

MODULAR WINDOW SYSTEM



modular
WINDOW
SYSTEM



trend[®]
industrial tooling

The Modular Window System



8 Different Window Styles, one machine, one set-up.

The demand for timber windows has increased significantly in all sectors of construction with new build, replacement or renovation due to the 'green' credentials of timber windows and concerns over uPVC.

To meet this demand the Modular Window System has been designed for small to medium sized joinery companies, builders and developers to enable them to produce timber windows quickly and accurately on a spindle moulder with a sliding table for a low investment cost.

- With the MWS you can manufacture any size of window in 2 - 3 hours, not the typical 6 plus hours.
- Enables you to respond quickly and consistently to customer requests. Even small quantities of windows can be manufactured in a very cost effective way.
- Main benefit of the MWS is that the machine is set in seconds with the supplied setting gauge.
- All of the slots, tenons and profiles on the outer frame and sashes on eight different styles of window are machined without altering the spindle moulder.
- Dispenses with lengthy set-up and costly test cuts, which requires the attention of a skilled joiner/machinist and invariably reduced profit margins.
- All the joints on outer frame and sashes are comb joints without the need for length stops. All timber sections are simply cut to aperture size.
- All the tools and spacers are numbered and stacked on the spindle according to the steps shown on the supplied wallcharts.
- All of the tooling is supplied with, mainly standard, Tungsten Carbide disposable inserts - giving constant diameters and profiles. All inserts are available from stock for next day delivery.
- Many tools are used in more than one style of window. You only buy the tools you need and if you are making more than one style of window, the MWS is even more cost effective.
- The MWS enables anyone without window manufacturing knowledge to produce a complete window in 2 - 3 hours (you must be fully acquainted with spindle moulder operation).
- The MWS runs on a standard spindle moulder (see machine specification on page 9). It doesn't require a dedicated window-making machine.

HP *Ovolo* High Performance Ovolo Window



See pages 10 - 15

HP *30 Splay* High Performance 20° Splay Window



See pages 16 - 18

HP *TF Ovolo* High Performance Traditional Flush Ovolo Window



See pages 19 - 24

TF *Ovolo* Traditional Flush Ovolo Window



See pages 25 - 28

SP *Ovolo* Storm Proof Ovolo Casement Window



See pages 29 - 31

SB *XS Ovolo* Sliding Box Sash Ovolo Window



See pages 32 - 34

EJMA *9 Splay* EJMA 9° Splay Window



See pages 35 - 37

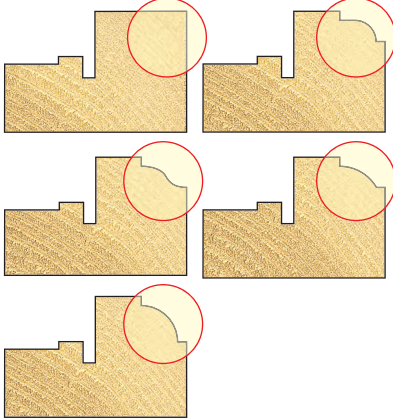
FS *9 Splay* Full Splay 9° Window



See pages 38 - 40

NEW PRODUCTS

NEW 5 Alternative Profile Styles



See pages 41 - 43

DT *Quole* Door & Door Frame Tooling

NEW

Door - Constructed from solid timber using conventional mortise and tenon joints.

Frame: Slot and tenon joints.

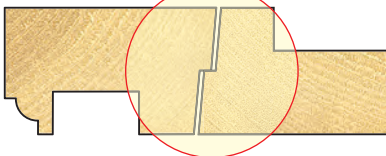
Mortise machine required.

See pages 46 - 49



SB *XS* *Quole* Splayed Meeting Rails

NEW



See pages 50 - 53

SB *XS* *Quole* Pulley Wheel Jig C

NEW



NEW Weight Pocket Jig D



See pages 57

Tooling Stand

NEW



See page 58

Espagnolette Handle Drilling

NEW



See page 59

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- **TF** *Quole* Traditional Flush Ovolo _____ 25 - 28
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For TSM100 Spindle Moulder see pages 60 - 61.

OUR WEBSITE

Look up MWS products on-line and view our informative MWS video.



www.trend-uk.com



NETWORK OF MWS DEALERS

For your nearest dedicated dealer see the list on the inside back cover.



ASSOCIATIONS



Trend are members of the above associations.

FEATURES, ADVANTAGES & BENEFITS

Set Machine Once

Setting Gauge



The dual function setting gauge is included in each style and is used to set the spindle height and back-fence. All the MWS styles and sizes of windows can then be machined without any changes being required to the machine once set-up.



Single Set-up System

Means it takes seconds to set up the system and this is done only once.

Set Back-fence Once



The gauge is placed on the spindle and the back-fence is adjusted in line with the outer edge of the setting gauge and then not adjusted again.

Set Height Once

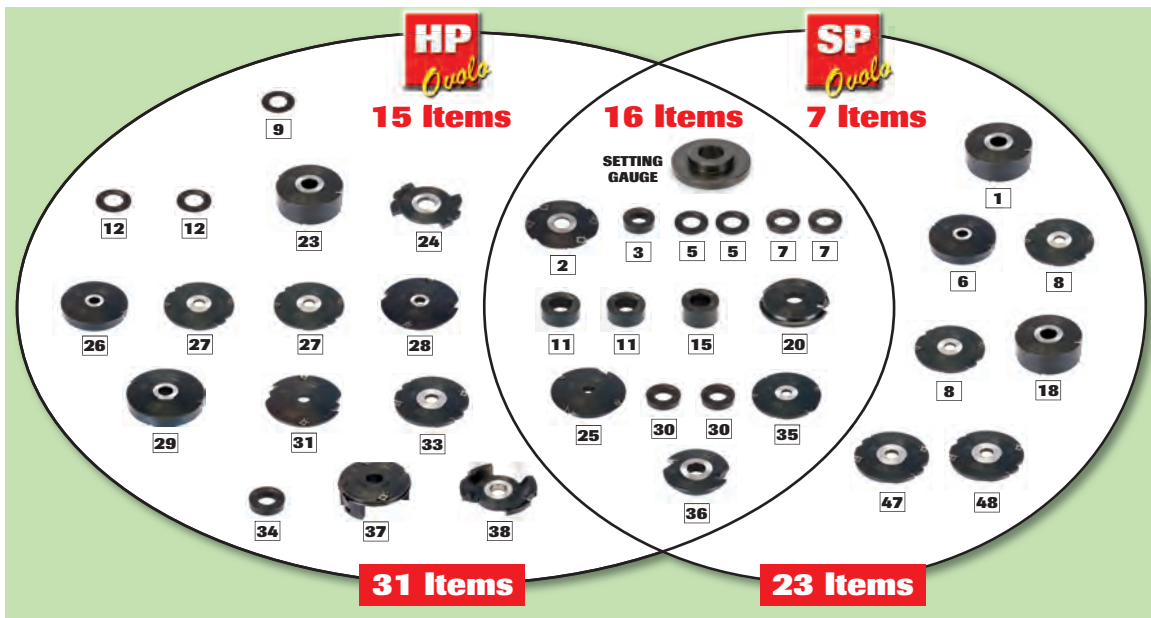


The top face is then set flush with the table surface in seconds. This does not need to be adjusted again.



The Modular Window System does not require the alteration of the height and depth of the machine's back fence throughout production.

Tools are Shared between Styles



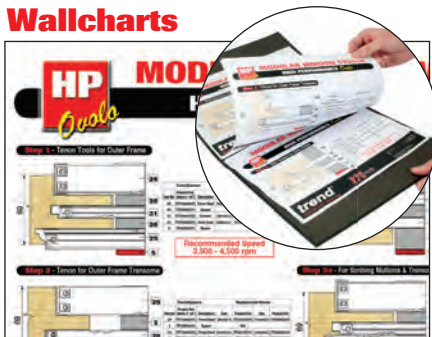
Shared Tooling

Tools are shared between most styles of windows so extra tools can simply be purchased. See pages 44 & 45 for full details of all the tools and how they are shared across the styles.

In this example, if the High Performance System is purchased, only an additional 7 items are required to convert to the Storm Proof style.

Making Windows by Numbers

Wallcharts



Each Modular Window system is supplied with step-by-step wallcharts and individual specification sheets.

No Test Cuts



The MWS is easy to use and eliminates costly errors as there are no adjustments needed. All tools and spacers are clearly numbered.

Clear Numbering



Changing tools takes seconds! Each tool has an individual number for identification to speed up the assembly process for each operation.

No Need for Stops



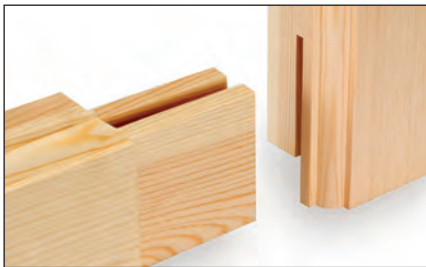
Stops are not required when machining slots and tenons; making errors with the joint production is virtually impossible.

Replaceable Tips



The MWS uses replaceable tipped tools with Industry Standard tips, giving constant profiles now and in the future.

Double Slot & Tenons



Complies with BWF recommendations for double slot and tenon on frame joints. Fewer mortises saves time and possible discrepancies.

Quick to Use



You can produce a window including sash complete with ironmongery within 2 to 3 working hours.

No Sleeves



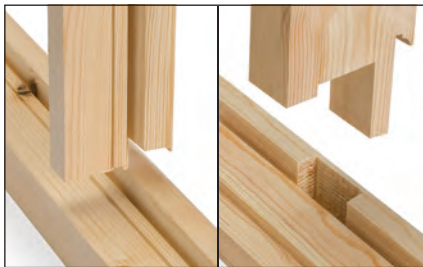
The MWS system does not use sleeved tools for increased flexibility.

Simple Calculations



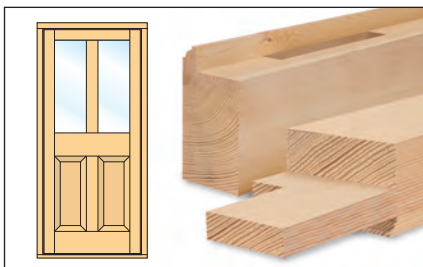
Components are cut to length to suit the aperture size.

Transom & Mullion Joint



The system includes the necessary tools to produce the tenons for transoms and mullions. You can also scribe a mechanical joint, fixed with dowels or screws (e.g. see step 3a HP on page 12).

Door & Frame Production



Doors can also be manufactured with the system. An ovolo profile with 15mm rebate as standard and 18mm rebate (on request) can be produced. See pages 46 - 49.

Tip Setting Gauge



A setting gauge is supplied with most tools to accurately set tip position when they are replaced or rotated.

Built-in Accuracy



Accuracy is built in to the tooling and initial set-up. So no test run is required.

No Restrictions



Other window systems have requirements for a dedicated machine or need a separate machine, one for producing the tenons, and one for profiling.

System Flexibility

Alternative Profile Styles



The MWS has 10 alternative moulding profiles including ovolo, lams tongue, 9°, 20° and full splay, making it very versatile. See pages 41 - 43.

Thicker Sections



Non standard wider sections can be created with the addition of extra spacers and tools. See examples on pages 54 & 55.

Gasket Compression



The MWS has the flexibility to adjust the Euro groove position to accommodate different gasket thicknesses without additional tools being required.

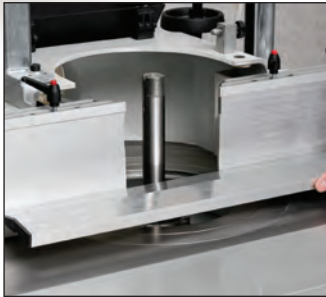
QUICK START REFERENCE

Typical steps for making your windows on a spindle moulder with a sliding table. High Performance style shown.

Timber Preparation

- 1** Dress your timber to the required dimensions.
- 2** Measure each window aperture height and width.
- 3** Cut the sections to the required o/a window sizes (this includes sash sizes with the recommended reduction).
- 4** Windows can be of various sizes, so long as you mark each individual window with a recognised identity.

Setting Up



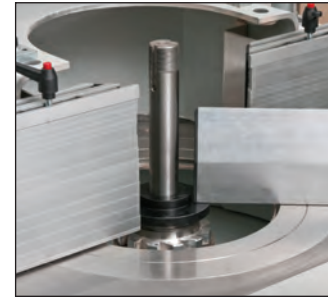
Make sure that the cheeks of the back-fence are parallel and aligned.



Place the setting gauge supplied with the system onto the spindle.



Using a steel straight edge adjust the fence position so it is aligned with the outside edge of the larger surface of the setting gauge. Lock off the back-fence.



Using a steel straight edge, raise the spindle until the top of the larger surface of the gauge is aligned with the surface of the table. Lock off the machine.

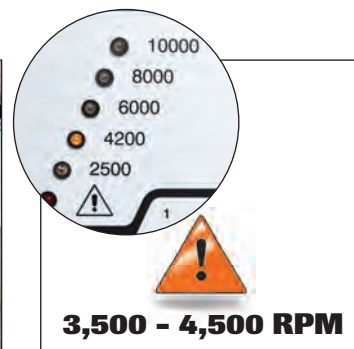
Slot and Tenoning



Rip down a number of sections to be used as splinch blocks, and screw one to the sliding table fence.



Fit the red No. 5 spacer to the spindle. This always stays on the machine for all operations. This is also shown in red on all the wallcharts and specification sheets.

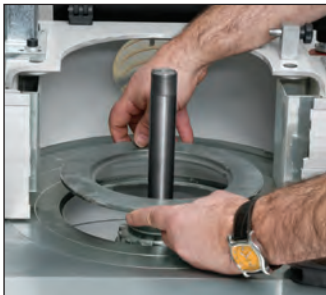


Change the spindle speed as indicated on the wallchart or in this brochure.



Fit each tool by identifying the tool number on the wallchart or in this brochure, and slide it on with number facing upwards.

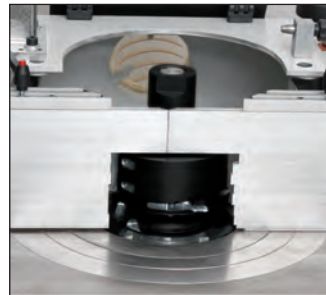
Profiling Operations



Remove the tenoning fence and clamp. Fit the smaller table ring. Note the No.5 spacer stays on the spindle.



Fit the profiling tools and spacers as shown on the wallchart or in this brochure.



Adjust the cheeks to a 3mm gap each side of the tooling. Check that the tools can rotate freely.



Fit the power feed and adjust the height accordingly.



Each system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.

On-line Video

A ten minute video covering the production of a High Performance Window is available.



DVD

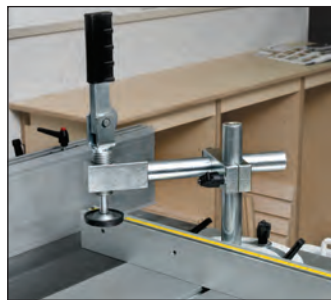
This video is also available on DVD. Product Ref. DVD/MWS.



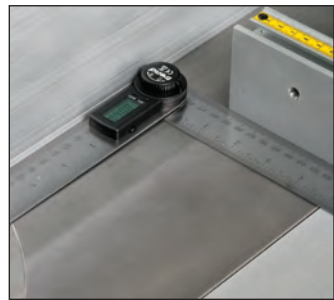
Fit the tenoning fence.



The tenoning fence on the Trend Spindle Moulder is pre-drilled with two M8 threads to take a wooden spluch block. See jig on page 57.



Fit the tenoning clamp.



Ensure that the tenoning fence is set at 90 degrees to the back-fence.



All spacers also have an identification number as they are part of the system.



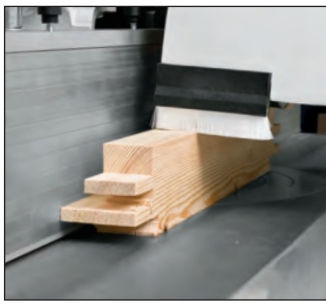
Fit the top spacer, followed by the nut and tighten it.



Slot and tenon the ends of each timber section of the outer frame and sashes. Always butt the timber sections against the back-fence. No stops are required. Repeat as necessary for each operation.

5,500 - 6,500 RPM

Change the spindle speed as indicated on the wallchart or in this brochure.



Profile all the components for the inner sash and outer frame profiles.



Glue up, assemble and clamp the sashes, and leave to dry. See top of page 8.



Once dry, using a spluch piece of timber run behind the sash to prevent break-out, machine the outside profile of each sash.

Continued over page.

Assembly and Gluing the Outer Frames (& Sashes)



Dry assemble and check each joint.



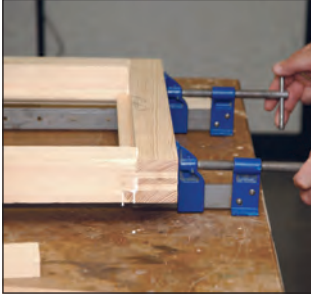
Glue up each joint.



...and assemble the frame.



Lightly hammer each joint to ensure they are tight.



Tighten up with sash clamps.



Check the diagonals match and adjust if necessary.

Fitting the Hardware



Rout the groove for the trickle vents, with the Trend Trickle Vent jig (see page 57).



And fit both sides of the Trickle vent. The system produces a 12mm groove for a standard Trickle Vent.



Rout the groove for the Espagnolette fittings with the jig (see page 57).



And fit the Espagnolette lock. The system caters for Espagnolette Locks 22mm, or 26mm deep, and 12mm width.



Fit the stays against the datum point for speed and accuracy. The system caters for Friction Stays with 13mm stack height and 16mm base plate.



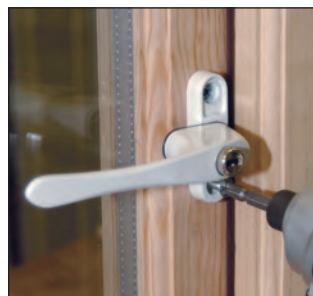
The system caters for many types of gasket.



Fit the glazing and beads.



Drill the three holes for the Espagnolette handle. See page 59.

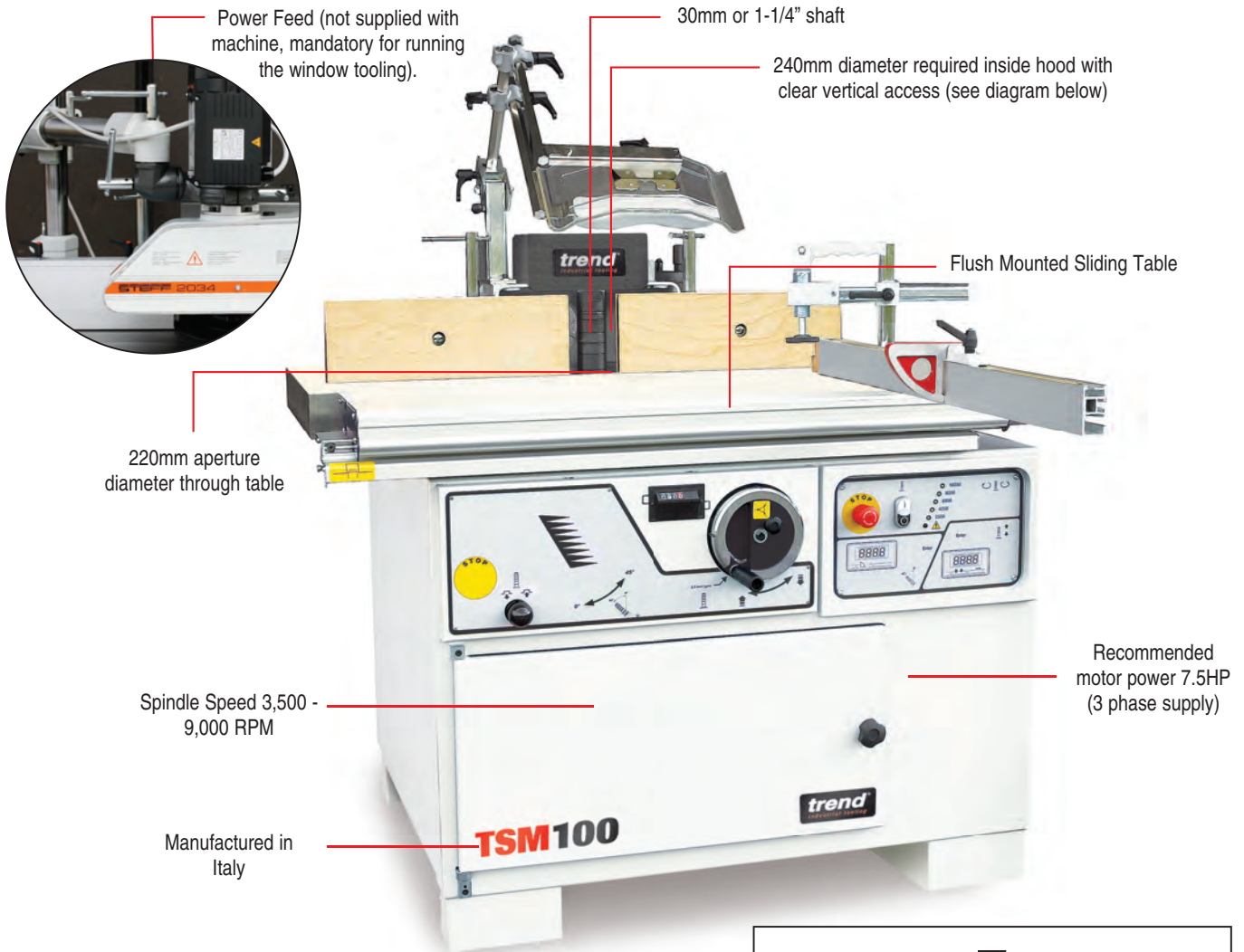


Fit the handle.



Secure the sill. (Requires additional tooling, see page 56).

TREND TSM100 SPINDLE MOULDER



Specification

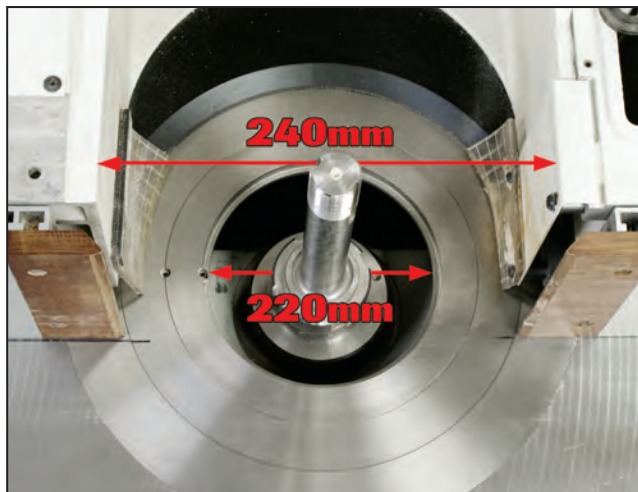
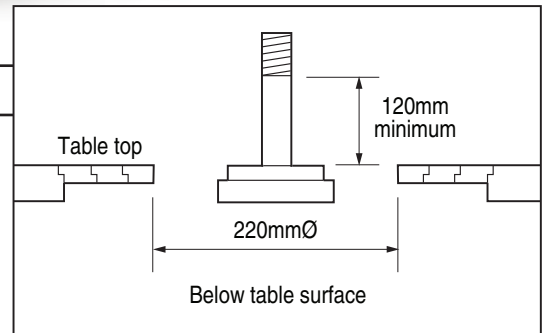
Spindle Moulder Specification for Window Manufacturing

You can use the Modular Window System with any spindle moulder with the following minimum specifications:

- Sliding table.
- Spindle shaft diameter of 30mm or 1-1/4".
- Usable spindle shaft height of 120mm minimum.
- Recommended motor power 7.5HP (3 phase supply).
- Spindle speed 3,500 – 9,000 RPM.
- Power feed (mandatory).
- 220mm aperture diameter required through the machine table. See diagram right.
- 240mm diameter required inside the hood and with clear vertical access. See picture right.

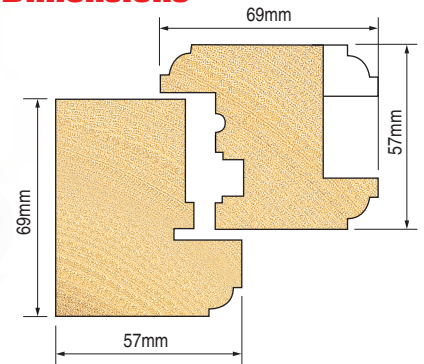


Please always contact us to confirm suitability of your Spindle Moulder.



See pages 60 and 61 for full details of our TSM100 Spindle Moulder.

Dimensions



Timber High Performance style windows with the following features:

- Outer frame section 69mm x 57mm. Sash section 69mm x 57mm.
- Standard ovolo profile on outer frame and sash.
- Euro groove for high security espagnolette locking system.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- An optional mechanical mullion and transom joint can be produced.
- Locating check for top-hung or side-hung friction stays and locked night vent position.
- Can also accommodate egress friction hinges allowing windows to conform to building regulations.
- 4mm groove width in outer frame to accept standard weather seals.
- Produces 18mm rebate depths in outer frame.
- Produces 18mm x 42mm rebates in the sash.
- Separate routing jigs available for producing a mortise for the espagnolette lock body and the slot in the sash for the trickle vent.



Complete set of 31 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

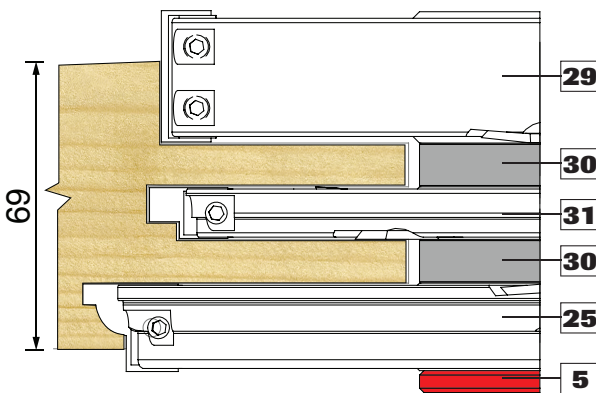
Product Ref **Bore**
 IT/MWS/SET001 30mm
 IT/MWS/SET007 1-1/4"



Shared Common Tools

When purchasing in conjunction with other styles, please see pages 44 & 45.

Step 1 Tenon Tools for Outer Frame Jambs



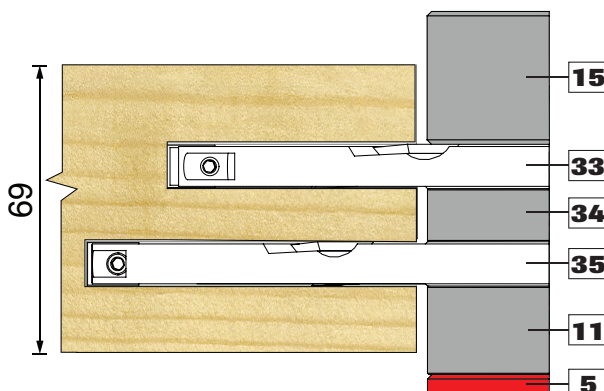
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
29	IT/71054291(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
31	IT/71054311(7)	Groover	19x11x6.2	IT/3108577	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 2 Slot Tenons for Outer Frame Head & Sill



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
15	IT/1920561(7)	Spacer	N/A			
33	IT/71054331(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
34	IT/1920471(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			

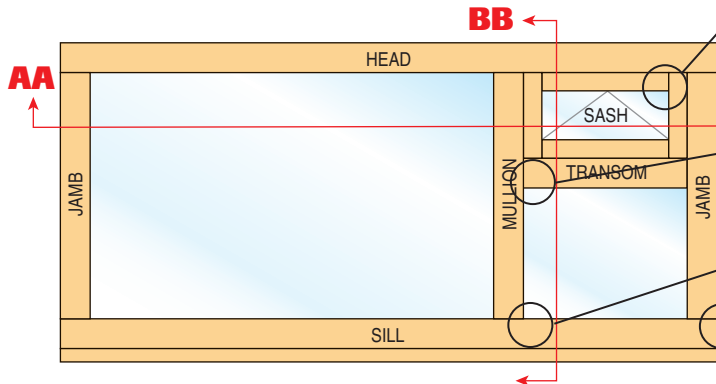
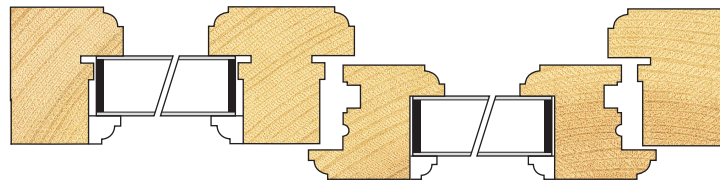
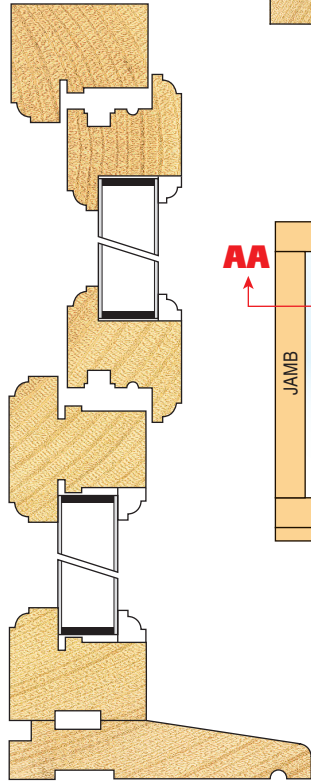
Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

Top View AA

Side View BB

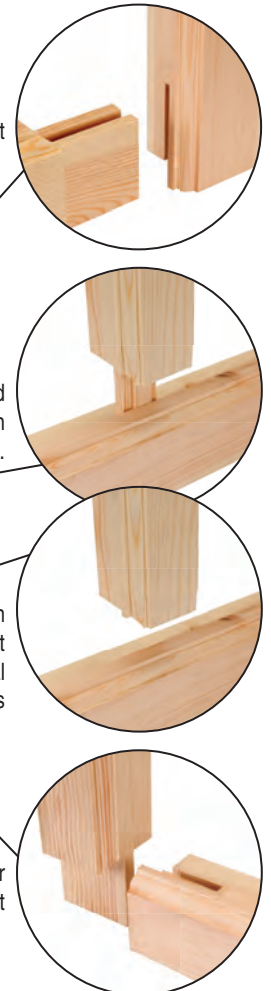


Sash joint

Transom and tenon joint with tenon step 3...

