

RECORD MACHINE DETAILS

MODEL

SERIAL No.

DATE of PURCHASE

VOLTAGE

PHASE

CYCLES

QUOTE THIS INFORMATION
WHEN REQUESTING SERVICE
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STARTRITE

Model TA 300

TILT ARBOR SAWBENCHES

HANDBOOK

33E

A.L.T. Saws & Spares Ltd

Startrite Machine Specialist

Unit 15, Pier Road Industrial Estate

Gillingham

Kent

ME7 1RZ

Tel/Fax: 01634 850833

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BLADES**

TO SUIT THE T/A300 MODEL

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SPECIFICATION TA300

Maximum sawblade diameter	- 300mm, 12"
Saw spindle speed (rev/min)	- 3850
Table Width	- 855mm, 33 $\frac{5}{8}$ "
Table Length	- 815mm, 32"
Table working height	- 865, 34"
Maximum rise of saw using:	
300mm, 12" blade at 90	- 105mm, 4 $\frac{1}{8}$ "
300mm, 12" blade at 45	- 70mm, 2 $\frac{3}{4}$ "
Motor Power	- 1 phase - 1.5Kw - 2H.P. - 1 phase - 2.2Kw - 3H.P. - 3 phase - 2.2Kw - 3H.P. - 3 phase - 4Kw - 5.5H.P.
Standard Voltages	- 220/240V - 1 phase - 50Hz 220/380/420V - 3 Phase - 50Hz

FOR BEST RESULTS USE **A.L.T. SAW BLADES 01634 850833**

WHEN ORDERING PARTS, PLEASE STATE:-

1. Quantity required
2. Part No. (where applicable) and description.
Specify power supply for electrical components.
3. Machine Model and Serial No.

33E

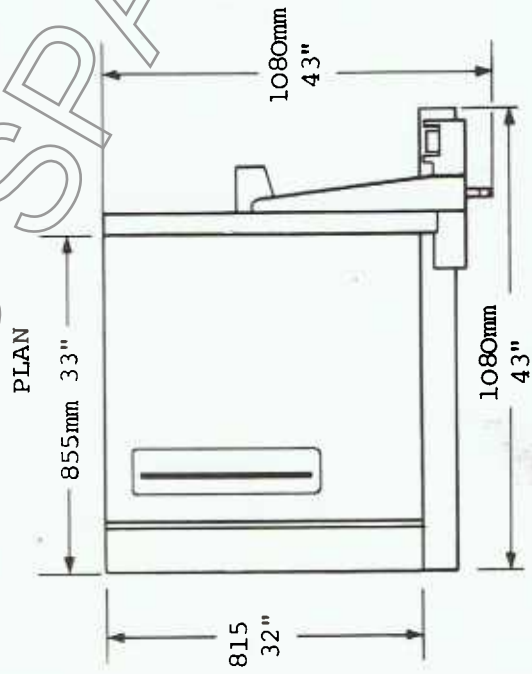
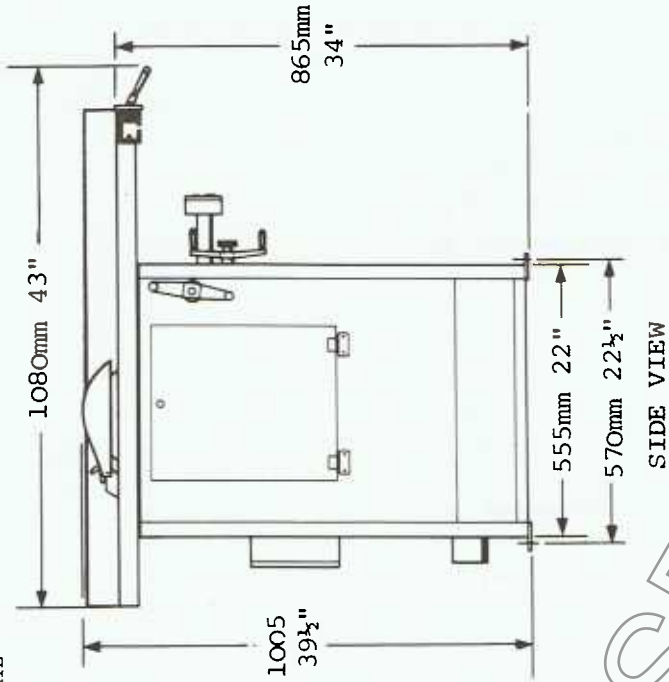
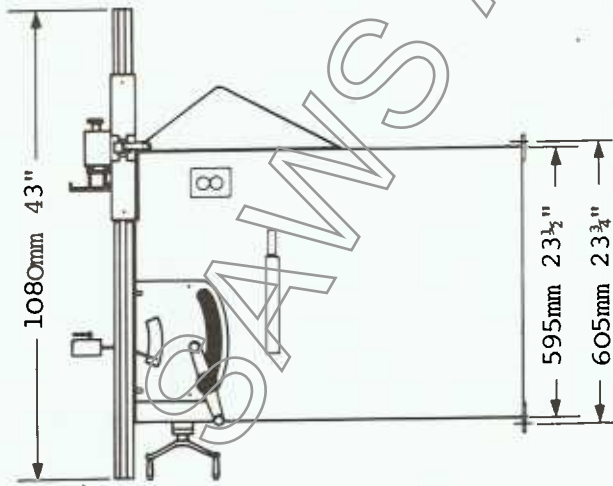
NOTE: ILLUSTRATIONS MAY VARY IN DETAIL, ACCORDING TO MODEL.

We reserve the right to change design and specification without notice.
Starrite Machine Tool Co. Ltd., Waterside Works, Gads Hill,
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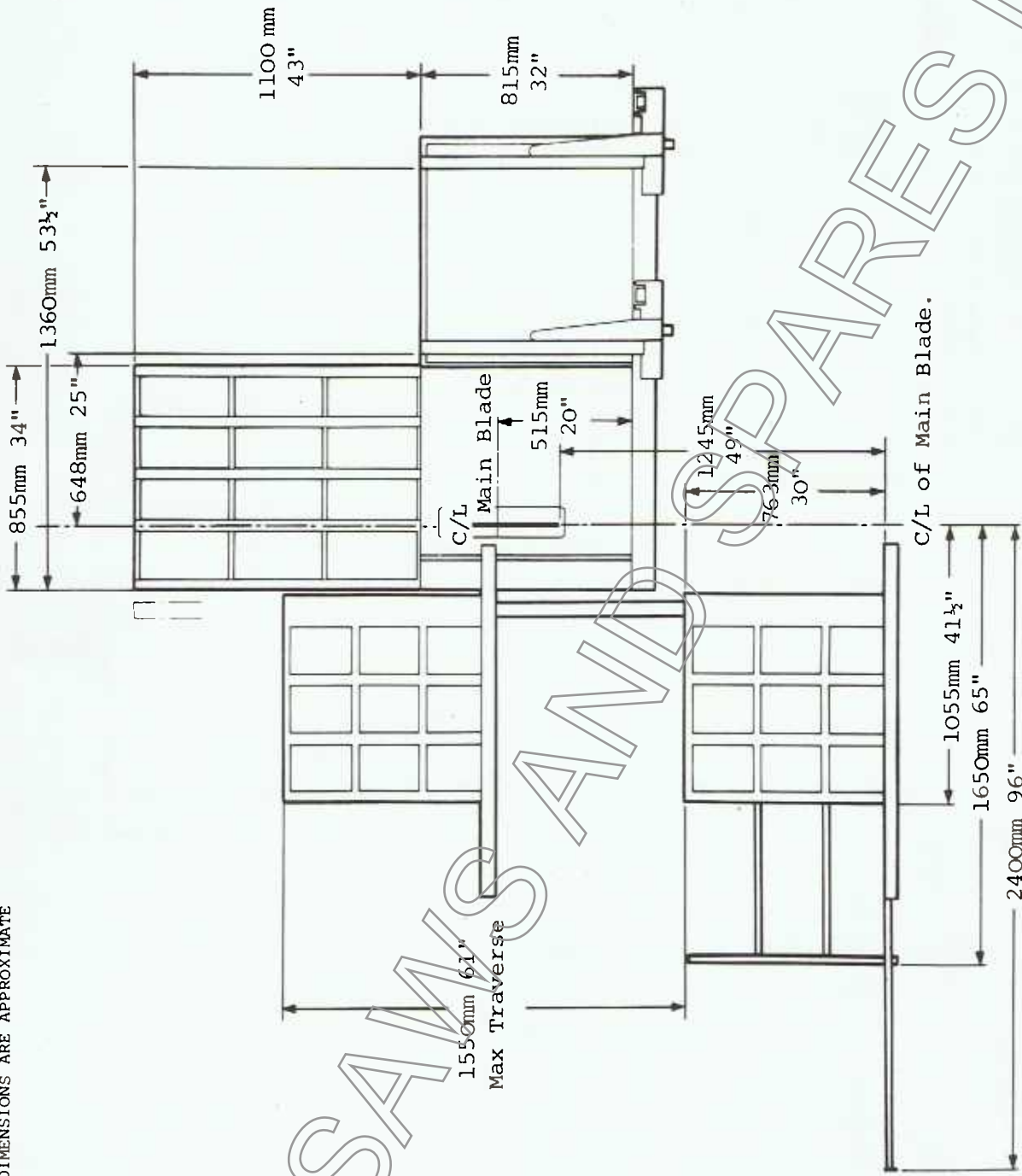
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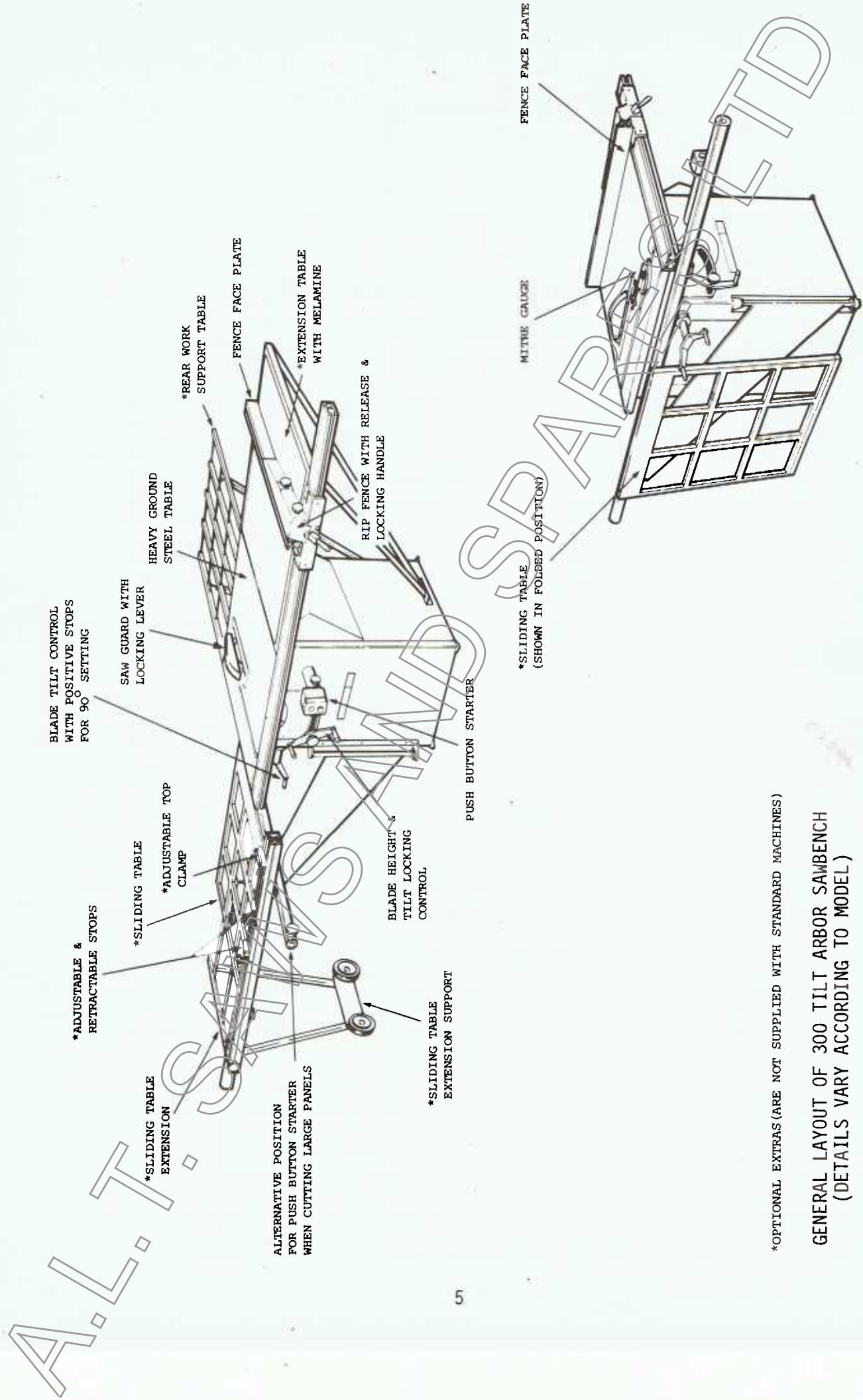
FOUNDATION PLAN OF MODEL 300 TILT ARBOR SAWBENCH.

