19	395-218
	25'6"	19	395-222
	27'0"	19	395-225
5½	25'6"	19	396-222

Other combinations of length, width and gauge available P.O.A.  
 All blades supplied with standard tooth pitch.



## MISCELLANEOUS

Page	Sundry Sales Item
118	Kafer Side Clock
118	Magnetic Knife Setting Set
118	Power Feed Roller



## Käfer Side Clock

For measuring set or side clearance on circular saw blades. Available in metric or imperial versions.

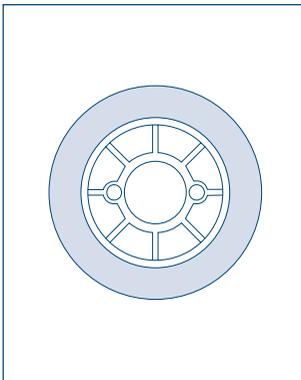
Type	Part No.
Imperial	905-001
Metric	905-002



## Magnetic Knife Setting Set

A set consisting of 2 magnetic setting gauges suitable for most planing blocks. Supplied in a wooden case with a complete set of gauges.

Description	Part No.
Knife Setting Set	905-010



## Power Feed Roller

With standard fittings to suit most power feeds.

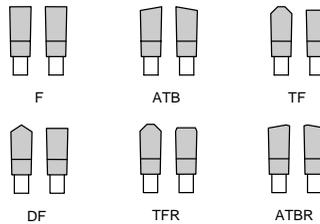
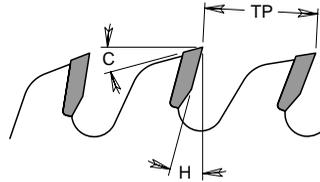
Dimensions	Part No.
118 x 60 x 35mm	990-100

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120	Common Abbreviations
121	Instructions for Ordering Special Profile Tooling
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## Cutting Angles and Tooth Configurations

- H** = hook angle (rake angle)
- C** = clearance angle (back angle)
- TP** = tooth pitch
- F** = square teeth
- ATB** = alternate top bevel
- TF** = heller form (triple chip)
- DF** = double chip
- ATBR** = alternate top bevel relieved
- TFR** = heller form relieved



## Common Abbreviations

- A** = aluminium alloy
- B** = cutting width (kerf)
- DØ** = diameter
- dØ** = standard bore diameter
- HSS** = high speed steel
- KW** = keyway
- MAN** = manual feed
- MEC** = mechanical feed
- n** = permissible range of r.p.m.

- n<sub>max</sub>** = max. permissible r.p.m.
- PH** = pin hole
- PCD** = poly-crystalline diamond
- TCT** = tungsten carbide tipped
- V** = number of spurs (scribing teeth)
- R** = radius
- S** = steel
- WP** = disposable carbide tip
- Z** = number of teeth

## Instructions for Ordering Special Profile Tooling

When ordering tooling with a special profile form, the more information you give us, the better we can design the tool for your purpose. A special profile order form can be downloaded from our web site at the following address: <http://www.nlstools.co.uk/profile.html>

The following information is **essential** for us to make the tool correctly:

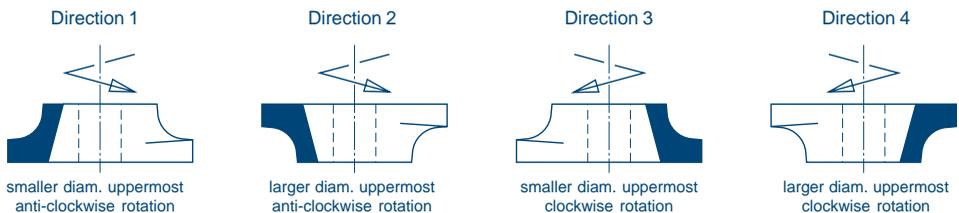
- Whether the tool will be used with **mechanical** or **manual** feed.
- **Either**, a wood sample of the profile form required with the cutting direction and surface to bed clearly marked;  
**Or**, a drawing or sketch of both the wood profile form required and the outline of the tool as it contacts the wood. Please indicate on the drawing the cutter rotation direction (see below) and the machine bed surface.
- **Type** of tool
- Required dimensions;
  - For a **circular** cutter: maximum or minimum cutting diameter (state which) bore diameter
  - For a **router** cutter: maximum or minimum cutting diameter (state which) shank diameter
  - For a **knife**: cutting length, height and thickness
- Cutting tip required: eg. HSS, stellite, tungsten carbide, polycrystalline diamond

The following information, while not essential, will help us to optimise the design of your tool:

- Material to be cut.
- Machine being used
- Spindle RPM and feed rate

## Direction of Cutting

Please indicate on your drawing the cutting direction of the tool. The rotation is as viewed from above the tool. For example, the most common direction used on a spindle moulder is direction 1.