...or the transom and mullion joint with mechanical fixings

Outer frame joint



The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings. See page 14.

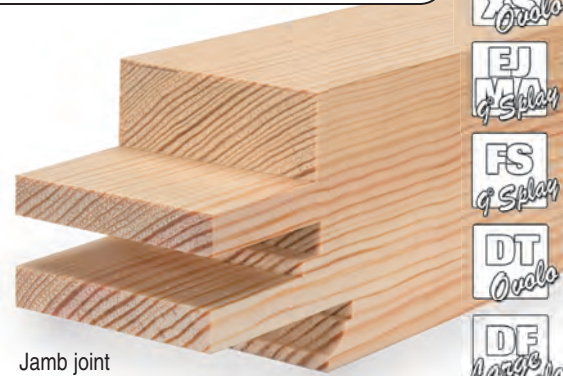
Plant on sill
(Requires sill block - see page 56)



Tools and Spacers

Tool Set-up

Machined Profile

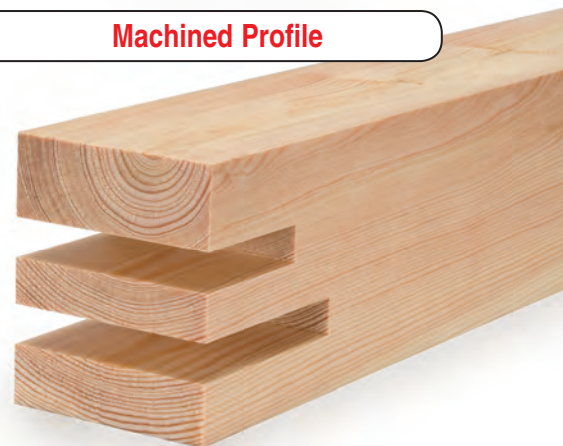


Jamb joint

Tools and Spacers

Tool Set-up

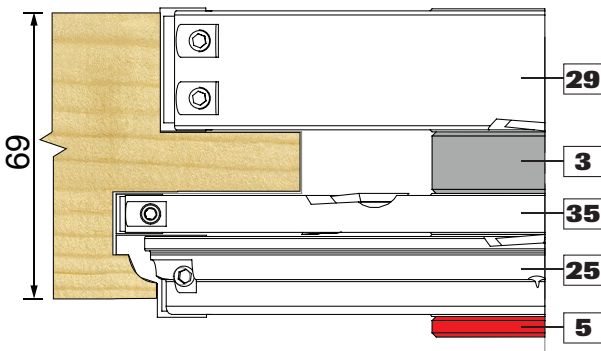
Machined Profile



Head and Sill joint

Step 3 to 8 >

Step 3 Scribe & Tenon for Mullions & Transoms



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
29	IT/71054291(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.

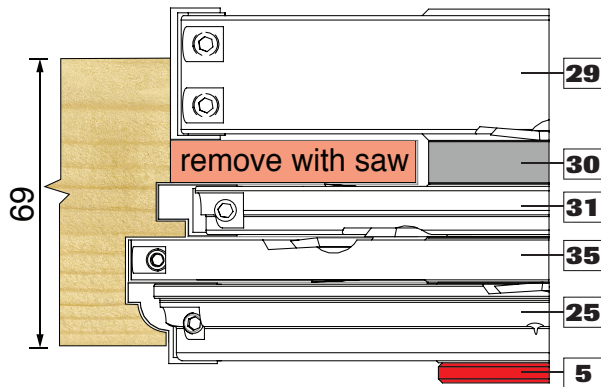


Recommended Speed
3,500 - 4,500 RPM

ALTERNATIVELY

Step 3a Scribe & Tenon for Mullions & Transoms (for Mechanical Fixings only)

- HP *Quale*
- HP *20 Splaz*
- HP *TE Quale*
- TF *Quale*
- SP *Quale*
- SB *YS Quale*
- EJ *MA Splaz*
- FS *q Splaz*
- DT *Quale*
- DE *Large Quale*



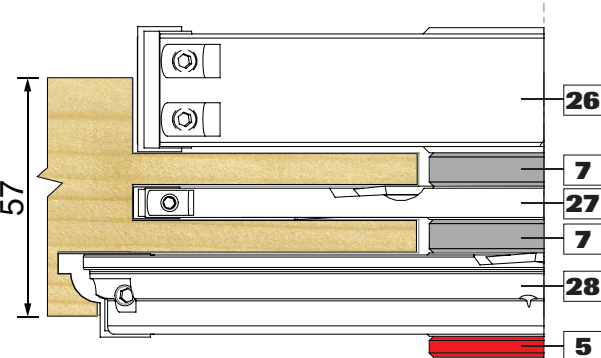
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
29	IT/71054291(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920541(7)	Spacer	N/A			
31	IT/71054311(7)	Groover	19x11x6.2	IT/3108577	14x14x2.0	IT/3008503/10
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 4 Tenon for Sash Rails



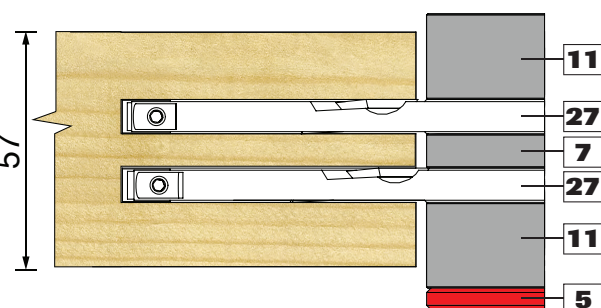
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
26	IT/71054261(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
27	IT/71054271(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
28	IT/71054281(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 5 Slot Tenon for Sash Stiles



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
11	IT/1920551(7)	Spacer	N/A			
27	IT/71054271(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

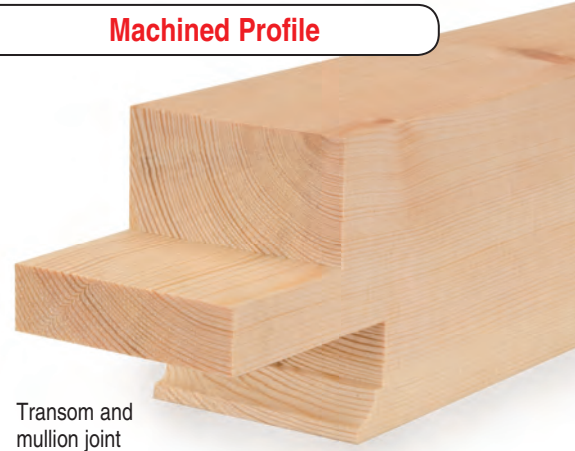
Tools and Spacers



Tool Set-up



Machined Profile

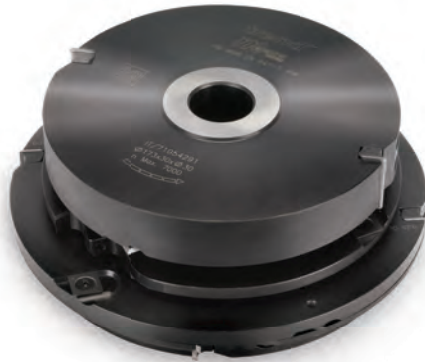


Transom and mullion joint

Tools and Spacers



Tool Set-up



Machined Profile



Transom and mullion mechanical joint before tenon removed with saw.

- HP** *Quale*
- HP** *20° Spl49*
- HP** *TE* *Quale*
- TF** *Quale*
- SP** *Quale*
- SB** *YS* *Quale*
- EJ** *MA* *9° Spl49*
- FS** *9° Spl49*
- DT** *Quale*
- DE** *Large* *Quale*

Tools and Spacers



Tool Set-up



Machined Profile



Top and bottom sash rail joint

Tools and Spacers



Tool Set-up



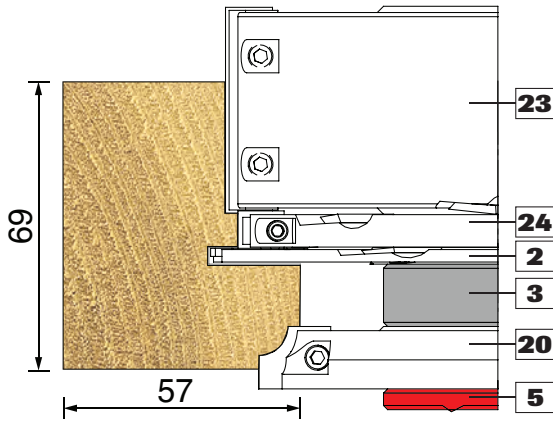
Machined Profile



Sash stiles joint

Step 6 to 8 >

Step 6 Outer Frame Profile



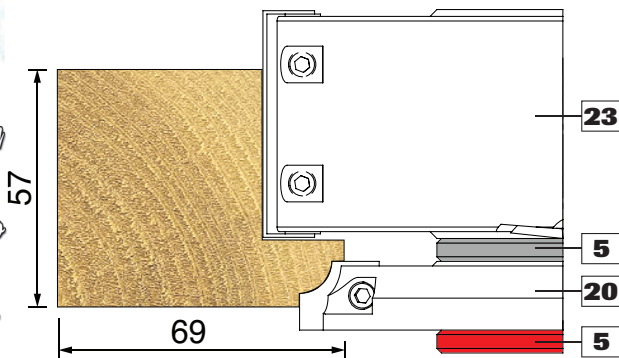
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
23	IT/71054231(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
24	IT/71054241(7)	Planer Head	9.0x12.1.5	IT/3108474/10	-	-
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	20x20x2.0	IT/3108627	-	-
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 7 Sash Inner Profile



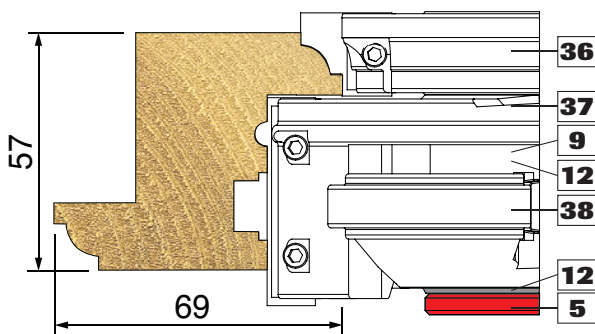
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
23	IT/71054231(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	20x20x2.0	IT/3108627	-	-

Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 8 Sash Outer Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
36	IT/71054361(7)	Ovolo Head	20x23x2.0	IT/3108599	-	-
37	IT/71054371(7)	Rebate Head	50x12x1.5	IT/3108600	14x14x2.0	IT/3008503/10
9	IT/1927101(7)	Spacer	N/A			
12	IT/1927201(7)	Spacer	N/A			
38	IT/71054381(7)	Euro Groove	19x16.3x2.0	IT/3108601	-	-
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.

Replacement knives with a /10 are sold in packs of 10.



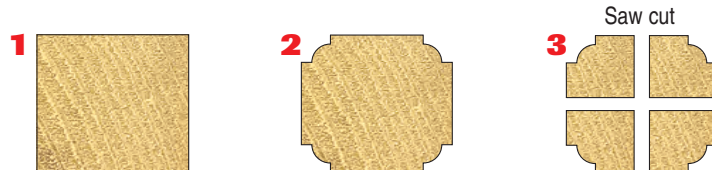
Recommended Speed
5,500 - 6,500 RPM

Machining the Beads

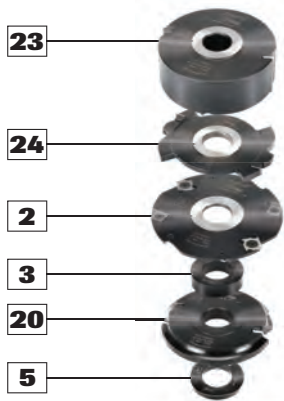
The profile tools No.'s 20 or 36 can be used to create the beads but require changes to the spindle moulder settings.



OR ALTERNATIVELY



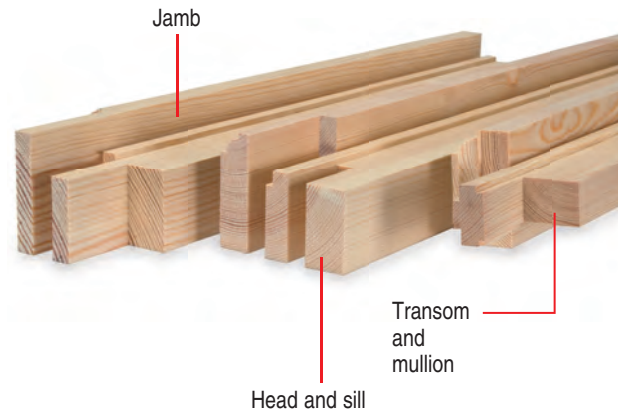
Tools and Spacers



Tool Set-up



Machined Profile



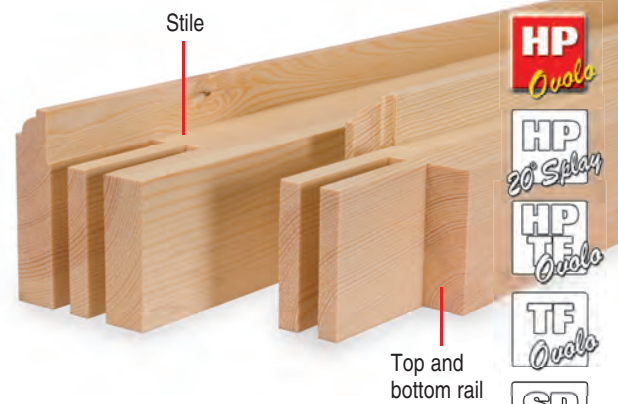
Tools and Spacers



Tool Set-up



Machined Profile



Tools and Spacers



Tool Set-up



Machined Profile

Outer sash profile once glued, assembled and dry.

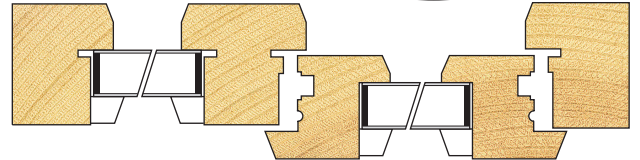


This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.

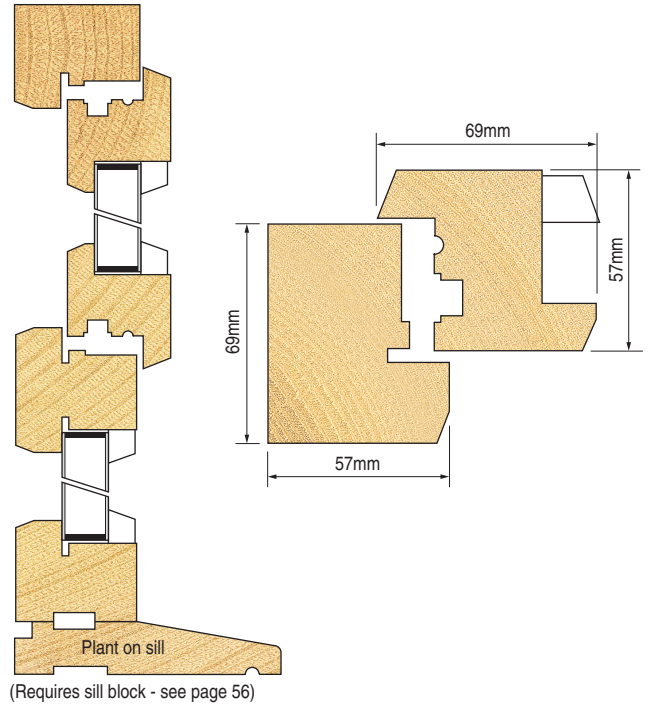
Description	Product Ref
Wallchart	WALL/MWS/HP
Specification Manual	MANU/MWS/HP



Top View AA



Side View BB



Timber high performance 20° splay style windows with the following features:

- Outer frame section 69mm x 57mm. Sash section 69mm x 57mm.
- Standard 20 degree splayed profile on outer frame and sash.
- Euro groove for high security espagnolette locking system.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- An optional mechanical mullion and transom joint can be produced.
- Locating check for top-hung or side-hung friction stays and locked night vent position.
- Can also accommodate egress friction hinges allowing windows to conform to building regulations.
- 4mm groove width in outer frame to accept standard weather seals.
- Produces 18mm rebate depths in outer frame.
- Produces 18mm x 42mm rebates in the sash.
- Separate routing jig available for producing a mortise for the espagnolette lock body.
- Routing jig also available for producing the slot in the sash for the trickle vent.

- HP Oval
- HP 20° Splay
- HP TF Oval
- TF Oval
- SP Oval
- SB YS Oval
- EJ M Splay
- FS Splay
- DT Oval
- DE Large Oval

This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description	Product Ref
Wallchart	WALL/MWS/HP20
Specification Manual	MANU/MWS/HP20

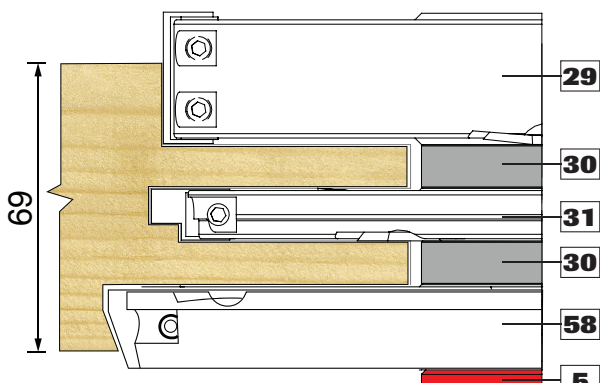
Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.

Shared Common Tools When purchasing in conjunction with other styles, please see pages 44 & 45.

Complete set of 31 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref	Bore
IT/MWS/SET061	30mm
IT/MWS/SET067	1-1/4"

Step 1 Tenon Tools for Outer Frame Jamb



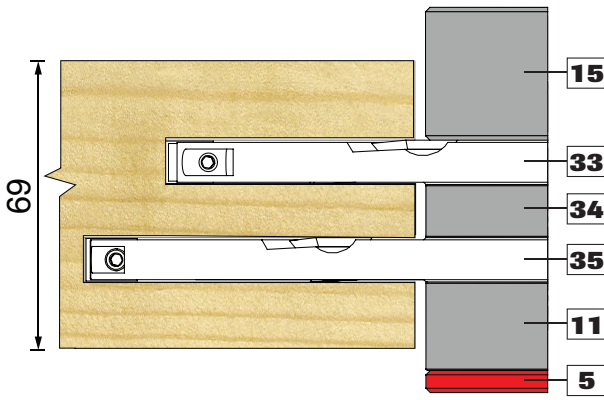
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
29	IT/71054291(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
31	IT/71054311(7)	Groover	19x11x6.2	IT/3108577	14x14x2.0	IT/3008503/10
58	IT/71054581(7)	Splayed Head	20x12x1.5	IT/3208001	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.

Replacement knives with a /10 are sold in packs of 10.

Recommended Speed
3,500 - 4,500 RPM

Step 2 Slot Tenons for Outer Frame Head & Sill

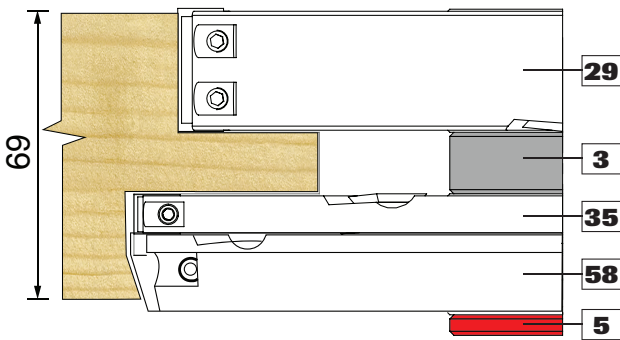


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
15	IT/1920561(7)	Spacer	N/A			
33	IT/71054331(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
34	IT/1920471(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 3 Tenon for Outer Frame Mullions & Transom



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
29	IT/71054291(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
58	IT/71054581(7)	Splayed Head	20x12x1.5	IT/3208001	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

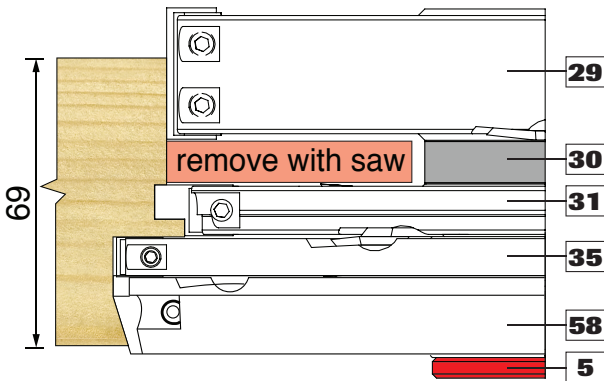
Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

ALTERNATIVELY

Step 3a Scribe & Tenon for Mullions & Transoms (For Mechanical Fixings only)



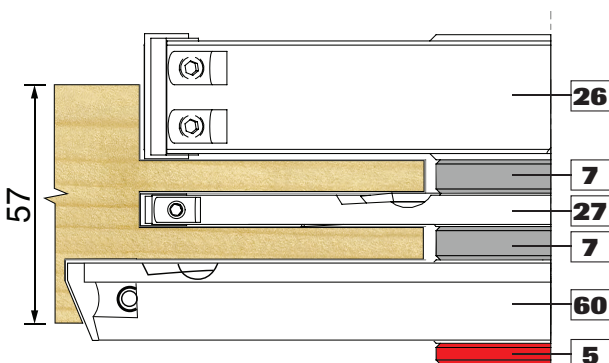
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
29	IT/71054291(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
31	IT/71054311(7)	Groover	19x11x6.2	IT/3108577	14x14x2.0	IT/3008503/10
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
58	IT/71054581(7)	Splayed Head	20x12x1.5	IT/3208001	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 4 Tenon for Sash Rails



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
26	IT/71054261(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
27	IT/71054271(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
60	IT/71054601(7)	Splayed Head	20x12x1.5	IT/3208001	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.

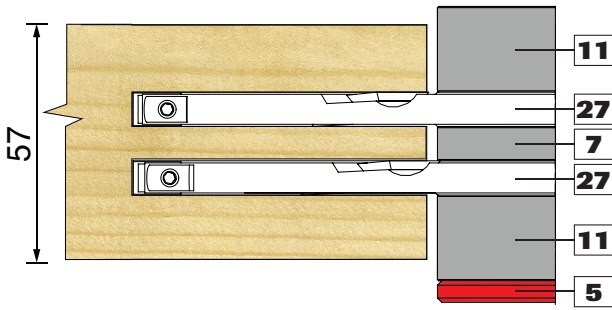


Recommended Speed
3,500 - 4,500 RPM

Replacement knives with a /10 are sold in packs of 10.

Step 5 to 8 >

Step 5 Slots for Sash Stiles

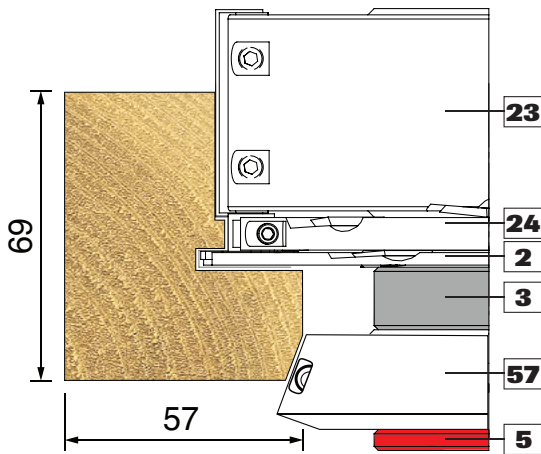


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
27	IT/71054271(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 6 Outer Frame Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
23	IT/71054231(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
24	IT/71054241(7)	Planer Head	9.0x12x1.5	IT/3108474/10	-	-
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
57	IT/71054571(7)	Splayed Head	20x12x1.5	IT/3101220/10	-	-
5	IT/1920061(7)	Spacer	N/A			

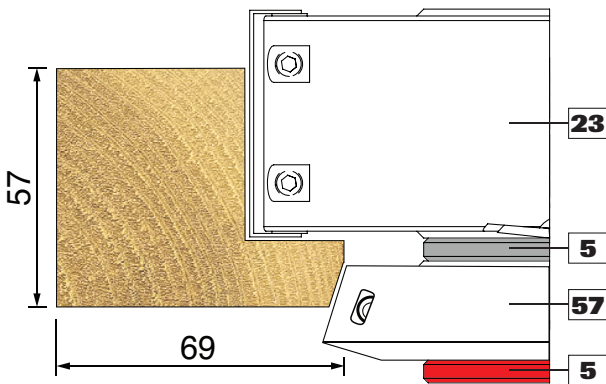


Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 7 Inner Sash Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
23	IT/71054231(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			
57	IT/71054571(7)	Splayed Head	20x12x1.5	IT/3101220/10	-	-

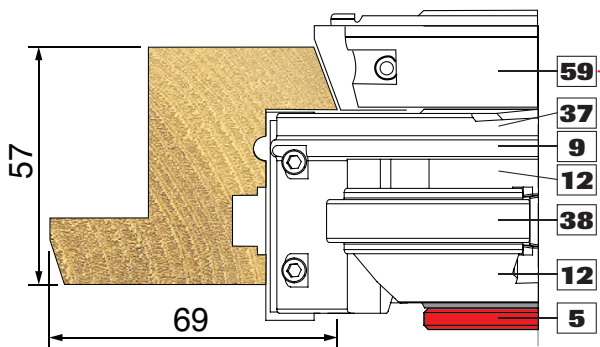


Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 8 Outer Sash Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
59	IT/71054591(7)	Splayed Head	20x12x1.5	IT/3101220/10	-	-
37	IT/71054371(7)	Rebate Head	50x12x1.5	IT/3108600	14x14x2.0	IT/3008503/10
9	IT/1927101(7)	Spacer	N/A			
12	IT/1927201(7)	Spacer	N/A			
38	IT/71054381	Euro Groove	19x16.3x2.0	IT/3108601	-	-
5	IT/1920061(7)	Spacer	N/A			



Alternative profile styles, see pages 41 - 43.

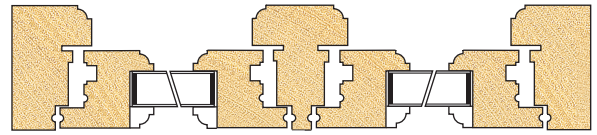
Replacement knives with a /10 are sold in packs of 10.