ALL DIMENSIONS ARE APPROXIMATE



PLAN VIEW OF 300 TILT ARBOR SAW BENCH WITH ALL OPTIONAL EXTRA TABLES

33A
33E



BLADE TILT CONTROL WITH POSITIVE STOPS FOR 90° SETTING

SAW GUARD WITH LOCKING LEVER

HEAVY GROUND STEEL TABLE

*ADJUSTABLE & RETRACTABLE STOPS

*SLIDING TABLE
*ADJUSTABLE TOP CLAMP

*SLIDING TABLE EXTENSION

ALTERNATIVE POSITION FOR PUSH BUTTON STARTER WHEN CUTTING LARGE PANELS

*SLIDING TABLE EXTENSION SUPPORT

BLADE HEIGHT & TILT LOCKING CONTROL

*REAR WORK SUPPORT TABLE

FENCE FACE PLATE

*EXTENSION TABLE WITH MELAMINE

RIP FENCE WITH RELEASE & LOCKING HANDLE

PUSH BUTTON STARTER

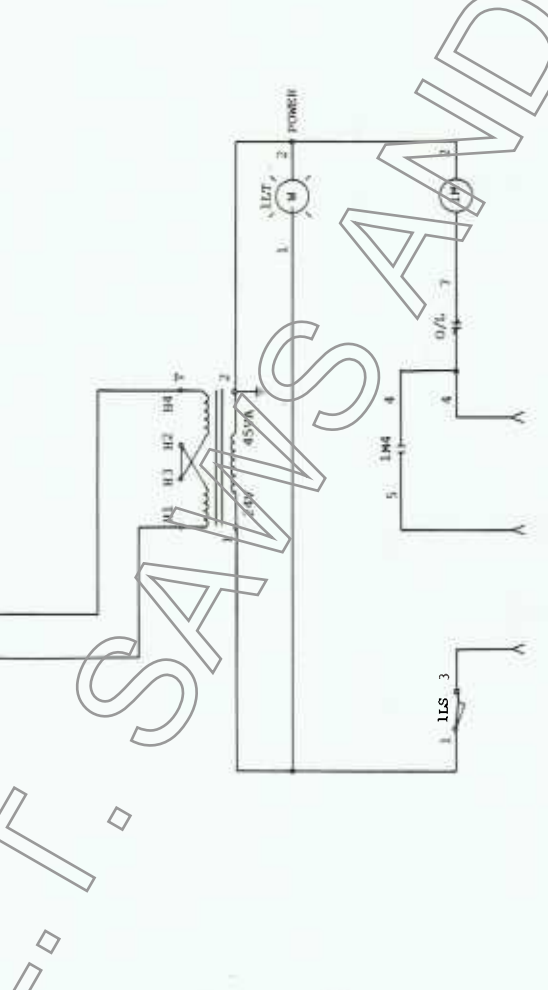
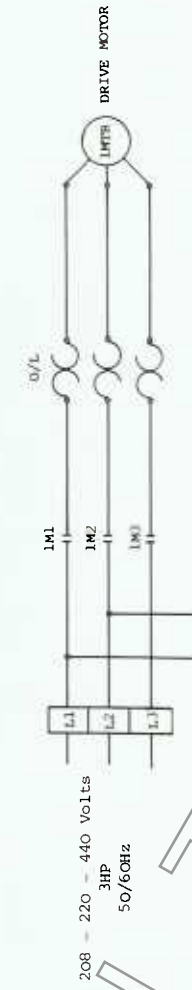
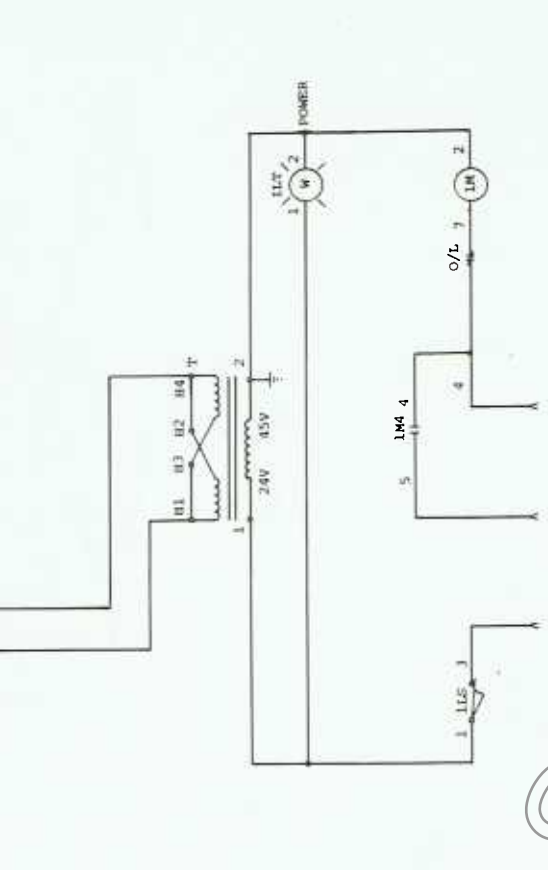
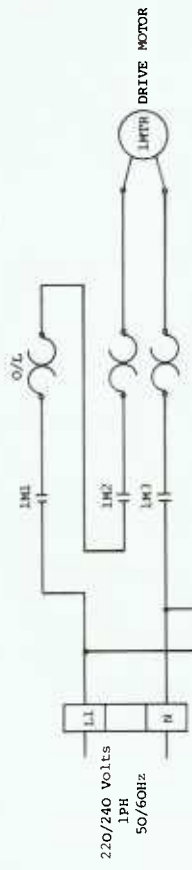
MITRE GAUGE

*SLIDING TABLE (SHOWN IN FOLDED POSITION)

FENCE FACE PLATE

*OPTIONAL EXTRAS (ARE NOT SUPPLIED WITH STANDARD MACHINES)

GENERAL LAYOUT OF 300 TILT ARBOR SAWBENCH (DETAILS VARY ACCORDING TO MODEL)



CIRCUIT DIAGRAM FOR 300 TILT ARBOR MACHINES

INSTALLATION.

WARNING: DO NOT MOVE MACHINE BY HOLDING RIP FENCE OR BY LIFTING MAIN TABLE.

Site the machine with adequate working space around it so as to ensure proper operation without obstruction.

Where possible, choose a position that offers minimum risk of the operators attention being distracted while using the machine. Take advantage of any natural light available and provide adequate artificial lighting over the whole working area.

The floor around the machine must have a level non-slip surface free of any feature which may create a hazard. The cabinet base is provided with four bolting down holes to accept M10($\frac{3}{8}$ " diameter bolts (not supplied). Before bolting the machine down, place packing under the feet to ensure that it stands firmly and without wobble.

The electrical installation of the machine must be carried out by a competent person.

CONNECTION TO THE ELECTRICITY SUPPLY.

IMPORTANT: Check that the electricity supply is suitable for the machine. At all times, ensure that the machine is isolated from the mains supply before making any electrical connections or adjustments.

Fuse and cable recommendations given in the Chart below are intended as a general guide only, as local regulations and/or operating conditions may require alternative specifications to be adopted.

Motor full load current may vary according to construction. The actual full load current is marked on the motor.

MODEL	SINGLE PHASE SUPPLY				THREE PHASE SUPPLY						
	MOTOR kW HP	220/240 VOLT			MOTOR kW HP	220/240 VOLT			380/440 VOLT		
		FULL LOAD AMPS	MIN WIRE SIZE mm ²	MAX FUSE AMPS		FULL LOAD AMPS	MIN WIRE SIZE mm ²	MAX FUSE AMPS	FULL LOAD AMPS	MIN WIRE SIZE mm ²	MAX FUSE AMPS
300/ 300PS	1.5 2	12.4	1.25	35	2.2 3	7.9	1.0	25	4.6	1.0	15
300/ 300PS	2.2 3	15.3	1.5	35	4.0 5.5	13.0	1.5	35	7.5	1.0	25

CONNECTION TO THE ELECTRICITY SUPPLY (CONTINUED).

To connect machine to mains supply proceed as follows:-

Remove cover of control box. (FOUR SCREWS).

Pass leads through hole (to the right) in underside of control box.

For single phase supply, connect supply leads to terminals L1 & N of terminal block and earth lead to earth terminal as shown in Fig.1.

For three phase supply, connect supply leads to terminals L1, L2, & L3 of terminal block and earth lead to earth terminal as shown in Fig.2.

IMPORTANT: IN ALL CASES THE MACHINE MUST BE EFFECTIVELY EARTHED.

A three phase motor may run in either direction, therefore, check that the leading edge of saw blade passes downward through the table (see Fig.3) If necessary interchange any two supply leads to reverse motor rotation. With all connections made, replace control box cover.

IMPORTANT: The service of a competent electrical engineer must be obtained if there is doubt on any point regarding electrical installation.

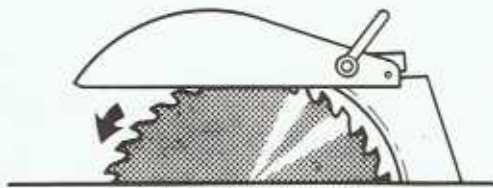


FIG.3.

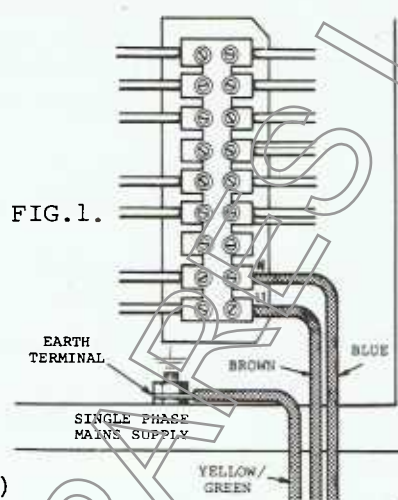


FIG.1.

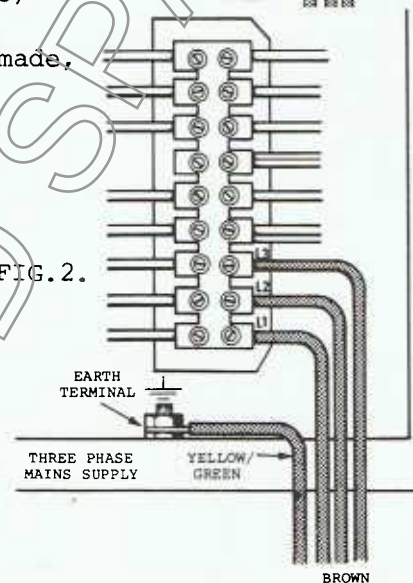


FIG.2.

OPERATING SAFETY PRECAUTIONS.

BEFORE ATTEMPTING TO OPERATE THE MACHINE BECOME FAMILIAR WITH THE CONTROLS AND OPERATING INSTRUCTIONS.

NO PERSON SHOULD OPERATE THIS MACHINE WITHOUT SUFFICIENT TRAINING AS TO ITS SAFE AND PROPER OPERATION, OR WITHOUT SUCH SUPERVISION AS MAY BE NECESSARY.

Before starting the machine, check that it is safe to do so. Make sure that all necessary adjustments have been completed and all guards are in position and secure. Never at any time make adjustments to any part of the machine while the saw blade is in motion.

Never put hands near a moving saw blade. When ripping short lengths or making the last 300mm (12") of a cut use a push stick to feed the work. A push stick should be made from strong straight grained hardwood of rectangular section with one end rounded to form a comfortable grip, and the other end notched to grip the workpiece.

Do not operate the machine with loose cuffs, or with an exposed bandage on the hands. Should it be necessary to wear a tie, prevent ends from hanging loose. For greater safety wear the type of tie that has weak elastic neck band or collar clip.

OPERATING SAFETY PRECAUTIONS (CONTINUED).

Always allow saw blade to cut freely, this is particularly important when feeding warped or irregular timber which may not sit firmly on the table.

Use only a saw blade that is in good condition and suitable for the machine (see page 13) and for work in the hand. A saw blade that is distorted, cracked or has mis-shapen teeth is unsafe to use and should be discarded.

Wet or unseasoned wood may tend to close in grip the saw blade. This may cause the wood to be flung towards the operator or cause the saw blade to distort due to the heat generated by friction. Caution is also necessary when cross-cutting to an end stop as the workpiece may cross-lock and jam the saw blade.

When feeding small or slender sections, particularly if knots are present, there is a risk of the saw blade snatching the workpiece and ejecting it with violent force. Jigs, push blocks and other devices which allow the operator to control the workpiece with safety should be used under these circumstances.

Take care not to strike the saw blade or guard by careless handling of the workpiece.

Use Extension Tables when handling large sheets.

When a wobble saw, or moulding and grooving cutters are used, a Hold Down Unit with some form of tunnel guard should be used, and also a Special Table Insert (Optional Extras).

Any person, other than the operator, who is removing material from the machine should stand only at the delivery end of the machine. Under these circumstances the machine should be fitted with the Feed Off Table Assembly (Optional Extra).

Keep the machine table and work area free from tools and off-cuts.

There is considerable risk of accidents through tripping or stumbling due to off-cuts being allowed to accumulate on the floor. A convenient bin should be provided to enable off-cuts to be safely disposed of as fast as they are produced. Vertical stacks of timber should be kept away from the working area to avoid the possibility of long lengths of wood falling across the machine.

Always stop the machine before leaving it unattended. Where there is a risk of personal injury due to unauthorised use, the machine should be made immobilised by means of a lockable Switch (Optional Extras) during the operators absence.

Dust Extraction Equipment (Optional Extra) should be used, particularly when some hardwoods are being sawn, to reduce pollution of the atmosphere. Some materials, such as asbestos, give off toxic fumes and dust when machined, and in such cases it is necessary to seek expert advice as to the method of dust extraction.

SETTING UP THE MACHINE

Set the saw blade tilt upright (0° on tilt scale) and raise the blade to its maximum height, tilt saw guard clear, remove table insert and saw blade. Clean spindle nose and thread with suitable brush and apply a few drops of very thin oil. Place clamping washer on spindle with dished side towards spindle nose giving maximum clamping area. Place suitable saw blade on spindle, ensuring that the central portion is free from dust and dirt. Place second clamping washer on spindle with dished side facing saw blade. Screw on spindle nut and clamp saw blade in position. To prevent spindle turning whilst this is being done, the tommy bar (supplied) should be inserted through the hole in the table so as to engage with the opposite end of the spindle.

UNDUE FORCE SHOULD NOT BE USED WHEN TIGHTENING SPINDLE NUT.
The minimum size rip or cross-cut saw blade to be used is: -182mm (7.2") diameter.

The plate thickness of a parallel plate saw blade should be less than the thickness of the riving knife, (splitter).

The riving knife should be set so that it is not more than 12mm ($\frac{1}{2}$ ") from the blade teeth at table level (see Fig.4.) The saw blade should not be more than 25mm (1") higher than the riving knife.

Replace table insert and saw guard. At all times the guard should be set to cover the gullets of the teeth at some point (see Fig.4&5.)

Place workpiece on table and set saw blade to required height and tilt. The front of the guard should not be more than 12mm ($\frac{1}{2}$ ") above the top of the workpiece (see Fig.4)



Fig. 4.



Fig. 5.

THE SETTING UP OF RIP FENCE.

Place fence body onto rail making sure clamp bracket is inserted into slot on rail. Then rotate handle 'A' to the left -clockwise which will prevent the fence body from sliding off the bar. (see Fig.10). Lock the fence to the guide rail by pushing down handle 'A'.

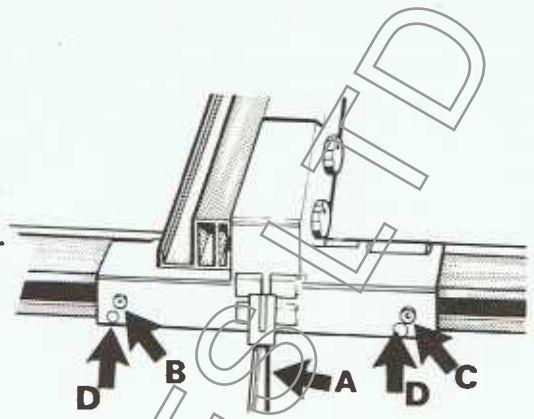


Fig.10

ADJUSTING FENCE PARALLEL TO MITRE GAUGE SLOT.