## Safety Standard BS EN 847-1:1997

From May 1997, a new safety standard, BS EN 847-1, was approved as a Europe-wide standard governing the design of circular milling cutters for woodworking machinery. The requirements of this standard will become statutory for users of woodworking machinery in December 2003.

As a member of the Woodworking Machinery Suppliers Association, NLS Tools is fully committed to the production of safe cutting tools and manufactures all its tooling in compliance with the standard.

In particular, the standard stipulates the requirements for cutters used with manually operated machinery. This includes all machinery for which the feed unit is not an integral part of the machine. Cutters designed for manual feed in accordance with the standard are shown with a 'hand' symbol in this catalogue and are marked 'MAN'. For safe operation, they have both a minimum and a maximum safe rotation speed and must be operated within those limits.

Cutters designed for manual feed must also be correctly sharpened to maintain their anti-kickback properties.

Cutters designed for mechanical feed are marked 'MEC' and have only a maximum safe rotation speed.

In the interests of promoting safe working practices, we have reproduced opposite part of an HSE information sheet, Woodworking Sheet No. 37 – Selection of tooling for use with hand-fed woodworking machines. This gives clear guidance on the requirements of BS EN 847-1.

For further details about the health and safety issues concerning cutting tools, the HSE can be contacted at HSE Information Centre, Broad Lane, Sheffield S3 7HQ or on the world wide web via the HSE home page at: <http://www.hse.gov.uk>.

## Selection of tooling for use with hand-fed woodworking machines

### Introduction

This information sheet is one of a series produced by HSE's Woodworking National Interest Group in agreement with the Woodworking Machinery Suppliers Association. Its purpose is to give practical guidance on the selection of moulding and profiling tools for use on hand-fed woodworking machines. Safety aspects of circular saw blades, band saw blades and the tooling for planing/thicknessing machines are not covered here.

### Legal requirements

Key legal requirements covering the supply, selection and use of tooling are contained in the Provision and Use of Work Equipment Regulations 1998 (PUWER 98); the Supply of Machinery (Safety) Regulations 1992; and section 6 of the Health and Safety at Work etc. Act 1974 (the HSW Act).

Regulation 4 of PUWER 98 requires work equipment to be constructed or adapted to be suitable, in respect of health and safety, for the purpose for which it is used or provided. When selecting suitable work equipment, employers should pay attention to the type of tool chosen, selecting tools within the range specified by the machine manufacturer.

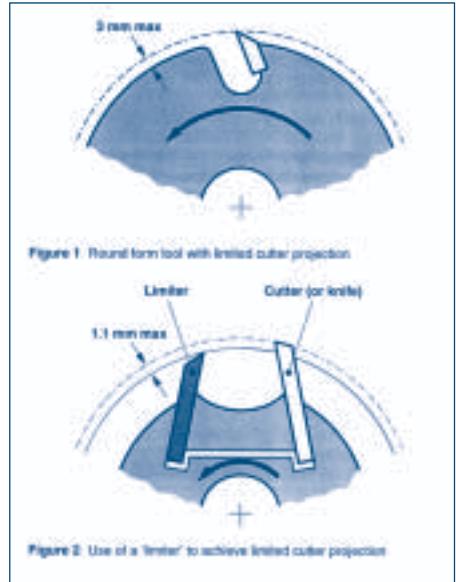
### Limited cutter projection tooling

Limited cutter projection tooling (sometimes referred to as chip thickness limitation tooling) significantly reduces:

- the severity of injury if a machine operator's fingers contact the rotating tool;
- the risk of workpiece kickback.

Most accidents at woodworking machines are due to the operator's hands or fingers coming into contact with the rotating cutters. Amputation usually results. Between 1993 and 1996 there were 165 injuries (amputations and severe lacerations) at machines where limited cutter projection tooling could have been fitted. It is estimated that limited cutter projection tooling would have reduced the seriousness of injury in 90% of these accidents. By reducing the risk of kickback, this type of tooling can also help prevent many other serious injuries.