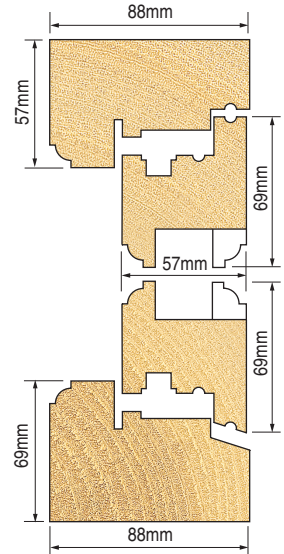
Recommended Speed
5,500 - 6,500 RPM



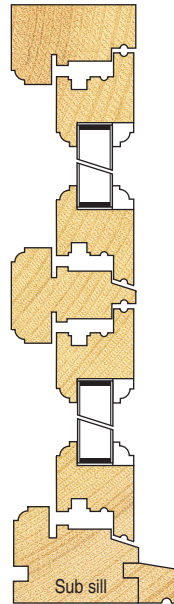
Top View AA



Dimensions



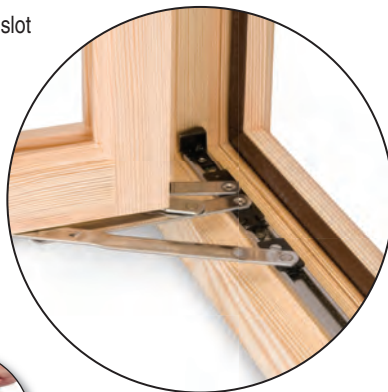
Side View BB



For tooling for production of the sill, please see page 56.

Timber High Performance Traditional Flush style windows with the following features:

- Outer frame head and jamb section 88mm x 57mm. Outer frame sill section 88mm x 69mm. Sash section 69mm x 57mm.
- Combines the look of a Traditional Flush window with the security and weather sealing advantages of a High Performance window.
- Standard ovolo profile on outer frame and sash.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- Euro groove for high security espagnolette locking system.
- Special frame and sash design conceals view of ironmongery from outside the window.
- Locating check for top-hung or side-hung friction stays and locked night vent position.
- Can also accommodate egress friction hinges allowing windows to conform to building regulations.
- 4mm groove width in outer frame to accept standard weather seals.
- Produces 18mm rebate depths in outer frame and 18mm x 42mm rebates in the sash.
- Separate routing jig available for producing a mortise for the espagnolette lock body.
- Routing jig also available for producing the slot in the sash for the trickle vent.



See page 24 for extra machining step for fire escape/Egress hinges.



This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.

Description

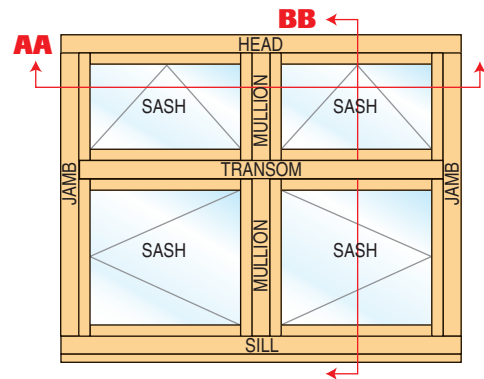
Wallchart
Specification Manual

Product Ref

WALL/MWS/HPTF
MANU/MWS/HPTF

Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.

Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.



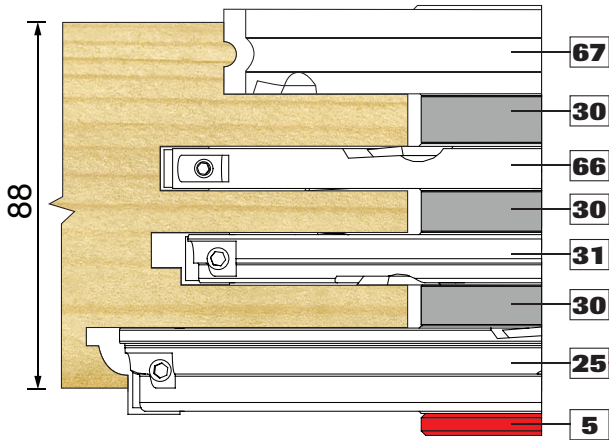
Complete set of 44 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref IT/MWS/SET031
Bore 30mm

IT/MWS/SET037
1-1/4"



Step 1 Tenon Tools for Outer Frame Jambs to Head



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
67	IT/71054671(7)	Tenon Head	30x22x2.0	IT/3208052	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
66	IT/71054661(7)	Tenon Head	11.6x12x1.5	IT/3007509/10	14x14x2.0	IT/3008503/10
31	IT/71054311(7)	Groover	19x11x6.2	IT/3108577	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

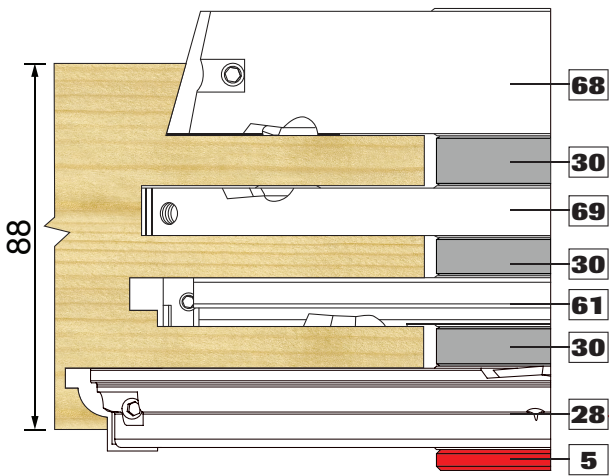
Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Replacement knives with a /10 are sold in packs of 10.

Step 2 Tenon Tools for Outer Frame Jambs to Sill



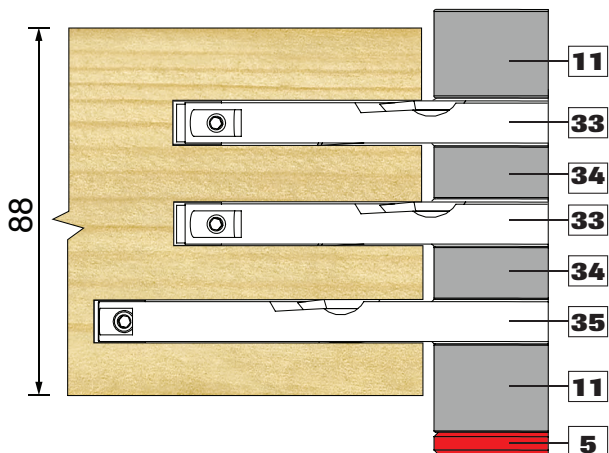
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
68	IT/71054681(7)	Tenon Head	30x22x2.0	IT/3208053	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
69	IT/71054691(7)	Tenon Head	11.6x12x1.5	IT/3007509/10	14x14x2.0	IT/3008503/10
61	IT/71054611	Groover	19x11x6.2	IT/3108577	14x14x2.0	IT/3008503/10
28	IT/71054281(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 3 Slot Tenons for Outer Frame Head & Sill



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
33	IT/71054331(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
34	IT/1920471(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

HP
Ovolo

HP
20° Splay

HP
TF
Ovolo

TF
Ovolo

SP
Ovolo

SB
YS
Ovolo

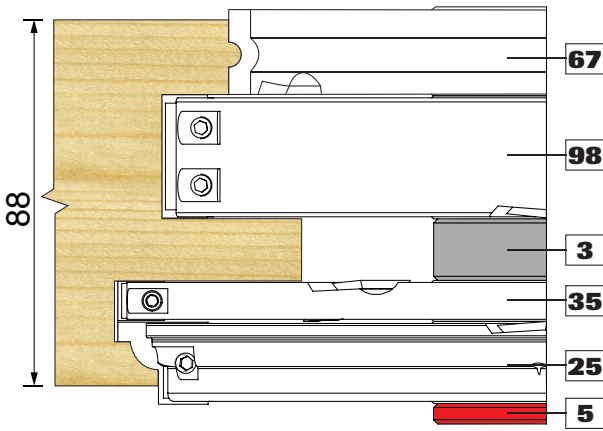
EJ
M
q Splay

FS
q Splay

DT
Ovolo

DF
Large
Ovolo

Step 4 Scribe & Tenon for Mullions & Transoms to Head & Jamb



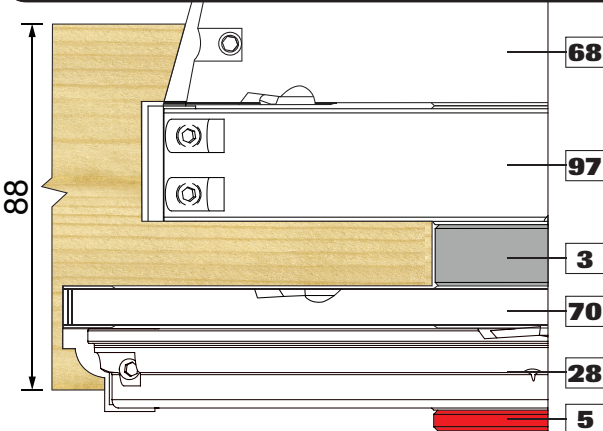
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
67	IT/71054671(7)	Tenon Head	20x19.5x2.0	IT/3208052	14x14x2.0	IT/3008503/10
98	IT/71054981(7)	Tenon Head	30x12x1.5	IT/3208158	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 5 Scribe & Tenon for Mullion to Sill



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
68	IT/71054681(7)	Tenon Head	30x22x2.0	IT/3208053	14x14x2.0	IT/3008503/10
97	IT/71054971(7)	Tenon Head	30x12x1.5	IT/3208158	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
70	IT/71054701(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
28	IT/71054281(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

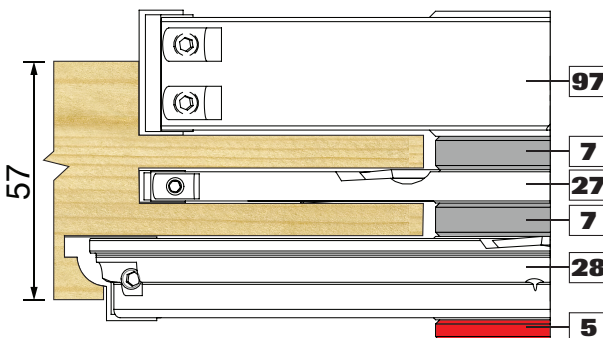
 Alternative profile styles, see pages 41 - 43.

Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

Step 6 Tenon for Sash Rails



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
97	IT/71054791(7)	Tenon Head	30x12x1.5	IT/3208158	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
27	IT/71054271(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
28	IT/71054281(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

HP
Ovolo

HP
20° Splay

HP
TF
Ovolo

TF
Ovolo

SP
Ovolo

SB
YS
Ovolo

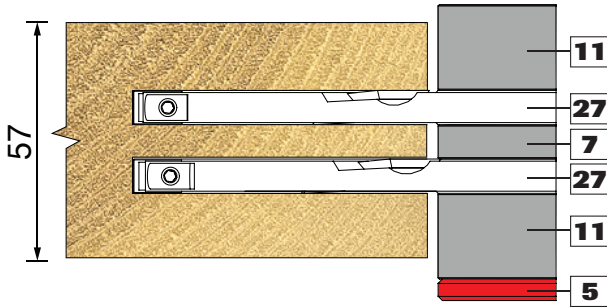
EJ
Splay

FS
Splay

DT
Ovolo

DE
Large
Ovolo

Step 7 Slots for Sash Stiles

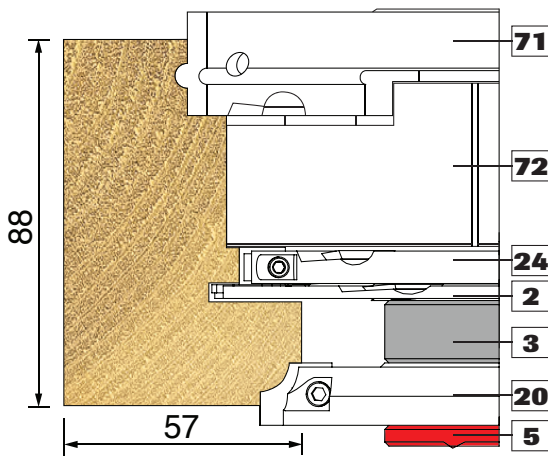


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
11	IT/1920551(7)	Spacer	N/A			
27	IT/71054271(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			




Recommended Speed
3,500 - 4,500 RPM

Step 8 Outer Frame Profile for Head & Jambs only



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
71	IT/71054711(7)	Rebate Head	25x21x2.0	IT/3208054	14x14x2.0	IT/3008503/10
72	IT/71054721(7)	Planer Head	40x12x1.5	IT/3000528/10	14x14x2.0	IT/3008503/10
24	IT/71054241(7)	Planer Head	9.0x12x1.5	IT/3108474/10	-	-
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-
5	IT/1920061(7)	Spacer	N/A			

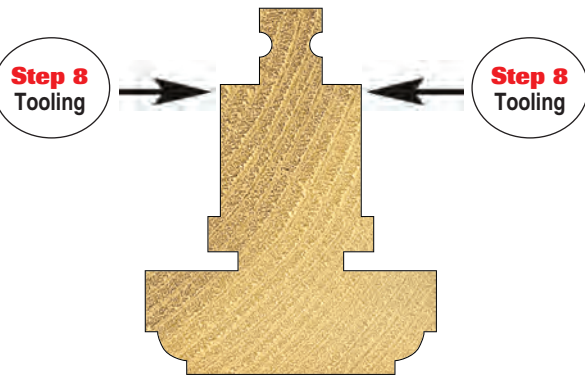
 Alternative profile styles, see pages 41 - 43.
Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
5,500 - 6,500 RPM

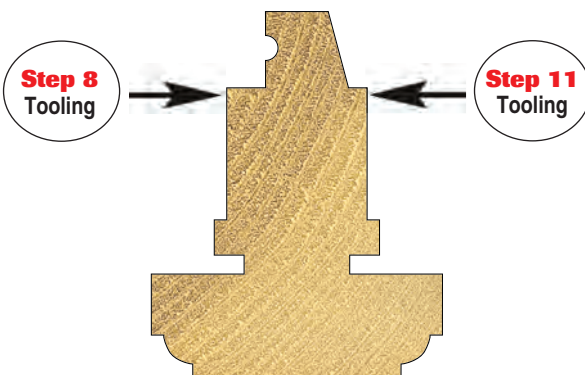
Step 9 Mullion Profiling only

- HP Ovolo
- HP 20° Splay
- HP TF Ovolo
- TF Ovolo
- SP Ovolo
- SB YS Ovolo
- EJ M Splay
- FS Splay
- DT Ovolo
- DE Large Ovolo



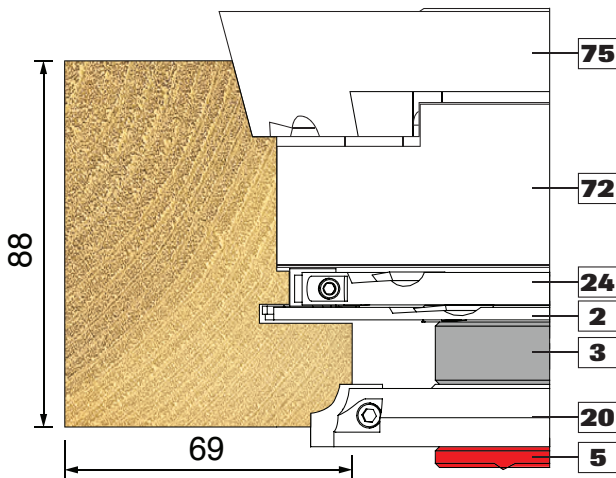
Recommended Speed
5,500 - 6,500 RPM

Step 10 Transom Profiling only



Recommended Speed
5,500 - 6,500 RPM

Step 11 Outer Frame Profile for Sill only



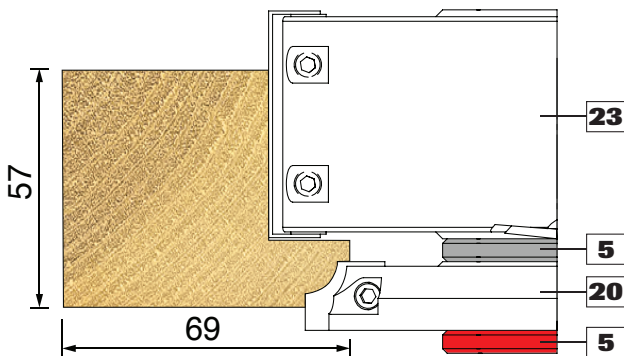
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
75	IT/71054751(7)	Rebate Head	30x22x2.0	IT/3208057	14x14x2.0	IT/3008503/10
72	IT/71054721(7)	Planer Head	40x12x1.5	IT/3000528/10	14x14x2.0	IT/3008503/10
24	IT/71054241(7)	Planer Head	9.0x12x1.5	IT/3108474/10	-	-
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 to 43.



Recommended Speed
5,500 - 6,500 RPM

Step 12 Sash Inner Profile



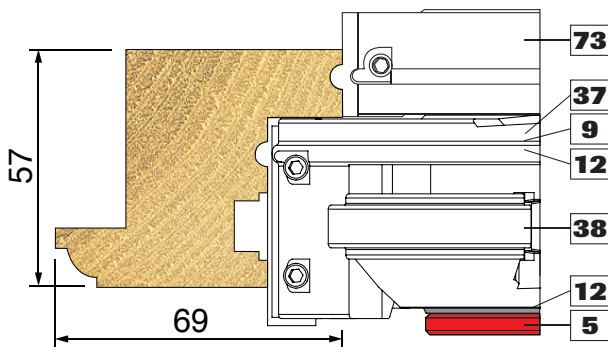
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
23	IT/71054231(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	20x20x2.0	IT/3108627	-	-

Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 13 Sash Outer Profile for Stiles & Top Rails only

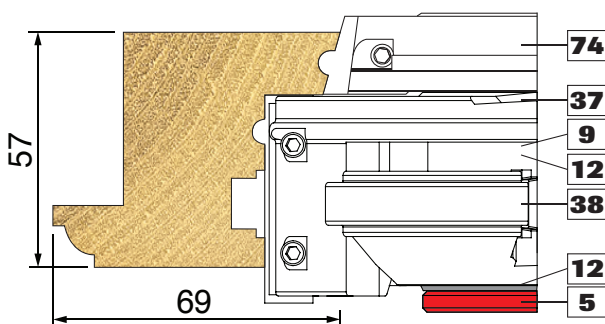


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
73	IT/71054731(7)	Rebate Head	25x18x2.0	IT/3208055	-	-
37	IT/71054371(7)	Rebate Head	50x12x1.5	IT/3108600	14x14x2.0	IT/3008503/10
9	IT/1927101(7)	Spacer	N/A			
12	IT/1927201(7)	Spacer	N/A			
38	IT/71054381(7)	Euro Groove	19x16.3x2	IT/3108601	-	-
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
5,500 - 6,500 RPM

Step 14 Sash Outer Profile for Bottom Rail only



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
74	IT/71054741(7)	Rebate Head	20x21x2.0	IT/3208056	-	-
37	IT/71054371(7)	Rebate Head	50x12x1.5	IT/3108600	14x14x2.0	IT/3008503/10
9	IT/1927101(7)	Spacer	N/A			
12	IT/1927201(7)	Spacer	N/A			
38	IT/71054381(7)	Euro Groove	19x16.3x2	IT/3108601	-	-
5	IT/1920061(7)	Spacer	N/A			

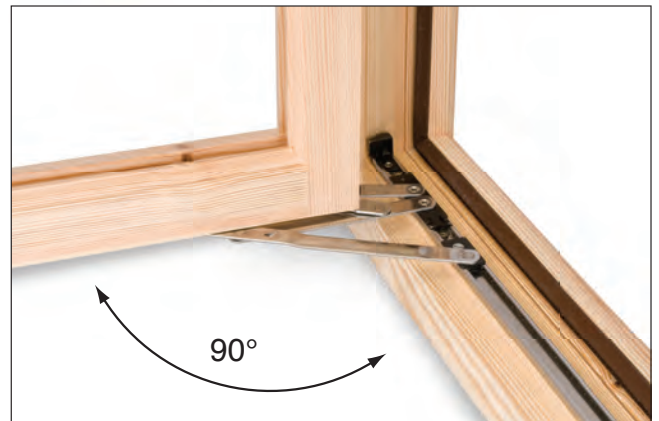
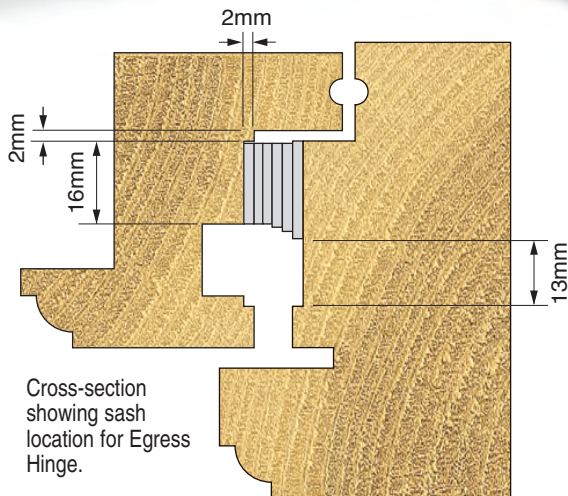


Recommended Speed
5,500 - 6,500 RPM

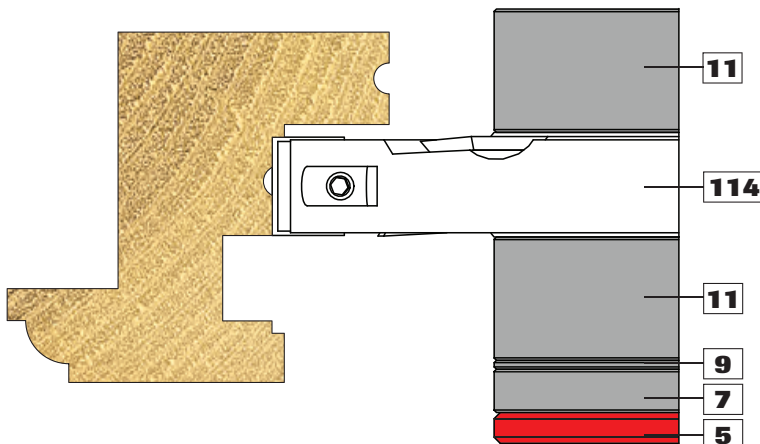
Extra Machining Step - Fire Escape/Egress Hinges



- In order for fire escape/Egress type hinges to work correctly in the HPTF window, an extra machining step must be run.
 - Step 15 is run on the outer sash on the two sides (both stiles or top and bottom rail) where the fire escape/Egress hinges are to be fixed.
 - See illustration for correct hinge fixing location.
 - Some manufacturers hinges may require a different location point in the outer frame and sash.
- Please contact us for more details.



Step 15 Sash Outer Groove for Stiles or Top Bottom Rail

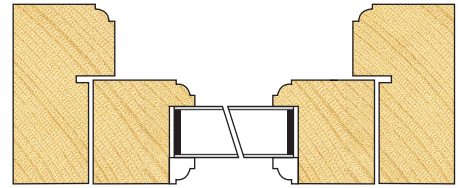


 **Recommended Speed**
5,500 - 6,500 RPM

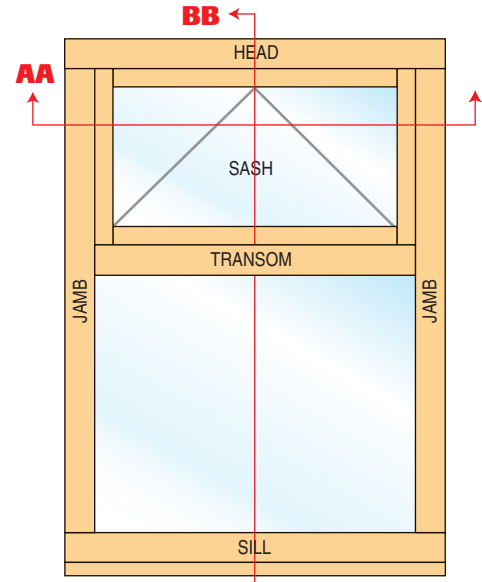
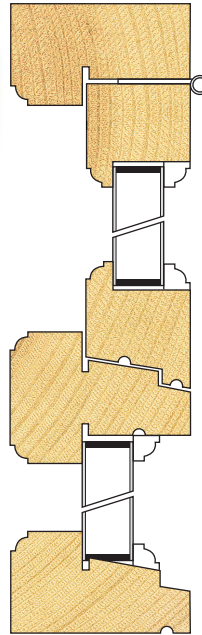
- HP Oval
- HP 20° Splay
- HP TF Oval
- TF Oval
- SP Oval
- SB YS Oval
- EJ WA Splay
- FS Splay
- DT Oval
- DE Large Oval



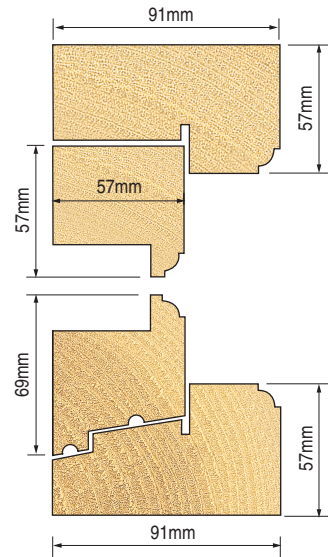
Top View AA



Side View BB



Dimensions



Timber Traditional Flush style windows with the following features:

- Outer frame section 91mm x 57mm. Sash section 57mm x 57mm.
- An optional 69mm x 57mm bottom rail can also be produced.
- Standard ovolo profile on outer frame and sash.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- Uses standard butt hinges, fasteners and stays.
- 4mm groove width in outer frame to accept standard weather seals. Alternative 3mm groove width can be produced - see page 55.
- Produces 15mm rebate depths in outer frame.
- Produces 15mm x 42mm rebates in the sash.
- Routing jig also available for producing the slot in the sash for the trickle vent.

Complete set of 33 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref	Bore
IT/MWS/SET081	30mm
IT/MWS/SET087	1-1/4"

This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description	Product Ref
Wallchart	WALL/MWS/TFO
Specification Manual	MANU/MWS/TFO

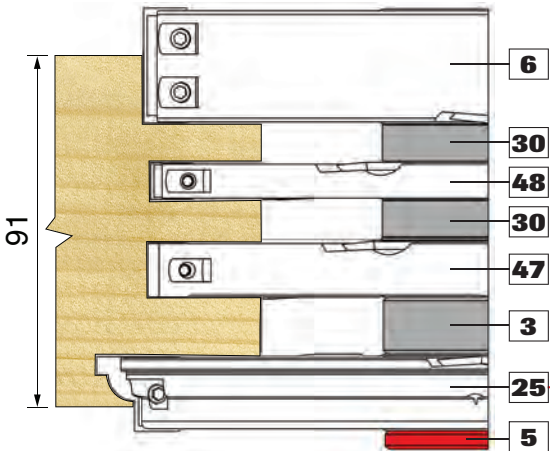
Warning this style can only be used on a flush sliding table.

Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.

Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.



Step 1 Outer Frame Tenon for Jamb to Head



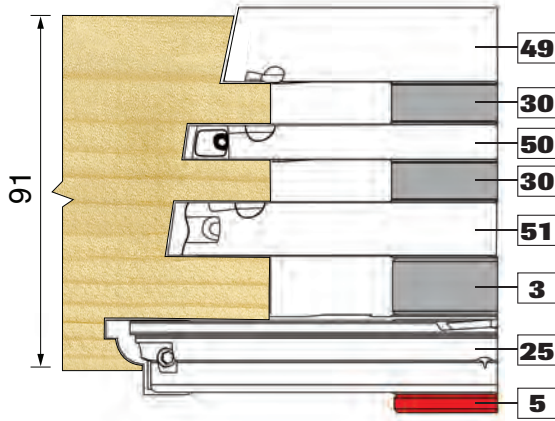
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
48	IT/71054481(7)	Tenon Head	10x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
47	IT/71054471(7)	Tenon Head	14.6x12x1.5	IT/3108702/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.
Alternative profile styles, see pages 41 - 43.

