T20 v2.1

trend®
routing technology

Dear Customer

Thank you for purchasing this Trend product, we hope you enjoy many years of creative and productive use.

Please remember to return your guarantee card within 28 days of purchase.

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TECHNICAL DATA

Voltage:		230V
		110V
Ampage:	230V	3.1A
	110V	6.8A
Power input		710W
No load speed(min)		10,000 min-1
Revolver depth stop		6-step, turret stop
Blade size		100mm x 22mm x 4mm 6T
Spindle thread		M10 x 1.0mm
Max blade depth		20.5mm
Tilt base angle		0-90°
Vertical Fence Adjustment		45mm
Weight		2.7kg
Fuse:	UK & Eire	230V 5A in plug
	UK & Eire	110V 16A in mains
	Europe	230V 5A in mains

The following symbols are used throughout this manual:

Denotes risk of personal injury, loss of life or damage to the tool in case of non-observance of the instructions in this manual.

Denotes risk of electric shock.

INTENDED USE

The biscuit jointer is intended for creating holes for biscuit jointing in wood, MDF etc.

If you require further technical information or spare parts, please call our technical support department on 01923 224681 or visit www.trend-uk.com

SAFETY

WARNING:

Observe the safety regulations in the instruction manual of the power tool to be used. Please read the following instructions carefully. Failure to do so could lead to serious injury. When using electric tools, basic safety precautions, including the following should always be followed to reduce the risk of fire, electric shock and personal injury. Also observe any applicable additional safety rules. Read the following safety instructions before attempting to operate this product.

PLEASE KEEP THESE INSTRUCTIONS IN A SAFE PLACE.

The attention of UK users is drawn to The Provision and Use of Work Equipment Regulations 1998, and any subsequent amendments.

Users should also read the HSE/HSC Safe Use of Woodworking Machinery Approved Code of Practice and Guidance Document and any amendments.

Users must be competent with woodworking equipment before using our products.

IMPORTANT NOTE:

Residual Risk. Although the safety instructions and operating manuals for our tools contain extensive instructions on safe working with power tools, every power tool involves a certain residual risk which cannot be completely excluded by safety mechanisms. Power tools must therefore always be operated with caution!

General

1. Disconnect power tool and attachment from power supply when not in use, before servicing, when making adjustments and when changing accessories such as cutters. Ensure switch is in “off” position. Always ensure cutter has stopped rotating.
2. Always mount the power tool, accessory or attachment in conformity with the instructions. Only use attachment and accessories specified in the power tool manual. The tool or attachment should not be modified or used for any application other than that for which it was designed. Do not force tool.
3. Keep children and visitors away. Do not let children or visitors touch the tool, accessory or attachment. Keep children and visitors away from work area. Make the workshop child proof with padlock and master switch.
4. Dress properly. Do not wear loose clothing or jewellry, they can be caught in moving parts. Rubber gloves and non-skid footwear is recommended when working outdoors. Wear protective hair covering to contain long hair.
5. Consider working environment. Do not use the product in the rain or in a damp environment. Keep work area well lit. Do not use power tools near gasoline or flammable liquids. Keep workshop at a comfortable temperature so your hands are not cold. Connect machines that are used in the open via a residual current device (RCD) with an actuation current of 30 mA maximum. Use only extension cables that are approved for outdoor use.
6. The accessory or attachment must be kept level and stable at all times.
7. Keep work area clean. Cluttered workshops and benches can cause injuries. Ensure there is sufficient room to work safely.
8. Secure idle tools. When not in use, tools should be stored in a dry and high or locked up place, out of reach of children.
9. For best control and safety use both hands on the power tool and attachment. Keep both hands away from cutting area. Always wait for the spindle and cutter to stop rotating before making any adjustments.
10. Always keep guards in place and in good working order.
11. Remove any nails, staples and other metal parts from the workpiece.
12. Maintain tools and cutters with care. Keep cutters sharp and clean for better and safer performance. Do not use damaged cutters. Follow instructions for lubricating and changing accessories. Keep handles dry, clean and free from oil and grease.
13. Maintain accessories. Do not use damaged accessories. Only use accessories recommended by the manufacturer.
14. Check damaged parts. Before operation inspect the attachment, the power tool, the cable, extension cable and the plug carefully for signs of damage. Check for alignment of moving parts, binding, breakage, mounting and any other conditions that may effect its operation. Have any damage repaired by an Authorised Service Agent before using the tool or accessory. Protect tools from impact and shock.
15. Do not use tool if switch does not turn it on or off. Have defective switches replaced by an Authorised Service Agent
16. Don't over reach. Keep proper footing and balance at all times. Do not use awkward or uncomfortable hand positions.
17. Don’t abuse the cable. Never carry power tool or accessory by cord or pull it to disconnect from the socket. Keep cord from heat, oil and sharp edges. Always trail the power cord away from the work area.
18. Connect dust extraction equipment. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.
19. Check all fixing and fastening nuts, bolts and screws on power tool, attachment and cutting tools before use to ensure they are tight and secure. Periodically check when machining over long periods.
20. Stay alert. Watch what you are doing. Use common sense. Do not operate tools when you are tired, under the influence of drugs or alcohol.
21. Personal Protective Equipment (PPE) for eye, ear and respiratory protection must be worn. All PPE must meet current UK and EU legislation.
22. Do not leave tools running unattended. Do not leave tool until it comes to a complete stop.
23. Always clamp workpiece being machined securely.
24. Only use cutting tools for woodworking that meet EN847-1/2 safety standards, and any subsequent amendments.
25. Vibration levels. Hand held power tools produce different vibration levels. You should always refer to the specifications and relevant Health & Safety Guide.

Safety

1. Read and understand instructions supplied with power tool, attachment and blade.
2. Keep hands, hair and clothing clear of the blade.
3. Remove adjusting keys and spanners. Check to see that keys and adjusting spanners are removed from the tool, cutter and attachment before turning jointer on. Make sure cutter can rotate freely.
4. Noise. Take appropriate measures for the protection of hearing if the sound pressure of 85dB(A) is exceeded. Routing sound pressure may exceed 85dB(A), so ear protection must be worn.
5. Eye protection. Always wear eye protection in the form of safety goggles, spectacles or visors to protect the eyes.

6. Respiratory protection. Wear a face or dust mask, or powered respirator. Dust masks/filters should be changed regularly.
7. Do not switch jointer on with the blade touching the workpiece. At the end of the cut, release the plunge and allow spindle to stop rotating. Never use the spindle lock as a brake
8. Check before cutting that there are no obstructions in the path of the jointer.

Blade Safety

1. Cutting tools are sharp. Care should be taken when handling them. Do not drop cutters or knock them against hard objects. Handle very small diameter cutters with extra care.
2. Always use blade with a bore diameter corresponding to the size of the spindle installed in your tool.
3. The maximum speed (n.max) marked on the tool, or in instructions or on packaging shall not be exceeded. Where stated the speed range shall be adhered to. Recommended speeds are shown in the Trend Routing Catalogue and/or website.
4. Blades must only be used for the material cutting application for which they are designed. Do not use on metal or masonry.
5. Never use blade with a diameter exceeding the maximum diameter indicated in the technical data of the powertool or attachment used.
6. Before each use check that the cutting tool is sharp and free from damage. Do not use the cutting tool if it is dull, broken or cracked or if in any other damage is noticeable or suspected.
7. Blades should be kept clean. Resin build up should be removed at regular intervals with Resin Cleaner®. The use of a PTFE dry lubricant will reduce resin build up. Do not use PTFE spray on plastic parts.
8. Observe the correct assembly and fitting instructions in the jointer instruction manual for fitting the nut and blade.
9. Tool and tool bodies shall be clamped in such a way that they will not become loose during operation. Care shall be taken when mounting cutting tools to ensure that the clamping is by the shank of the cutting tool and that the cutting edges are not in contact with each other or with the clamping elements.
10. In case of excessive vibrations whilst using the jointer stop immediately and have the eccentricity of the jointer, blade and clamping system checked by competent personnel.
11. All fastening screws and nuts should be tightened using the appropriate spanner or key and to the torque value provided by the manufacturer.
12. Extension of the spanner or tightening using hammer blows shall not be permitted.
13. Clamping screws shall be tightened according to instructions provided by the manufacture. Where instructions are not provided, clamping screws shall be tightened in sequence from the centre outwards.
14. Composite (tipped) blades where the tip dimension is reduced to less than 1mm, shall be taken out of service.