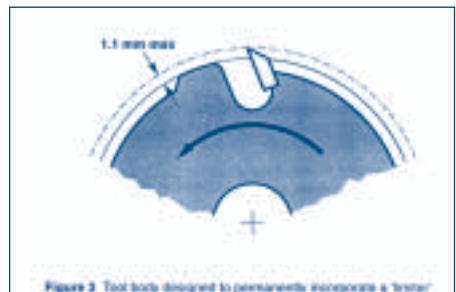
There are two types of limited cutter projection tooling, 'round form' and 'non-round form'. On **round form tools**, as the name suggests, the tool body has a circular shape at any cross-section perpendicular to the rotational axis of the tool. On this type of tool,



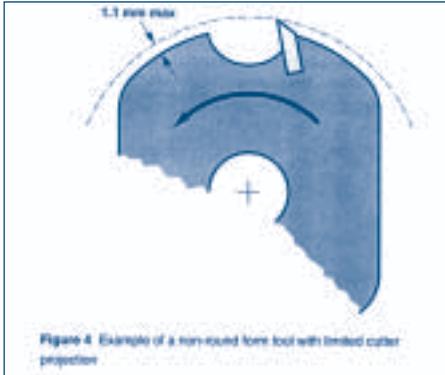
limited cutter projection should be achieved by restricting the projection of the cutter beyond either:

- the round profile of the tool body (see Figure 1); or
- a 'limiter' (also called a deflector or counter knife) which mirrors each cutter (see Figure 2).

With the first type, the amount of cutter projection beyond the tool body should be limited to a maximum of 3mm (the exact figure depends on a kickback test carried out by the manufacturer). In many cases the projection will be less than 3mm. If in doubt consult your tooling manufacturer or supplier.



## Selection of tooling for use with hand-fed woodworking machines



Where limiters are used, the amount of cutter projection beyond the corresponding limiter should be restricted to a maximum of 1.1mm. Exchangeable limiters can be mounted on the tool body (see Figure 2), or the tool body can be shaped in such a way that it permanently incorporates the limiter (see Figure 3). The latter design restricts the range of cutters that can be used on a particular tool body.

**Non-round form tools** should be designed in such a way that cutters project a maximum of 1.1mm beyond the edge of the tool body or limiter (see Figure 4).

### On which machines do I have to use limited cutter projection tooling?

Where possible, limited cutter projection tooling should be used on the following **hand-fed** machines:

- vertical spindle moulders;
- single-end tenoners;
- rotary knife and copy lathes where the hazards of ejection and contact with the tool are not prevented by a system of fixed guards and/or interlocked movable guards and/or self-closing guards; and
- any other machine onto which a moulding tool can be fitted, eg if a moulding tool is fitted onto a circular saw, the tool should be of a limited cutter projection type.

The term 'hand-fed' includes the use of demountable power feed units and hand-operated carriages on which the workpiece is placed manually or clamped.

**Note:** Limited cutter projection tooling should be used

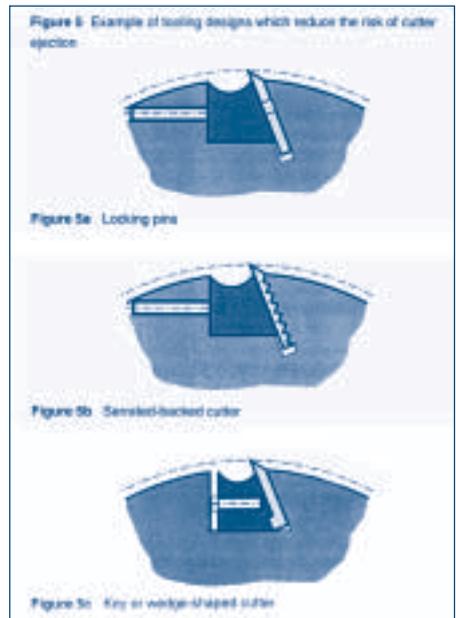
in addition to the normal guards, protection appliances (jigs etc.) and safe working practices, not as an alternative.

### How long do I have to convert to limited cutter projection tooling?

If you already have limited cutter projection tooling, then that alone should be used as from 5 December 1998. Otherwise, the changeover should be made as and when replacement tooling is obtained, or by 5 December 2003, whichever is the sooner.

### How do I know if my tooling complies?

Ask your supplier. All new tooling manufactured in accordance with BS EN 847-1:1997 should be suitably designed. Sales literature and the information for use supplied with tooling will declare whether a particular tool has been designed to this Standard. European health and safety standards for the design and manufacture of new woodworking machines require the machine manufacturer to specify in the instruction handbook that only tooling complying with BS EN 847-1:1997 should be fitted to the machine.



## Selection of tooling for use with hand-fed woodworking machines

### Tool fixing

Detachable cutters and limiters should be of the correct thickness for the tool body in which they are used. Cutters and limiters should be capable of being mounted in such a way as to prevent them being ejected (see Figure 5). This is usually achieved by the use of either:

- locking pins (see Figure 5a);
- serrated-backed cutters (see Figure 5b); or
- 'key' or wedge-shaped cutters, ie that slot into a similarly shaped hole in the tool body and which cannot be ejected because the slot narrows towards the outer edge of the tool body (see Figure 5c);

### Tool sets and stacked tools

Tools which belong to a tool set, or are part of a stacked tool, which do not in themselves meet the design requirements already described, should be designed in such a way as to prevent the parts being used individually, eg by using pins (see Figure 6).