Warning **Recommended Speed** **3,500 - 4,500 RPM**

Step 2 to 14 >

Step 2 Outer Frame Tenon for Jamb to Sill



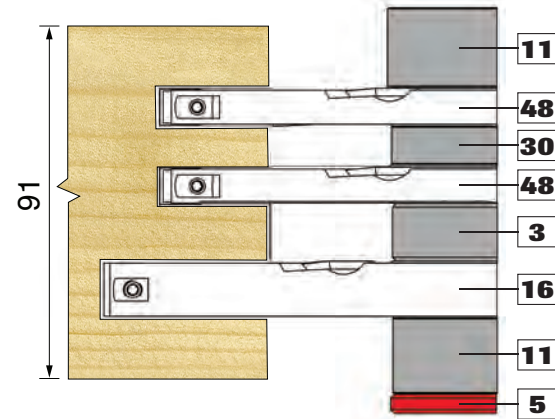
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
49	IT/71054491(7)	Tenon Disc	19x20x2.0	IT/3108499	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
50	IT/71054501(7)	Tenon Disc	15x10x2.0	IT/3108520	14x14x2.0	IT/3008503/10
51	IT/71054511(7)	Tenon Disc	18x14.5x2.0	IT/3108521	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 3 Outer Frame Slots for Head and Sill

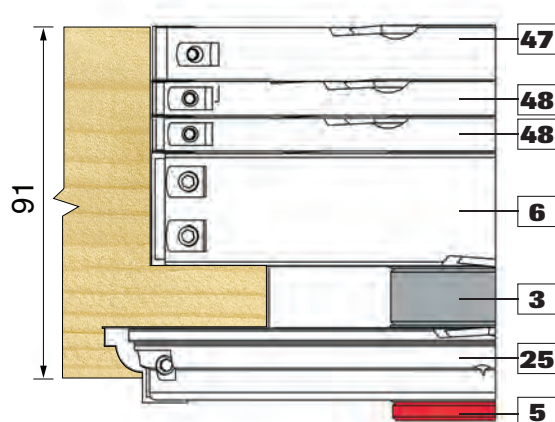


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
48	IT/71054481(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
3	IT/1920541(7)	Spacer	N/A			
16	IT/71054161(7)	Tenon Head	14.6x12x1.5	IT/3108702/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 4 Tenon for Transom and Mullion to Head & Jambs



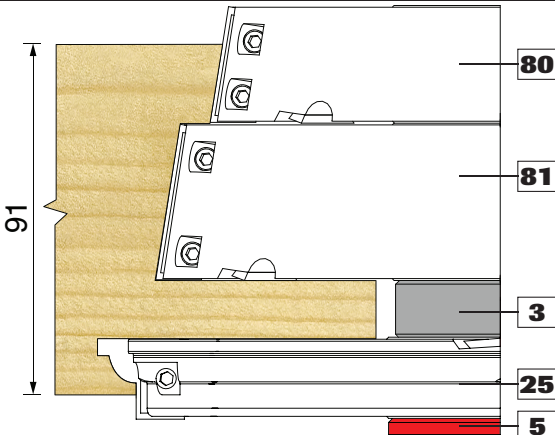
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
47	IT/71054471(7)	Tenon Head	14.6x12x1.5	IT/3108702/10	14x14x2.0	IT/3008503/10
48	IT/71054481(7)	Tenon Head	10x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 5 Tenon for Mullion to Sill only



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
80	IT/71054801(7)	Tenon Head	30x20x2.0	IT/3208050	-	-
81	IT/71054811(7)	Tenon Head	42x19x2.0	IT/3208072	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

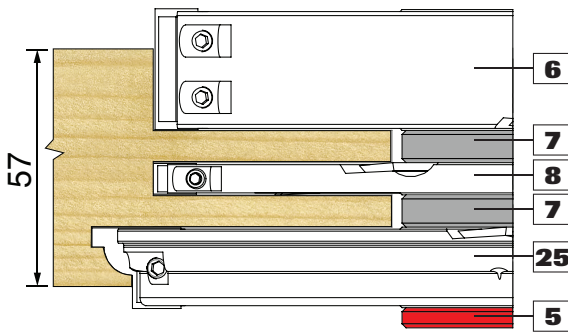
Replacement knives with a /10 are sold in packs of 10.

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 6 Tenon for Sash Rails



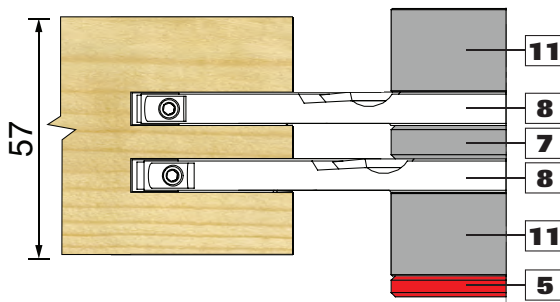
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 7 Slots for Sash Stile to Top Rail

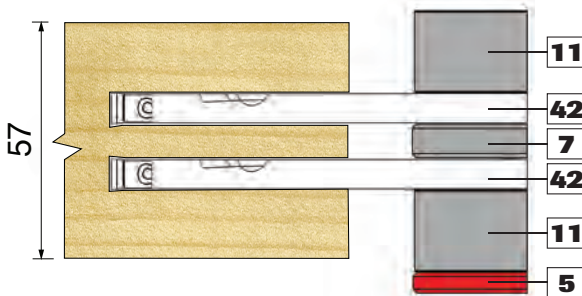


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 8 Slots for Sash Stile to Bottom Rail

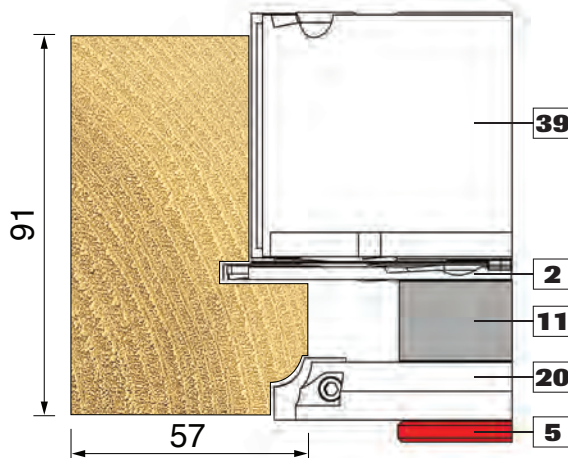


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
42	IT/71054421	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 9 Outer Frame for Head and Jambs only



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
39	IT/71054391(7)	Rebate Head	60x12x1.5	IT/3000531/10	14x14x2.0	IT/3008503/10
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

HP
Ovalo

HP
20° Splatt

HP
TE
Ovalo

TF
Ovalo

SP
Ovalo

SB
YS
Ovalo

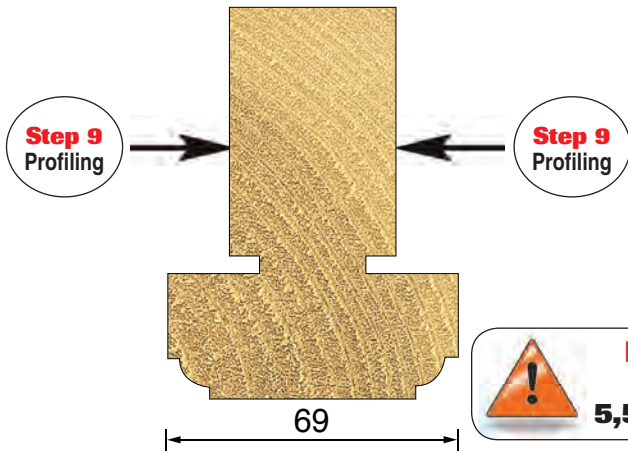
EJ
q Splatt

FS
q Splatt

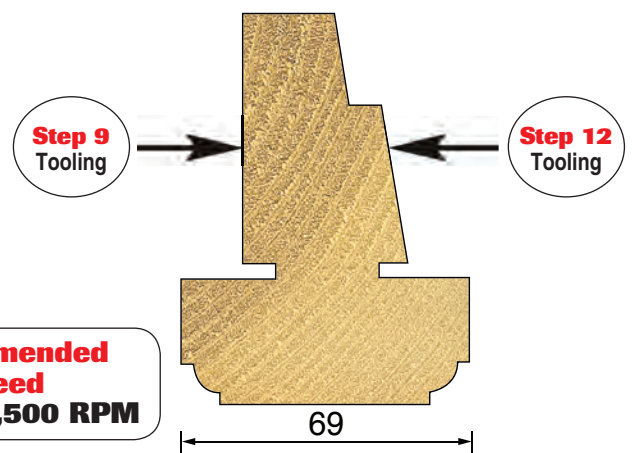
DT
Ovalo

DE
Large
Ovalo

Step 10 Mullion Profiling only

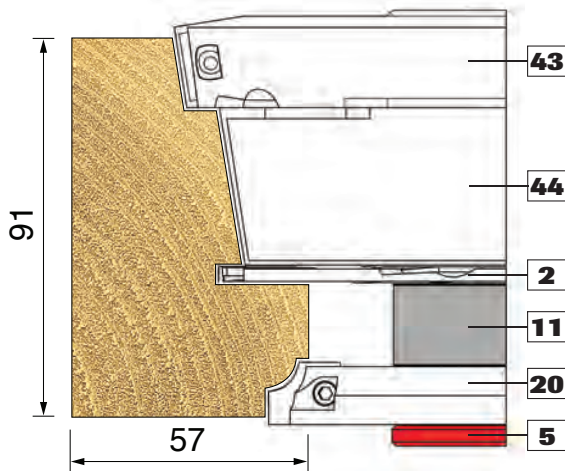


Step 11 Transom Profiling only



Recommended Speed
5,500 - 6,500 RPM

Step 12 Outer Frame for Sill only

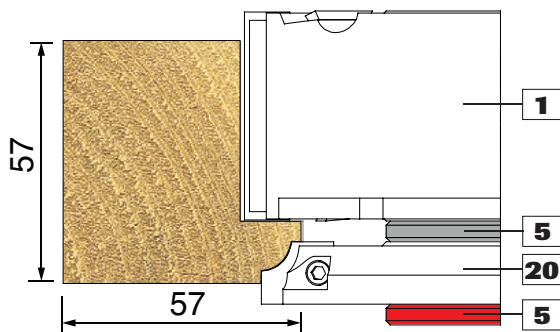


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
43	IT/71054431(7)	Sill Head	20x12x1.5	IT/3101220/10	14x14x2.0	IT/3008503/10
44	IT/71054441(7)	Sill Head	17x38x2.0	IT/3108498	-	-
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-
5	IT/1920061(7)	Spacer	N/A			

Recommended Speed
5,500 - 6,500 RPM

Alternative profile styles, see pages 41 - 43.

Step 13 Inner Sash Profile

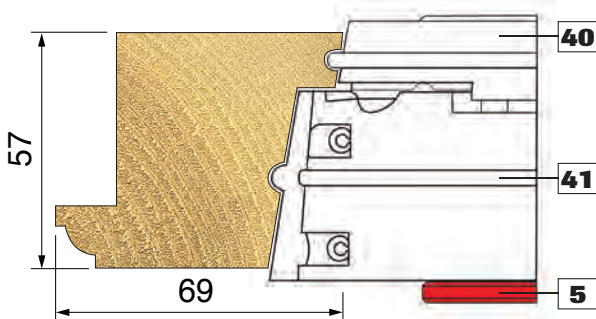


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-

Recommended Speed
5,500 - 6,500 RPM

Alternative profile styles, see pages 41 - 43.

Step 14 Outer Sash Profile for Bottom Rail only



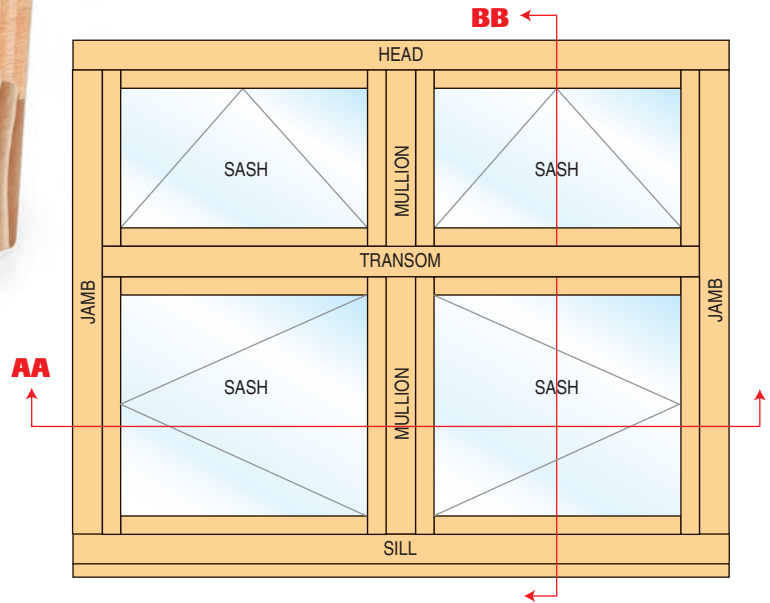
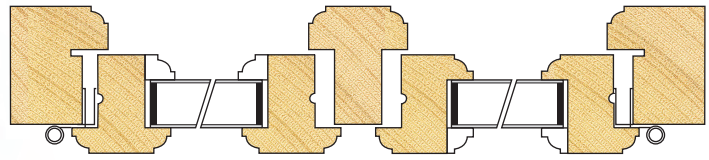
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
40	IT/71054401	Splay Head	19.5x20x2.0	IT/3108496	-	-
41	IT/71054411	Splay Head	23x45x2.0	IT/3108497	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Recommended Speed
5,500 - 6,500 RPM

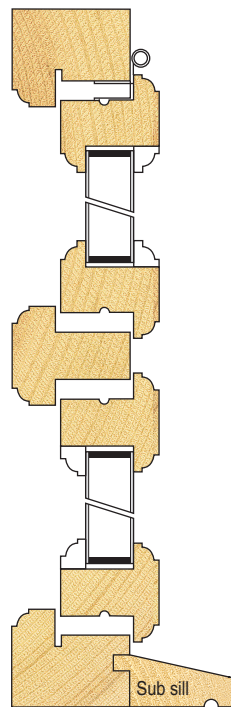
Replacement knives with a /10 are sold in packs of 10.



Top View AA

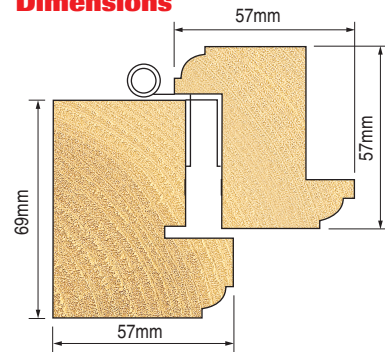


Side View BB



(Requires sill block, see page 56)

Dimensions



Timber Storm Proof style windows with the following features:

- Outer frame section 69mm x 57mm.
Sash section 57mm x 57mm.
- Standard ovolo profile on outer frame and sash.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- Uses standard cranked hinges, fasteners and stays.
- 4mm groove width in outer frame to accept standard weather seals. Alternative 3mm groove width can be produced - see page 55.
- Produces 15mm rebate depths in outer frame.
- Produces 15mm x 42mm rebates in the sash.
- Routing jig also available for producing the slot in the sash for the trickle vent.

This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description

Wallchart
Specification Manual

Product Ref

WALL/MWS/SP
MANU/MWS/SP



Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.



Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.

Complete set of 23 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref

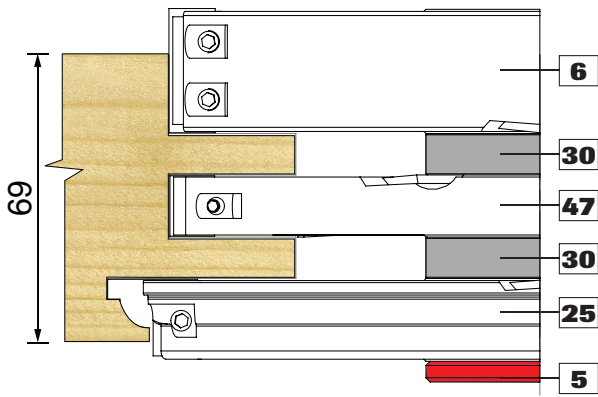
IT/MWS/SET011
IT/MWS/SET017

Bore

30mm
1-1/4"



Step 1 Tenon Tools for Outer Frame Jambs



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
47	IT/71054471(7)	Tenon Head	14.6x12x1.5	IT/3108702/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

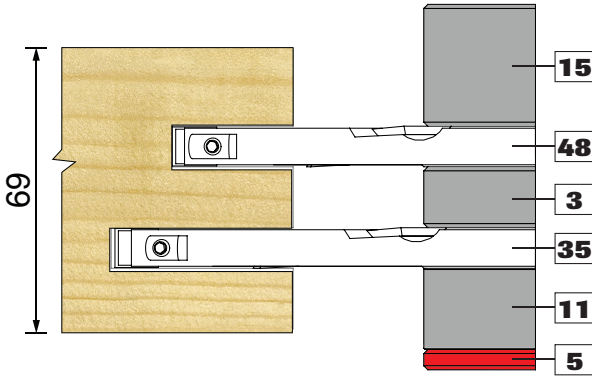
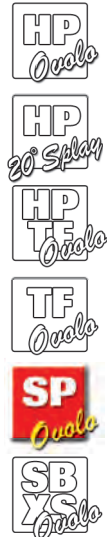
Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Replacement knives with a /10 are sold in packs of 10.

Step 2 Slot for Outer Frame Head & Sill

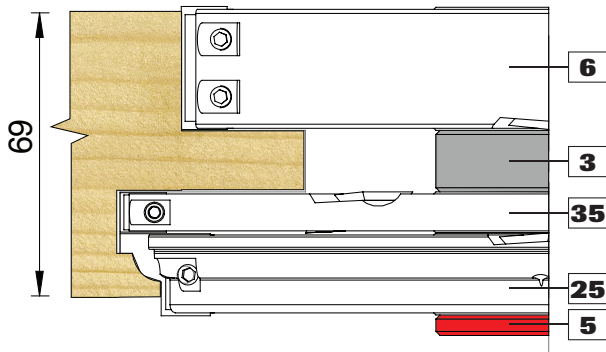


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
15	IT/1920561(7)	Spacer	N/A			
48	IT/71054481(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 3 Outer Frame Transom to Head, Sill & Jambs



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
35	IT/71054351(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

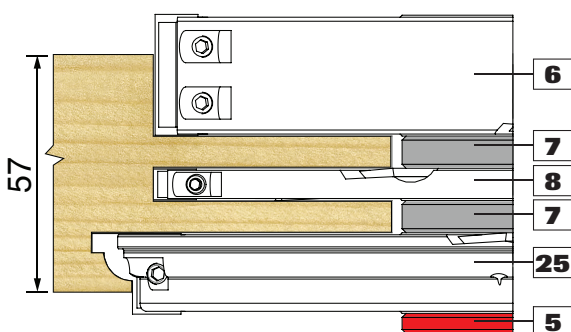


Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 4 Tenon for Sash Rails



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

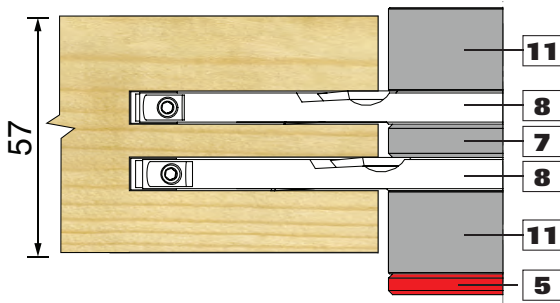


Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

Step 5 Slots for Sash Stiles



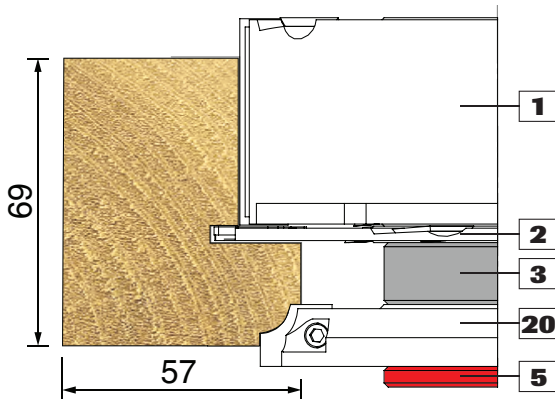
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

Step 6 Outer Frame Profile



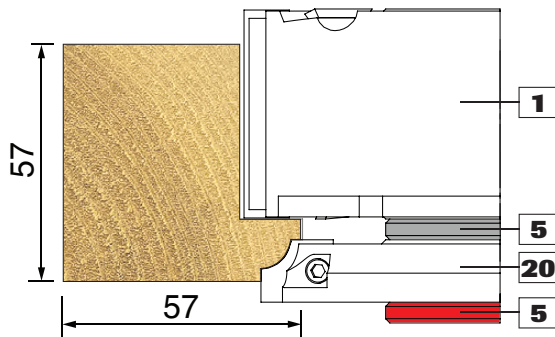
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 7 Inner Sash Profile



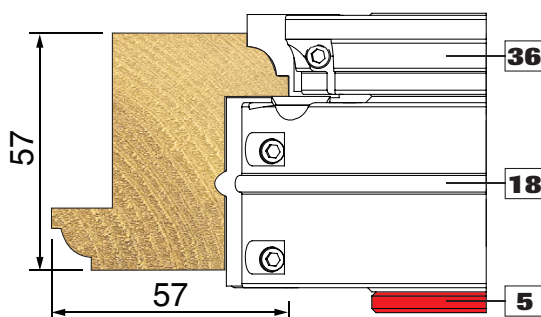
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-

 Alternative profile styles, see pages 41 - 43.



Recommended Speed
5,500 - 6,500 RPM

Step 8 Outer Sash Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
36	IT/71054361(7)	Ovolo Head	20x23x2.0	IT/3108599	-	-
18	IT/71054181(7)	Rebate Head	47x20x2.0	IT/3108626	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

 Alternative profile styles, see pages 41 - 43.

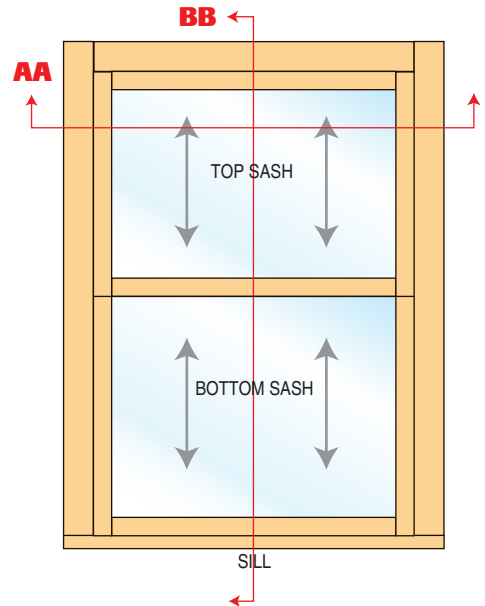
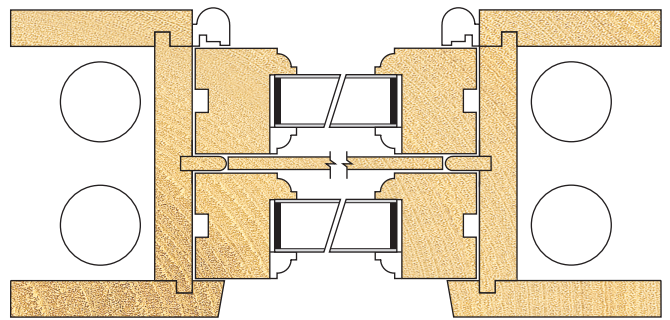
Replacement knives with a /10 are sold in packs of 10.



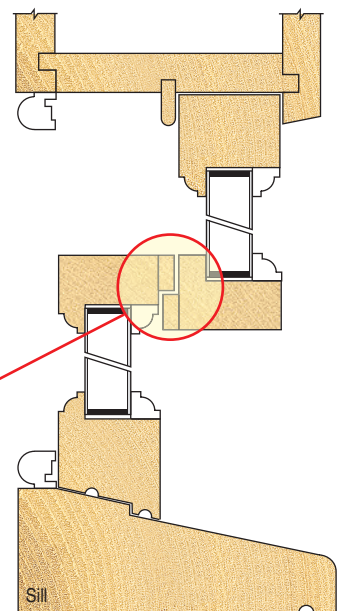
Recommended Speed
5,500 - 6,500 RPM



Top View AA



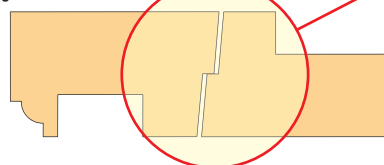
Side View BB



(Requires sill block, see page 56)

Optional Section
For splayed meeting rails
- see pages 50 - 53.

NEW



Timber Sliding Box Sash style windows with the following features:

- Top sash head and stiles 57mm x 57mm section. Meeting rail 44mm x 57mm section.
- Bottom sash stiles 57mm x 57mm section. Meeting rail 44mm x 57mm section. Bottom rail 69mm x 57mm section.
- Standard ovolo profile on sashes.
- Tooling will make both top and bottom sashes. Tools from the system can be used to produce the box (spindle moulder will need to be re-set).
- All sash joints are combed.
- Will also produce single tenon for putting an optional horn on the top and bottom sashes (mortise hole required).
- 15mm flat on meeting rail to accommodate fastener.
- Produces 15mm x 42mm rebates in the sashes.
- Separate sill block required to run sill section.
- Routing jig also available for producing the slot in the sash for the trickle vent. See page 57.
- Routing jigs also available to produce weight pockets and holes for the pulley wheels. See page 57.

This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description	Product Ref
Wallchart	WALL/MWS/SBS
Specification Manual	MANU/MWS/SBS



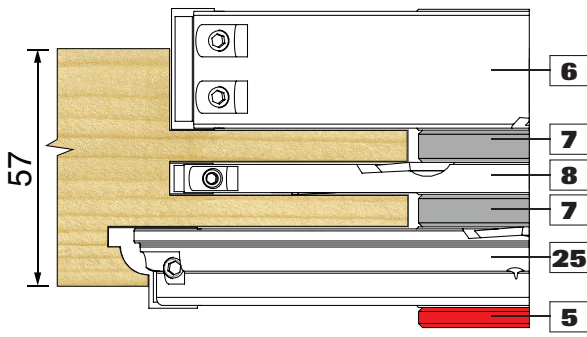
Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.

Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.

Complete set of 20 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref	Bore
IT/MWS/SET071	30mm
IT/MWS/SET077	1-1/4"

Step 1 Tenons for Top, Middle & Bottom Rails



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

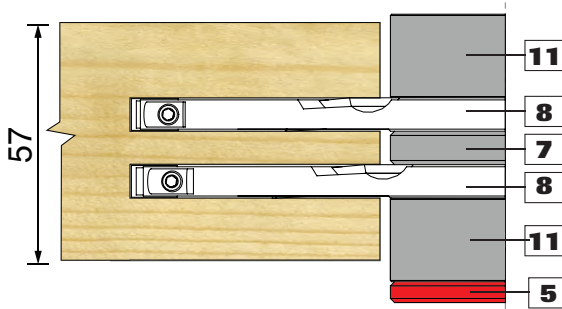
Alternative profile styles, see pages 41 - 43.

Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

Step 2 Slots for Top Sash Stiles to Top Rail only

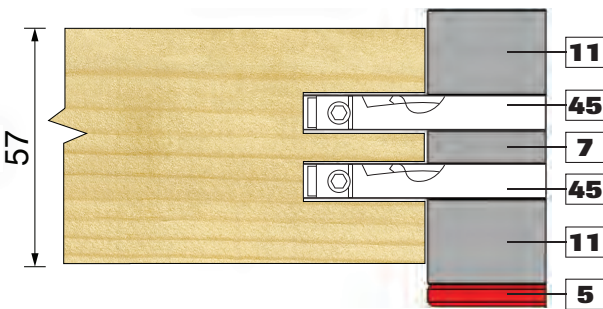


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 3 Slots for Stiles to Meeting Rails only



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
45	IT/71054451(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			

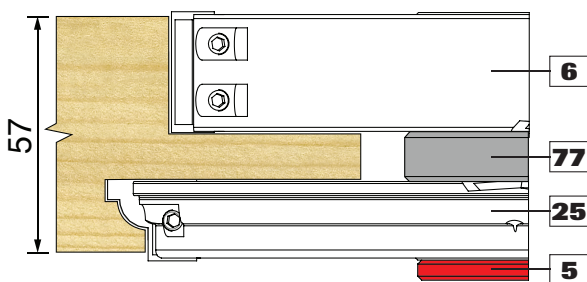


Recommended Speed
3,500 - 4,500 RPM

ALTERNATIVELY

Step 3a Tenon Joint when Horns are required

Optional



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
77	IT/1920871(7)	Spacer	N/A			
25	IT/71054251(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Alternative profile styles, see pages 41 - 43.