Blade Repair/Maintenance

1. Repair of tools is only allowed in accordance with the manufacturers instructions.
3. The design of composite (tipped) tools shall not be changed in process of repair. Composite tools shall be repaired by a competent person i.e. a person of training and experience, who has knowledge of the design requirements and understands the levels of safety to be achieved.
4. Repair shall therefore include, e.g. the use of spare parts which are in accordance with the specification of the original parts provided by the manufacturer.
5. Tolerances which ensure correct clamping shall be maintained.
6. Care shall be taken that regrinding of the cutting edge will not cause weakening of the body and the connection of the cutting edge to the body.

ELECTRICAL SAFETY

Power Supply

The electric motor has been designed for one voltage only. Always check that the power supply corresponds to the voltage on the rating plate. Machines marked for 230 volt can also be operated from a 220 volt supply.

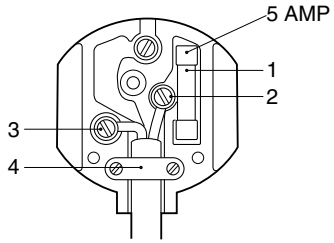
The T20 is double insulated in accordance with EN 50144; therefore no earth wire is required.

Mains Plug Replacement (UK & Ireland only)

Always check the condition of the cable and plug before starting with your work.

Should your mains plug need replacing and you are competent to do this, proceed as instructed below. If you are in doubt, contact an authorised Trend repair agent or a qualified electrician.

- Disconnect the plug from the supply.
- Cut off the plug and dispose of it safely. (Note a plug with bared copper conductors is dangerous if engaged in a live socket outlet).
- Only fit a 5 Amperes BS 1363A approved plugs fitted with a 5 Amp A.S.T.A approved BS 1362 fuse (1).
- The cable wire colours or a letter, will be marked at the connection points of most good quality plugs. Attach the wires to their respective points in the plug (see below). Brown is for Live (L) (2) and Blue is for Neutral (N) (3).
- Before replacing the top cover of the mains plug ensure that the cable restraint (4) is holding the outer sheath of the cable firmly and that the two leads are correctly secured in the terminal screws.



Never use a light socket. Never connect the live (L) or neutral (N) wires to the earth pin marked E or ⏚.

Using an Extension Cable

- If an extension cable is required, use an approved triple core extension cable suitable for the power input of this tool (see technical data).
- When using a cable reel, always unwind the cable completely.
- Also refer to the table below.

Conductor size (mm²)	Cable rating (Amperes)
0.75	6
1.00	10
1.50	15
2.50	20
4.00	25

		Cable length (m)					
		7.5	15	25	30	45	60
Voltage	Amperes	Cable rating (Amperes)					
115	0 - 2.0	6	6	6	6	6	10
	2.1 - 3.4	6	6	6	6	15	15
	3.5 - 5.0	6	6	10	15	20	20
	5.1 - 7.0	10	10	15	20	20	25
	7.1 - 12.0	15	15	20	25	25	-
	12.1 - 20.0	20	20	25	-	-	-
230	0 - 2.0	6	6	6	6	6	6
	2.1 - 3.4	6	6	6	6	6	6
	3.5 - 5.0	6	6	6	6	10	15
	5.1 - 7.0	10	10	10	10	15	15
	7.1 - 12.0	15	15	15	15	20	20
	12.1 - 20.0	20	20	20	20	25	-

For 115V units with a power rating exceeding 1500W we recommend to use a plug to BS4343 standard.

MANUFACTURERS DECLARATION

CE **T20**

We declare under our sole responsibility that this product is in conformity with the following standards of standardised documents:
EN 50144, EN 55014, EN 60555,
in accordance with the directives 98/37/EC, 73/23/EEC, 93/68/EEC, 89/336/EEC.

Level of sound pressure according to 86/188/EEC & EN 98/37/EC, measured according to EN 50144:

Lpa (sound pressure) 89 dB(A)1
Lwa (acoustic power) 102 dB(A)2

INFORMATION ON NOISE/VIBRATION

The noise level when working can exceed 85 dB(A).
Wear ear protection!

Weighted root mean square acceleration value according to EN 50144:

<4.5 m/s² (hand arm method)

Managing Director
Jeff Willcocks

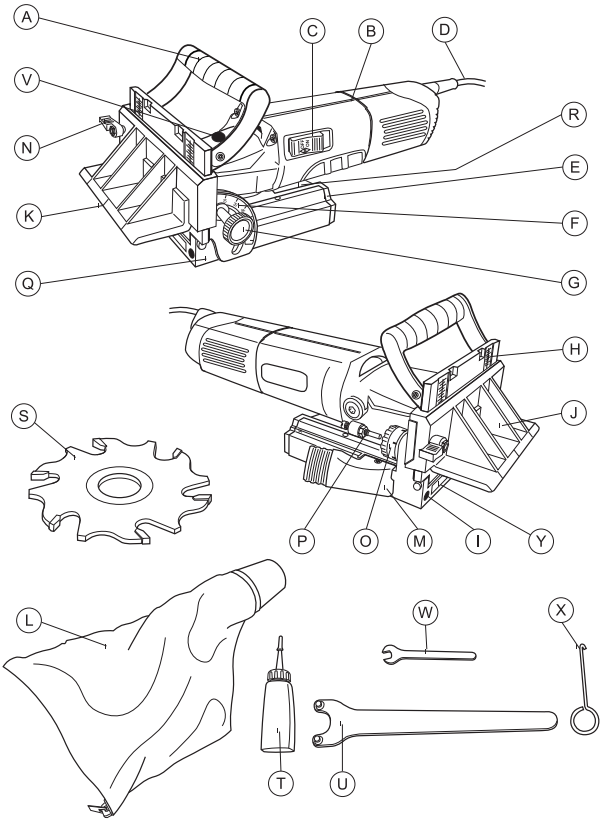
Trend Machinery & Cutting Tools Ltd.

ITEMS ENCLOSED

1 x Blade (fitted to machine)
1 x Lubricant bottle to lubricate slider
1 x Pin spanner to change blade
1 x Spanner (17mm A/F) to lock armature
1 x Spanner (8mm A/F) to adjust blade depth
1 x Spring locating hook to assist blade change
1 x Dust extractor spout fitted to machine
1 x Dust bag
1 x Instructions
1 x Guarantee card

DESCRIPTION OF PARTS

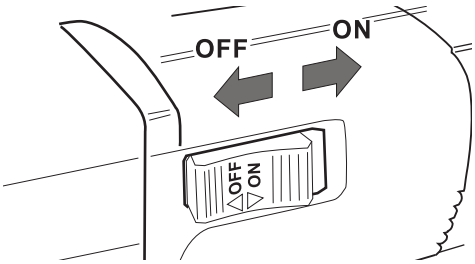
- (A) Top handle
- (B) Motor housing
- (C) On/Off switch
- (D) Power cable
- (E) Rear blade housing end cap
- (F) Tilt base scale
- (G) Tilt base locking knob
- (H) Rise and fall scale
- (I) Anti-slip rubber studs
- (J) Sliding right angle fence
- (K) Centre sight line
- (L) Dust bag
- (M) Dust spout (O/D diameter 28mm)
- (N) Sliding fence locking lever
- (O) 6 position turret depth stop
- (P) Depth stop adjustment screw
- (Q) Base plate
- (R) Sliding carriage
- (S) Six wing blade fitted to machine
- (T) Lubricant bottle to lubricate slides
- (U) Pin spanner for blade change
- (V) Spindle lock for blade change
- (W) Spanner (8mm A/F) for depth stop
- (X) Slide spring locating hook for blade change
- (Y) Register face and blade aperture



ASSEMBLY & ADJUSTMENT

Switching On & Off

- To use the T20 Biscuit Jointer safely, always hold the machine by gripping the body of the motor housing in one hand and holding the top handle with the other.
- The slide switch on the left hand side of the body can then be operated with either the thumb or forefinger.
- To switch **ON,** slide the switch back until it clicks and locks into the **ON** position.
- To switch **OFF,** press the front of the switch and allow it to spring forward.