The fence body should be adjusted so it is parallel to the mitre gauge slot. (see Fig.11). To check and adjust, move fence until the bottom front edge of the fence is in line with the edge of the mitre gauge slot and push down on fence clamping handle 'A'. Check to see if the fence is parallel to the slot. If the rear of the fence must be moved towards the slot loosen handle 'A' and tighten screw 'B' Fig.10. If the rear of the fence must be moved away from slot loosen handle 'A' and tighten screw 'C'. Any movement of screws 'B' or 'C' should be followed by a similar movement of the heeling screws 'D'.

IMPORTANT: DO NOT OVERTIGHTEN SCREWS 'B' & 'C' VERY LITTLE MOVEMENT OF THESE SCREWS IS NECESSARY WHEN ADJUSTING THE FENCE PARALLEL WITH THE MITRE GAUGE SLOT.

If the fence body needs to be removed proceed as follows; Raise handle 'A' Fig.10 upwards and rotate anti-clockwise, then pull the assembly away from the machine.

When ripping, the fence plate should not extend more than 50mm (2") beyond the tips of the saw teeth in the direction of feed.

STAND WEIGHTS.

Remove dust chute cover in stand base. Remove bolt and slide weight into aperture between channels. Replace bolt and cover plate (see Fig.11a).

Note:- If dust extraction is not being used remove cover plate to clear sawdust.

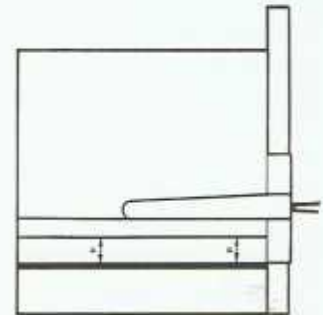


Fig.11 .

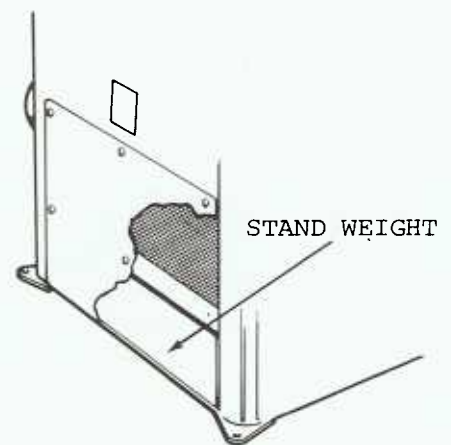


Fig.11a

HOLD DOWN UNIT (OPTIONAL EXTRA)

The hold down unit is a device having leaf springs which hold the workpiece against the rip fence and down onto the table, see Fig.12. It is easily bolted via an adaptor bracket to the top of the special rip fence face plate so that the bearing portion of the springs are more or less over the saw centre.

The unit complies with requirements of the Woodworking Machinery Regulations 1974(U.K.) when fitted with pressure pads that form an effective tunnel type guard around a wobble saw or moulding block. Suitable pressure pads can be easily made and fitted by the user to suit the nature of work to be carried out.

The unit should be adjusted so that the leaf springs bear down on top and side of the work piece. Excessive spring pressure should be avoided as this makes it difficult to maintain a smooth and even feed.

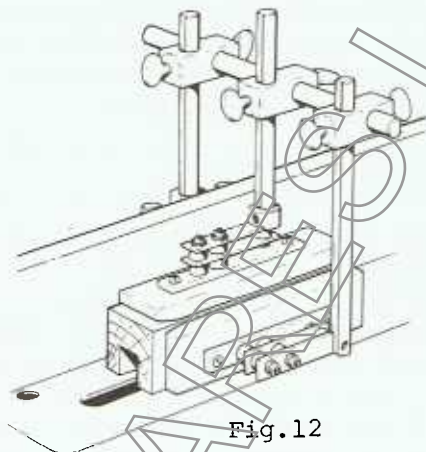


Fig.12

WOBBLE SAW (OPTIONAL EXTRA)

The wobble saw comprises of a robust saw blade, complete with a set of tapered washers. By adjusting the relative position of the washers the saw blade may be made to 'wobble', and thus cut a groove (see Fig.13). Both blade clamping washers must be removed from the saw spindle before the wobble saw assembly can be screwed on. To adjust the amount of wobble (and thus the width of the groove), slacken off the slotted locking ring and whilst holding the saw hub stationary, rotate the saw blade together with the two immediate washers, and tighten locking ring.

The wobble saw should be used in conjunction with the Hold Down Unit (see above) and the Special Table Insert (Optional Extra).

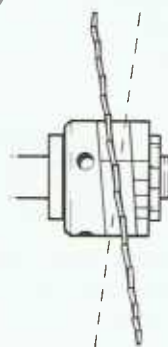


Fig.13.

MOULDING & GROOVING BLOCK (OPTIONAL EXTRA).

The moulding and grooving block consists of a circular steel block with provision for holding a pair of specially shaped cutters (see Fig.14.). Various patterns are available for moulding, trenching, rebating, tonguing and grooving.

To set up the block place it on the saw spindle with one of the clamping washers behind it and the locking wedges leading. The second clamping washer is omitted and the block is secured to the spindle by a standard nut which seats directly in the centre recess.

Position one cutter in the block with its clearance angle behind the cutting edge. Raise saw spindle so that when the block is rotated, the edge of the cutter will just touch a straight-edge laid across the table insert opening. Without moving the saw arm, position the second cutter in a like manner, ensuring that the two cutters are in line. Check locking screws for tightness before using the block.

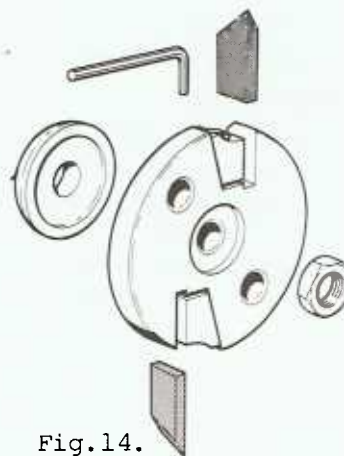


Fig.14.

MOULDING & GROOVING BLOCK (CONTINUED).

All cutters are supplied in matched pairs for both form and weight. It is most important, therefore, that both cutters are re-sharpened in an identical manner as even a small difference in weight will set up considerable vibration when the block is in use. In view of this, it is recommended that the job of re-sharpening moulding cutters be entrusted to specialists.

The moulding and grooving block should be used in conjunction with the Hold Down Unit (see page 12) and the Special Table Insert (Optional Extra).

RIP & CROSS-CUT SAW BLADES.

NOTE: The most important part of the machine is the blade itself. It is unsafe to use a saw blade that is in bad condition or of the wrong type, and is bound to result in wasted time and material.

A saw blade should be re-sharpened as soon as the teeth lose their keen points, and persistent attempts to force timber through a blunt saw blade will cause the blade to distort through overheating, and may damage the motor and bearings. Such distortion may become permanent and in this event, the saw blade is unfit for further use and should be discarded.

If it is not possible to re-sharpen the saw blade on the premises where it is being used, alternative saw blades should be at hand to prevent the machine from standing idle.

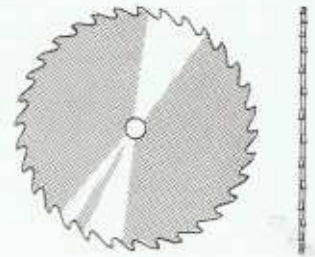
All saw blades not in use should be stored in a dry place and protected from accidental damage.

The rip saw blade, as its name implies, is used for rip sawing timber lengthwise, i.e. with grain. It will of course, cut across the grain, but the finish tends to be ragged. The teeth have a fairly coarse pitch and positive hook. The amount of hook, or front rake is approximately 25° for soft woods, decreasing to 15° or even 10° for hard woods. The hook of the blade is defined as the angle subtended by the front edge of the tooth to a radial line touching its tip. Whilst maximum amount of hook is desirable for fast cutting, there is a tendency for the teeth to 'hammer' in hard wood and in knots.

The clearance angle is the back slope of the tooth, and is measured to a line drawn tangential from the tip. This angle is usually around 15° but sometimes, however, it may be increased to 25° for very soft woods. Although the maximum clearance angle and front rake make for easy penetration into soft woods, they tend at the same time to weaken the points of the teeth, and teeth weakened in this fashion will be found to blunt very easily.

The rip saw blades as received from the manufacturer will have the teeth shaped to meet average conditions, and this shape should not drastically be modified without good reason.

Spring set saws have the clearance angle filed at an angle to the axis of the saw blade and this is called top bevel. Soft woods require a top bevel of 15° , this being reduced to around 5° for very hard woods. The top bevel has effect of giving a shearing action to the tooth and tends to produce a cleaner cut. It must, of course, be noted that the top bevel slopes outwards to the tip of the tooth according to which way the hook is set, thus the top bevel will run the same way on alternative teeth only. Front bevel to the teeth should be kept to the minimum and should certainly not exceed 5° for hard woods.



RIP TOOTH
SAW BLADE

RIP & CROSS-CUT SAW BLADES(CONTINUED).

Cross-cut saw blades differ mainly from rip saw blades by their negative hook of up to 10°. They are intended for sawing across the grain and also for cutting plywood, blockboard and other similar materials. They are usually spring set with a clearance angle of up to 60°. Top and front bevels are usually around 15°, but less will be required on very hard woods.

Only the periphery of the saw blade should be in contact with the workpiece and this condition is met on rip saw blades by spring setting, or swaging the tips of the teeth so that they protrude beyond the face of the saw blade. With spring setting the tips of the teeth are bent outwards, either by means of a saw set hammer blow upon a special anvil, adjacent teeth being set in the opposite direction. The set should be made tangential and from a position not more than one third of the way down from the tip of the tooth. It should be remembered that a saw blade with one or two over-set teeth will produce ugly score marks on every piece of wood it cuts. The amount of set required for general purposes is approximately 0.25mm (.010") each side of the saw blade, but the golden rule is to apply the least amount which prevents the saw blade from binding in the cut. Some woods by their nature tend to be woolly or exude resin, and extra care must be allowed in these cases, but it must be borne in mind that the wider the kerf, the more power required to drive the saw blade. To avoid an accumulation of resin building up in the saw blade, the blade should be frequently wiped clean with a rag soaked in petrol or other suitable solvents.

NOTE: It is incorrect to set the teeth after the sharpening operation.

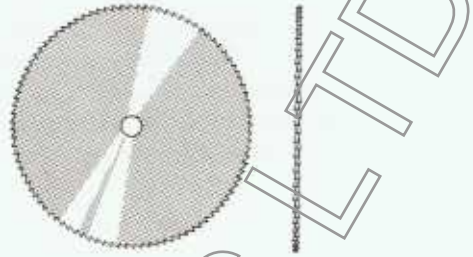
SHARPENING SAW BLADES.

General purpose rip and cross-cut saw blades are usually made from carbon steel and these may be easily re-sharpened by hand. Before sharpening, ensure that the saw blade runs true by stoning the teeth. This is done by first lowering the saw blade into the machine until it is below the table. Place a coarse emery stone over the table slot and very gently raise the saw blade until the teeth just make contact with the emery stone. Remove emery stone, and start the machine. Slide the emery stone over the tips of the saw teeth until a witness mark appears on every tooth.

Remove the saw blade from the machine and clamp in a suitable vice. File the top bevel of each tooth in the direction of the set until the witness mark is just removed.

It may be necessary to dress the front bevel, but take care not to remove more of the tooth profile than is required and to dress all teeth equally.

WARNING: Take extra care when stoning saw blades. It is advisable to wear eye protection and use an emery stone large enough to be held firmly on the table by both hands.



CROSS-CUT
SAW BLADE

HOLLOW GROUND SAW BLADES.

Hollow ground saw blades have their faces relieved by grinding to produce the necessary working clearance, but the shape of the tooth may vary considerably according to the purpose for which it is intended.

One type has teeth of the novelty combination pattern and is called a mitre or planer blade. This saw blade is used mainly for cross-cutting, or cutting thin sections and leaves a surface equal to a planed finish. It should be noted, however, that the planer blade is not intended as a substitute for the planing machine.

Hollow ground saw blades are also available for cutting a wide range of light alloys and plastics. Quite often the correct requirements for sawing these materials may only be determined by experiment, but the following notes should prove a useful guide.

For maximum cutting speed, saw blades of the greatest possible pitch should be used, but it must be ensured that there are at least two teeth in engagement. On harder materials it will be necessary to have more teeth in engagement in order to avoid the blade chattering in the cut. A fine pitch saw blade is essential for cutting very thin sections.

Heavier sections of some plastic materials will cut much more easily if the saw blade is lubricated with soap, or soapy water. Aluminium, zinc and lead based alloys may be sawn in thin sections and a few drops of paraffin or soluble cutting oil makes for easier cutting and a better finish.

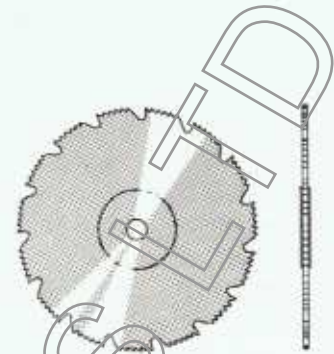
Due to the small working clearance of hollow ground saw blades there is a marked tendency for them to overheat once the teeth have lost their fine edge, and it is important, therefore, that these blades are frequently re-sharpened.

Saw blades with tungsten carbide stellite tipped teeth are available, and for cutting hard or abrasive materials it will be found that their high initial cost is well justified.

When saw blades of other than standard gauge thickness are used it may be necessary to fit a special riving knife of suitable thickness.

It must be borne in mind that the machine is designed primarily for cutting timber, and consequently its spindle speed is usually too great for sawing hard or abrasive materials.

A smaller diameter saw blade will give a lower peripheral speed. In addition, a smaller saw blade is much stiffer due to its reduced diameter, and this is an important factor in preventing blade wander.



HOLLOW GROUND
MITRE SAW BLADE



HOLLOW GROUND
CROSS-CUT SAW BLADE

CARBIDE TIPPED SAW BLADES.

Due to industries heavier demands in recent years, the tungsten carbide stellite tipped tooth saw blade has become more popular than ever for normal woodworking operations, hardwoods and abrasive materials.