Recommended Speed
3,500 - 4,500 RPM

HP
Ovolo

HP
20° Splay

HP
TE
Ovolo

TF
Ovolo

SP
Ovolo

SB
XS
Ovolo

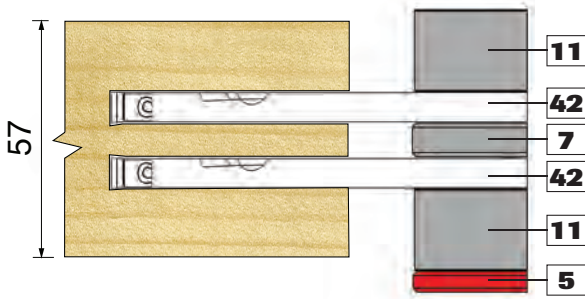
EJ
9° Splay

FS
9° Splay

DT
Ovolo

DE
Large Ovolo

Step 4 Slots for Stiles to Bottom Rail only



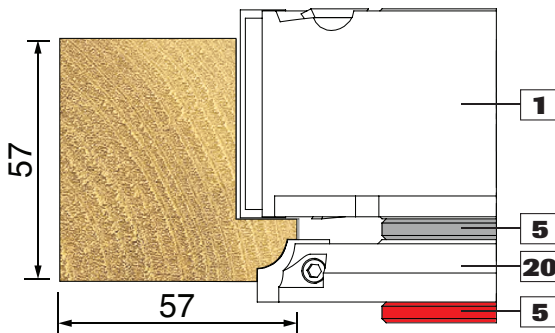
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
42	IT/71054421(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed

3,500 - 4,500 RPM

Step 5 Profile Inner Sash (apart from Top Sash Meeting Rail)



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-



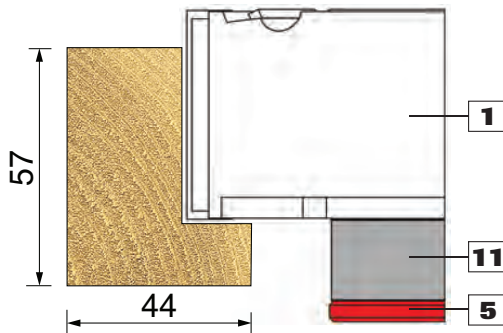
Alternative profile styles, see pages 41 - 43.



Recommended Speed

5,500 - 6,500 RPM

Step 6 Profile Inner Sash (Top Sash Meeting Rail only)



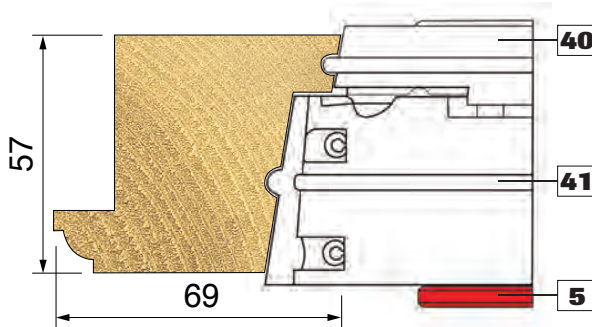
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed

5,500 - 6,500 RPM

Step 7 Profile Outer Sash Bottom Rail only



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
40	IT/71054401(7)	Splay Head	19.5x20x2.0	IT/3108496	-	-
41	IT/71054411(7)	Splay Head	23x45x2.0	IT/3108497	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



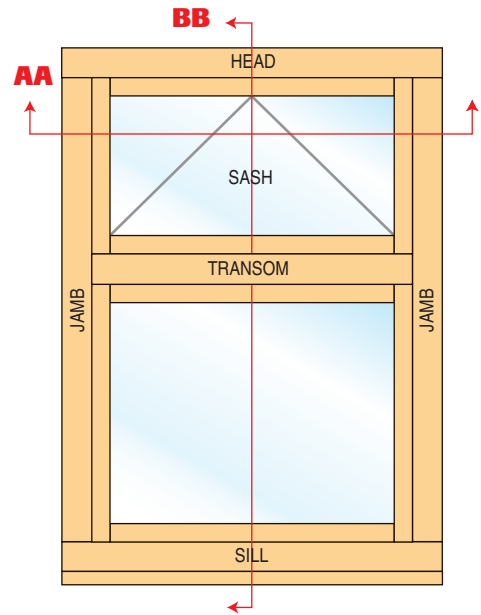
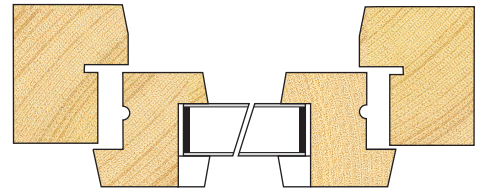
Recommended Speed

5,500 - 6,500 RPM

Replacement knives with a /10 are sold in packs of 10.



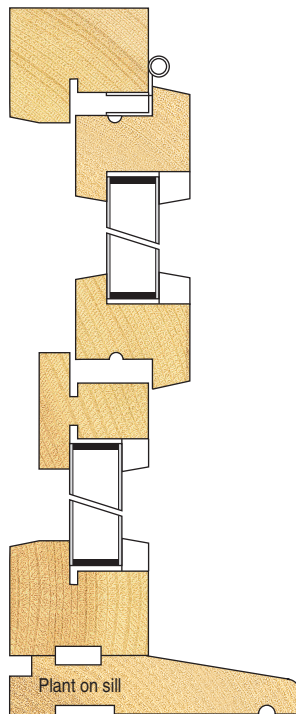
Top View AA



Timber EJMA 9° Splay style windows with the following features:

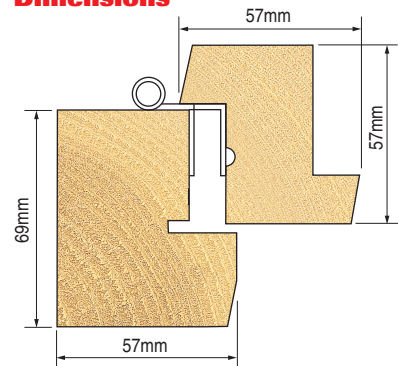
- 69mm x 57mm outer frame section.
- 57mm x 57mm sash section.
- Traditional EJMA (English Joinery Manufacturers Association) 9 degree splay profile on outer frame and sash.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- Uses standard cranked hinges, fasteners and stays.
- 4mm groove width in outer frame to accept standard weather seals. Alternative 3mm groove width can be produced - see page 55.
- Produces 15mm rebate depths in outer frame.
- Produces 15mm x 42mm rebates in the sash.
- Routing jig also available for producing the slot in the sash for the trickle vent. See page 57.

Side View BB



(Requires sill block to be purchased, see page 56)

Dimensions



This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description	Product Ref
Wallchart	WALL/MWS/EJMA
Specification Manual	MANU/MWS/EJMA



Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.

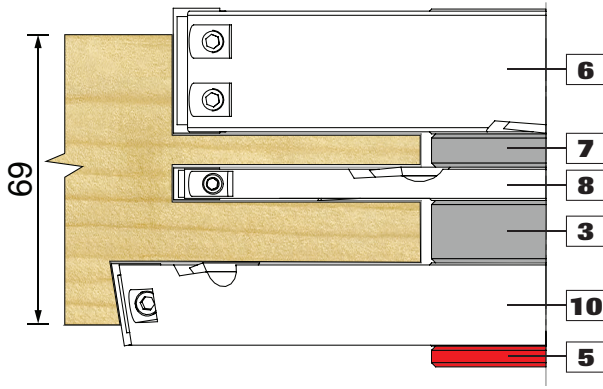


Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.

Complete set of 19 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref	Bore
IT/MWS/SET021	30mm
IT/MWS/SET027	1-1/4"

Step 1 Tenon Tools for Outer Frame



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
10	IT/71054101(7)	Bevel Head	20x12x1.5	IT/3108624	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.



Step 2 Slots for Outer Frame

HP Oval

HP 20° Splat

HP TE Oval

TF Oval

SP Oval

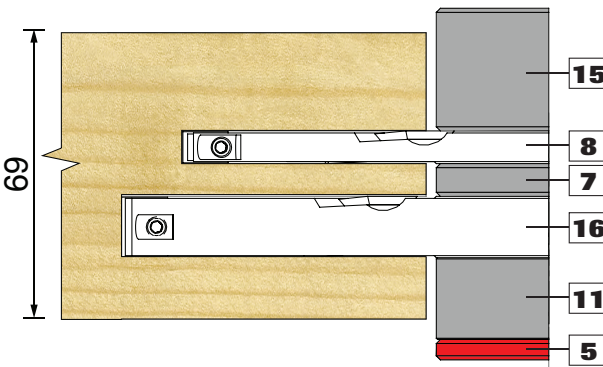
SB YS Oval

EJ MA

FS 9° Splat

DT Oval

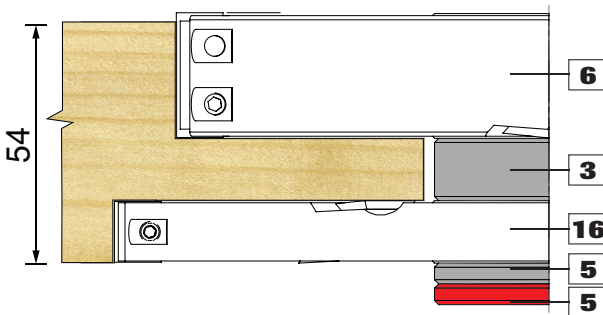
DE Large Oval



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
15	IT/1920561(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
16	IT/71054161(7)	Tenon Head	14.6x12x1.5	IT/3108702/10	14x14x2.0	IT/3008503/10
11	IT/1920551(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



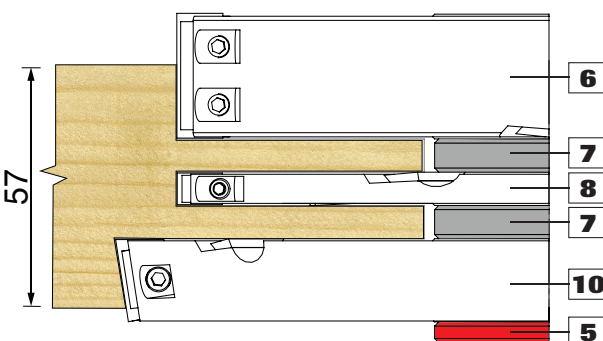
Step 3 Tenon for Outer Frame Transom & Mullions



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
16	IT/71054161(7)	Tenon Head	14.6x12x1.5	IT/3108702/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



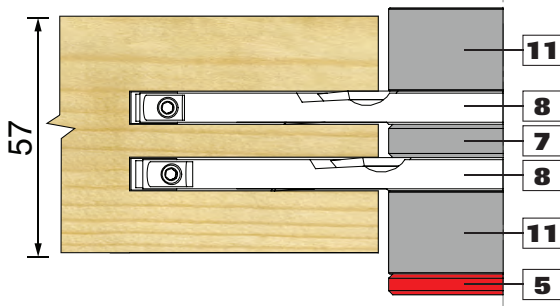
Step 4 Tenon for Sash Rails



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
10	IT/71054101(7)	Bevel Head	20x12x1.5	IT/3108624	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



Step 5 Slots for Sash Stiles



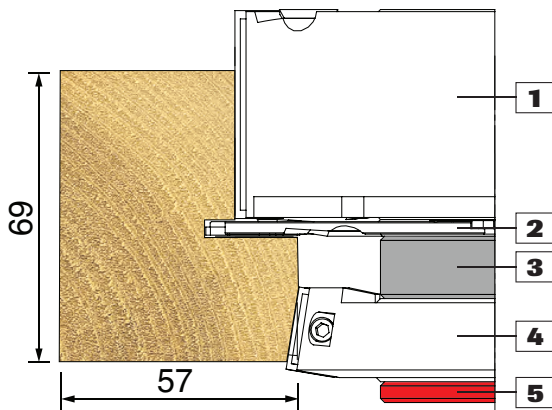
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

Step 6 Outer Frame Profile

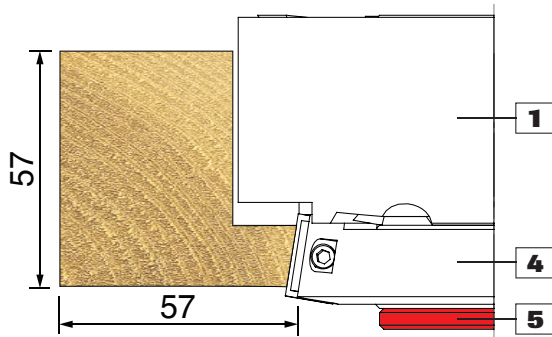


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
4	IT/7105441(7)	Bevel Head	20x12x1.5	IT/3101220/10	-	-
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
5,500 - 6,500 RPM

Step 7 Inner Sash Profile

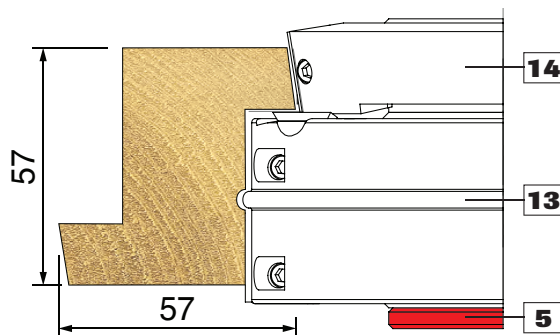


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
4	IT/7105441(7)	Bevel Head	20x12x1.5	IT/3101220/10	-	-
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
5,500 - 6,500 RPM

Step 8 Outer Sash Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
14	IT/71054141(7)	Bevel Head	20x12x1.5	IT/3101220/10	-	-
13	IT/71054131(7)	Rebate Head	47x20x2.0	IT/3108626	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
5,500 - 6,500 RPM

Replacement knives with a /10 are sold in packs of 10.

HP
Ovalo

HP
20° Splay

HP
TE
Ovalo

TF
Ovalo

SP
Ovalo

SB
YS
Ovalo

EJ
MA
Splay

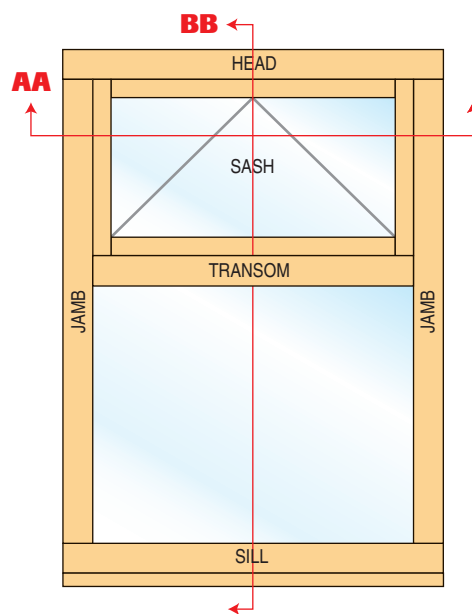
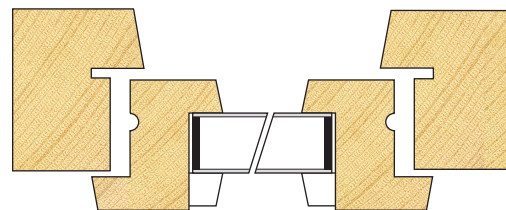
FS
9° Splay

DT
Ovalo

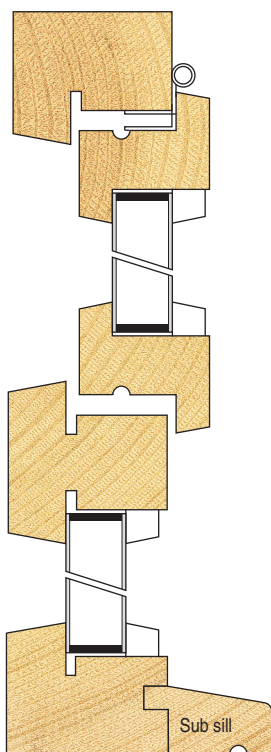
DE
Large Ovalo



Top View AA

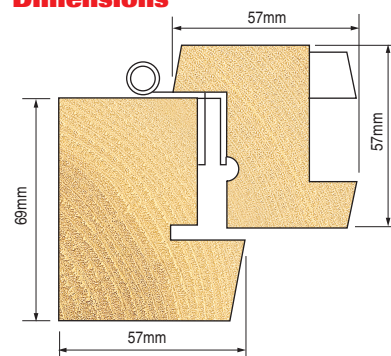


Side View BB



(Requires sill block, see page 56)

Dimensions



Timber Full Splay 9° style windows with the following features:

- Outer frame section 69mm x 57mm. Sash section 57mm x 57mm.
- Standard 9 degree full splay profile on outer frame and sash.
- All outer frame and sash joints are combed.
- Will also produce single tenon for mullion and transom joints (mortise hole required).
- Uses standard cranked hinges, fasteners and stays.
- 4mm groove width in outer frame to accept standard weather seals. Alternative 3mm groove width can be produced - see page 55.
- Produces 15mm rebate depths in outer frame.
- Produces 15mm x 42mm rebates in the sash.
- Routing jig also available for producing the slot in the sash for the trickle vent. See page 57.



This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description

Wallchart
Specification Manual

Product Ref

WALL/MWS/FS9
MANU/MWS/FS9



Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.



Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.

Complete set of 23 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

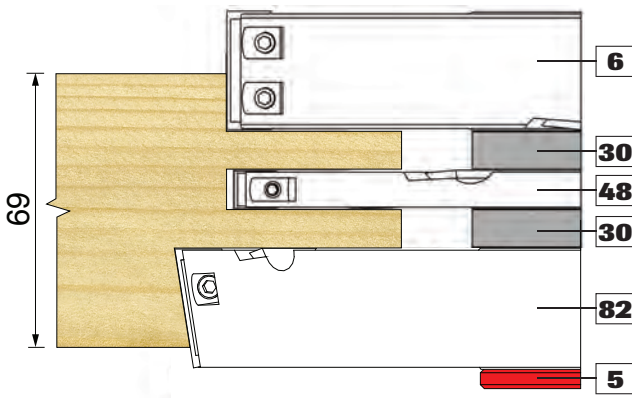
Product Ref

IT/MWS/SET041
IT/MWS/SET047

Bore

30mm
1-1/4"

Step 1 Tenon Tools for Outer Frame



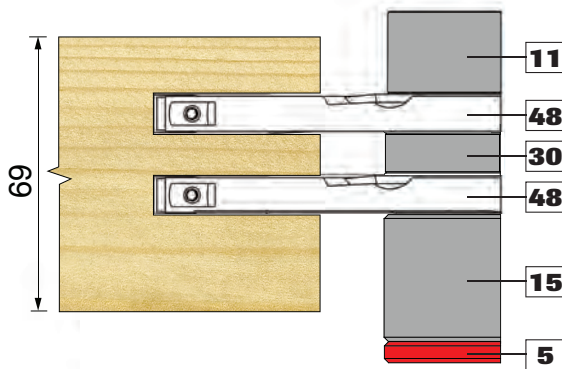
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
48	IT/71054481(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
82	IT/71054821(7)	9° Tenon Disc	20x30x2.0	IT/3208137	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.



Recommended Speed
3,500 - 4,500 RPM

Step 2 Outer Frame Slots for Head and Sill

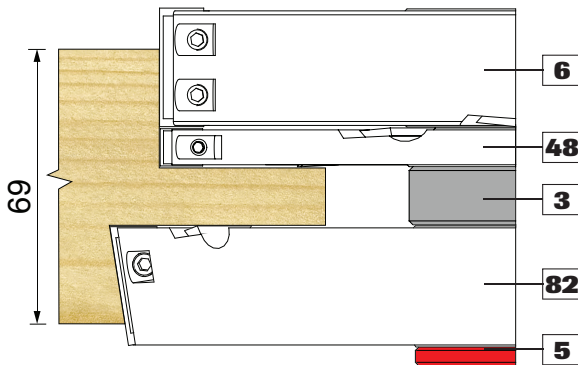


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
48	IT/71054481(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
30	IT/1920531(7)	Spacer	N/A			
15	IT/1920561(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 3 Tenon for Outer Frame Transoms & Mullions

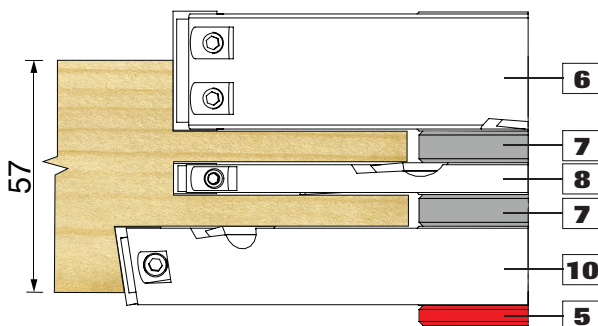


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Rebate Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
48	IT/71054481(7)	Tenon Head	9.6x12x1.5	IT/3007507/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer	N/A			
82	IT/71054821(7)	9° Tenon Disc	20x30x2.0	IT/3208137	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 4 Tenon for Sash Rails



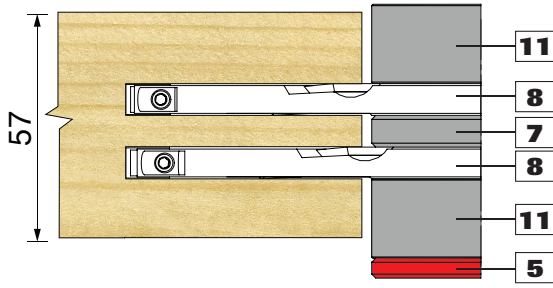
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
6	IT/7105461(7)	Tenon Head	30x12x1.5	IT/3101230/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
10	IT/71054101(7)	Bevel Head	20x12x1.5	IT/3108624	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			



Recommended Speed
3,500 - 4,500 RPM

Step 5 to 8 >

Step 5 Slots for Sash Stiles

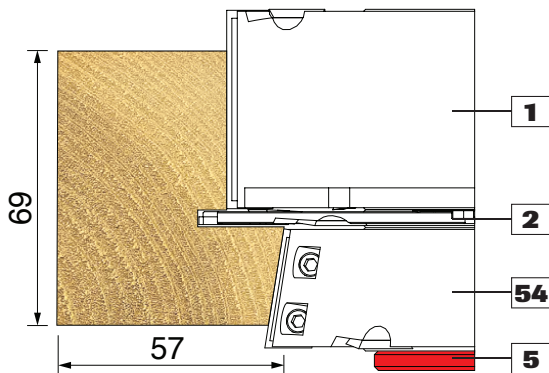


Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
11	IT/1920551(7)	Spacer	N/A			
8	IT/7105481(7)	Tenon Head	7.5x12x1.5	IT/3107512/10	14x14x2.0	IT/3008503/10
7	IT/1927801(7)	Spacer	N/A			
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.



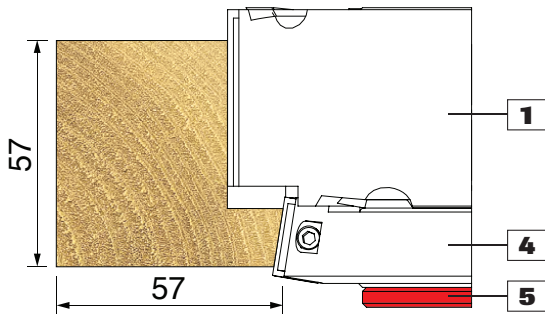
Step 6 Outer Frame Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
2	IT/7105421(7)	Groover	18x18x2.0	IT/3008501/10	14x14x2.0	IT/3008503/10
54	IT/71054541(7)	9° Profile Head	30x22x2.0	IT/3208199	-	-
5	IT/1920061(7)	Spacer	N/A			



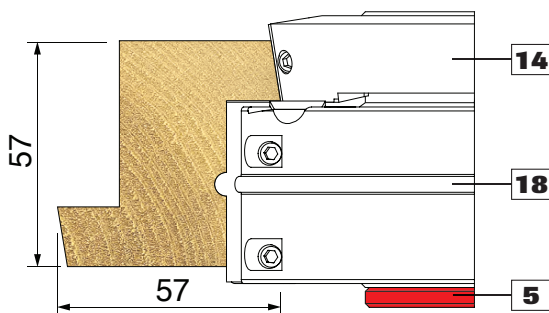
Step 7 Inner Sash Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
1	IT/7105411(7)	Rebate Head	50x12x1.5	IT/3101250/10	14x14x2.0	IT/3008503/10
4	IT/7105441(7)	Bevel Head	20x12x1.5	IT/3101220/10	-	-
5	IT/1920061(7)	Spacer	N/A			



Step 8 Outer Sash Profile



Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref.	Size	Product Ref.
14	IT/71054141(7)	Bevel Head	20x12x1.5	IT/3101220/10	-	-
18	IT/71054181(7)	Rebate Head	47x20x2.0	IT/3108626	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer	N/A			

Replacement knives with a /10 are sold in packs of 10.

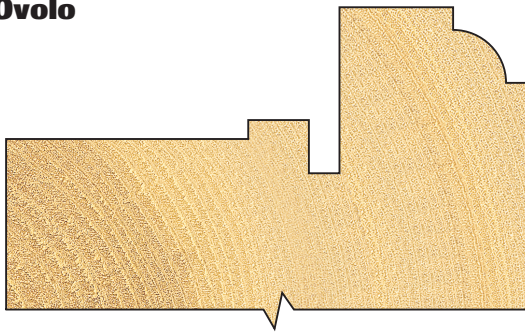




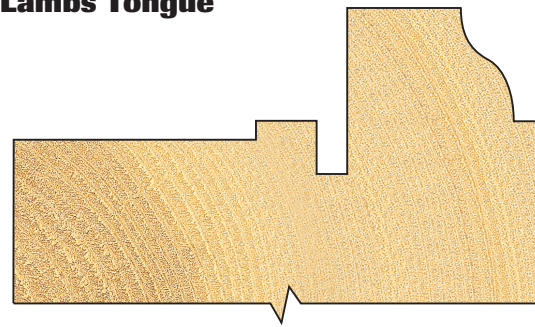
ALTERNATIVE PROFILE STYLES

PROFILE 1:1

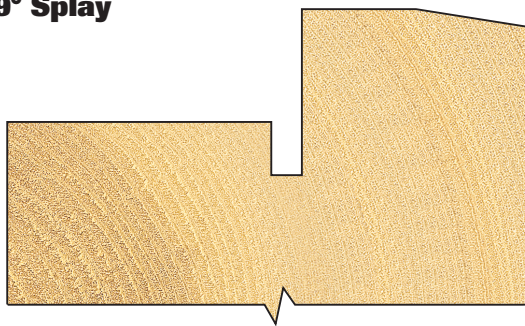
A Ovolo



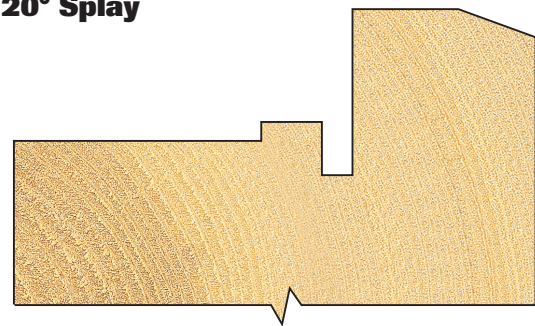
B Lambs Tongue



C 9° Splay



D 20° Splay

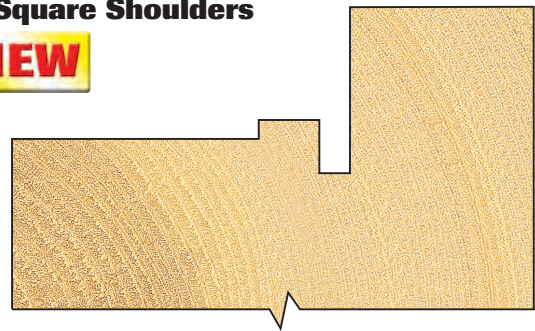


E 9° Full Splay



F Square Shoulders

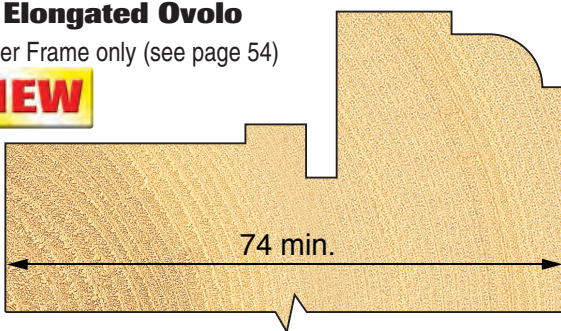
NEW



G Elongated Ovolo

Outer Frame only (see page 54)

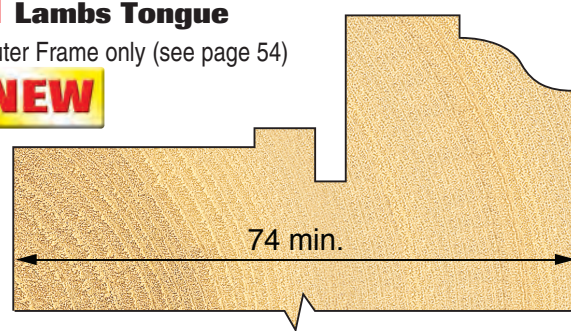
NEW



H Lambs Tongue

Outer Frame only (see page 54)

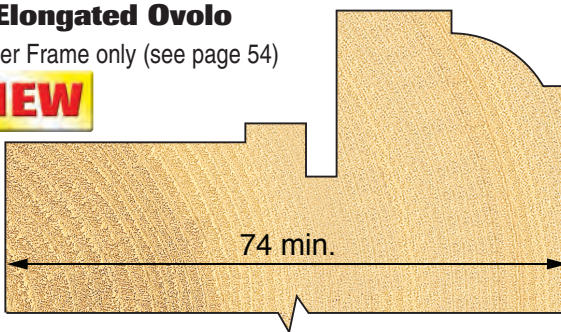
NEW



J Elongated Ovolo

Outer Frame only (see page 54)

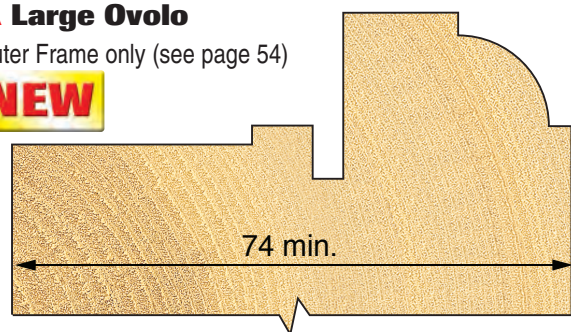
NEW



K Large Ovolo

Outer Frame only (see page 54)

NEW





ALTERNATIVE PROFILE STYLES continued

NEW

Optional Profile Styles	Ovolo A	Lambs Tongue B	9° Splay C	20° Splay D	9° Full Splay E	Square Shoulders F
Window System						
HP High Performance Window System	✓ 20 25 28 36	✓ 99 100 101 102	✗	✓ 57 58 59 60	✗	✓ 90 91
HP High Performance 20° Splay	✓ 20 25 28 36	✓ 99 100 101 102	✗	✓ 57 58 59 60	✗	✓ 90 91
HP High Performance Trad Flush Ovolo	✓ 20 25 28	✓ 99 101 102	✗	✓ 57 58 60	✗	✓ 90 91
EJ EJMA Style 9° Splay	✗	✗	✓ 4 10 14	✗	✗	✗
SP Storm Proof Ovolo Casement	✓ 20 25 36	✓ 99 100 101	✗	✓ 57 58 59	✗	✓ 90 91
SB Sliding Box Sash Ovolo	✓ 20 25	✓ 99 101	✓ 4 10	✓ 57 58	✓ 4 10	✓ 91
TF Traditional Flush Ovolo	✓ 20 25	✓ 99 101	✗	✓ 57 58	✗	✓ 90 91
FS Full Splay 9°	✗	✗	✗	✗	✓ 4 10 14 54 82	✗
DT Door Tooling Ovolo	✓ 20 56	✓ 93 99	✗	✗	✗	✓ 92
DF Door Frame Tooling Large Ovolo	✗	✗	✗	✗	✗	✗

	NEW Elongated Ovolo G	NEW Lambs Tongue H	NEW Elongated Ovolo J	NEW Large Ovolo K
	✓ 95 96 112	✓ 106 107 108	✓ 104 105 113	✓ 109 110 111
	✓ 95 96 112	✓ 106 107 108	✓ 104 105 113	✓ 109 110 111
	✓ 95 96 112	✓ 106 107 108	✓ 104 105 113	✓ 109 110 111
	X	X	X	X
	✓ 95 96	✓ 106 107	✓ 104 105	✓ 109 110
	X	X	X	X
	✓ 95 96	✓ 106 107	✓ 104 105	✓ 109 110
	X	X	X	X
	X	X	X	X
	✓ 95 96	✓ 106 107	✓ 104 105	✓ 109 110



Alternative Profile Styles

Alternative profile styles can be achieved by purchasing additional tools and swapping them for the standard profile in most systems. Many of the styles have tools in common when one or more styles are purchased in combination. Therefore please check if you already have the tools required before purchasing them.