Make sure the machine is switched off before connecting it to the power supply!

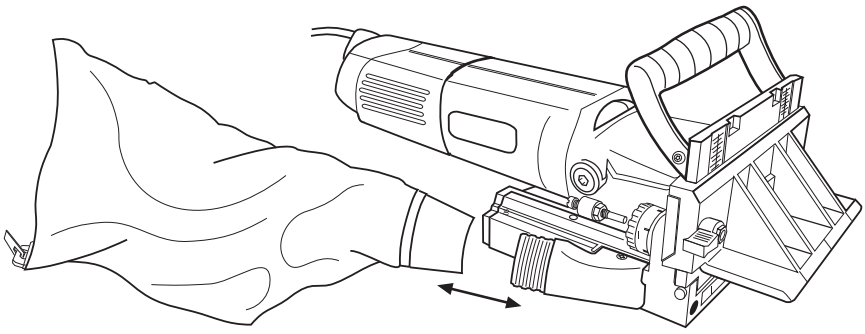
Fitting and Removing the Dust Collection Bag

- A dust extraction spout is already fitted to the T20. To remove the spout for cleaning, first remove the screw from the top of the plastic spout.
- To fit the collection bag, push the nozzle firmly onto the dust extraction spout on the machine.
- To empty the bag, remove it from the machine and empty it by undoing the zip on the bottom of the bag. Empty the bag into an enclosed container, ensuring that waste material cannot blow around.
- Ensure that the zip is closed before re-using the machine.

Whenever possible, use the biscuit jointer connected to a suitable vacuum extractor.

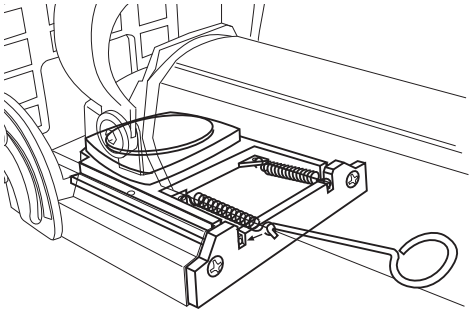
Dust Spout

- The extractor spout is also suitable for connection to a vacuum extractor with a inside hose diameter of 28mm. Alternatively use a stepped adaptor for connection to hoses of other diameters.
- If using the T30 Vacuum Extractor with the T20, the power adaptor supplied with the T30 will need to be cut down to the 32mm diameter segment. This adaptor is also available as an accessory, Ref. WP-T30/056.
- Always ensure that the collection bag is fitted correctly, as its design should prevent interference with the machines operation.

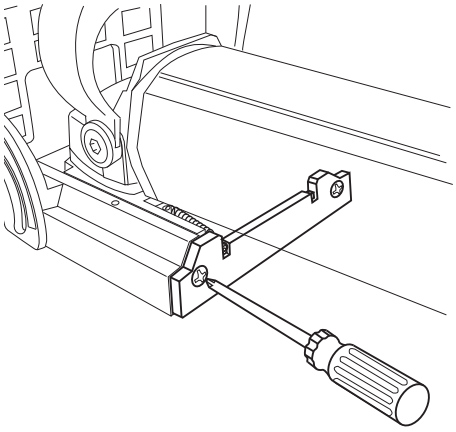


Blade Removal and Replacement

- Unplug the biscuit jointer before beginning the following procedure.
- Use the spring release / locating hook supplied with the machine to disconnect the two springs, one on either side of the machine.

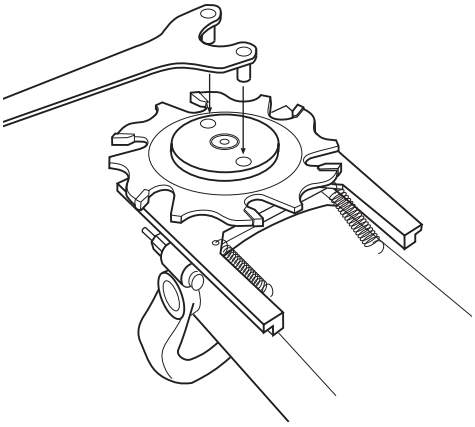


- Remove the two horizontal screws holding the plastic end cap at the rear of the blade housing and remove the end cap.



- Slide the blade housing forwards and remove completely.
- Depress the spindle lock button to lock the spindle. Use the pin wrench to release the top flange on top of the blade.

Be careful, the teeth on the blade are sharp and can cause injury.



- Remove the top flange, blade and lower flange completely and clean any sawdust and resin from the spindle, blade flanges, blade housing and slide tracks.
- Ensure that the lower flange and blade seat correctly before fitting the top flange. (Only use the Trend Ref. CR/BJB/100T biscuit jointer blade).

Ensure that the blade is fitted the correct way up.

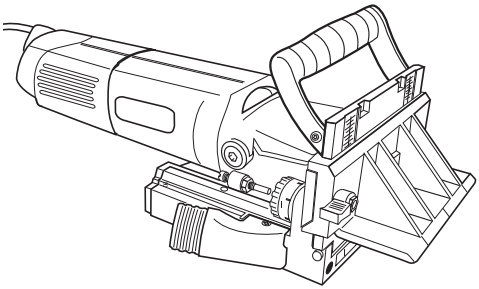
- Fit the top flange, check that it seats correctly and finger tighten. Fully tighten the flange using the pin wrench and locking spindle with spindle lock button
- Lightly oil the slide assembly using the plastic lubricating bottle supplied (use a thin machine oil to refill the bottle when empty).
- Replace the plastic end cap and tighten the two screws.
- Use the spring release / locating hook to refit the two springs.

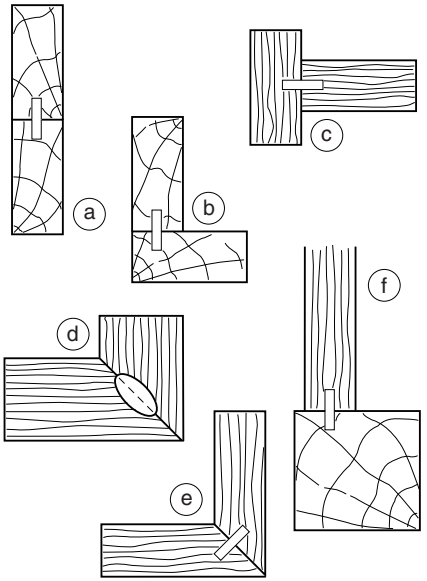
FLAT DOWEL / BISCUIT JOINTING

Introduction to Biscuit Jointing

Flat dowel or biscuit jointing offers one of the strongest methods of joining timber and timber based board. This method of reinforcing simple butt joints utilises flat oval dowels set into semi-circular recesses or 'pockets'. When cut with the T20 Biscuit Jointer each pair of pockets are accurately aligned along both faces of the joint. This ensures that when the joint faces are brought together, the biscuits fit equally into both sides of the joint.

Made from compressed timber fibre, flat dowel biscuits swell rapidly when a water based woodworking adhesive (i.e. PVA, white glue or aliphatic resin) is correctly applied. This causes the dowel to tighten in the recess to produce a strong and reliable finished joint. This initial rigidity in the joint also speeds up the assembly process by reducing the necessary clamping time (compared to conventional jointing methods). Also, unlike traditional tongue and groove or loose tongue joints, each biscuit is fitted in a separate recess or pocket rather than a continuous groove. This retains far more strength in the edge of the workpiece and in the case of natural timber, eliminates the risk of the edge cupping outwards.





Trend T20 Biscuit Jointer

The T20 Biscuit Jointer is ideally suited to cabinet and furniture making applications where it can be used to form many different butt joint formations. These include (a) edge to edge, (b) right angle, (c) T-joints (d) mitre (e) bevel and (f) frame to panel joints.