A 12" x 30mm x 36 teeth sawblade is suggested for good fast feed rip sawing, and also suitable for cross and panel cutting where finish is not important.

A 12" x 30mm x 50 teeth sawblade is suggested for general purpose cutting. This will cut all natural and man made material at reasonable feed, speed and finish, whilst a 12" x 30mm x 72 teeth saw blade should be used for plastic faced panels and thin sheet materials, where a good fine finish is required.

It is important when re-ordering carbide tipped saw blades that the blade body thickness is maintained to .067" (1.6mm). The use of a thicker blade body would mean that a thicker riving knife would be necessary.

For specialised work, other carbide tipped saw blades are available.

To ensure that maximum production yield is maintained, care and maintenance of your carbide tipped saw blade is of paramount importance.

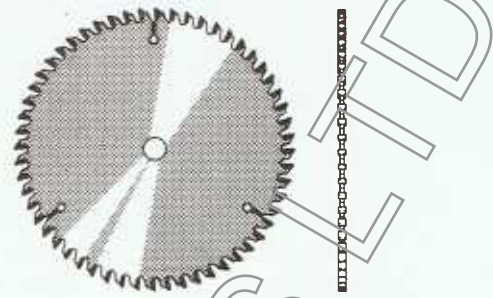
CARE:

Never place a carbide tipped saw blade on metal, concrete or other abrasive surfaces. When not in use, the saw blade should be returned to its original packing or a specially prepared storage box.

Always keep the saw blade clean and free from timber sap and other deposits.

MAINTENANCE:

The most important part of saw blade maintenance is the re-grinding or sharpening. A carbide tipped saw blade should never be allowed to become dull; this could cause friction heat and warp or buckle the saw blade. In which cases the saw blade is rendered useless and should be discarded. Re-grinding or sharpening is best carried out by professionals. Your local saw doctor will be pleased to help and advise, or return the saw blade to STARTRITE Service Department who will offer a speedy and efficient service.



CARBIDE TIPPED
SAW BLADE

MAINTENANCE.

GENERAL:

Periodically blow out the interior of the machine to clear all moving parts of dirt and dust deposits. Apply a few drops of very thin oil to all working surfaces.

The motor is fitted with sealed-for-life bearings and does not require further lubrication.

SAW SPINDLE:

The saw spindle is mounted on sealed-for-life bearings which do not require further lubrication. Periodically clean the spindle nose and thread with a suitable brush to remove any gummy deposits and apply a few drops of very thin oil.

TENSIONING VEE-BELTS:

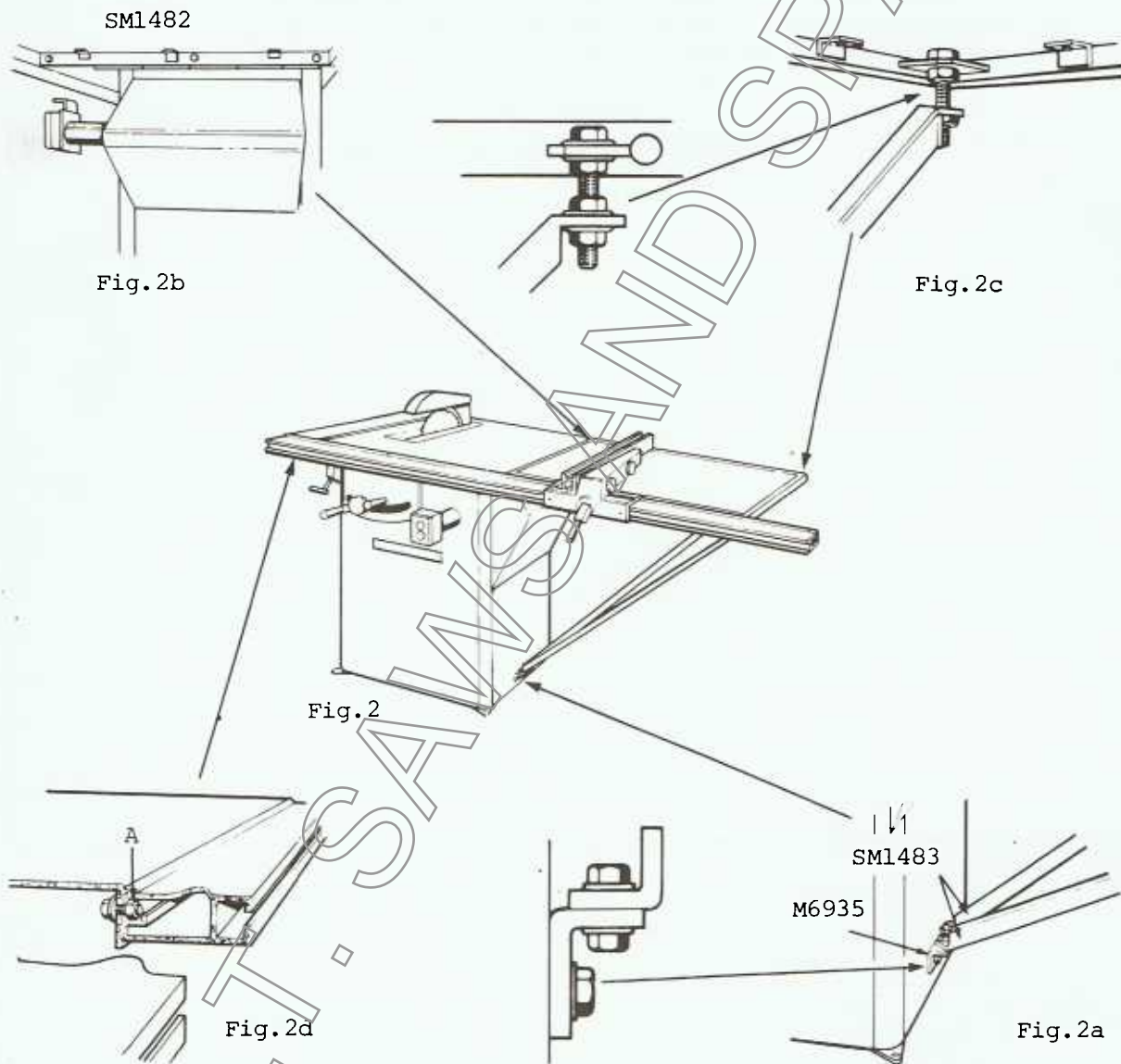
Check the belt tension after the first five hours running, and weekly thereafter. The belt tension is adjusted by slackening off 4 screws and moving platform up or down as required.

A good guide as to the correct belt tension is that it should be possible to deflect the belt 10 mm ($\frac{3}{8}$ ") midway between the pulleys. The vee belts are fitted as a matched pair and should only one belt fail, it is necessary to replace both belts.

CAUTION: DO NOT OVER TENSION VEE-BELTS, as this may damage both the belts and the bearings.

FITTING OF TABLE AND FENCE EXTENSION SM1527 (OPTIONAL EXTRA)

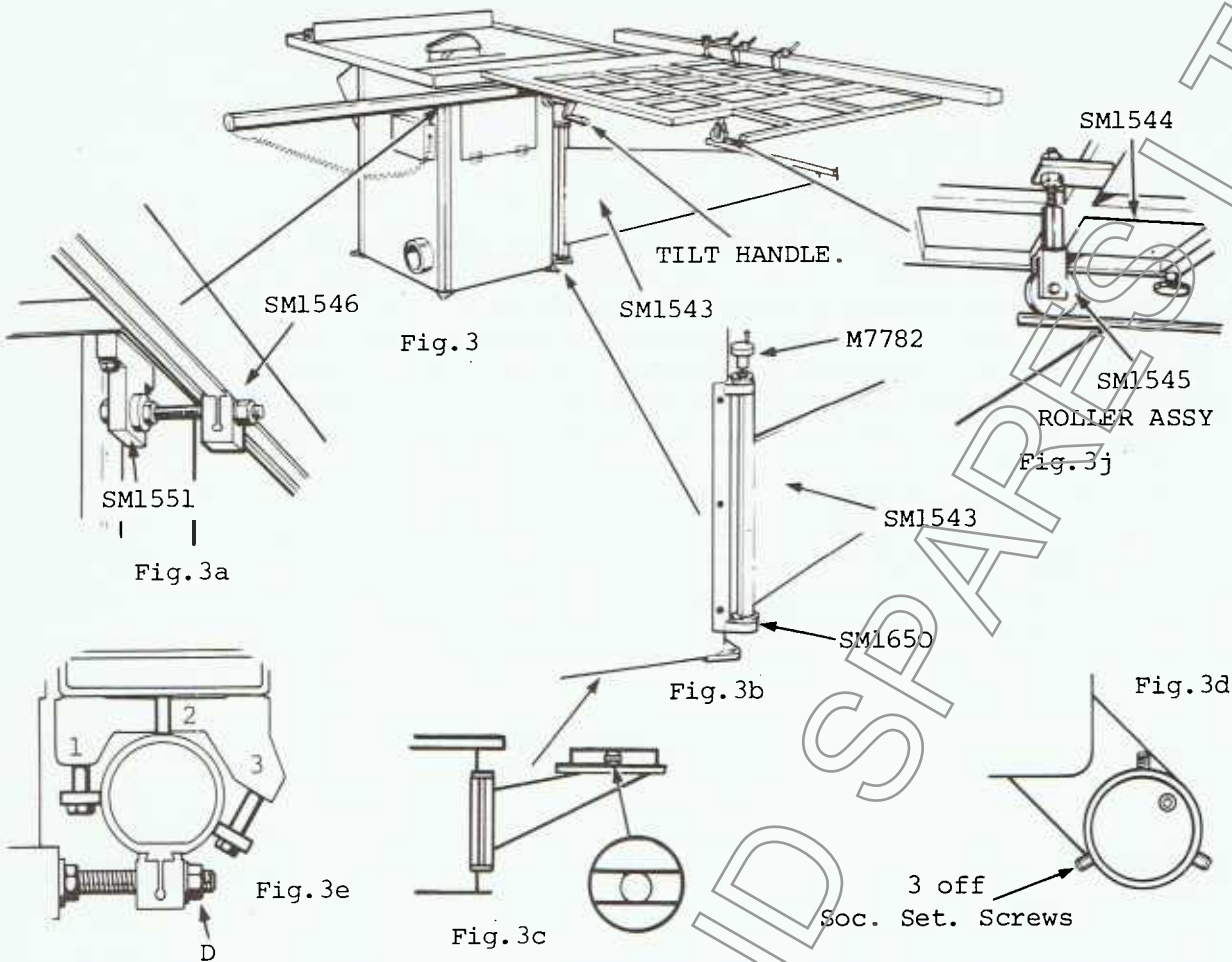
1. Remove rip fence and front fence rail from machine, (undo the two M10 nuts on the studs in underside of front flange of the machine table).
2. Remove fence support shelf bolted to the right hand side of machine table.
3. Line up two holes in bracket M6935 with captive nuts in right hand side of stand. Secure using bolts and washers supplied. (M10 x 25 LG bolt and M10 washer 2 off each see Fig 2a).
4. Secure arms SM1483 to bracket M6935 using nuts, bolts and washers supplied (M10 x 25 LG bolt 2 off, M10 nut 2 off and M10 washers 4 off see Fig 2a).
5. Line up holes in extension table SM1482 with the three tapped holes in right hand side flange of machine main table, secure using bolts and washers supplied (M8 x 16 LG bolt and M8 washer 3 off each, see Fig 2b).
6. Secure extension table SM1482 to support arm SM1483 with nuts, bolts and washers supplied (M10 x 60 LG bolt 2 off, M10 nut 6 off and M10 washer 8 off Fig 2c). Fit melamine board into extension table SM1482 and secure with screws provided (No 8 x ½" long self tapping screws 10 off).



33E

7. To level the extension table place a straight edge across machine table and extension table, slacken 3 off M8 bolts and adjust inboard end of extension table in line with main table, retighten bolts. Adjust outboard end of extension table level by means of the M10 x 60 bolts between extension table and arms. (See Fig 2c). Slacken off the lower nut and adjust the nut above the arm to jack the table up or down. When level relock the lower nut.
Note:- This is to be done for both arms.
8. To fit long version front fence rail remove the 2 studs & nuts from the short fence rail (Already removed from machine) and refit in the corresponding holes in long rail. Fit the long version stud and nut (supplied) in remaining hole. Note slide nuts inside recess in rail until aligned with holes and screw in short end of thread, tighten. Load fence rail to front of machine, the 3 studs to pass through holes in machine table and extension table secure using nuts & washers supplied. (Check rail is parallel with tables before tightening, use spirit level see Fig 2d).
9. Replace rip fence and reset for squareness as per instructions, (see page 11 of your handbook). Check cursor setting on fence, slide fence up to blade so that fence face plate is just touching face of blade teeth and check that cursor reads zero. Undo the 2 slotted screws and adjust cursor to zero if necessary, retighten.

FITTING OF SLIDING TABLE SM1526 (OPTIONAL EXTRA)



1. Fit 2 off tee shaped clamp assy's, SM1551 line up holes in clamp assy with holes in underside corners of machine main table (Left Hand Side) secure using bolts and washers supplied. (M10 x 40 LG bolt & M10 washer 4 off each see Fig 3a.)
2. Slide long table rail SM1546 onto clamp assy's SM1551 (Fig.3a):-remove stop screw at rear end of rail & blanking plate carrying cable. Dovetail recess in slide rail slides through matching shape in clamps Note! The cable in the end of the slide rail is towards the rear of the machine & the rail must be loaded from the front of machine. Lock rail in position required with locking nuts 'D' (use sawblade spanner) see Fig 3e & refit stop screw and blanking plate.
3. Undo M6 x 12 counter sunk screw and remove spigot M7782 (Fig 3b). Fit support arm assembly SM1543 over 16mm Dia dowel in support arm bracket SM1650 and refit spigot M7782 and secure using M6 x 12 counter sunk screw.

The arm must now be checked for level with machine main table. Using a spirit level placed along the 22mm (7/8") round bar at the top of the support arm, and with the support arm folded into the side of the machine compare its level with the machine main table in the same plane (Fig 3c). Adjust the arm via the 3 off M6 x 16 soc set screws at top of support arm bracket (Fig. 3d) until level with main table. Swing arm away from the machine through 90° and check its level in this plane. Adjust if necessary in a similar manner finally re-check the level of the arm in both planes and check that all 3 off soc set screws are tight.