Key:

- ✓ Already supplied in standard window system.
- ✓ Additional profile tools required as indicated.
- X Not possible.
- XX Can only be used on outer frame
- XX Additional tool to produce larger sill and/or head section on the outer frame. See page 54.

* Other profiles can be used on the Door Frame. Please ask for details.

TOOLING PRICES

This chart shows quantities and prices of each tool in each system.

Bore sizes:
 IT/XXXXXX1 = 30mm bore
 IT/XXXXXX7 = 1-1/4" bore

Tool	Product Ref.	Alternative Profile Styles See page 41	IT/MWS/SET001(7)		IT/MWS/SET061(7)		IT/MWS/SET031(7)		IT/MWS/SET081(7)		IT/MWS/SET011(7)		IT/MWS/SET071(7)		IT/MWS/SET021(7)		IT/MWS/SET041(7)		IT/MWS/SET051(7)		
			Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	
1	IT/7105411(7)																				
2	IT/7105421(7)																				
3	IT/1920541(7)																				
4	IT/7105441(7)	C																			
5	IT/1920061(7)																				
6	IT/7105461(7)																				
7	IT/1927801(7)																				
8	IT/7105481(7)																				
9	IT/1927101(7)																				
10	IT/71054101(7)	C																			
11	IT/1920551(7)																				
12	IT/1927201(7)																				
13	IT/71054131(7)																				
14	IT/71054141(7)	C																			
15	IT/1920561(7)																				
16	IT/71054161(7)																				
18	IT/71054181(7)																				
20	IT/71054201(7)	A																			
23	IT/71054231(7)																				
24	IT/71054241(7)																				
25	IT/71054251(7)	A																			
26	IT/71054261(7)																				
27	IT/71054271(7)																				
28	IT/71054281(7)	A																			
29	IT/71054291(7)																				
30	IT/1920531(7)																				
31	IT/71054311(7)																				
33	IT/71054331(7)																				
34	IT/1920471(7)																				
35	IT/71054351(7)																				
36	IT/71054361(7)	A																			
37	IT/71054371(7)																				
38	IT/71054381(7)																				
39	IT/71054391(7)																				
40	IT/71054401(7)																				
41	IT/71054411(7)																				
42	IT/71054421(7)																				
43	IT/71054431(7)																				
44	IT/71054441(7)																				
45	IT/71054451(7)																				
47	IT/71054471(7)																				
48	IT/71054481(7)																				
49	IT/71054491(7)																				
50	IT/71054501(7)																				
51	IT/71054511(7)																				
54	IT/71054541(7)	E																			
55	IT/71054551(7)	A																			
56	IT/71054561(7)	A																			
57	IT/71054571(7)	D																			
58	IT/71054581(7)	D																			
59	IT/71054591(7)	D																			
60	IT/71054601(7)	D																			
61	IT/71054611(7)																				
66	IT/71054661(7)																				
67	IT/71054671(7)																				
68	IT/71054681(7)																				
69	IT/71054691(7)																				

Continued

Tool	Product Ref.	Alternative Profile Styles See page 41	IT/MWS/SET001(7)		IT/MWS/SET061(7)		IT/MWS/SET031(7)		IT/MWS/SET081(7)		IT/MWS/SET011(7)		IT/MWS/SET071(7)		IT/MWS/SET021(7)		IT/MWS/SET041(7)		IT/MWS/SET051(7)		
			Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty		
70	IT/71054701(7)				1																
71	IT/71054711(7)				1																
72	IT/71054721(7)				1																
73	IT/71054731(7)				1																
74	IT/71054741(7)				1																
75	IT/71054751(7)				1																
77	IT/1920871(7)									1							1				
80	IT/71054801(7)						1														
81	IT/71054811(7)						1														
82	IT/71054821(7)	E													1						
88	IT/71054881(7)																				1
97	IT/71054971(7)				1																
98	IT/71054981(7)				1																
109	IT/710541091(7)	K																			1
110	IT/710541101(7)	K																			1
114	IT/710541141(7)				1																
-	IT/5530740(7)		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total No. Tools			31	31	44	33	23	20	19	23	10	19									

NEW Additional Tooling Prices

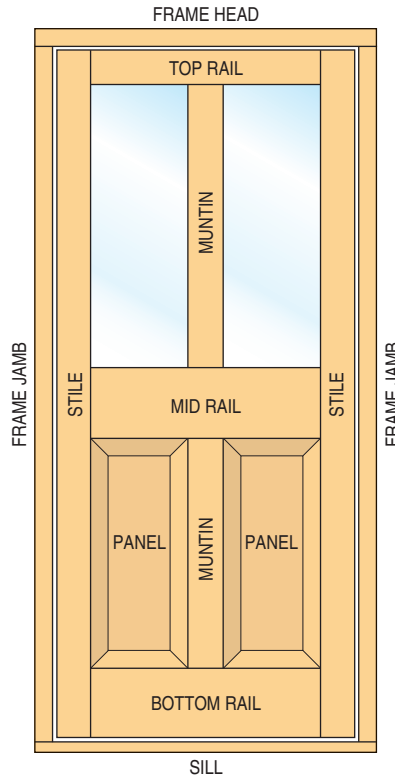
Tool No.	Description	Alternative Profile Styles See page 41	Product Ref.
19	Rebate Head		IT/71054191(7)
32	Slot Tenon Disc		IT/71054321(7)
46	Rebate Head		IT/71054461(7)
76	Slot Tenon Disc		IT/71054761(7)
83	Bottom Ovolo Head		IT/71054831(7)
84	Splayed Head		IT/71054841(7)
85	Splayed Head		IT/71054851(7)
88	Grooving Head		IT/71054881(7)
90	Bottom Tenon Disc	(F)	IT/71054901(7)
91	Bottom Tenon Disc	(F)	IT/71054911(7)
92	Door Bottom Tenon Disc	(F)	IT/71054921(7)
93	Door Bottom Tenon Disc	(B)	IT/71054931(7)
95	Elongated Ovolo Profile Head	(G)	IT/71054951(7)
96	Bottom Ovolo Head	(G)	IT/71054961(7)
99	Lambs Tongue Profile Head	(B)	IT/71054991(7)
100	Lambs Tongue Profile Head	(B)	IT/710541001(7)
101	Lambs Tongue Tenon Head	(B)	IT/710541011(7)
102	Lambs Tongue Tenon Head	(B)	IT/710541021(7)
104	Elongated Ovolo Profile Head	(J)	IT/710541041(7)
105	Elongated Ovolo Scribe Head	(J)	IT/710541051(7)
106	Lambs Tongue Profile Head	(H)	IT/710541061(7)
107	Lambs Tongue Tenon Head	(H)	IT/710541071(7)
108	Lambs Tongue Tenon Head	(H)	IT/710541081(7)
109	Large Ovolo Profile Head	(K)	IT/710541091(7)
110	Large Ovolo Tenon Head	(K)	IT/710541101(7)
111	Large Ovolo Tenon Head	(K)	IT/710541111(7)
112	Elongated Ovolo Tenon Head	(G)	IT/710541121(7)
113	Elongated Ovolo Tenon Head	(J)	IT/710541131(7)

Timber door tooling with the following features:

- Suitable for 44mm or 57mm thick doors.
- Will produce 12mm, 1/2" or a 15mm thick tenon.
- Standard ovolo profile on stile and rail.
- Produces 15mm rebate depth in stile.
- Requires mortise hole in separate operation.
- See page 48 for door frame tooling.

Complete set of 10 tools with 30mm bore (or 1-1/4") including spacers and setting gauge.

Product Ref	Bore
IT/MWS/SET051	30mm
IT/MWS/SET057	1-1/4"



Step 1 Tenon Tools for 100mm Stile

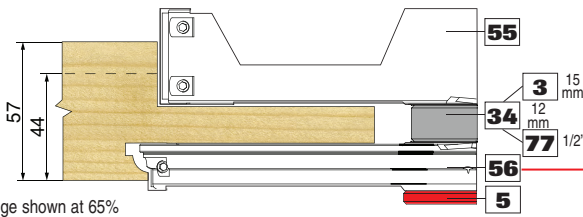


Image shown at 65%



Recommended Speed
3,500 - 4,500 RPM

3 options for tenon thickness

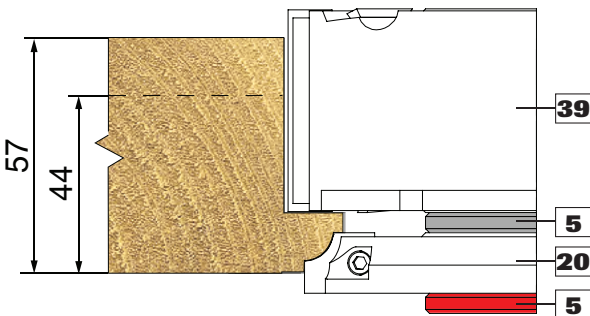
Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
55	IT/71054551(7)	Tenon Head	40x12x1.5	IT/3000528/10	14x14x2.0	IT/3008503/10
3	IT/1920541(7)	Spacer		N/A		
34	IT/1920471(7)	Spacer		N/A		
77	IT/1920871(7)	Spacer		N/A		
56	IT/71054561(7)	Ovolo Head	20x23x2.0	IT/3108567	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer		N/A		

Replacement knives with a /10 are sold in packs of 10.



Alternative profile styles, see pages 41 - 43.

Step 2 Stile Profile



Recommended Speed
5,500 - 6,500 RPM

Tools/Spacers			Replacement Knives			
Item No	Product Ref. 30mm (1-1/4")	Description	Size	Product Ref	Size	Product Ref
39	IT/71054391(7)	Rebate Head	60x12x1.5	IT/3000531/10	14x14x2.0	IT/3008503/10
5	IT/1920061(7)	Spacer		N/A		
20	IT/71054201(7)	Ovolo Head	15x20x2.0	IT/3108627	-	-

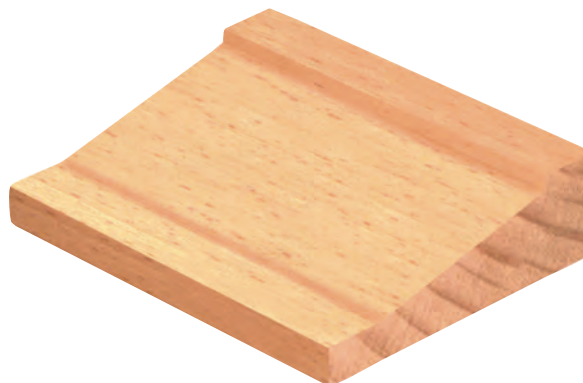
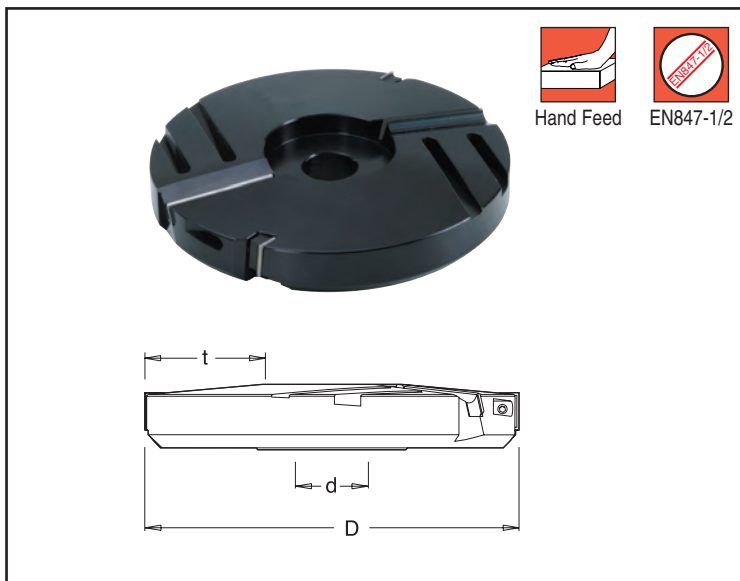
Replacement knives with a /10 are sold in packs of 10.



Alternative profile styles, see pages 41 - 43.

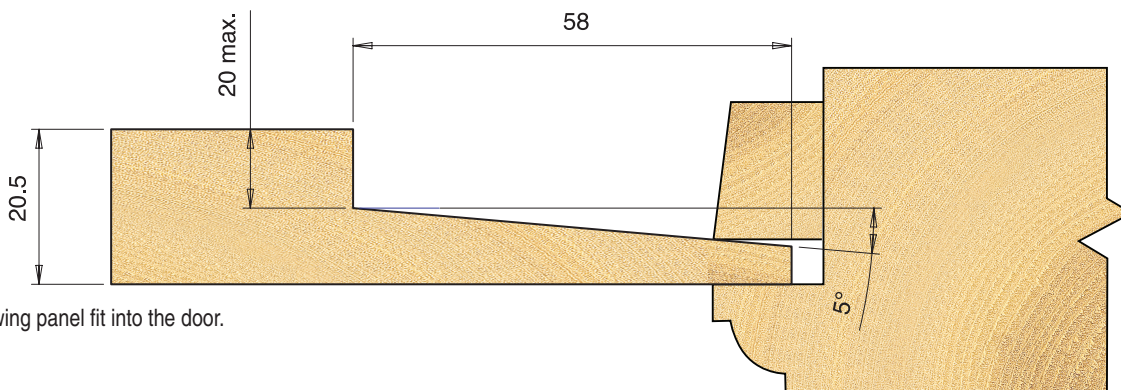
Disposable Insert Panel Raising Cutterhead

Cutterhead in hard wearing aluminium, complete with two disposable tungsten carbide knives and two scribes. Suitable for producing raised panel profiles in softwood, hardwood and man-made boards on a spindle moulder.



Recommended Speed
3,800 - 6,500 RPM

ϕD	Product Ref.	Teeth	ϕd	Max. t
200	IT/751 010 1	2+2	30	58
200	IT/751 010 7	2+2	1 1/4"	58



Example showing panel fit into the door.

Spare Parts

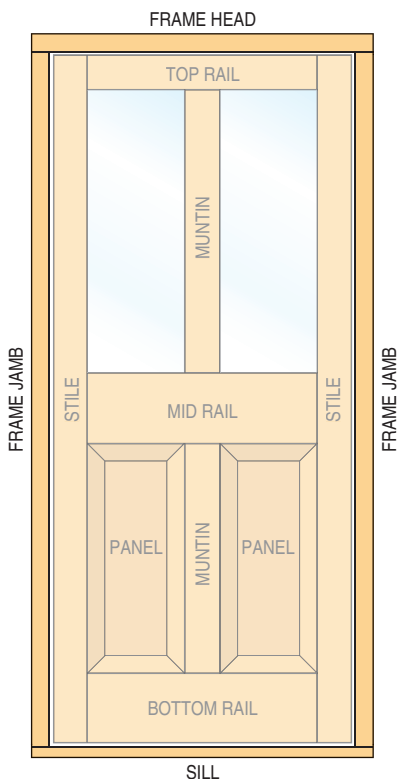
Description	Product Ref.	Size
T.C. Blade	IT/3107220/10	20x12x1.5
	IT/3000531/10	60x12x1.5
Wedge	IT/1990327	L = 17
	IT/1990335	L = 58
Set Screw	IT/1930265	M6x16
Hex Key	IT/1940035	S3
	IT/1940200	S4

Blades sold in packs of ten.

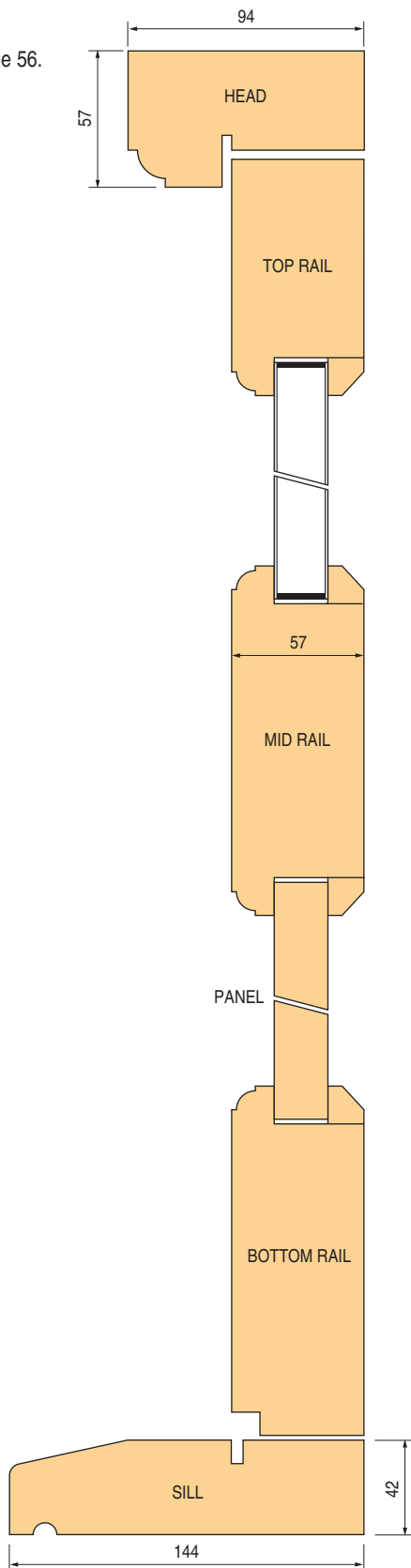


Timber door frame tooling with the following features:

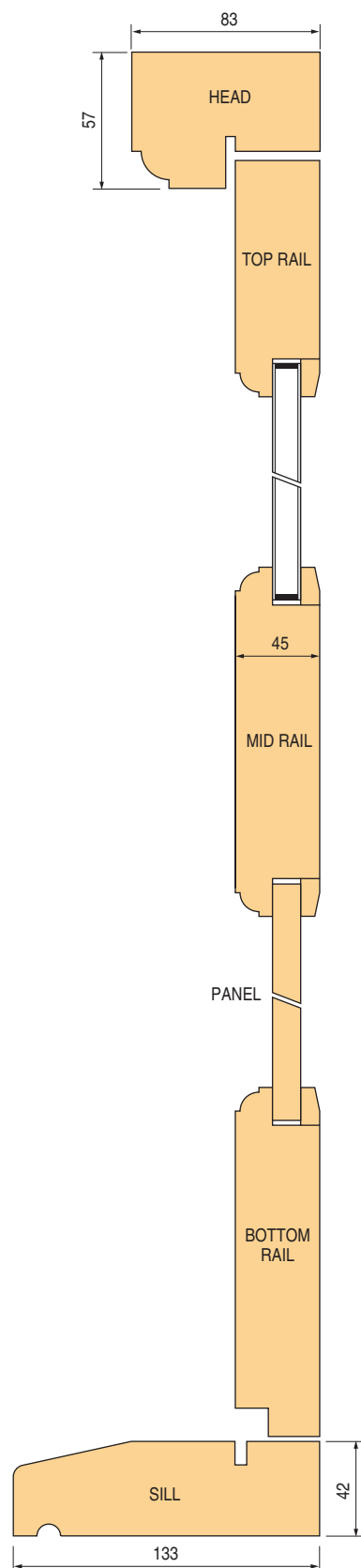
- Will produce a 83mm x 57mm door frame with a 133mm sill.
- Will produce a 94mm x 57mm door frame with 144mm sill.
- Suitable for 44mm or 57mm thick doors.
- 15mm rebate depth.
- 3mm gasket groove as standard.
- Large ovolo profile as standard.
- Requires separate sill block to produce sill. See page 56.



Door Frame section for 57mm door



Door Frame section for 45mm door



Requires separate sill block. See page 56.

- HP Ovolo
- HP 20° Splay
- HP TE Ovolo
- TF Ovolo
- SP Ovolo
- SB YS Ovolo
- EJ M Splay
- FS 9° Splay
- DT Ovolo
- DF Large Ovolo

This system is supplied with a wallchart and individual specification sheets per step. The wallchart can be mounted next to the spindle moulder for quick selection of tools.



Description	Product Ref
Wallchart	WALL/MWS/DF
Specification Manual	MANU/MWS/DF

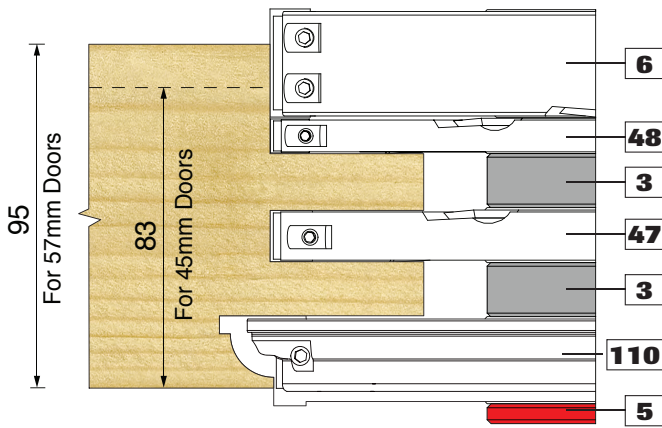
Beading The profile tools in the system can be used for creating the beads, but require changes to the spindle machine settings.

Shared Common Tools When purchasing in conjunction with other styles please see pages 44 & 45.

Complete set of 20 tools with 30mm (or 1-1/4") including spacers and setting gauge.

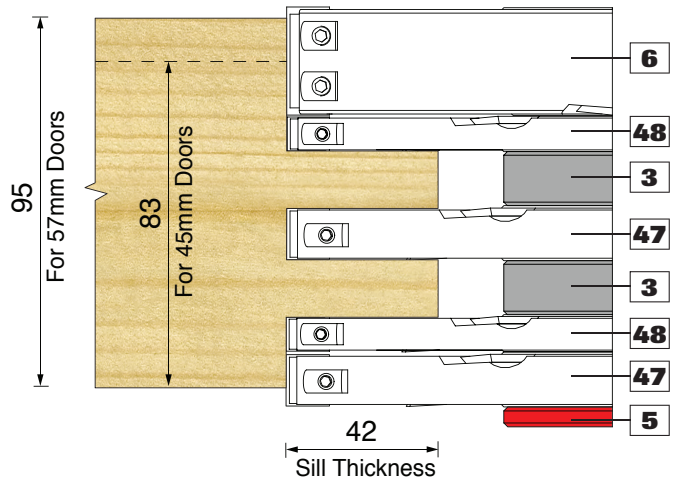
Product Ref	Bore
IT/MWS/SET091	30mm
IT/MWS/SET097	1-1/4"

Step 1 Tenon Tools for Jamb to Head



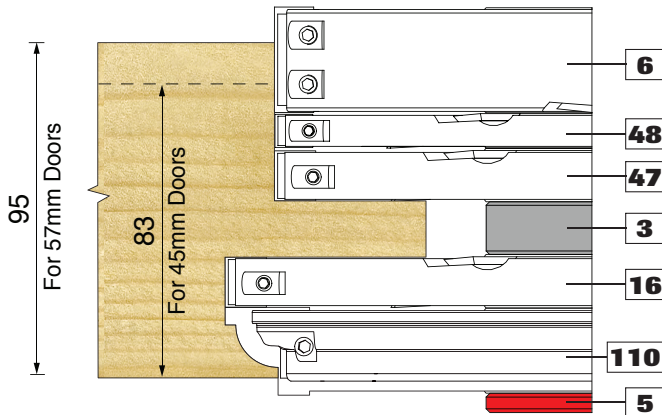
Recommended Speed
3,500 - 4,500 RPM

Step 2 Tenon Tools for Jamb to Sill



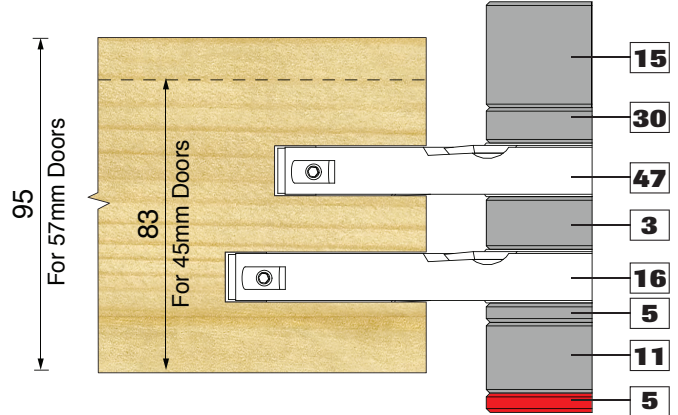
Recommended Speed
3,500 - 4,500 RPM

Step 3 Tenon Tools for Transom to Jamb



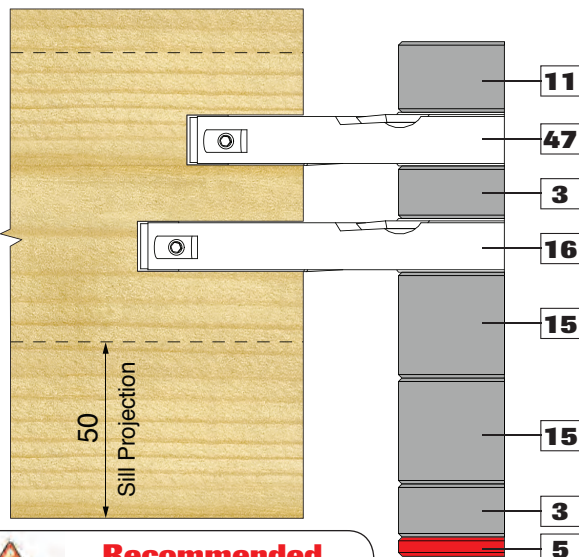
Recommended Speed
3,500 - 4,500 RPM

Step 4 Slot Tenons Head to Jamb



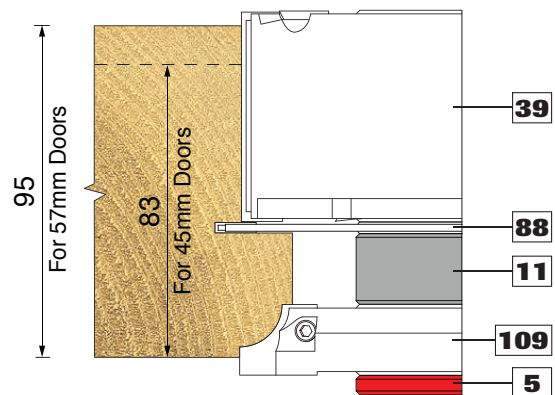
Recommended Speed
3,500 - 4,500 RPM

Step 5 Slot Tenons for Sill to Jamb



Recommended Speed
3,500 - 4,500 RPM

Step 6 Profile Tools for Head & Jamb to Frame



Recommended Speed
5,500 - 6,500 RPM

HP Ovalo

HP 20° Splay

HP TF Ovalo

TF Ovalo

SP Ovalo

SB YS Ovalo

EJ 15° Splay

FS 9° Splay

DT Ovalo

DF Large Ovalo

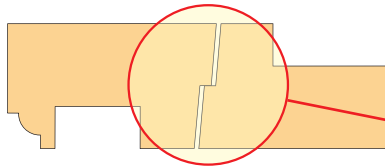
SLIDING BOX SASH OVOLO SPLAYED MEETING RAILS



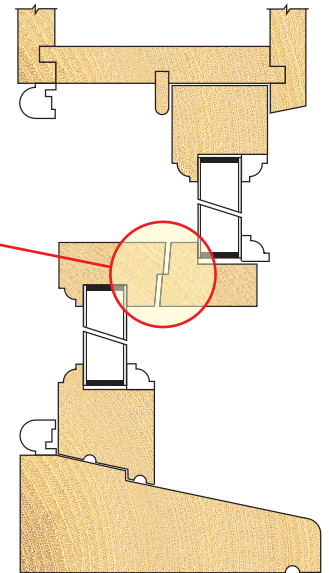
Additional tooling to manufacture Timber Sliding Box Sash windows with splayed rebates:

- Top sash rail and stiles 57mm x 57mm section. Meeting rail 67mm x 44mm section.
- Bottom sash stiles 57mm x 57mm section. Meeting rail 67mm x 44mm section. Bottom rail 69mm x 57mm section.
- Standard ovolo profile on sashes, alternative profiles are available. Please see page 41 - 43.
- Tooling will make both top and bottom sashes. Tools from the system can be used to produce the box (spindle moulder will need to be re-set).
- All sash joints are combed.