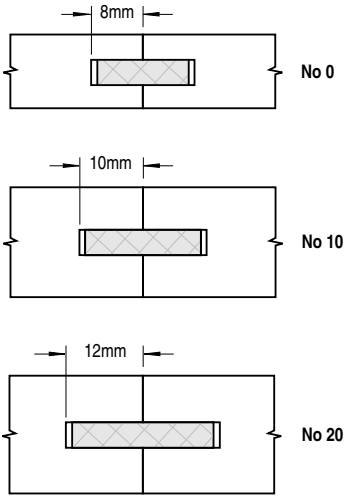
It can be used on natural timber, particle board, fibre board, plywood and other timber based materials. An adjustable precision fence allows biscuits to be positioned accurately across the width of the joint faces, leaving the top faces perfectly flush or offset by an exact amount. The fence can also be adjusted to any angle between 0° and 90°, allowing the biscuit to be used to join mitred and bevelled butt joints as well squared edged joints. Biscuit joints can be used in both conventional frame or panel construction.

Using the T20 Biscuit Jointer, you will, with experience, discover many other ways of using the advantages of biscuit jointing to produce accurate, strong and easily assembled joints for all your woodworking projects.

Biscuit Selection and Setting the Depth of Cut

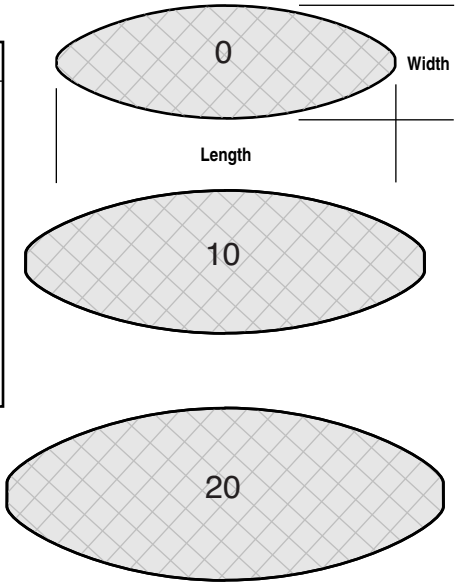
- Three biscuit sizes are suitable for use with the Trend T20 Biscuit Jointer. These are No's 0, 10, and 20. When selecting the size of biscuit best suited to the application, always take into consideration the dimensions of the components to be joined and any situation where that may cause the biscuit or recess to show on the face of the finished work (i.e. where further cleaning up, planing or machining will reduce the size of the assembled components).
- As a general rule, all workpieces over 19mm thick should be jointed using the largest biscuit size possible.
- Remember to set the depth of cut on the T20 Biscuit Jointer to suit the selected biscuit size. Always check that the depth of cut is correctly set by testing it on scrap timber.
- All biscuits are pressed to produce a loose sliding fit (before glue is applied) in the 4mm kerf cut by the biscuit jointer blade.

Standard Groove Depths



Biscuit Dimensions (nominal)

Size	Length	Width	Thickness
No. 0 suitable for 8-12mm board	47.5mm	15.5mm	4mm
No. 10 suitable for 13-18mm board	53mm	19mm	4mm
No. 20 suitable for 19mm+ board	60mm	23mm	4mm



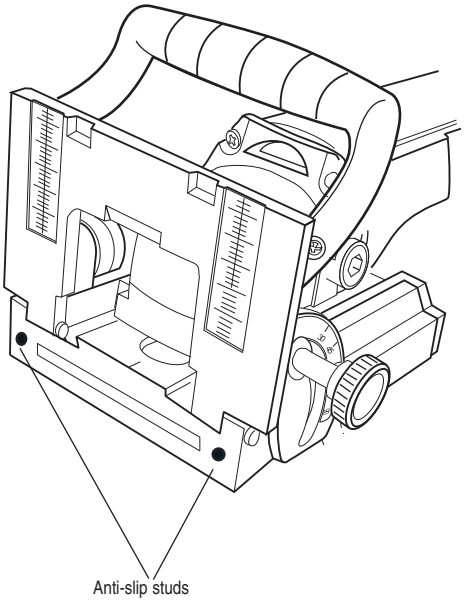
OPERATION

Anti-slip Rubber Studs

All biscuit jointers tend to pull to the right as the blade enters the wood. This tendency will be increased if the blade is dull or if the blade is plunged too rapidly into the surface of the workpiece.

To reduce this tendency, anti-slip rubber studs are fitted to the front of the machine, either side of the blade aperture (i.e. on the front register face).

In use, the front register face should be pressed firmly against the workpiece to allow the stops to grip and resist this movement.



Always hold the machine firmly with both hands.

Always press the machine firmly against the face of the work to ensure that the anti-slip studs prevent it from sliding sideways.

Setting the Depth of Cut

The depth stop on the T20 Biscuit Jointer has six stop positions. Three of these relate to the three standard biscuit sizes 0, 10 and 20.
The three remaining positions, A, B and Max, are used for alternative recessing and grooving operations or where alternative biscuit recess depths are required.

Initially you will need to set the depth stop to suit one specific biscuit size. This will automatically set the stop for the other two biscuit sizes. You will need to check the setting occasionally (i.e. after sharpening the blade).

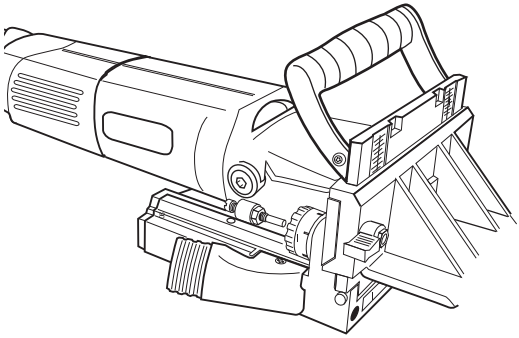
- Clamp a piece of scrap wood securely.
- Set the turret stop to the biscuit size 10 position.
- Plunge cut to the full depth.
- Insert a No.10 biscuit into the recess and check that it fits slightly more than half its width into the recess.
- If the setting is correct the biscuit jointer is ready for use. If not:-

1. Slacken off the nut on the threaded stop rod (positioned on the gearbox casing in front of the turret stop) using the 8mm spanner provided.
2. Increasing the rod length forwards will decrease the depth. Shorting the rod projection will increase the depth.
3. Tighten the lock nut and check the setting by cutting further test pieces.

After resetting, check that when the blade is set at the maximum (max.) depth setting, the blade does not foul the blade aperture.

To change between the settings, simply turn the knurled turret to align the appropriate setting mark against the indicator line on the biscuit jointer base casting.

Position	Depth of Groove	Biscuit
0	8mm	No. 0
10	10mm	No. 10
20	12mm	No. 20

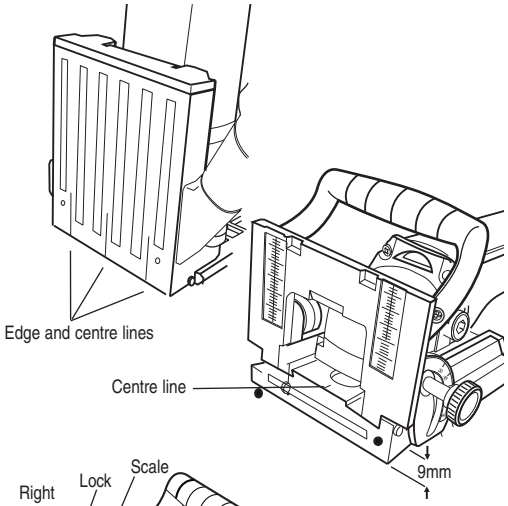


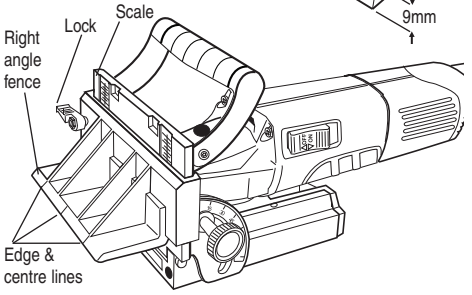
Never make adjustments when the biscuit jointer is plugged in or running.

Biscuit Pocket Alignment

The red indicator lines on the front of the blade aperture, underside of the base and on the right angle fence, are used to align the blade with biscuit position centre lines marked out on the workpiece(s). The three lines indicate the centre of the blade and the approximate maximum width of the largest biscuit (No. 20).