33E

4. Fit the roller assy SM1545 to sliding table SM1544 see Fig 3j, one nut & washer each side of mounting flange. Then with the stop screw 'A', switch & locking handle (Fig 3n) removed. The table with its nylon rollers can be slid onto table rail and the roller assy SM1545

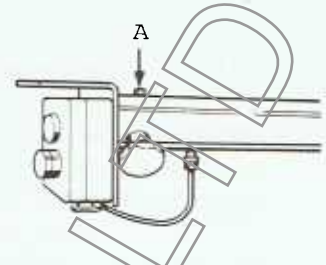


Fig. 3n

(Fig 3j) lowered onto the support arm. Replace stop screw, switch and locking handle. The 3 nylon rollers (Fig 3e) have been pre-set to give a good sliding action of the table with a minimum of free play. if adjustment is required, roller No.3 (Fig 3e) is mounted on an eccentric pillar, therefore slacken off the soc. set screw in casting body (arrow A Fig 3f), rotate mounting pillar (Tommy bar hole arrow B, Fig 3f) to achieve required fit and retighten soc. set screw.

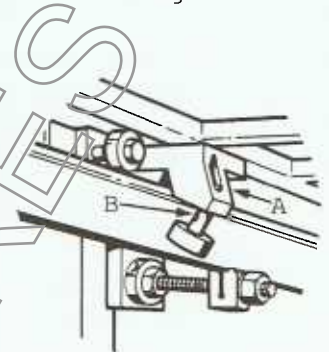


Fig. 3f

5. The tee clamp assy SM1551 has now to be set so that the sliding table is at the correct height to the machine table. Move the sliding table along slide rail until it is in line with the main table (Fig 3L). Place a straight edge across the main table and over the inboard end of the sliding table (posn 1), slacken nut 'A' & socket set screw 'E' (Fig 3h), rotate cam 'F' to raise or lower table to be in line with main table. Retighten nut 'A' & screw 'E'. Repeat this operation at the front edge of the main table (posn 2).

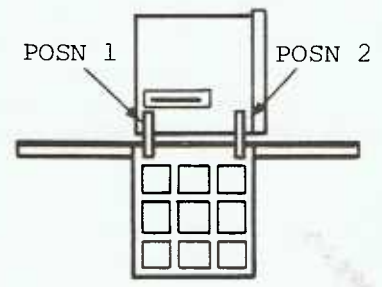


Fig. 3L

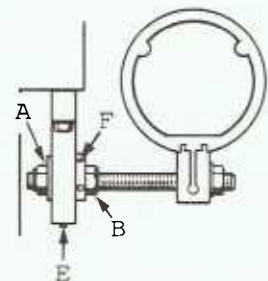


Fig. 3h

6. To adjust the outboard end of the sliding table so it is level with the main table, slacken the top locking nut on the roller assy SM1545 (Fig 3j) and raise or lower the bottom nut until the tables are in line, then retighten the top nut.

Note: - If heavy panels are to be cut the outboard end of the sliding table should be raised approximately one ½ turn of the lower nut to compensate for the weight.

7. Fit the cross cut fence as shown in Fig 3k. Slide 2 off location pins M7323 into tee slot on lower face of cross cut fence, fit 1 off .015" shim washer onto each location pin and then lower pins through reamed holes at front of table (a range of holes are drilled in the table for cutting at 0°, 15°, 30° & 45° from the front or rear fence positions). To lock the fence in position, fit and tighten the two M10 locking knobs.

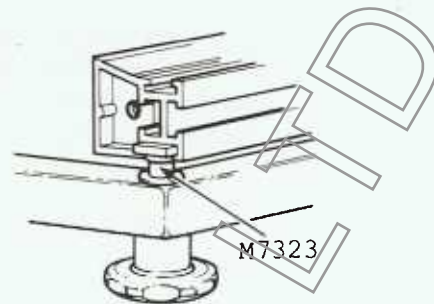


Fig. 3k

8. The sliding table motion must be set parallel to the line of the saw blade cut, adjustment may be necessary to jack one end of the long table rail towards or away from the saw blade. The mitre gauge slots in the main table may be used as datums for checking alignment. Move the sliding table along the slide rail until it is in line with the main table (Fig 3L). Undo the cross cut fence locking knobs (Fig 3k) and slide fence inwards until the end is in line with one side of the mitre gauge slot and retighten the locking knobs. Now move the sliding table forwards checking that the fence remains in line with the slot, if not adjustment must be made to the slide rail as follows:-Slacken off lock nut 'A' (Fig 3h) at posn 1 on sliding table (Fig 3L) and adjust nut 'B' in or out until the end of the fence runs parallel with the mitre gauge slot. Retighten nut 'A', check squareness and readjust if necessary.

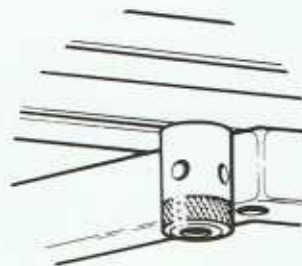


Fig. 3p

NOTE:- The stop (Fig 3p) may be adjusted to stop on the outboard edge of the sliding table when the tape on the cross cut fence reads the correct distance from the blade.

Undo the three bolts that hold the cast tilt handle (see Fig 3) and replace with the longer handle supplied. Finally slide the two stop assy's and one clamp assy, into top face of cross cut fence (Fig 3) and the two M8 locking knobs into table extension, also one off M8 locking knob into the front face outboard end of cross cut fence.

9. ELECTRICS:

Fit plug at end of cable on slide rail into the socket in the side of the electrical control box.

10. Also available as an optional extra is the sliding table extension support kit SML615 (see Fig 3r) for use when cutting long and particularly heavy panels.

Assemble as shown in Fig 3r and bolt to sliding table extension, height of wheels may be adjusted to suit level of floor.



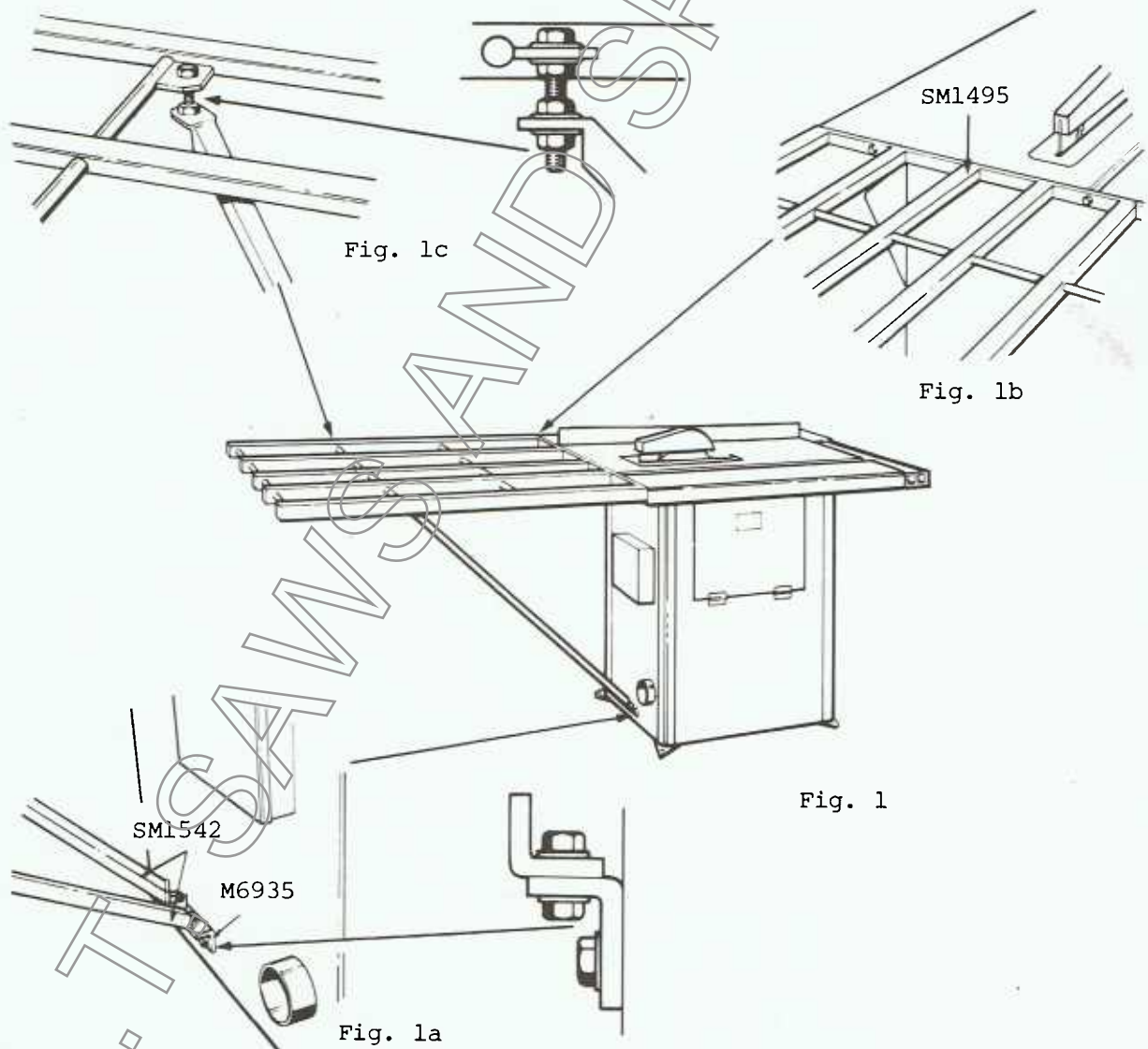
Fig. 3r.

32E
33E

FITTING OF REAR SUPPORT TABLE SM1528 (OPTIONAL EXTRA)

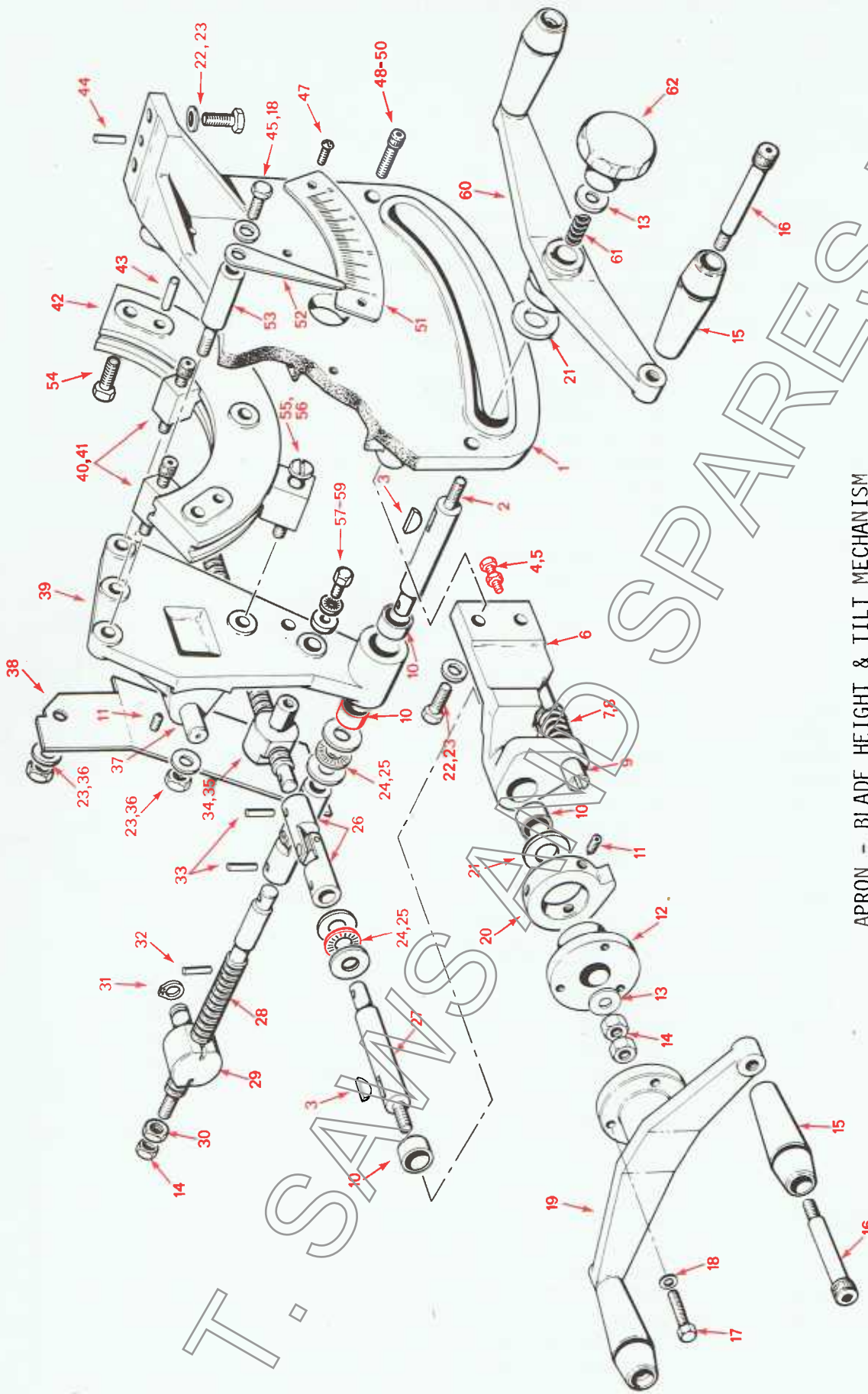
1. Line up two holes in bracket M6935 with captive nuts in rear face of stand. Secure using bolts and washers supplied. (M10 x 25 LG bolt and M10 washer 2 off each see Fig 1a).
2. Secure arms SM1542 to bracket M6935 using nuts, bolts and washers supplied (M10 x 25 LG bolt 2 off, M10 nut 6 off and M10 washer 4 off see Fig 1a).
3. Line up holes in support table SM1495 with the 2 tapped holes in rear flange of machine main table, secure using bolts and washers supplied (M8 x 16 LG bolt & M8 washer 2 off each, see Fig 1b).
4. Secure support table SM1495 to support arms using nuts, bolts and washers supplied (M10 x 60 LG bolt 2 off, M10 nut 6 off and M10 washer 8 off, see Fig 1c).
5. To level the support table place a straight edge across machine table and support table, slacken 2 off M8 bolts and adjust inboard end of support table in line with main table, retighten bolts. Adjust outboard end of support table level by means of the M10 x 60 bolts between support table and arms. (see Fig 1c). Slacken off lower nut and adjust the nut above the arm to jack the table up or down, when level relock the lower nut.

Note:- This is to be done for both arms.



APRON - BLADE HEIGHT & TILT MECHANISM - ASSEMBLY No.SP177D.