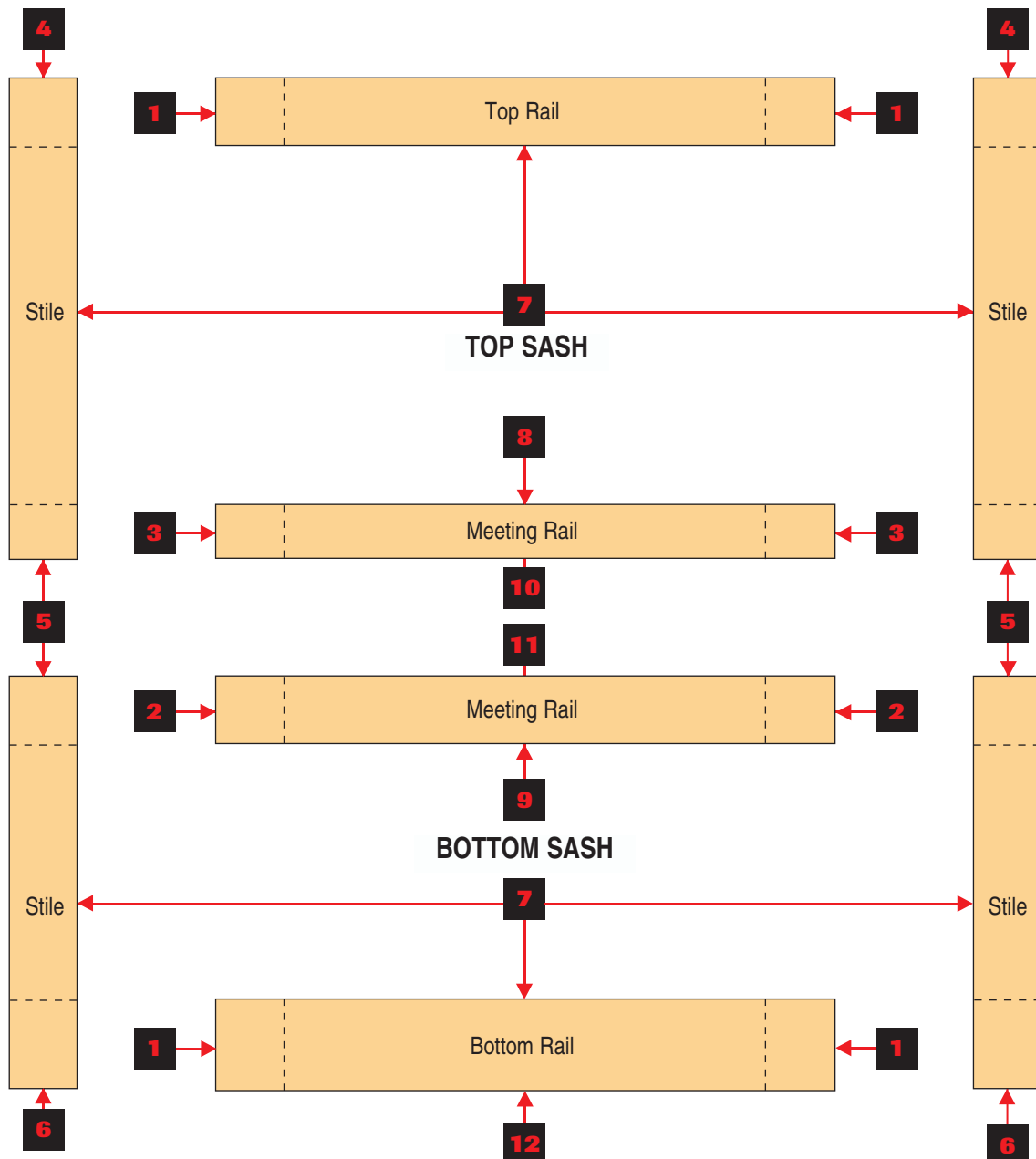
NEW Optional Section for Splayed Meeting Rails



- Will also produce single tenon for putting an optional horn on the top and bottom sashes (mortise hole required).
- Produces 15mm x 42mm rebates in the sashes.
- Separate sill block required to run sill section. See page 56.
- Routing jig also available for producing the slot in the sash for the trickle vent. See page 57.
- Routing jigs also available for producing the pulley wheels and weight pockets. See page 57.



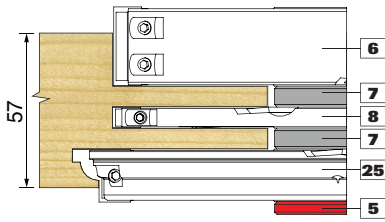
Machining Steps for Splayed Meeting Rail - Without Horns



Machining Steps for Splayed Meeting Rail - Without Horns

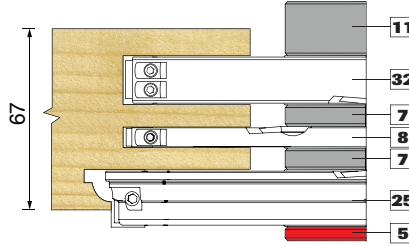
Step 1

Tenons for Top & Bottom Rails



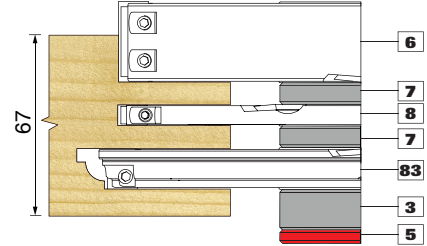
Step 2

Tenons for Meeting Rail Bottom Sash



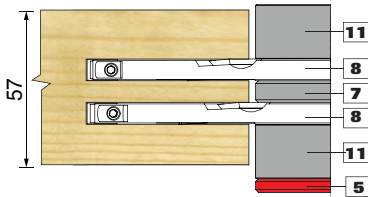
Step 3

Tenons for Meeting Rail Top Sash



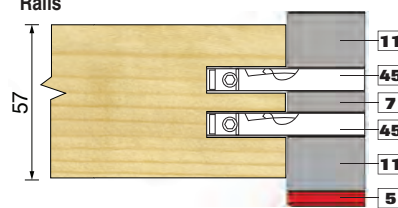
Step 4

Slots for Top Sash Stiles to Top Rails



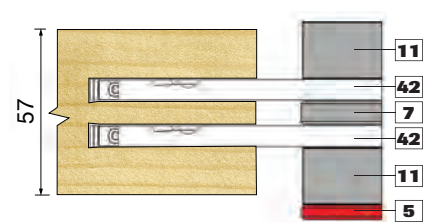
Step 5

Slots for Top & Bottom Sash Stiles to Meeting Rails



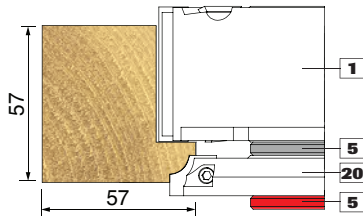
Step 6

Slots for Bottom Sash Stiles to Bottom Rail



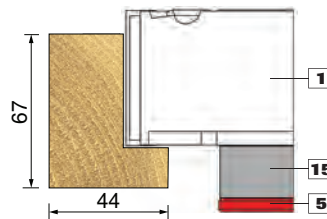
Step 7

Inner Sash Profile (apart from Meeting Rails)



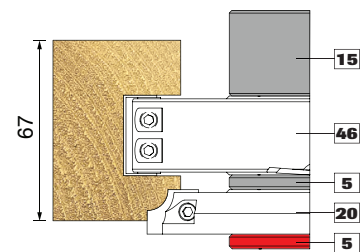
Step 8

Inner Sash Profile for Top Sash Meeting Rail



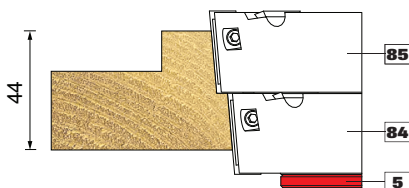
Step 9

Inner Sash Profile for Bottom Sash Meeting Rail



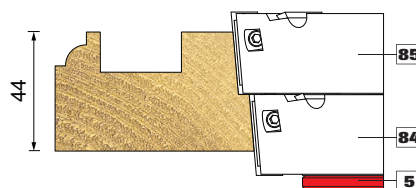
Step 10

Splayed Rebate for Top Sash Meeting Rail



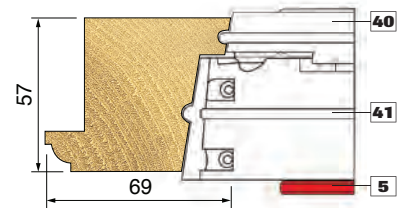
Step 11

Splayed Rebate for Bottom Sash Meeting Rail

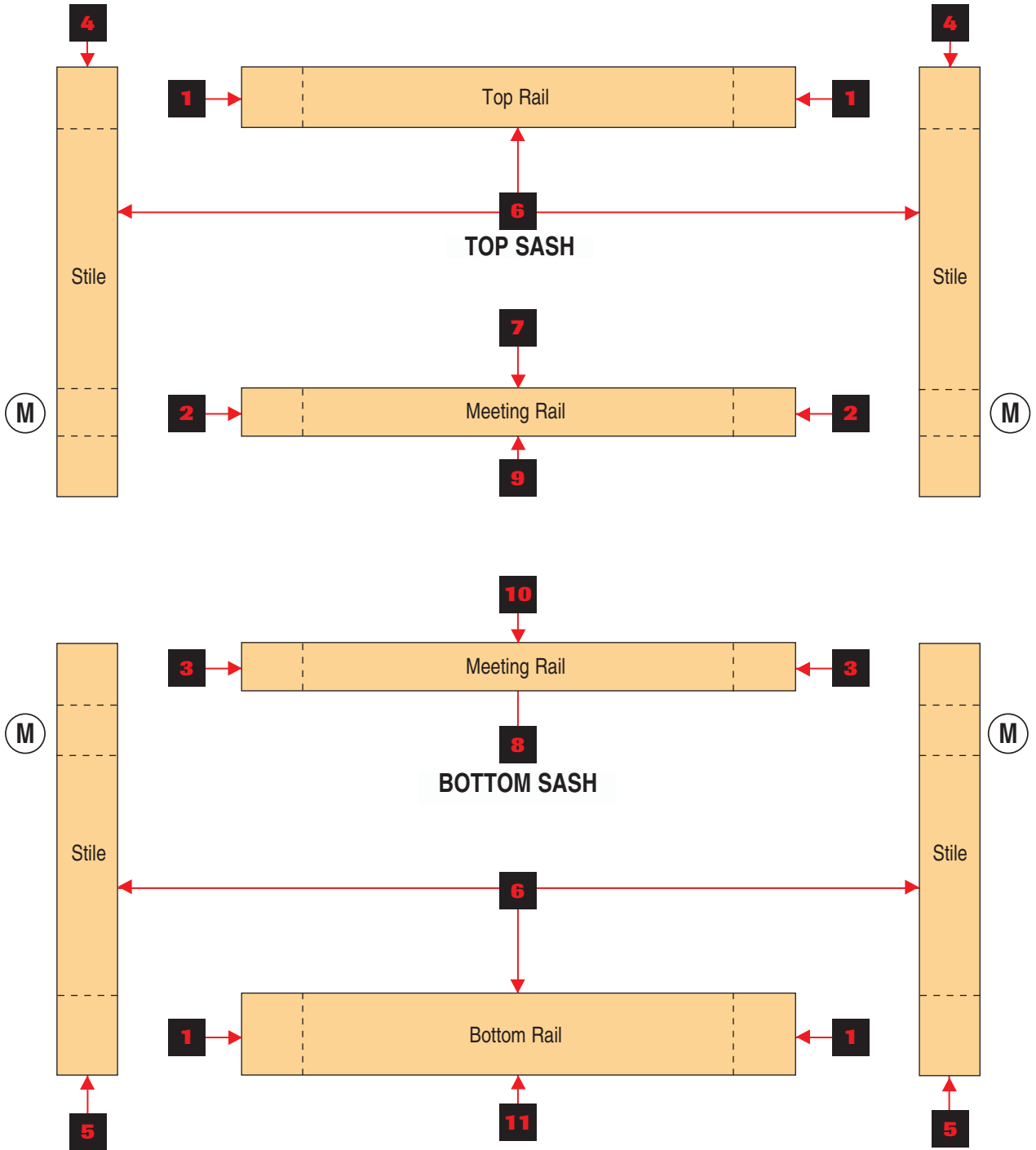


Step 12

Outer Sash Profile for Bottom Rail



Machining Steps for Splayed Meeting Rail - **With Horns**

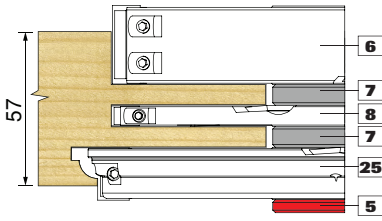


(M) Mortise Hole Required

Machining Steps for Splayed Meeting Rail - With Horns

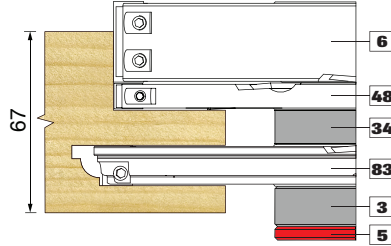
Step 1

Tenons for Top and Bottom Rails



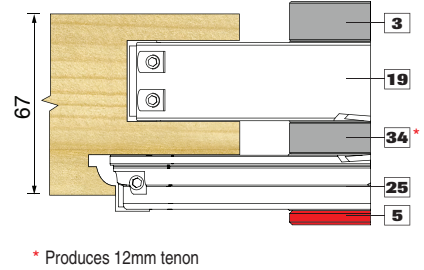
Step 2

Tenons for Meeting Rail Top Sash



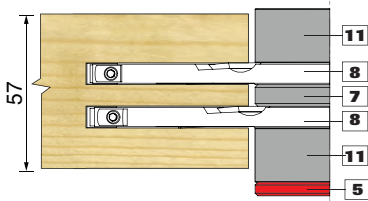
Step 3

Tenons for Meeting Rail Bottom Sash



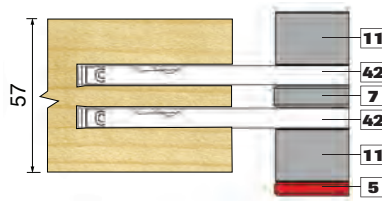
Step 4

Slots for Top Sash Stiles to Top Rails



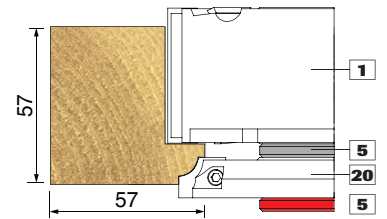
Step 5

Slots for Bottom Sash Stiles to Bottom Rail



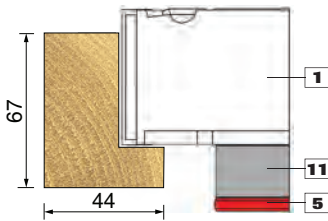
Step 6

Inner Sash Profile (apart from Meeting Rails)



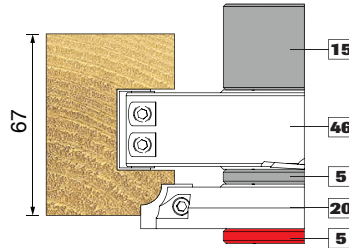
Step 7

Inner Sash Profile for Top Sash Meeting Rail



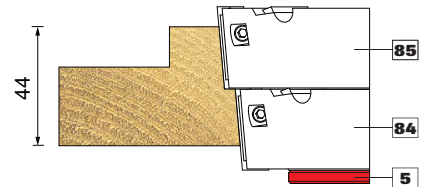
Step 8

Inner Sash Profile for Bottom Sash Meeting Rail



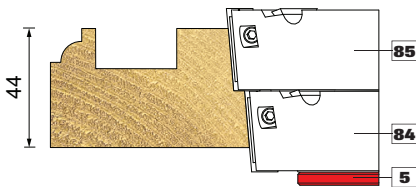
Step 9

Splayed Rebate for Top Sash Meeting Rail



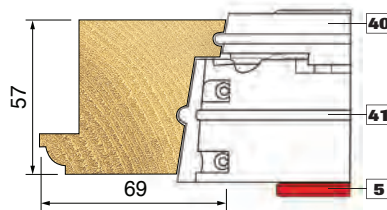
Step 10

Splayed Rebate for Bottom Sash Meeting Rail



Step 11

Outer Sash Profile for Bottom Rail



MACHINING STEPS FOR ALTERNATIVE PROFILE STYLES

Profile styles shown actual size on page 41

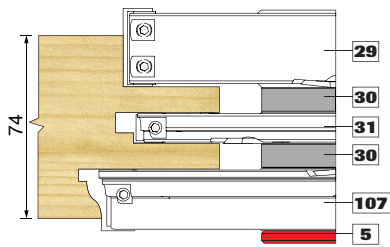


High Performance Ovolo

Alternative steps to create wider outer frames. For profile styles G, H, J & K only. See pages 10 - 14.

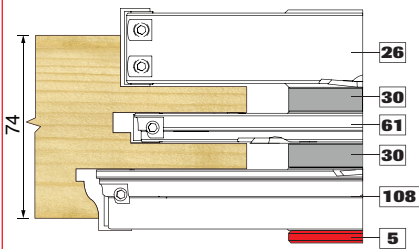
Step 1

Tenon Tools for Outer Frame Jambs for 74mm x 57mm Head and Sill.



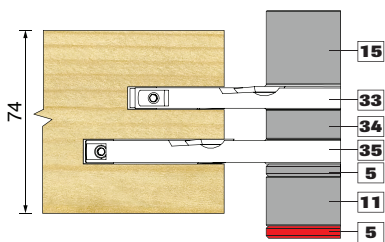
Alternative Step 1

Tenon Tools for Outer Frame Jambs for 74mm x 69mm Head and Sill.



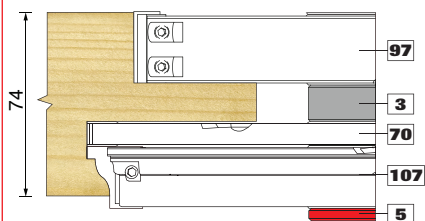
Step 2

Slot Tenons for Outer Frame Head and Sill.



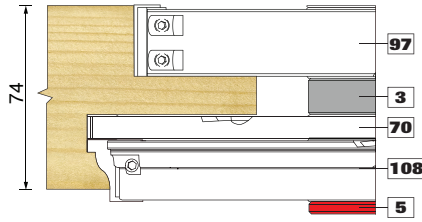
Step 3

Scribe and Tenon for Mullion and Transom to 74mm x 57mm Head, Sill and Jambs.



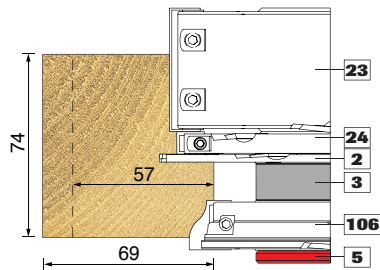
Alternative Step 3

Scribe and Tenon for Mullion to 74mm x 69mm Head and Sill.



Step 6

Outer Frame Profile

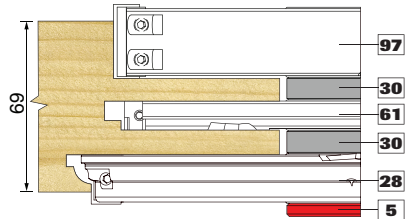


High Performance Ovolo

Alternative step to create 69mm x 69mm head and sill. See page 10.

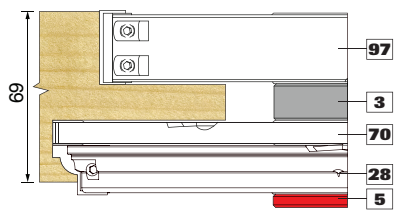
Step 1

Tenon Tools for Outer Frame Jambs to Sill & Head



Step 3A

Scribe & Tenon for Mullion to Sill & Head

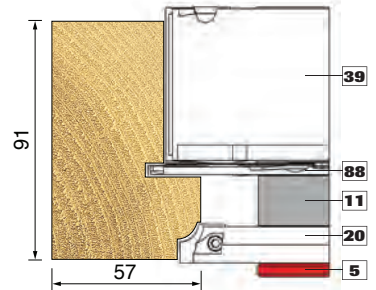


Traditional Flush Ovolo

Alternative step to produce 3mm gasket groove on the outer frame. See pages 25 - 28.

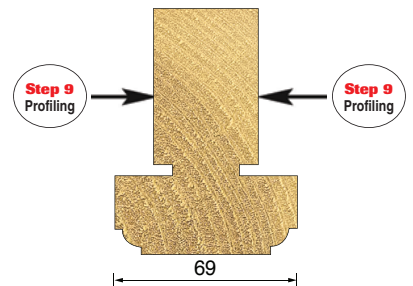
Step 9

Outer Frame for Head and Jambs only



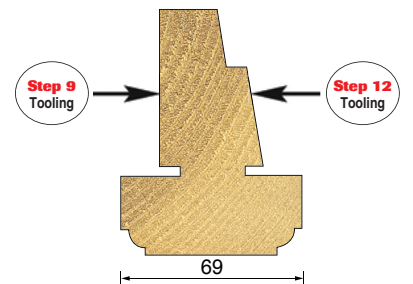
Step 10

Mullion Profiling only



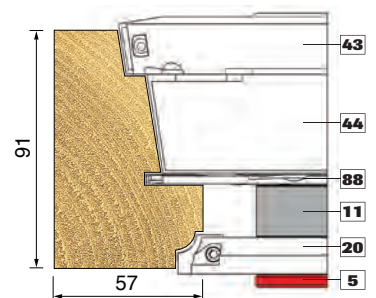
Step 11

Transom Profiling only



Step 12

Outer Frame for Sill only





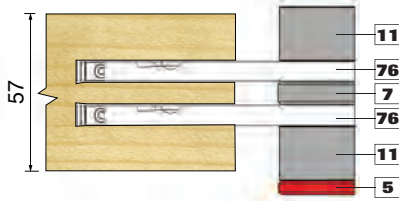
Traditional Flush

Alternative step to create 94mm bottom rail.

See page 27.

Step 8

Slots for Stiles to Bottom Rail only



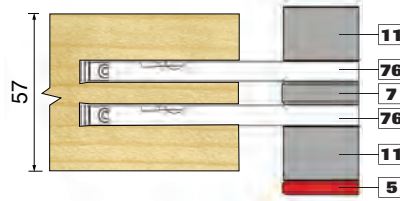
Storm Proof

Alternative step to create 94mm bottom rail.

See page 31.

Step 5A

Slots for Stiles to Bottom Rail only



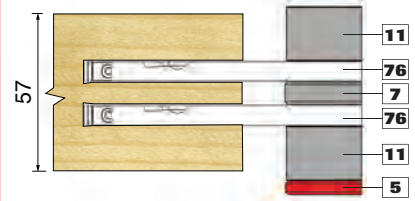
Sliding Box Sash

Alternative step to create 94mm bottom rail.

See page 34.

Step 4

Slots for Stiles to Bottom Rail only



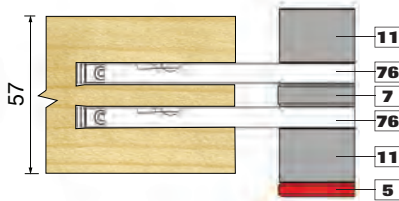
EJMA

Alternative step to create 94mm bottom rail.

See page 37.

Step 5A

Slots for Stiles to Bottom Rail only



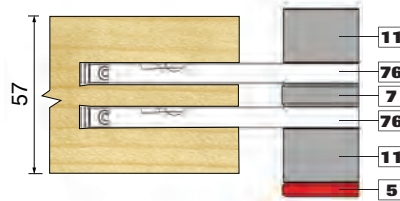
Full Splay

Alternative step to create 94mm bottom rail.

See page 40.

Step 5A

Slots for Stiles to Bottom Rail only



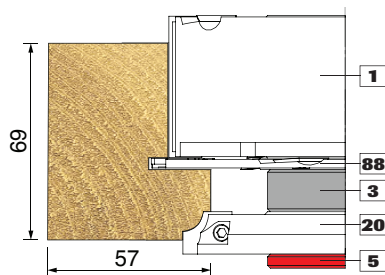
Storm Proof

Alternative step to produce a 3mm gasket groove on the outer frame.

See page 31.

Step 6

Outer Frame Profile



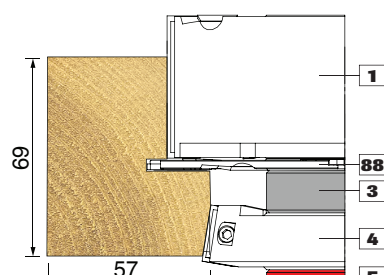
EJMA

Alternative step to produce a 3mm gasket groove on the outer frame.

See page 37.

Step 6

Outer Frame Profile



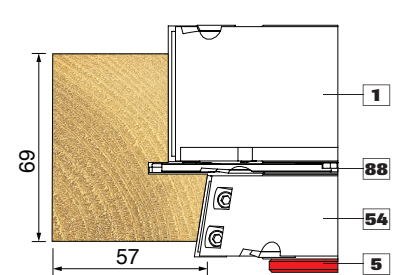
Full Splay

Alternative step to produce a 3mm gasket groove on the outer frame.