With the machine laid horizontal, the distance from the fence face to the centre of the blade is 9mm. When using the right angle fence, use the two vertical scales on the vertical face of the adjustable angle fence, to set fence height.

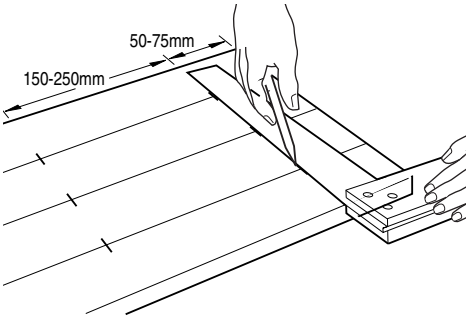




Marking Out Workpiece

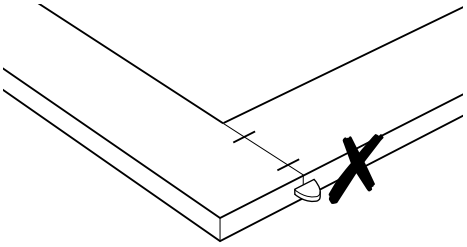
To produce accurate reliable joints with the biscuit jointer, it is essential that the edges and faces of the materials to be joined are prepared flat and square. It is also essential that the biscuit positions are marked out accurately and that the machine itself is set-up correctly.

Biscuits are generally spaced at between 150mm and 250mm centres, setting them equally spaced along the length of the workpiece(s). Always avoid setting them too close to the ends of the workpiece, the general rule being that their centre lines are between 50 and 75mm from each end.

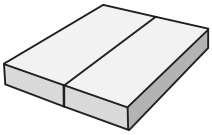


Although it is ideal to measure the spacing accurately, the marking out process can be speeded up by setting out from a pre-marked batten (particularly when marking out workpieces of similar length) or, with practice, by eye. Mark out the biscuit positions along one joint face and then align and transfer them directly to the mating edge.

In general, always use the largest biscuit that the size of the workpiece(s) will allow. However, check that the pocket or biscuit will not be exposed on the surface of the finished work (i.e. where further cleaning up, planing or machining will reduce the size of the assembled components).

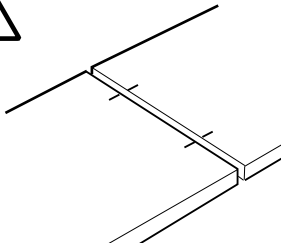


Edge to Edge Joints



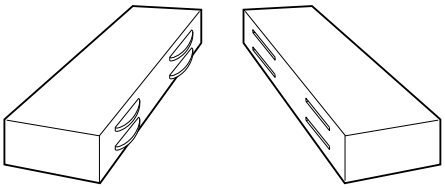
The use of biscuits to reinforce edge to edge butt joints, not only adds to the strength of the finished joint, but because they form a positive fit even before gluing, they can save much time in pre-assembly and simplification of the clamping process.

End to End Butt Joints



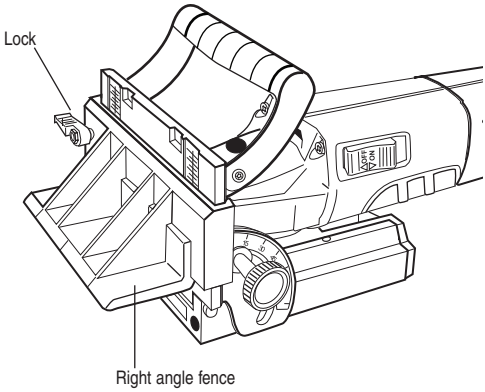
Forming end to end butt joints, particularly in small dimension timber, generally results in one of the weakest forms of construction. Inserting biscuit dowels across the joint face increases the glue line and reduces the effect of the porous end grain on the strength of the assembled joint.

When biscuit jointing materials up to 25mm thick, use a single row of biscuits. For materials over 25mm thick use the biscuit in pairs, either aligned or staggered.



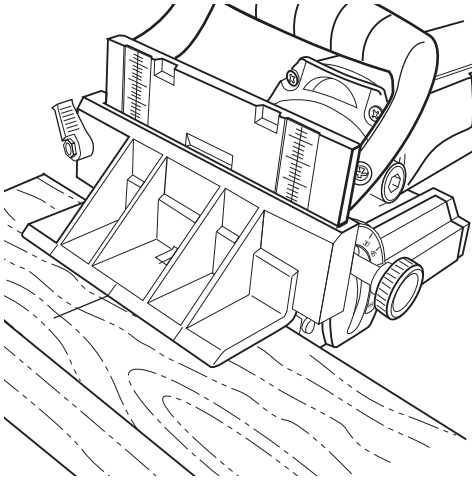
Setting out for edge joints

- Prepare the mating joint faces and edges of each component, flat and square.
- Lay out the components exactly as they are to be assembled.
- Mark out the required spacing of the biscuit centre lines along one joint face.
- Transfer the lines to the mating joint face.

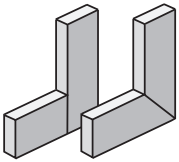


Cutting the pockets

- Clamp the workpieces securely.
- Set the turret stop to the required biscuit size.
- Set the front fence and right angle fence to position the biscuit pockets across the thickness of the workpiece. To adjust the right angle fence, release the slide lock and set the fence height off against the vertical scales on the front fence.
- Align the red centre line on the biscuit jointer fence against each biscuit centre line in turn.
- Plunge cut to the full pocket depth.



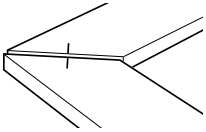
Frame Corner Joints



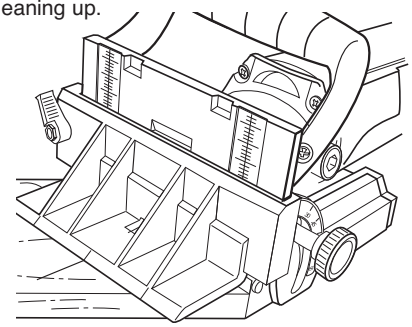
Mitred and square frame corner joints can be substantially strengthened by using biscuit joints, in particular when forming end grain mitre joints and when aligning square or decorative moulded sections. The positive fit of biscuit dowels helps to locate and align the joint faces, both when forming square mitred rectangular frames or multi-sided mitred frames.

Always identify the face of the workpiece and each pair of joint faces clearly. Always set out both joint faces from the same end, edge, centre line or datum point. When forming drawers or other multi-sided assemblies, ensure that the same reference edge is used for setting out each set of joints (otherwise each set will be offset and the assembled unit will be twisted).

Setting out mitred frame corner joints.

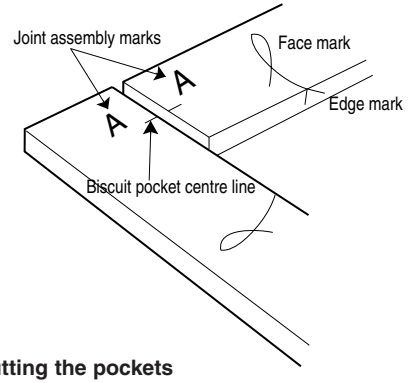


- Measure and cut each frame member to length and mark out and cut the mitre on each end. Lay out the frame to check that all the mitres faces mate precisely.
- Mark out the corresponding biscuit centre lines on each pair of mitre faces. If possible use two biscuits to increase the glue line.
- Do not position the biscuit(s) too close to the toe of the mitre as it may be exposed when cleaning up.



Preparing and cutting square corner joints.

- Prepare the mating end and edges of each frame member, check that the joint faces are square.
- Lay out the components exactly as they are to be assembled and mark each pair of joint faces.
- Mark out the required spacing of the biscuit centre lines along one joint face.
- Transfer the lines to the mating joint face.



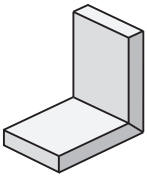
Cutting the pockets

- Clamp the workpieces securely.
- Set the turret stop to the required biscuit size.
- Set the front fence and right angle fence to position the biscuit pockets across the thickness of the workpiece.
- Align the red centre line on the biscuit jointer fence against each biscuit centre line in turn.
- Plunge cut to the full pocket depth.