ITEM	PART NUMBER AND DESCRIPTION	No. OFF
1	1736 Apron	1
2	1788 Shaft	1
3	Key	2
4	Hex. Hd. Screw	1
5	Hex. Nut	1
6	2069 Tilt Shaft Bracket	1
7	2072 Compression Spring	1
8	Circlip External	1
9	2070 Positive Stop Pin	1
10	Compo Bush	4
11	Soc. Set Screw	2
12	7403 Collar	1
13	Std. Washer	2
14	Hex Locknut	3
15	Handle	4
16	Shoulder Screw	4
17	Hex. Hd. Screw	3
18	Washer	4
19	3339 Handle	1
20	2071 Positive Stop Collar	1
21	1798 Special Washer	2
22	Hex. Hd. Screw	6
23	Std. Washer	6
24	1795 Special Washer	4
25	Needle Thrust Race	2
26	SP212 Universal Joint	2
27	1790 Shaft	1
28	4542 Feed Screw L.H.	1
29	4541 Trunnion Nut L.H.	1
30	5634 Special Nut.	1
31	Circlip External	1
32	Sellok Pin	1
33	Sellok Pin	4
34	1791 Feed Screw R.H.	1
35	5735 Trunnion Nut R.H.	1
36	Hex. Nut	6
37	1812 Pivot Pin	1
38	5651 Deflector Plate	1
39	1738 Tilting Arm	1
40	1777 Internal Shoe	2
41	Soc. Hd. Cap Screw	2
42	1737 Segment	1
43	Std. Dowel	2
44	Spring Dowel	2
45	Hex. Hd. Screw	1
47	Rd. Hd. Screw	2
48	Soc. Hd. Cap Screw	4
49	Self Locking Nut	4
50	Std. Washer	4
51	3336 Tilt Scale	1
52	3338 Pointer	1
53	1793 Pointer Support	1
54	Hex. Hd. Screw	3



APRON - BLADE HEIGHT & TILT MECHANISM

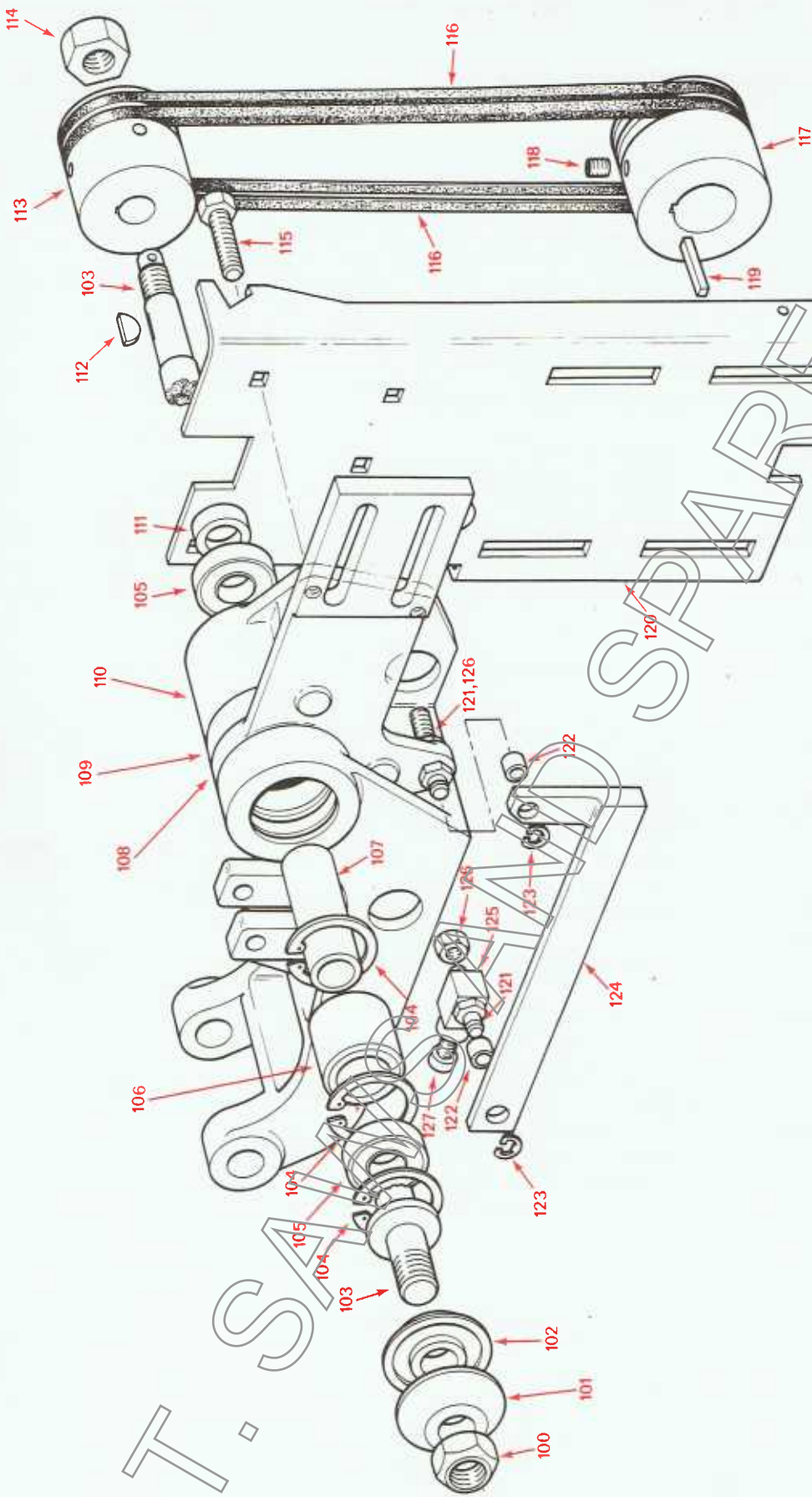
ALT. SAWS SPARES LTD

APRON - BLADE HEIGHT AND TILT MECHANISM ASSEMBLY No.SP177D (CONTINUED).

ITEM	PART NUMBER	DESCRIPTION	NO. OFF
55	1776	External Shoe	1
56	1794	Eccentric Screw	1
57		Hex. Hd. Screw	1
58		Shakeproof Washer	1
59	5736	Washer	1
60	7247/1	Handle	1
61	1499	Compression Spring	1
62	5130	Handknob	1

SAW ARM & MOTOR PLATFORM ASSEMBLY - SM1566

100	1190	Spindle Nut	1
101	7707	Plain Clamp Washer	1
102	6149	Clamp Washer	1
103	1784	Saw Spindle	1
104		Internal Circlip	3
105		Bearing	2
106	6931	Bush	1
107	1785	Spacer	1
108	2247	Riving Knife Arm	1
109	7471	Spacer	1
110	6918	Saw Arm	1
111	7240	Spacer	1
112		Woodruff Key	1
113	7584	Saw Spindle Pulley	1
114		Self Locking Nut	1
115		Hex. Hd. Screw	4
116		Polyflex Belt	2
117	6927 6927/1	Motor Pulley, 50Hz or 50Hz	1
118		Soc. Set Screw	1
119		Key	1
120	SM1573	Motor Bracket	1
121	2151	Pivot Pin	2
122		Comp Bush	2
123		External Circlip	2
124	SM1514	Link Assembly	1
125	2147	Pivot Block	1
126		Locknut	2
127		Soc. Cap Screw	1



SAW ARM AND MOTOR PLATFORM ASSEMBLY

A.L.T. SA. SPARES LTD

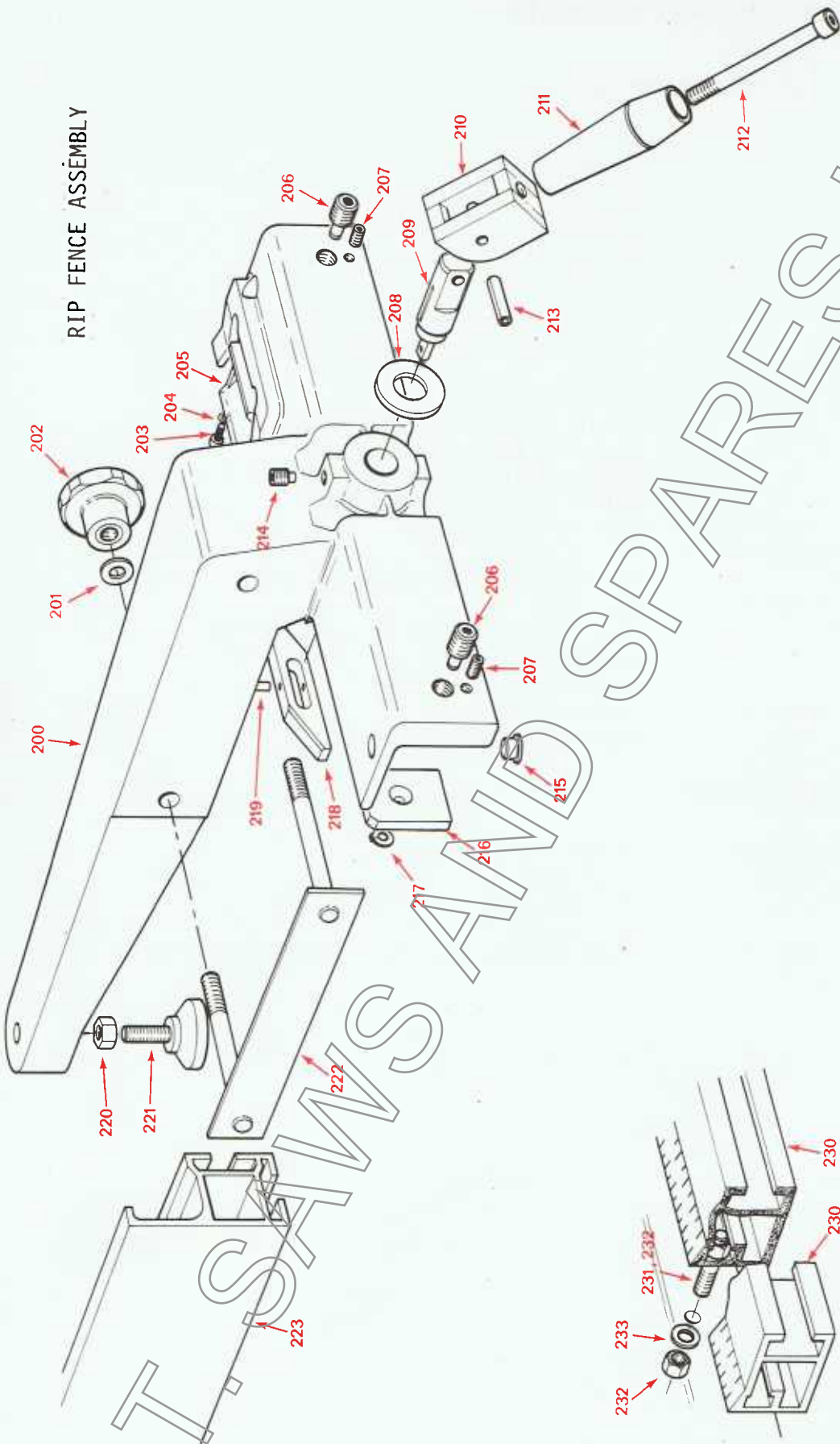
RIP FENCE - ASSEMBLY No. SM1510

ITEM	PART NUMBER	DESCRIPTION	NO. OFF
200	7356	Tee Bar	1
201		Washer	2
202		Handle	2
203		Cheese Hd. Screw	2
204		Washer	2
205	7355	Cursor	1
206	7365	Screw	2
207		Nylok Soc. Set Screw Dog Point	2
208		Thrust Washer	1
209	7359	Shaft	1
210	7357	Clamp Lock Cam	1
211		Handle -	1
212		Soc. Cap Screw	1
213		Sel-Lok Pin	1
214		Spring Plunger	2
215	7792	Anti Friction Pad	2
216	7364	Slider Pad	2
217		'E' Type Circlip	2
218	7349	Lock Bar	1
219		Sel-Lok Pin	1
220		Locknut	1
221		Sliding Foot	1
222	SM1511	Fence Clamp	1
223	7338	Rip Fence Face Plate	1

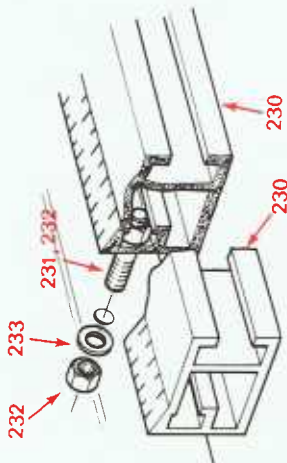
FENCE RAIL ASSEMBLY.