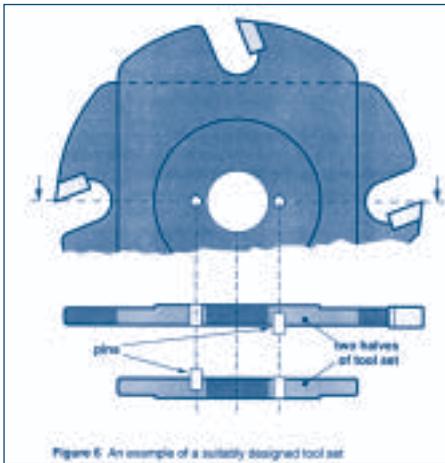


Figure 6: An example of a safely designed tool set

### Tool sharpening and maintenance

Repair of tools should be carried out in accordance with the manufacturers instructions - consult your supplier if in doubt. People who carry out repairs to tools should be adequately trained and have knowledge of the design requirements (eg BS EN 847-1:1997) and levels of safety to be achieved.

### Tool marking/identification

New moulding/profiling tools for use on hand-fed machines should be permanently marked with a variety of information, including:

- the name/trademark of the manufacturer/supplier;
- the designed speed range;
- 'MAN' (indicating hand feed); and
- the tool dimensions.

Most tools are also marked with an arrow which indicates the intended direction of rotation. Tools are not required to have the CE marking - when supplied separately from the machine they are not covered by the Supply of Machinery (Safety) Regulations 1992.

### Are there any machining operations where it is not possible to use limited cutter projection tooling?

The use of limited cutter projection tooling should always be the first option considered as part of the tool selection procedure. Other types of tooling should only be used where the desired profile cannot be achieved with the use of limited cutter projection tooling. Grooving will generally be the only operation where limited cutter projection tooling cannot be used, eg a grooving saw might have to be fitted instead.

### Are French (or slotted) spindles and slotted collars acceptable on vertical spindle moulding machines?

No, they should be phased out under the requirements of regulation 4 of PUWER 98. On this type of tooling there is no means of restricting the cutter projection; additionally, cutters cannot be mounted as safely as those designed to BS EN 847-1. Limited cutter projection tooling should be selected instead because it is safer.

The European Standard for vertical spindle moulding machines (BS EN 848-1) states that the machine spindle 'shall not be provided with a slot for inserting cutter blades'. It should therefore not be possible to use slotted or French head spindles on machines with the CE marking and constructed to BS EN 848-1.

**This HSE information sheet was reproduced from Woodworking Sheet No. 37, published by the Health and Safety Executive 11/98.**

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## Standard Conditions of Supply

A full copy of our standard conditions of supply is available on request or may be downloaded from our web site at the following address: <http://www.nlstools.co.uk/conds.html>

### Warranty

We guarantee our tools to be free of all defects in materials and workmanship for a period of one year from the date of supply. In the event of a claim, the tools must be forwarded, freight pre-paid, to our factory. The claim shall apply only to repair of the faulty parts or shipment of replacement parts free of charge. We do not accept liability for claims of any other kind. We shall not be liable for damages caused by the improper use of or handling of our tools.

### Order Cancellation

Order cancellations must be submitted in writing. If we have incurred expenses for materials or labour at the time of receiving the written notice of cancellation, these will be invoiced to the customer.

### Returned Goods

Provided the returned goods are not of faulty manufacture or wrongly supplied, the acceptance of returned goods is at our discretion. We make every effort to accommodate customers who return goods, but reserve the right to reject any goods returned without our consent. In particular, specially manufactured tools will not be accepted for return. We may make a re-stocking charge for stocked items and will only give credit for those parts of returned goods which can reasonably be resold.

### Prices

All advertised prices may be changed without notification. We apply the prices applicable on the date of receipt of an order.

### Payment

For holders of a credit account with us, our standard terms are **net monthly a/c**, i.e. payment must be made by the end of the month following that of the invoice date. No other terms may apply unless agreed by us in writing. We may withhold supplies and services from customers who exceed our credit terms.

For customers who do not hold a credit account with us, payment must be either by credit card, cheque with order, COD or by pro-forma invoice.

### Reservation of Title

All goods remain our property until they have been paid for in full (if paid by cheque or credit transfer, until such time as these are honoured).