Always hold the machine firmly with both hands.

Always press the machine firmly against the face of the work to ensure that the anti-slip studs prevent it from sliding sideways.

Mitre Corner Joints

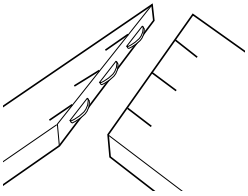


Most carcass construction can involve the use of mitred corner joints. These can be formed simply and accurately in timber based panel materials or natural timber using biscuit joints. When forming mitre joints, the joint faces must be cut accurately to ensure that each pair mates correctly on assembly.

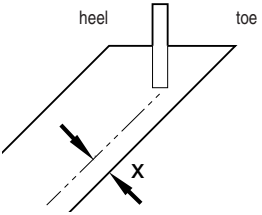
Biscuit pockets cut in mitred faces can be cut from either face, using the adjustable mitre fence. When cutting from the inside face (heel), use the adjustable front fence without the right angle fence attachment. When cutting from the outside face (toe) at 45°, fit the right angle fence attachment and set the adjustable front fence vertical. The toe of the mitre can then be fitted into the bevelled rear edge of the right angled fence.

Preparing and cutting mitred corner joints

- Measure and cut each carcass member to length and mark out and cut the mitre(s) on each. Layout the frame to check that all the mitre(s) faces mate precisely.

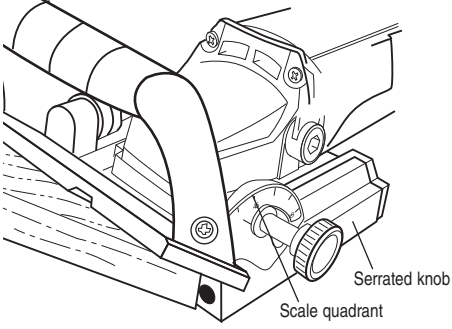


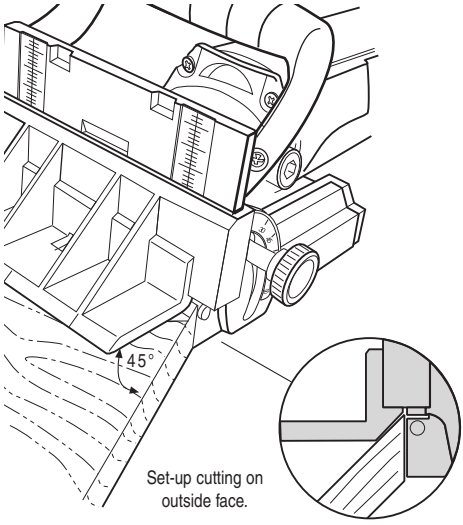
- Mark out the corresponding biscuit centre lines on each pair of mitre faces.
- Do not position the biscuit(s) too close to the toe of the mitre as the blade may protrude through the face or they may be exposed when cleaning up. (x = 2mm min)



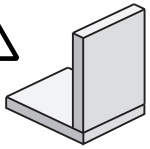
Cutting the pockets

- Clamp the workpieces securely.
- Set the turret stop to the required biscuit size.
- Set the front fence (and right angle fence) to position the biscuit pockets across the thickness of the workpiece.
- To adjust the angle, slacken the serrated plastic side knob and set the scale quadrant to the required angle, read off against the raised line on the blade housing. A sprung locating stop engages at the 45° position.
- Re-tighten the serrated knob to secure the fence.
- Align the red centre line on the biscuit jointer fence against each biscuit centre line in turn.
- Plunge cut to the full pocket depth.



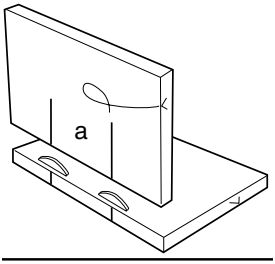


Square Corner Joints



Preparing and cutting square corner joints

- Set out and cut each carcass member to length and mark out and cut the mitre. Check that all faces, edges and ends are flat and square.



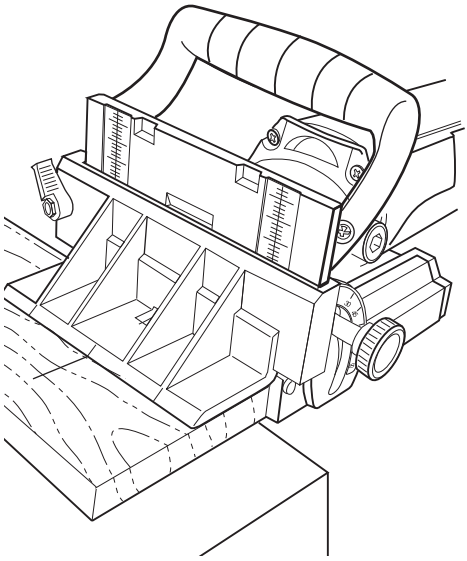
- Lay out the components exactly as they are to be assembled and mark the face and face edges. Clearly mark each pair of joint faces.
- Mark out the required spacing of the biscuit centre lines along one joint face.
- Transfer the lines to the mating joint face.

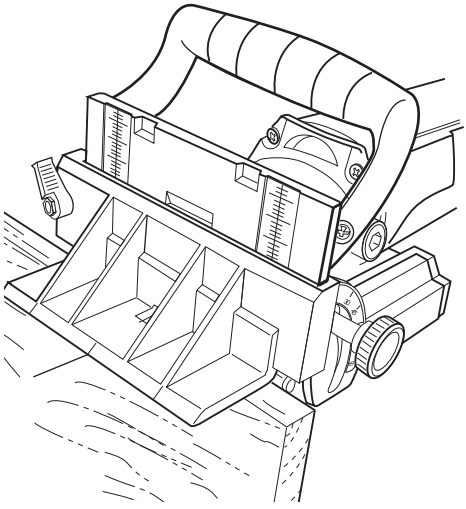
Cutting the pockets

- Clamp the workpieces securely.
- Set the turret stop to the required biscuit size.
- Set the front fence and right angle fence to position the biscuit pockets on the centre line of the workpiece.
- Align the red centre line on the biscuit jointer fence against each biscuit centre line in turn.
- Plunge cut to the full pocket depth.

When cutting biscuit pockets in thin material, ensure that the work surface beneath the material does not prevent the right angle fence or the face of the biscuit jointer from being pressed flat against the edge or face of the workpiece.

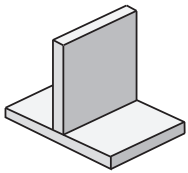
Whenever possible, use the biscuit jointer connected to a suitable vacuum extractor.



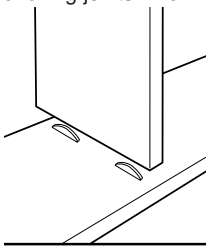


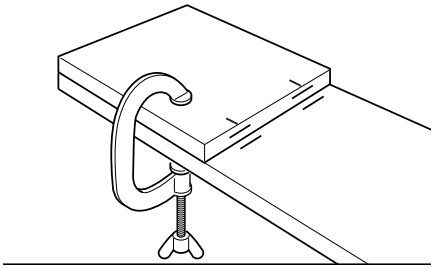
The same set-up is used for the mating board.

T-joints



Biscuit jointing can be used as a viable alternative to housing or trenching joints when fitting shelves or dividers. T-joints are formed in two stages. First pockets are cut in the ends of the shelf or divider (see end to end butt joints). Matching pockets are then cut with the biscuit jointer held vertically on the inside face of the cabinet sides.