230	SM1562	Fence Rail Assembly	1
231	7529	Stud	4
232		Hex Nut	8
233		Washer	4
234	SM1533	Lamp Display Assembly (Not Illustrated).	1

RIP FENCE ASSEMBLY



FENCE RAIL ASSEMBLY



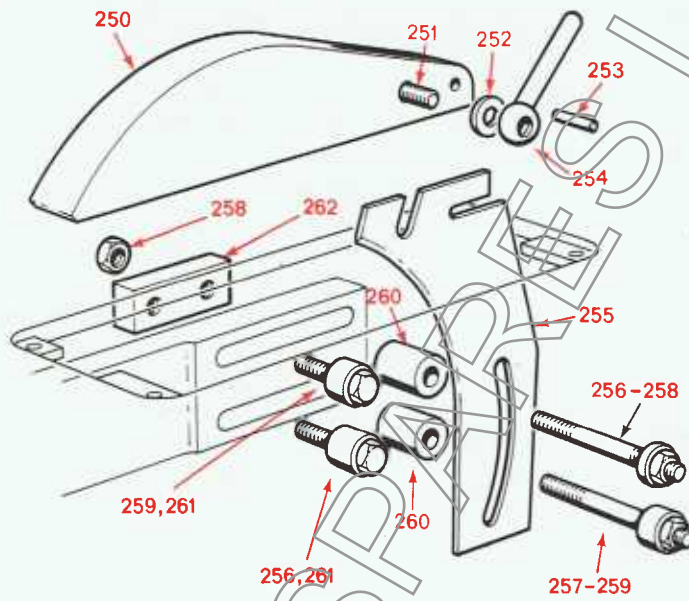
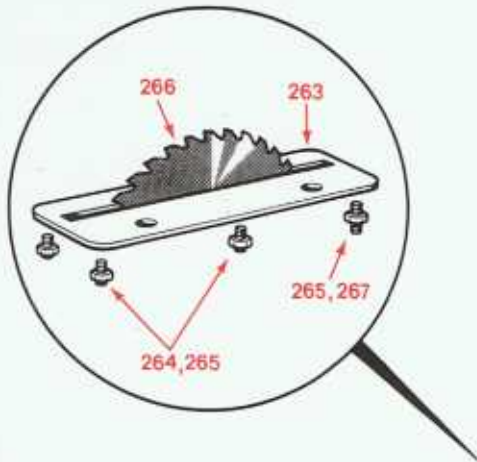
A.L.T. STEELWORKS AND SPARES LTD

BLADE GUARD AND RIVING KNIFE - ASSEMBLY No.SM889

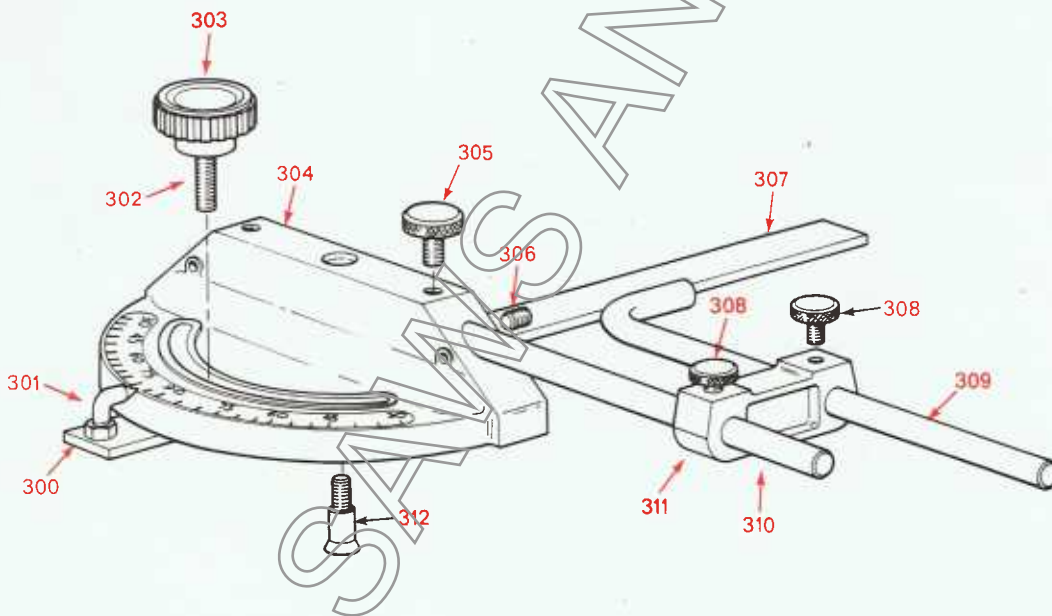
ITEM	PART NUMBER AND DESCRIPTION	No. OFF
250	4937 Guard	1
251	Hex. Hd. Screw	2
252	Std. Washer	1
253	Sel-lok Pin	1
254	4943 Locking Lever	1
255	5105 Riving Knife	1
256	4941 Washer	2
257	4940 Stud	2
258	Hex. Nut	4
259	4942 Spacer	2
260	4939 Spacer	2
261	Hex. Hd. Screw	2
262	4938 Clamp	2
263	7671 Table Insert	1
264	Soc. Set Screw	4
265	Hex. Nut	6
266	Saw Blade 12" Dia	1
267	Soc. Set Screw	2

MITRE GAUGE ASSY - SM1522

300	Full Nut	1
301	7450 Pointer	1
302	7453 Stud	1
303	Handknob	1
304	7436 Mitre Gauge Body	1
305	7486 Thumb Screw	1
306	Soc. Set Screw	1
307	7451 Tenon Strip	1
308	Thumb Screw	2
309	7485 Stop Bar	1
310	7484 Clamp Bar	1
311	1507'1 Bridge Piece	1
312	7454 Pivot Pin	1



BLADE GUARD AND RIVING KNIFE ASSEMBLY



MITRE GAUGE ASSEMBLY

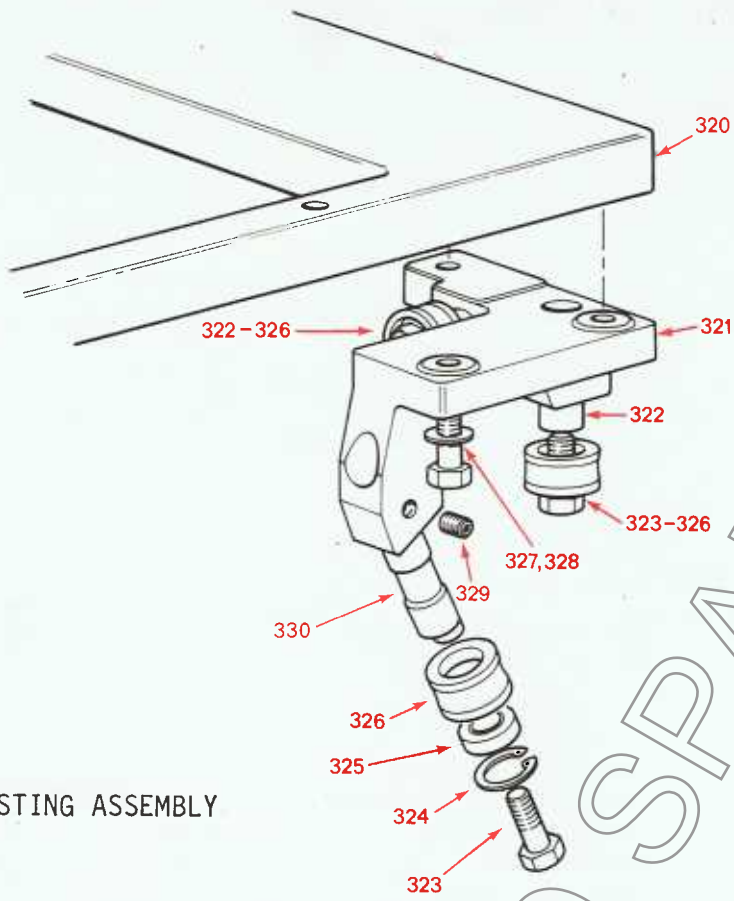
BEARING CASTING ASSY - SM1594

ITEM	PART NUMBER	DESCRIPTION	No. OFF
320	SM1485	Sliding Table	1
321	7472	Bearing Carrier Casting	2
322	5521	Pin	4
323	5561	Shoulder Screw	6
324		Std. Internal Circlip	6
325		Ball Bearings	6
326	7432/1	Bearing Sleeve	6
327		Hex. Hd. Bolt	6
328		Washer	6
329		Soc. Set Screw	6
330	5520	Eccentric Pin	2

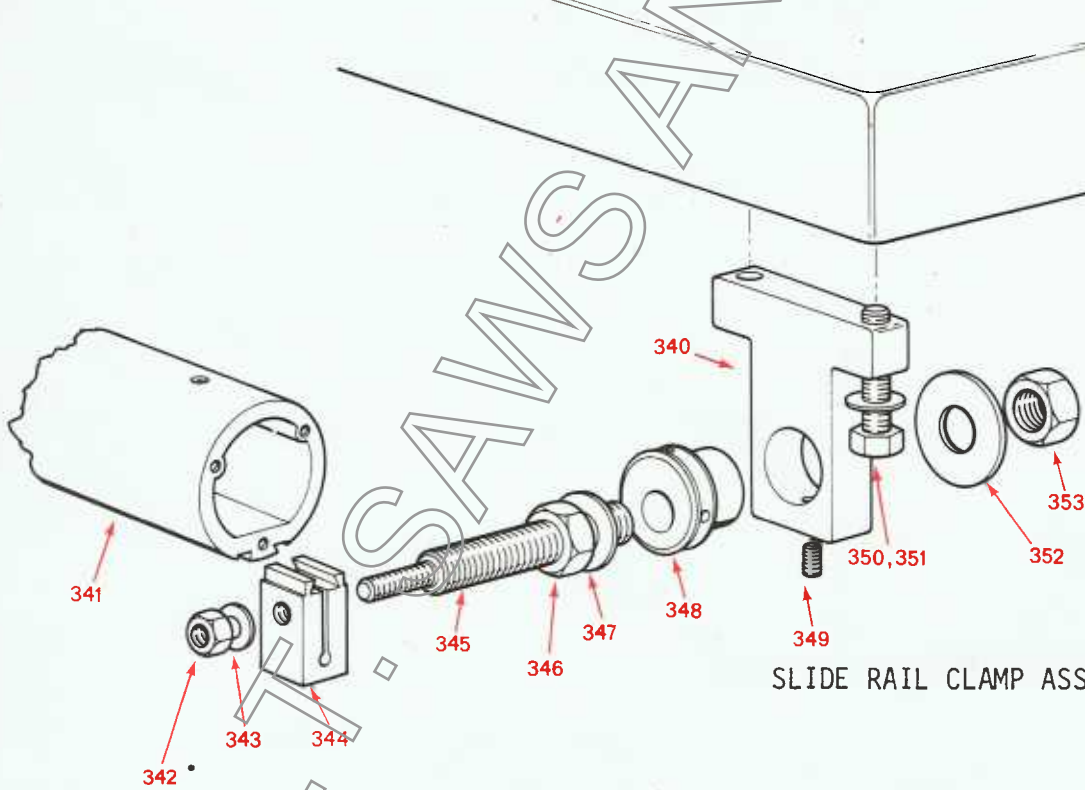
SLIDE RAIL CLAMP ASSY - SM1551

340	6915	Table Support Block	2
341	7367	Table Slide Rail	1
342		Hex. Nut	2
343		Washer	2
344	7458	Slide Rail Clamp	2
345	7473	Slide Clamp Studding	2
346		Locknut	2
347		Washer	2
348	7457	Adjuster Bush	2
349		Soc. Set Screw	2
350		Hex. Head Screw	4
351		Washer	4
352	7460	Washer	2
353		Self Locking Nut	2

NOTE:- The quantities for SM1594 & SM1551 are listed for 2 off assemblies.



BEARING CASTING ASSEMBLY



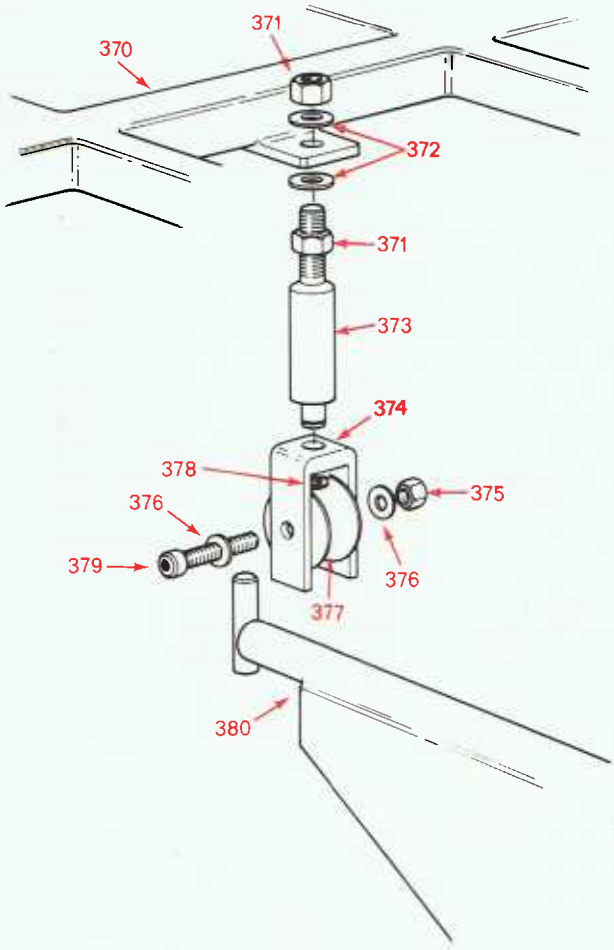
SLIDE RAIL CLAMP ASSEMBLY

ROLLER ASSEMBLY - No. SM1545

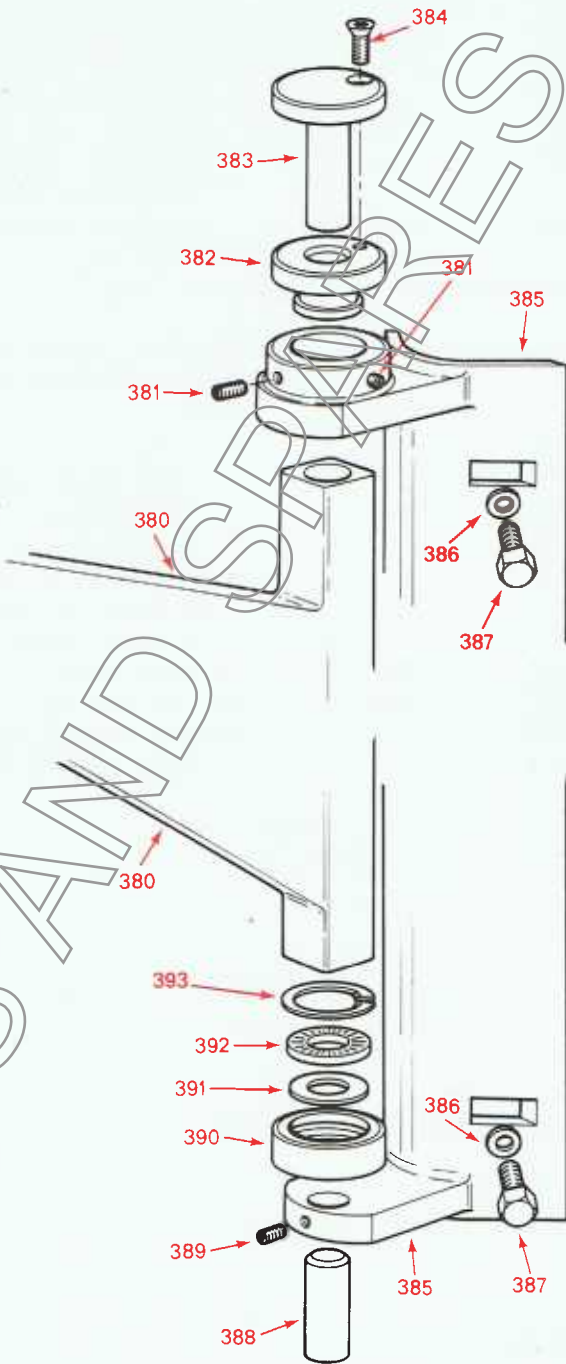
ITEM	PART NUMBER AND DESCRIPTION	No. OFF
370	SM1544 Sliding Table Assembly	1
371	Locknut	2
372	Washer	2
373	6912 Support Pillar	1
374	SM1541 Roller Cradle	1
375	Self Locking Nut	1
376	Washer	2
377	7490 Roller	1
378	External Circlip	1
379	Cap Screw	1
380	SM1540 Sliding Table Support Arm	1