See page 40

Step 6

Outer Frame Profile



WINDOW SILL TOOLING

Sub Sill



Three tools required:

1. Rebate Block No. 46
Product Ref. IT/71054461(7).
2. Sill Block
Product Ref. IT/7107081(7).
3. Radius (capillary) Block R4,
Product Ref. IT/7210311(7).

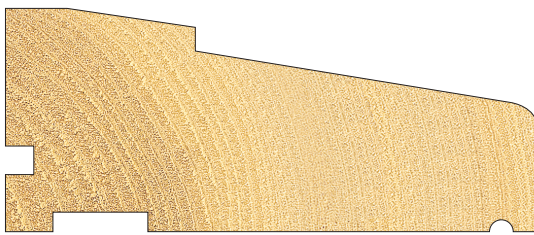
Plant on Sill



Three tools required:

1. Rebate Block No. 46
Product Ref. IT/71054461(7).
2. Sill Block
Product Ref. IT/7107081(7).
3. Radius (capillary) Block R4,
Product Ref. IT/7210311(7).

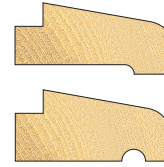
Sliding Box (SBXS) Window Sill



Four tools required:

1. Rebate Block No. 46
Product Ref. IT/71054461(7).
2. Sill Block
Product Ref. IT/7107081(7).
3. Radius (capillary) Block R4,
Product Ref. IT/7210311(7).
4. Grooving Block No. 48 (10mm
- can be dependent on window
board size).
Product Ref. IT/71054481(7).

Window Head Drips



Three tools required:

1. Rebate Block No. 46
Ref. IT/71054461(7).
2. Sill Block
Product Ref.
IT/7107081(7).
3. Radius (capillary)
Block R4
Product Ref.
IT/7210311(7).

Door Frame Sill



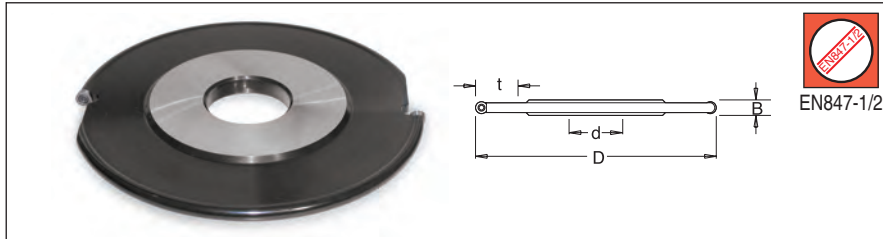
Four tools required:

1. Rebate Block No. 46
Product Ref. IT/71054461(7).
2. Sill Block Product Ref. IT/7107081(7).
3. Radius (capillary) Block R4
Product Ref. IT/7210311(7).
4. Grooving Block (dependent on type of
threshold being used).

See below and pages 44 and 45 for prices.

Disposable Insert Radius Profile Cutter Blocks

Cutterhead bodies in steel, complete with disposable tungsten carbide knives. Suitable for producing various radii coves or rule joints in softwood, hardwood and man-made boards on a spindle moulder. All cutterheads can be used with a 120mm bearing for cutting uniform depth profiles.



ØD	B	Product Ref.	Z	R	Ød	Max. t
128	8	IT/7210311	Z2	4	30	29
128	8	IT/7210317	Z2	4	1-1/4"	29

Spare Parts

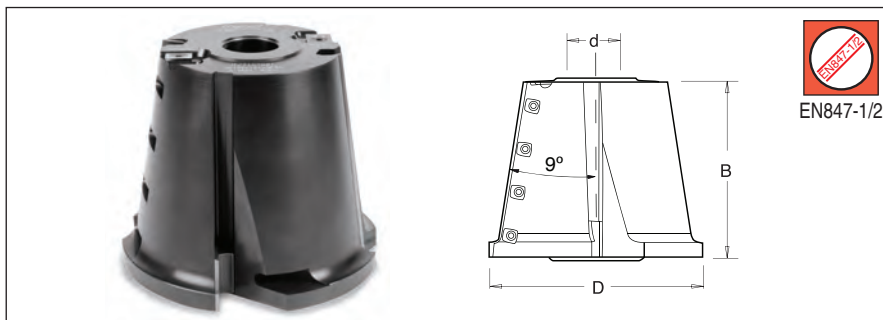
Description	Product Ref.	Size
Knives	IT/3000402	R = 4
Torx® Screw	IT/1934250	M3x8
Torx Key®	IT/1941100	T9



Maximum Speed
10,600 RPM

Disposable Insert 9 Degree Sill Block

Hard wearing alloy body complete with two disposable carbide straight knives, 8mm radius knives and scribes. Suitable for producing 9 degrees sills in softwood and hardwood on a spindle moulder.



ØD	B	Product Ref.	Z,V	Ød
150	121	IT/7107081	Z2 + 2,V2	30
150	121	IT/7107087	Z2 + 2,V2	1-1/4"

Spare Parts

Description	Product Ref.	Size
T.C. Blade	IT/3000406 IT/3108524 IT/3008503/10	120x13x2.2 R8 14x14x2.0
Wedge	IT/1990338 IT/1990466	L = 110 L = 24
Set Screw	IT/1930265	M6x16
Hex Key	IT/1940035	S3
Torx® Screw	IT/1933700	M5x6.3
Torx® Key	IT/1941060	T20

Replacement knives with a /10 are sold in packs of 10.



Maximum Speed
9,000 RPM

JIGS & ACCESSORIES

Espagnolette Routing Jig A



This jig enables any 1/2" capacity router to rout the 12mm mortise to accept an Espagnolette lock. Constructed from 10mm solid laminate with integral steel clamp. It clamps to the sash and repeated passes are taken to reach the depth required. A 30mm guide bush and 12mm cutter are required.

Product Ref. IT/MWS/JIG/A



Trickle Vent Routing Jig B



This jig enables any 1/2" capacity router to rout the 12mm slot to accept the Trickle Vent. Constructed from 10mm solid laminate with integral steel clamp. It clamps to the head and repeated passes are taken to reach the depth required. A 30mm guide bush and 12mm cutter are required.

Product Ref. IT/MWS/JIG/B

SBXS Pulley Wheel Jig C



This jig enables any 1/2" capacity router to rout out the hole and face plate recess for sliding box sash pulley wheels. Constructed from 10mm solid laminate with integral steel clamp. It clamps to the pulley stile and repeated passes are taken to reach the depth required. The jig comes complete with the Square Pulley Template. The Round Pulley Template is available as an optional accessory. A 30mm guide bush and 12mm cutter are required.

Product Ref. IT/MWS/JIG/C



Square Pulley Template (included in kit)

Product Ref. IT/MWS/JIG/C1



Round Pulley Template (sold as accessory)

Product Ref. IT/MWS/JIG/C2

SBXS Weight Pocket Jig D

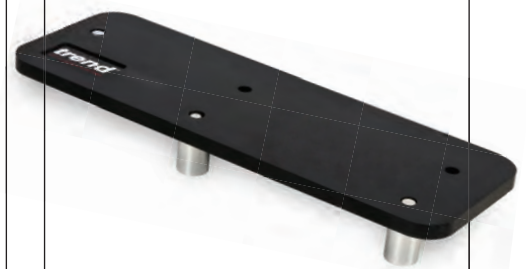


This jig enables any 1/2" capacity router to rout out the pocket in the sliding box sash pulley stiles. Constructed from 10mm solid laminate with integral steel clamp. It clamps to the pulley stile and repeated passes are taken to reach the depth required. The same jig will also rout out a rebate for the pocket to locate into. A 30mm guide bush and 12mm cutter are required.

Product Ref. IT/MWS/JIG/D



Spelch Block Hole Location Jig E



This jig enables any drill to machine the holes in a spelch block for use on a spindle moulder when tenoning. The holes are correctly spaced to suit the M8 holes on the TSM100 tenoning fence and give the correct timber depth to prevent breakout when producing slots and tenons.

Product Ref. IT/MWS/JIG/E



T10E Router



The T10E 1/2" router features a 2000 watt motor with electronic full wave variable speed and soft start, two column precision base, spindle lock for easy cutter changes, micro-adjuster parallel side-fence, precision one-piece multi-slit collet, 3-position revolving depth stop for fast settings and an adjustable inner plate for guide bush accuracy. Includes a 30mm steel guide bush, which is required for the jigs.

Product Ref. T10EK

Unibase



The Unibase enables routers with non-standard guide bush fittings to accept the range of Trend guide bushes. It will fit directly to most routers.

Product Ref. UNIBASE

30mm Guide Bush



Suitable for use with the Unibase and all jigs shown on page 57.

Product Ref. GB30

12mm Router Cutter



TCT 12mm diameter cutter with 50mm cut length and 1/2" shank. For use with the Espagnolette and Trickle Vent jigs.

Product Ref. 3/73DX1/2TC

Hand Mitre Shears



These chrome vanadium shears give accurate mitre cuts of gaskets and are ideal for use in a production environment.

Product Ref. HM/SHEAR

Trend Snappy Drill Bit Guide Set



A set of self-centring drills for the accurate drilling of pilot holes for hinges to ensure exact alignment. It can be easily dismantled for cleaning and is supplied with a HSS drill bit. Tools have Trend Snappy Quick Change Shank.

Please request our main catalogue Product Ref. CAT/1 for full information. See back cover.

Product Ref. SNAP/DBG/SET

Corner Chisel



Squares up rounded corners in one operation. Suitable for use with SBXS Pulley Wheel Jig C with the Square Pulley Template.

Product Ref. C/CHISEL

Tool & Bit Cleaner



An industrial grade cleaner to remove pitch and resin build-up from the MWS tools and spacers. Increases tool life and is biodegradable, earth and human friendly. Supplied in 532ml pump action spray bottle.

Product Ref. CLEAN/500

Tooling Stand

Portable tooling stand for storing and locating MWS tools and spacers next to your spindle moulder.

- Constructed from 15mm thick birch plywood and designed to take a maximum of 58 tools and spacers.
- Stand is supplied flat packed in two parts with castors to enable tools to be situated close to the spindle moulder.
- Approximately 1,800mm high x 700mm wide x 700mm deep.
- Inner storage and shelf compartments.

Product Ref. IT/MWS/STAND



DRILLING UNIT FOR ESPAGNOLETTE HANDLE

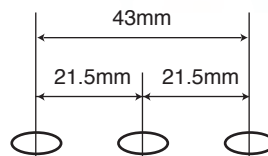
To drill three holes in wooden window frames for espagnolette handles.

- Drills three holes to accept espagnolette handles for windows.
- For use with multibore drills with 10mm diameter shank.
- Use with a corded drill, drill stand or pillar drill.
- Centre chuck is right hand rotation and the two outside chucks are left hand rotation.



Technical Specification:

Size	140mm x 212mm x 101mm
Drill Chuck Capacity (minimum)	9.5mm
Drill Centres	21.5mm
Drill Shank Diameter	10mm
Rotation	2 x left hand, 1 x right hand
Maximum Drill Lengths	57.5mm
Maximum Drill Diameter (3 tools)	10mm/25mm/10mm
Maximum Speed (RPM)	1,800
Weight	2.7kg



Description

Espagnolette Handle Drilling Jig
(Drill bits not included)

Product Ref

IT/MWS/TRI/A

Dia.

Dia.	Product Ref. RH	Product Ref. LH
3mm	IT/DSC30R + IT/203 952 7	-
4mm	IT/201 281 7	IT/201 282 7
5mm	IT/201 001 7	IT/201 004 7
8mm	-	IT/201 016 7
10mm	IT/201 019 7	IT/201 022 7
11mm	IT/201 023 7	IT/201 024 7
12mm	IT/201 025 7	IT/201 028 7
25mm	IT/203 107 7	-
26mm	IT/203 113 7	-
35mm	IT/203 125 7	-
40mm	IT/203 131 7	-



TSM100 SPINDLE MOULDER



The TSM100 spindle moulder is a sturdily built machine complete with a flush mounted sliding table suitable for the modern joinery shop.

- Cast, precision ground, steel table ensures maximum stability and durability.
- Five spindle speeds allow for a wide variety of different tooling to be used on the machine from small diameter profiling blocks to large diameter tenon heads for window and door production.
- The machine has been specially developed to suit our Window System tooling and can produce all eight different styles of windows and doors (optional tenon hood required for doors).
- Made in Italy.



Technical Specification:

Motor Power	7.5HP (5.5KW) S1 (100%)
Table Dimensions	1100mm x 940mm
Sliding Table Dimensions	1100mm x 300mm
Vertical Spindle Stroke	140mm
Spindle Diameter	30mm (or 1-1/4")
Spindle Speeds (RPM)	2500, 4200, 6000, 8000, 10000
Maximum Usable Spindle Height	140mm
Maximum Tooling Diameter (with Std. Hood)	240mm
Maximum Tooling Diameter (with Tenon Hood)	300mm
Maximum Tooling Diameter Below Table	300mm
Table Height	920mm
Diameter of Dust Extraction Port in Hood	120mm
Diameter of Dust Extraction Port at Base of Machine	80mm
Overall Dimensions (L x W x H)	1200mm x 1240mm x 1200mm
Voltage	415V/50Hz (3 phase)
Acoustic Power	80 dBw(A)
Net Weight	560kg

Flush Mounted Sliding Table Control Panel

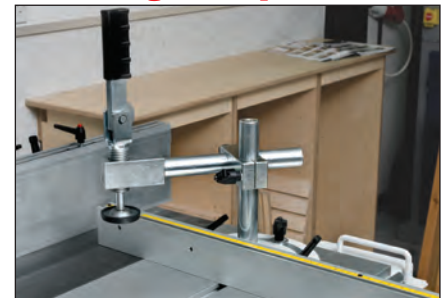


The aluminium flush mounted table runs on 8 high precision bearings ensuring smooth running and outstanding accuracy. A slot in the table is used for locating the tenoning clamp for the optional Tenoning Table.



The control panel is mounted on the right-hand side of the machine and contains the soft start (automatic star, delta) button, speed indication lights and emergency stop button. The optional electronic spindle height and tilting adjustment controls would also be mounted here.

Tenoning Clamp



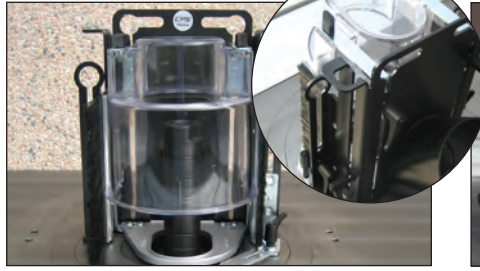
The eccentric clamp comes as standard with the machine and fits into the locating slot on the sliding table. It provides firm and positive clamping, essential when performing any tenoning operation.

Back-fence Adjustment



The back-fence has an integral micro-adjuster which controls the position of the complete back-fence.

Ring Fence



The ring fence comes as standard with the machine and replaces the back-fence when producing curved and circular work. It comes complete with adjustable guarding, lead on finger and a 100mm diameter dust extraction port.

Dusthood



The hood has a 120mm port for dust extraction. Also a secondary 80mm outlet at the rear of the machine provides extraction from beneath the spindle.

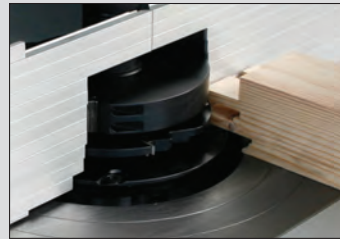
Optional Extras

Optional Power Feed



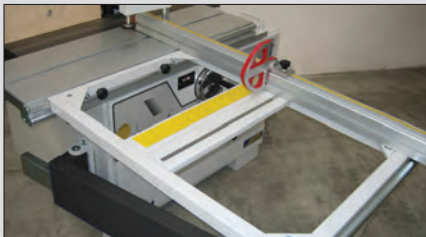
An essential piece of equipment on any spindle moulder. It provides a good finish on the material due to a constant feed speed and is the safest way to profile on a spindle moulder. It must be used with our Modular Window System. Our power feed comes complete with 3 rollers and 4 different speeds. It connects directly to a 3 phase socket on the rear of the machine. Horizontal arm is 1050mm.

Optional Safety Fence



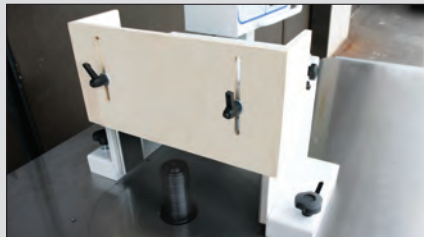
The optional alloy safety fence has individually adjustable sliding fingers that can be locked in position around the cutter heads. It provides good support to the work piece when profiling and prevents the work piece from 'dropping in'.

Optional Table Extension



The optional table extension enables larger sections to be machined easily. Particularly suitable if you want to produce doors and larger windows.

Optional Tenoning Hood



The optional tenoning hood is suitable for use with larger diameter tools (up to 300mm diameter); particularly tenon tools for producing doors.

Optional Tenoning Table



The 20mm thick tenoning table fits easily into the slot on the sliding table. Used in conjunction with the tenoning clamp and fence; suitable for getting smaller workpieces closer to the cutter heads.

Description

TSM100 Spindle Moulder 30mm Shaft (CE) 7.5HP
TSM100 Spindle Moulder 1-1/4" Shaft (CE) 7.5HP

Optional Equipment

Power Feed
Alloy Safety Fence
Manually Operated Tilting Spindle (-5 degrees, +45 degrees)
Electronic Tilting Spindle (-5 degrees, +45 degrees)
Electronic Spindle Rise and Fall
20mm Thick Tenoning Table
Tenoning Hood
Front Table Extension
Digital Spindle Height Read Out
Reverse Spindle Rotation
Speed Change by Inverter (800 to 10,000 RPM)
Motor Power Increase (per HP)
Speed Read Out
Combined Motorized Rise & Fall/tilt (Complete with Control Panel)
Suspended "Eye Level" Control Panel

Product Ref

TSM100/75/30
TSM100/75/114
TPF100
TSM100/ASF
TSM100/MTS
TSM100/ETS
TSM100/ERF
TSM100/TT
TSM100/TH
TSM100/FTE
TSM100/DHR
TSM100/RSR
TSM100/SCI
TSM100/IHP
TSM100/SRO
TSM100/MRFT
TSM100/HCP

SPARE KNIFE PRICES

Tool No.	Product Ref	MAIN KNIFE (z)		SCORER (v)			
		z	v	Order Qty	Product Ref	Order Qty	Product Ref
1	IT/7105411(7)	2	4	1	IT/3101250/10	1	IT/3008503/10
2	IT/7105421(7)	4	4	1	IT/3008501/10	1	IT/3008503/10
4	IT/7105441(7)	2	na	1	IT/3101220/10	na	na
6	IT/7105461(7)	2	2	1	IT/3101230/10	1	IT/3008503/10
8	IT/7105481(7)	2	2	1	IT/3107512/10	1	IT/3008503/10
10	IT/71054101(7)	2	2	2	IT/3108624	1	IT/3008503/10
13	IT/71054131(7)	2	2	2	IT/3108626	1	IT/3008503/10
14	IT/71054141(7)	2	na	1	IT/3101220/10	na	na
16	IT/71054161(7)	2	4	1	IT/3108702/10	1	IT/3008503/10
18	IT/71054181(7)	2	2	2	IT/3108626	1	IT/3008503/10
19	IT/71054191(7)	2	4	1	IT/3107230/10	1	IT/3008503/10
20	IT/71054201(7)	2	na	2	IT/3108627	na	na
23	IT/71054231(7)	2	2	1	IT/3101250/10	1	IT/3008503/10
24	IT/71054241(7)	2	na	1	IT/3108474/10	na	na
25	IT/71054251(7)	2	2	2	IT/3108567	1	IT/3008503/10
26	IT/71054261(7)	2	2	1	IT/3101230/10	1	IT/3008503/10
27	IT/71054271(7)	2	4	1	IT/3107512/10	1	IT/3008503/10
28	IT/71054281(7)	2	2	2	IT/3108567	1	IT/3008503/10
29	IT/71054291(7)	2	2	1	IT/3101230/10	1	IT/3008503/10
31	IT/71054311(7)	2	4	2	IT/3108577	1	IT/3008503/10
32	IT/71054321(7)	2	4	2	IT/3208214	1	IT/3008503/10
33	IT/71054331(7)	2	4	1	IT/3007507/10	1	IT/3008503/10
35	IT/71054351(7)	2	4	1	IT/3007507/10	1	IT/3008503/10
36	IT/71054361(7)	2	na	2	IT/3108599	na	na
37	IT/71054371(7)	2	2	2	IT/3108600	1	IT/3008503/10
38	IT/71054381(7)	2	na	2	IT/3108601	na	na
39	IT/71054391(7)	2	4	1	IT/3000531/10	1	IT/3008503/10
40	IT/71054401(7)	2	na	2	IT/3108496	na	na
41	IT/71054411(7)	2	2	2	IT/3108497	1	IT/3008503/10
42	IT/71054421(7)	2	4	1	IT/3107512/10	1	IT/3008503/10
43	IT/71054431(7)	2	2	1	IT/3101220/10	1	IT/3008503/10
44	IT/71054441(7)	2	na	2	IT/3108498	na	na
45	IT/71054451(7)	2	4	1	IT/3107512/10	1	IT/3008503/10
46	IT/71054461(7)	2	4	1	IT/3107230/10	1	IT/3008503/10
47	IT/71054471(7)	2	4	1	IT/3108702/10	1	IT/3008503/10
48	IT/71054481(7)	2	4	1	IT/3007507/10	1	IT/3008503/10
49	IT/71054491(7)	2	2	1	IT/3108499	1	IT/3008503/10
50	IT/71054501(7)	2	4	1	IT/3108520	1	IT/3008503/10
51	IT/71054511(7)	2	4	1	IT/3108521	1	IT/3008503/10
54	IT/71054541(7)	2	na	2	IT/3208119	na	na
55	IT/71054551(7)	2	2	1	IT/3000528/10	1	IT/3008503/10
56	IT/71054561(7)	2	2	2	IT/3108567	1	IT/3008503/10
57	IT/71054571(7)	2	na	1	IT/3101220/10	na	na
58	IT/71054581(7)	2	2	2	IT/3208001	1	IT/3008503/10
59	IT/71054591(7)	2	na	1	IT/3101220/10	na	na
60	IT/71054601(7)	2	2	2	IT/3208001	1	IT/3008503/10
61	IT/71054611(7)	2	4	2	IT/3108577	1	IT/3008503/10
66	IT/71054661(7)	2	4	1	IT/3007509/10	1	IT/3008503/10
67	IT/71054671(7)	2	2	2	IT/3208052	1	IT/3008503/10
68	IT/71054681(7)	2	2	2	IT/3208053	1	IT/3008503/10
69	IT/71054691(7)	2	4	1	IT/3007509/10	1	IT/3008503/10
70	IT/71054701(7)	2	4	1	IT/3007507/10	1	IT/3008503/10
71	IT/71054711(7)	2	2	2	IT/3208054	1	IT/3008503/10
72	IT/71054721(7)	2	2	1	IT/3000528/10	1	IT/3008503/10
73	IT/71054731(7)	2	na	2	IT/3208055	na	na
74	IT/71054741(7)	2	na	2	IT/3208056	na	na
75	IT/71054751(7)	2	2	2	IT/3208057	1	IT/3008503/10
76	IT/71054761(7)	2	4	1	IT/3107512/10	1	IT/3008503/10
80	IT/71054801(7)	2	na	2	IT/3208050	na	na
81	IT/71054811(7)	2	4	2	IT/3208072	1	IT/3008503/10
82	IT/71054821(7)	2	2	2	IT/3208137	1	IT/3008503/10
83	IT/71054831(7)	2	4	2	IT/3208138	1	IT/3008503/10
84	IT/71054841(7)	2	na	1	IT/3101230/10	na	na
85	IT/71054851(7)	2	2	1	IT/3101230/10	1	IT/3008503/10
90	IT/71054901(7)	2	4	1	IT/3107220/10	1	IT/3008503/10
91	IT/71054911(7)	2	4	1	IT/3107220/10	1	IT/3008503/10
92	IT/71054921(7)	2	2	1	IT/3107220/10	1	IT/3008503/10
93	IT/71054931(7)	2	2	2	IT/3208118	1	IT/3008503/10
95	IT/71054951(7)	2	na	2	IT/3208212	na	na
96	IT/71054961(7)	2	2	2	IT/3208216	1	IT/3008503/10
97	IT/71054971(7)	2	2	2	IT/3208158	1	IT/3008503/10
98	IT/71054981(7)	2	4	2	IT/3208158	1	IT/3008503/10
99	IT/71054991(7)	2	na	2	IT/3208139	na	na
100	IT/710541001(7)	2	na	2	IT/3208140	na	na
101	IT/710541011(7)	2	2	2	IT/3208118	1	IT/3008503/10
102	IT/710541021(7)	2	2	2	IT/3208118	1	IT/3008503/10
104	IT/710541041(7)	2	na	2	IT/3208213	na	na
105	IT/710541051(7)	2	2	2	IT/3208215	1	IT/3008503/10
106	IT/710541061(7)	2	na	2	IT/3208245	na	na
107	IT/710541071(7)	2	2	2	IT/3208237	1	IT/3008503/10
108	IT/710541081(7)	2	2	2	IT/3208237	1	IT/3008503/10
109	IT/710541091(7)	2	na	2	IT/3208238	na	na
110	IT/710541101(7)	2	2	2	IT/3208243	1	IT/3008503/10
111	IT/710541111(7)	2	2	2	IT/3208243	1	IT/3008503/10
112	IT/710541121(7)	2	2	2	IT/3208216	1	IT/3008503/10
113	IT/710541131(7)	2	2	2	IT/3208215	1	IT/3008503/10
114	IT/710541141(7)	2	4	2	IT/3108751	1	IT/3008503/10

How to order spare knives:

Locate the tool number you require spare knives for in the left hand column of the grid. Each tool comes with main knives (z) and most are supplied with scorers (v).

The figure in column z tells you how many knives the tool requires and the figure in column v tells you how many scorers the tool requires.

Use the order quantity figure and product reference code to order the knives and scorers (if required) for each tool.

Please note:

Some knives are sold in boxes of ten (denoted by /10 at the end of the product reference). Prices shown are per knife or per pack of 10.

NETWORK OF MWS DEALERS

We have a network of dedicated Modular Window System dealers around the UK. Please contact your local dealer for a demonstration.



Region	Dealer	Contact
Gloucestershire	Tewkesbury Saw Co Ltd Newtown Trading Estate, Tewkesbury, Gloucestershire GL20 8JG	Alan Murphy 01684 293092 amurphy@tewkesburysaw.co.uk www.tewkesburysaw.co.uk
Norfolk	Norfolk Saw Services Unit 7, Whiffler Road Ind Est, Norwich NR3 2AW	Mark Hindle 01603 898695 sales@norfolksawservices.co.uk www.norfolksawservices.co.uk
Hampshire	Groewood Machines Ltd Unit 4, Northbrook Farm, Micheldever, Hampshire SO21 3AJ	Nick Groves 01256 818235 info@groewoodmachines.co.uk www.groewoodmachines.co.uk
Cornwall	Westcountry Woodworking Mach Ltd Beacons Kilns, High Street Village, St Austell PL26 7SR	Jeremy Bennetts 01726 828388 sales@machinery4wood.co.uk www.machinery4wood.co.uk
Glasgow	The Saw Centre Ltd 650 Eglinton Street, Glasgow, Lanarkshire G5 9RP	Brian Johnston 0141 4294444 sales@thesawcentre.co.uk www.thesawcentre.co.uk
Edinburgh	Saw & Tool Services Unit 4, 48 Dryden Terrace Loanhead Edinburgh, Midlothian EH20 9JL	Andy McIlwaine 0131 448 0207 info@sawandtooling.co.uk www.sawandtooling.co.uk
Leicestershire	Markfield Woodworking Machinery Ltd. Units H, Cedar Court, Walker Rd Bardon Hill, Coalville, Leicestershire LE67 1TU	Gavin Cooper 0116 289 3469 gavin@mwmachinery.co.uk www.mwmachinery.co.uk

For all other areas please contact **CP Tooling.**

01748 897170
info@cptooling.co.uk
www.cptooling.co.uk



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Our Industrial Tooling is a high quality, innovative range that has been developed specifically for the UK industrial woodworking market.



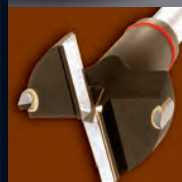
SAWBLADES

Unique quality long lasting Tungsten Carbide Tipped sawblades.



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Tungsten Carbide profile cutter heads, brazed tip & disposable insert tooling.



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Micrograin Tungsten Carbide Tipped drilling tools, dowel drills & boring bits.



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Product Ref. LEAF/IT/MACH



CNC SMART Machine Brochure

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