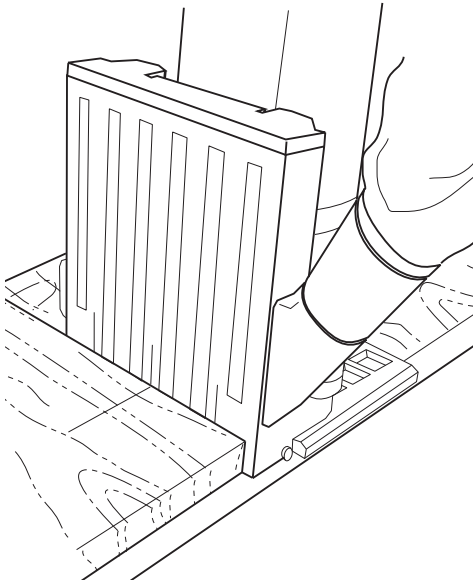


- Cut all the cabinet/case shelves, dividers and sides to size and finish all shelf ends square.
- Clearly mark the inside face of the sides and each pair of joint faces. Set out the spacing of the shelves along the inside face of one of the cabinet/case sides.
- Stand a piece of the shelf material against each shelf position, checking that it is at right angles to the edge. Lightly but clearly draw along each side of the vertical board. Transfer the lines across the face of the second side exactly as on the first.
- Mark out the required spacing of the biscuit centre lines along the edge of the marker board or alternatively use the end of the previously marked and cut shelf.
- Clamp the marker board (or shelf) at each shelf position in turn. Always use the same line (i.e. top line or bottom line of shelf) to avoid any variation in the pocket positioning.

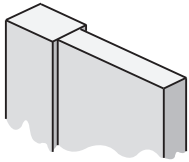
Never make adjustments when the biscuit jointer is plugged in or running.

Cutting the pockets

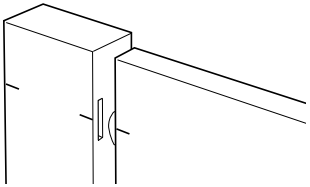
- Set the turret stop to the required biscuit size.
- Set the front fence at right angles to the base of the biscuit jointer.
- Align the centre line on the base of the router with the biscuit centre line on the marker board (or shelf), to position each biscuit pocket across the width of the workpiece.
- Plunge cut to the full pocket depth.



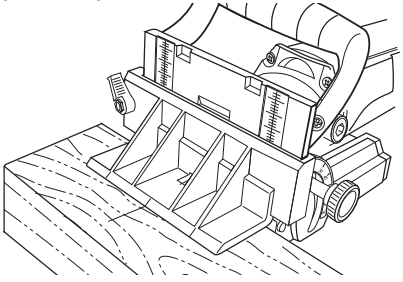
Offset Panel Joints



In frame and panel construction, biscuit dowels can used to secure the panels into the framework. It is common practice to offset the face of the panel from the face of the frame to mask the joint line (i.e. set back from the face of the legs and rails).



- Prepare the mating joint faces and edges of the panel to fit flat against the frame members.
- Lay out the components exactly as they are to be assembled.
- Transfer the centre lines to the mating joint faces on the frame members.
- Clamp the workpieces securely.
- Set the turret stop to the required biscuit size.
- Align the red centre line on the biscuit jointer fence against each biscuit centre line in turn around the panel.
- Plunge cut to the full pocket depth.
- Re-set the front and right angle fence to allow for the offset between the panel and frame faces. Again align the centre line on the jointer or fence with the biscuit centre line on the frame members and plunge cut to the full pocket depth.



ASSEMBLING WORK

One advantage of using biscuit dowels, is that having cut all the biscuit pockets for each joint, you can dry assemble your work prior to gluing up. In this way you can check that all joints fit and pull together and that each component is cut and located correctly.

- Pre-assembly also allows any moulding or decorative work to be set out prior to being routed or carved.
- For optimum performance, it is essential that the whole surface of each biscuit dowel is in contact with the glue.
- Ensure that glue is applied to the pockets before the biscuit is fitted and that the exposed (prior to closing the joint) biscuit and the joint faces are evenly coated.
- When fitting biscuits, ensure that they are centred on the pockets.
- After clamping the work, check that all joints and mating faces have pulled together tightly.
- Check that all right angles joints are square.
- To protect your work, fit soft pads beneath the cramp heads and wipe any excess glue away before it dries.
- Biscuit dowels can also be used as locating dowels between cupboard units, worktops and in many other applications where two components need to be accurately aligned. In this role biscuits can be either glued as a secondary fixing, the main jointing method, or fitted loose to enable components to be dismantled.

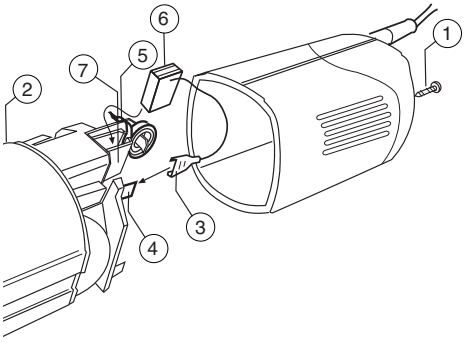
MAINTENANCE AND CARE

Cleaning

- Keep the machine clean at all times. Some maintenance products and solvents may damage the plastic parts, these include products containing Benzene, Trichloroethyle Chloride and Ammonia.
- Never use any caustic agents to clean the plastic parts.

Changing Brushes

Ensure machine is isolated from power supply.



- Undo and remove the single screw on the rear of the switch cover (1).
- Carefully slide the switch cover off of the rear of the motor cover (2).
- Unclip the wire connectors (3) (on the bare copper brush leads) from their electrical contacts (4).
- Carefully pull back the brush retaining springs (5) and pull the carbon brushes (6) out of their holders (7).
- Fit the new brushes in reverse order.
- Always use genuine Trend T20 spare parts.

It is advisable to have the brushes replaced by an authorised Trend service agent. The biscuit jointer will also be given a thorough inspection.

Lubrication

- The bearings of the machine need no lubrication as they are sealed. The two slide channels, either side of the gear box, should be lightly oiled occasionally.
- Keep the cooling vents on the motor housing clean and unobstructed at all times. Vacuum out any dust and dirt at regular intervals.
- Visually check the carbon brushes. In the event of excessive sparking, they may need changing.
- After about 40 operating hours, inspection by an authorised Trend service agent is recommended.

Blade

- Please ensure that the blade is always sharp and well maintained. This will place less load on the motor, increase the working life of the machine and give a perfect cut. TCT/HW blades must be treated especially carefully, because their cutting edges are brittle and could chip if they are mishandled or dropped.
- Replacement parts and accessories can be found in the latest Trend Routing Catalogue.

ENVIRONMENTAL PROTECTION

Recycle raw materials instead of disposing as waste.

Accessories and packaging should be sorted for environmental-friendly recycling.

Separate collection. This product must not be disposed of with normal household waste.

Household User

Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or by retailer when you purchase a new product.

Please call Trend Customer Services on 0044 1923 212497 for advice as to how to dispose of unwanted Trend electrical products in an environmentally safe way or visit www.trend-uk.com

Business User

Please call Trend Customer Services on 0044 1923 212497 for disposal of unwanted Trend electrical products.

GUARANTEE

The machine carries a manufacturers guarantee in accordance with the conditions on the enclosed guarantee card.

For the location of your nearest Trend Service Agent, please call the telephone number at thee back of this manual.

T20 – SPARE PARTS LIST			v2.1 06/2008
No.	**Qty.**	**Desc.**	**Ref.**
1	1	Motor Housing	WP-T20/001A
2	1	Circlip	WP-T20/002A
3	1	Switch Control Lever	WP-T20/003A
4	1	On/Off Switch Button	WP-T20/004A
5	1	Rubber Washer	WP-T20/005A
6	2	Brush Holder	WP-T20/006A
7	1	Carbon Brush (1 pair)	WP-T20/007A
8	2	Brush Spring	WP-T20/008A
9	1	Switch & Condenser	WP-T20/009A
10	1	Cable Guard	WP-T20/010A
11	1	Cable 2 Core with Plug 230V UK T20	WP-T20/011
	1	Cable 2 Core with Plug 110V UK T20L	WP-T20L/011
12	1	Cable Clamp	WP-T20/012A
13	1	Screw Self Tapping 3.5mm x 14mm Pozi	WP-T20/013
14	4	Screw Self Tapping 4mm x 30mm Pozi	WP-T20/014
15	1	Screw Self Tapping 4mm x 20mm Pozi	WP-T20/015
16	1	Bearing 607ZZ	WP-T20/016A
17	1	Armature with Fan 230V T20	WP-T20/017A
		Armature with Fan 110V T20L	WP-T20L/017A
18	1	Field 230V T20	WP-T20/018A
	1	Field 110V T20L	WP-T20L/018A
19	1	Deflector	WP-T20/019A
20	1	Gear Box	WP-T20/020A
21	1	Bush	WP-T20/021A
22	1	Spindle M10 x 1.0mm	WP-T20/022A
23	1	Rubber Washer	WP-T20/023A
24	1	Rubber Washer	WP-T20/024A
25	1	Rubber Washer	WP-T20/025A
26	1	Nose Bearing 9mm x 24mm x 7mm 609ZZ	WP-T20/026
27	1	Nose Bearing Cover	WP-T20/027A
28	1	Screw Self Tapping 4mm x 25mm Pozi	WP-T20/028
29	1	Sliding Plate	WP-T20/029A
30	1	Base Casting >12/2007	WP-T20/030
	1	Base Casting >01/2008	WP-T20/030A
31	1	Sliding Angle Plate	WP-T20/031A
32	1	Spring Clip	WP-T20/032A
33	1	Base Flange Clamp	WP-T20/033A
34	1	Rubber Anti Slip Studs	WP-T20/034A
35	1	Screw Self Tapping 3.5m x 10mm Pozi	WP-T20/035
36	1	Set Screw M5 x 20mm Hex	WP-T20/036
37	1	Spring For Tilt Base Lock	WP-T20/037A
38	2	Spring 7mm x 37mm	WP-T20/038A
39	1	Revolving Turret Stop	WP-T20/039A
40	1	Screw For Revolving Stop	WP-T20/040A
41	1	Spring 5mm x 1mm	WP-T20/041A
42	1	Ball For Revolving Stop	WP-T20/042A

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No.	**Qty.**	**Desc.**	**Ref.**
43	1	Washer	WP-T20/043A
44	1	Stop Screw For Revolving Stop	WP-T20/044A
45	1	Nut Hex M5	WP-NUT/05
46	1	Handle <12/2007	WP-T20/046
	1	Handle >01/2008	WP-T20/046A
47	2	Machine Screw Cap M8 x 18mm Skt <12/2007	WP-SCW/67
	2	Machine Screw Dome M8 x 12mm Skt >01/2008	WP-T20/47
48	1	Ball For Tilt Base Lock	WP-T20/048A
49	1	Slider Rear Cover	WP-T20/049A
50	1	Knob Male M6 X 30mm	WP-T20/050A
51	1	Bush for Tilt Base	WP-T20/051A
52	-	-	-
53	1	Bearing 12mm x 32mm x 10mm 6201-2RS	WP-T20/053
54	1	Pinion Gear	WP-T20/054A
55	1	Gear	WP-T20/055A
56	1	Screw M4 x 10mm Pozi	WP-SCW/68
57	1	Screw Self Tapping 3.6mm x 25mm Pozi	WP-T20/057
58	1	Washer	WP-T20/058A
59	1	Ring 32 Din 472	WP-T20/059A
60	1	Sliding Angle Plate Lever	WP-T20/060A
61	1	Circlip	WP-T20/061A
62	1	Spring Hook	WP-T20/062
63	1	Deflector	WP-T20/063A
64	1	Blade Support Flange	WP-T20/064
65	1	Blade Locking Flange	WP-T20/065
66	1	Spring Support	WP-T20/066A
67	1	Spanner 2 Pin 32mm x 6mm	WP-T20/067
68	1	Dust Spout 28mm OD	WP-T20/068
69	1	Blade 100mm x 22mm x 4mm Thin Body 6T TCT/HW	CR/BJB100T
70	2	Vertical Scale Label	WP-T20/070
71	1	Degree Scale Label	WP-T20/071
72	1	Spanner 8mm A/F	WP-SPAN/8
73	1	Special Nut Hex M4	WP-T20/073
74	1	Dust Bag	WP-T20/074
75	1	Joint Ring	WP-T20/075A
76	1	Machine Screw Csk M4 x 8mm Pozi	WP-SCW/54
77	1	Spring	WP-T20/077A
78	1	Manual	MANU/T20

T20 – SPARE PARTS DIAGRAM

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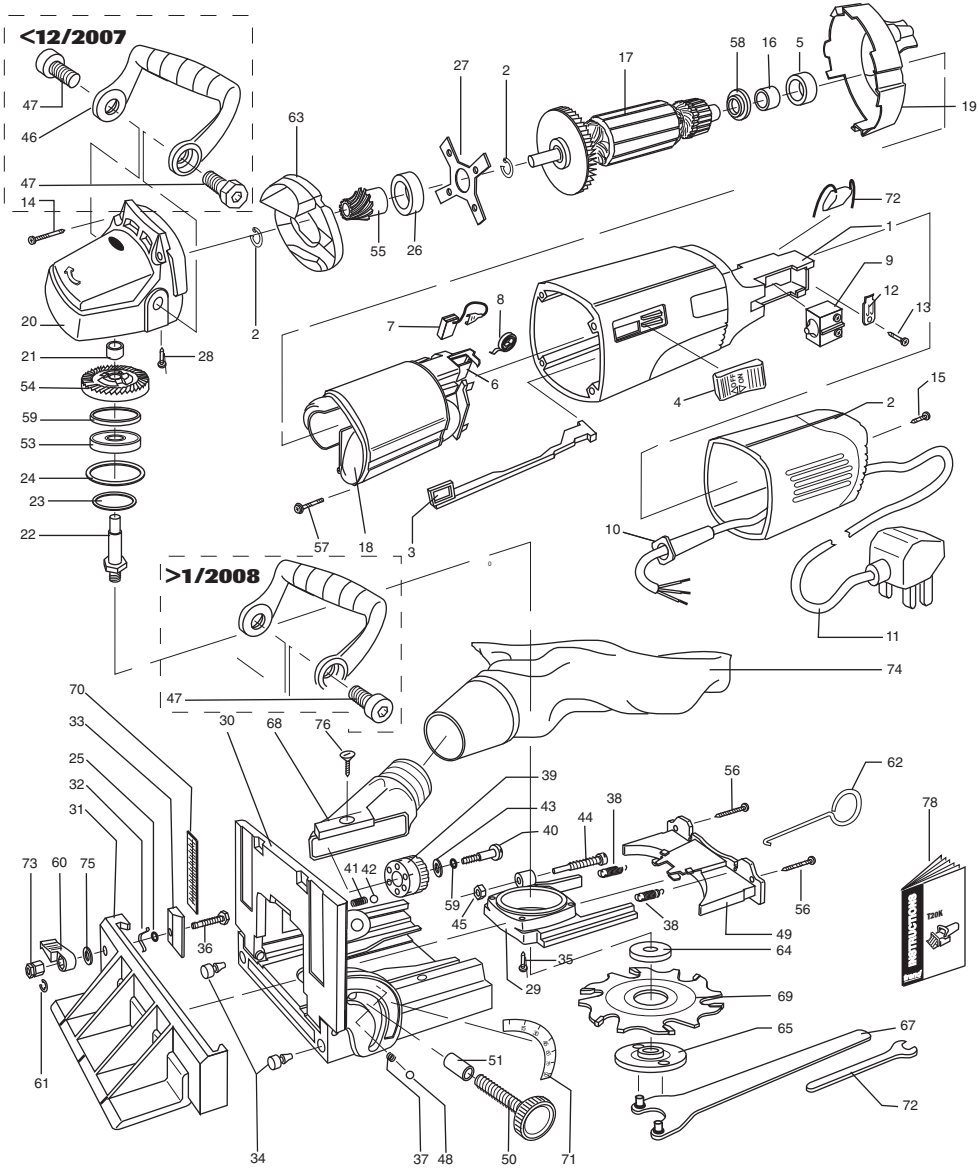

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Trend Machinery & Cutting Tools Ltd.
Odhams Trading Estate St Albans Road
Watford WD24 7TR England
Enquiries: 0800 487363
Technical Support: 0044 (0) 1923 224681
Fax: 0044 (0) 1923 236879
Email: enquiry@trendm.co.uk
Web: www.trend-uk.co.uk