SUPPORT ARM ASSEMBLY

380	SM1540 Sliding Table Support Arm	1
381	Soc. Set Screw	3
382	7783 Bush	1
383	7782 Spigot	1
384	Counter sunk screw	1
385	SM1650 Pivot Bracket	1
386	Washer	6
387	Hex. Screw	6
388	Std. Dowel	1
389	Soc. Grub Screw	1
390	7784 Bearing Housing	1
391	2384 Thrust Washer	1
392	Needle Thrust Bearing	1
393	Circlip Anderton	1



ROLLER ASSEMBLY

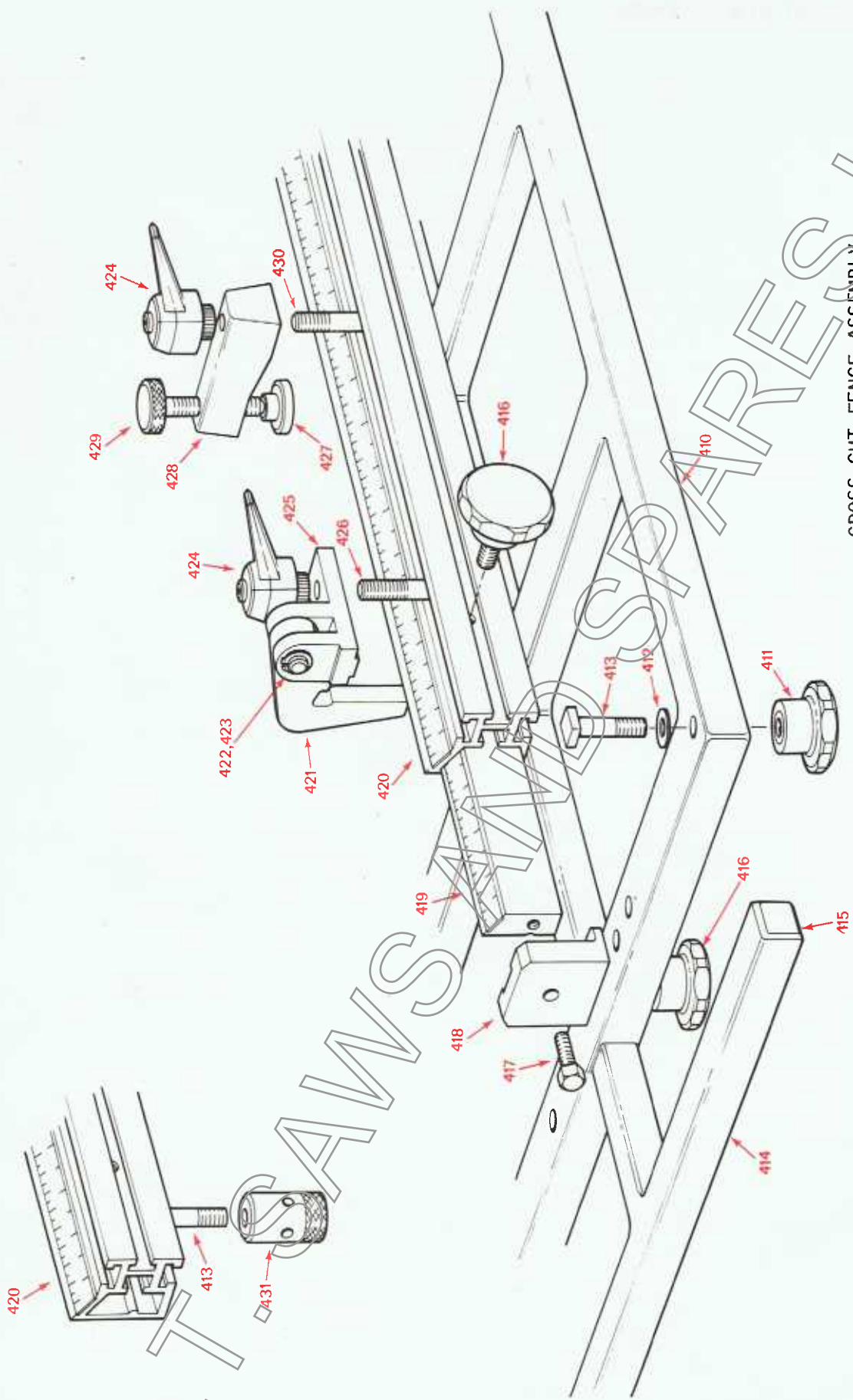


SUPPORT ARM ASSEMBLY

CROSS CUT FENCE ASSEMBLY.

ITEM	PART NUMBER AND DESCRIPTION	No. OFF
410	SM1485 Sliding Table	1
411	Handknob	2
412	Shim Washer	2
413	7323 Fence Bolt	3
414	SM1525 Sliding Table Extension	1
415	Square Plastic Insert	2
416	Handknob	3
417	Hex. Hd. Screw	1
418	SM1617 End Stop Assy.	1
419	7343 Cross Cut Fence Extension.	1
420	7342 Cross Cut Fence	1
421	7348 Stock Stop Latch	2
422	Fulcrum Pin	2
423	Circlip	4
424	Black Elesa Handle	3
425	7347 Stock Stop Adjuster	2
426	7463 Stop Bolt	2
427	Swivel Pad	1
428	7487 Clamp Casting	1
429	Balled Adjuster Screw	1
430	7462 Clamp Bolt	1
431	7597 Fence Stop	1

Stock Stop Assembly SM1593 (Items 421 - 426)
are supplied as 2 off 1 left handed and 1 right handed.



CROSS CUT FENCE ASSEMBLY

ALWAYS SPARES LTD

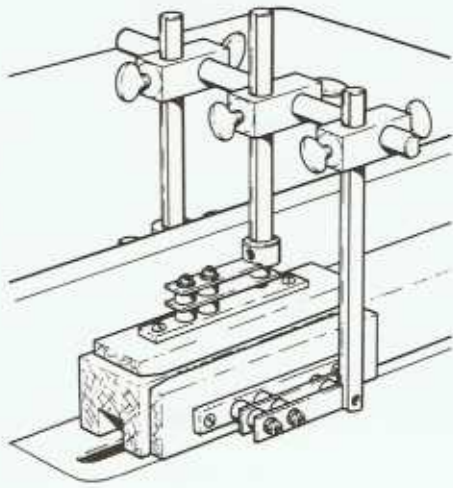
OPTIONAL EXTRAS & ACCESSORIES

ITEM	PART NUMBER AND DESCRIPTION
455	SM833 Hold Down Unit. Complies with the requirements of the Woodworking Machinery Regulations 1974 (U.K.).
456	Safety Pattern Moulding & Grooving Block 100 mm (4") dia.
457	Moulding Cutters for above. Supplied in pairs, quote Pattern No. when ordering.
458	SP254 Wobble Saw $\frac{1}{4}$ " - $\frac{5}{8}$ " capacity, complete with screwed and graduated collar, 'C' spanner and tommy bar.
459	1880 Special Table Insert (must be used with Wobble Saw and Moulding Block).

SAW BLADES :

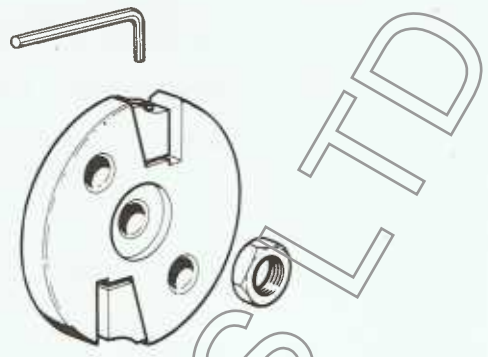
460	8", 9", 10" & 12" Dia. Rip or Cross-Cut saw blades for cutting wood (16 S.W.G.)
	8", 9", 10" & 12" Dia Novelty Combination saw blades for cutting wood.
	8", 9", 10" & 12" Dia Hollow Ground Cross-Cut and Mitre saw blades for accurate clean end grain cutting.
	8" Dia Hollow Ground Alloy Steel saw blades for cutting plastic (14 S.W.G.) - 5, 8 or 10 T.P.I.
	8" Dia Hollow Ground Carbon Steel saw blades for cutting thin plastic sheet (14 S.W.G.) - 16 T.P.I.
	8" Dia Hollow Ground High Speed Steel saw blades for cutting plastics and light alloys (14 S.W.G.) - $\frac{1}{8}$ ", $\frac{3}{16}$ " or $\frac{3}{8}$ " pitch.
	8", 9", 10" & 12" Dia Carbide Tipped Saws for cutting industrial plastics, abrasive hardwoods, hardboard, chipboard, non-ferrous metals graphite etc.-
	8" Dia - Available in 16, 20, 36, 48 & 64 teeth.
	9" Dia - Available in 24, 40, 54 & 72 teeth.
	10" Dia - Available in 24, 36, 42 & 60 teeth
	12" Dia - Available in 36, 50, 72 & 100 teeth

455



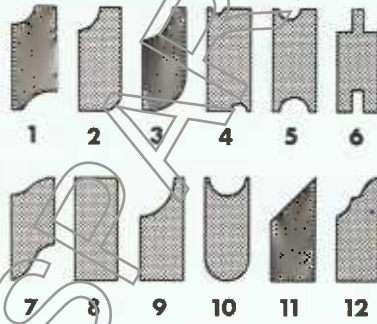
HOLD DOWN UNIT

456

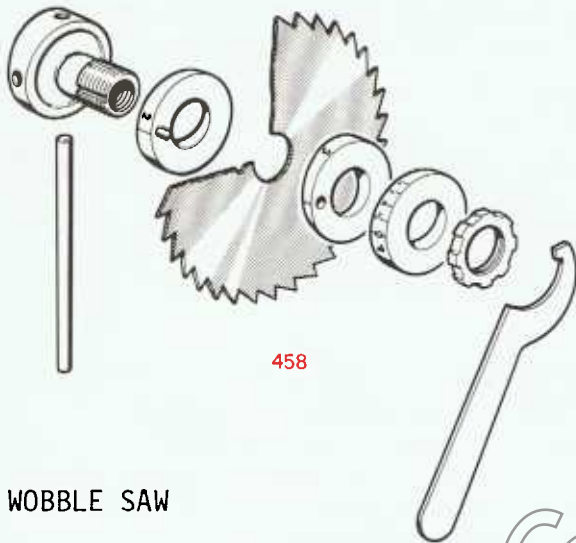


MOULDING & GROOVING BLOCK

457



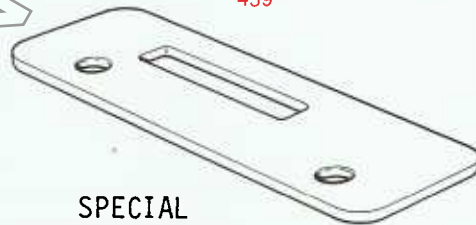
MOULDING CUTTERS



458

WOBBLE SAW

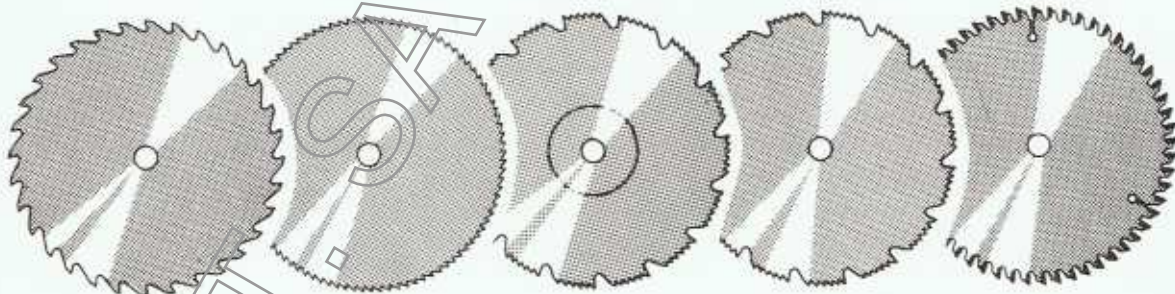
459



SPECIAL TABLE INSERT

SAW BLADES

460



RIP TOOTH

CROSS-CUT TOOTH

NOVELTY COMBINATION TOOTH

HOLLOW GROUND CROSS-CUT

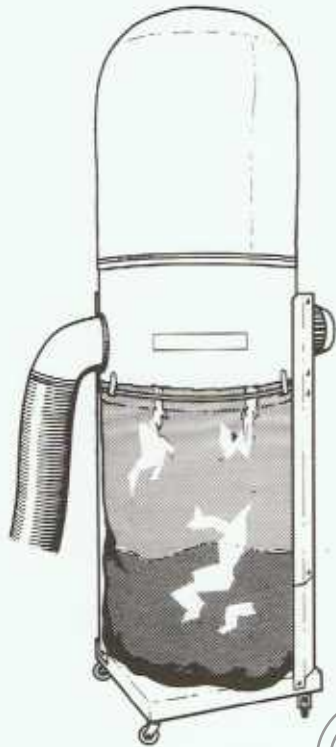
CARBIDE TIPPED

OPTIONAL EXTRAS & ACCESSORIES.

ITEM	PART NUMBER AND DESCRIPTION
450	'Cyclair' Extractor Unit - 1 Phase 'Cyclair' Extractor Unit - 3 Phase
452	SM1527 Table and Fence Extension Assembly Kit
453	SM1528 Rear Work Support Table Assembly Kit

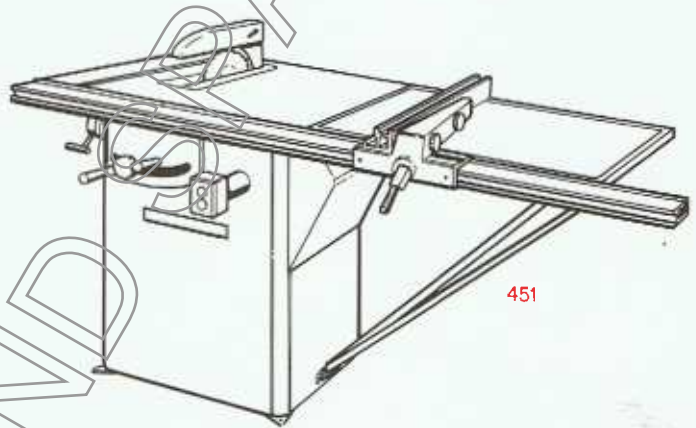
NOT ILLUSTRATED :

453	SM1615	Sliding Table Extension Support
454	7338/1	Rip Fence Face Plate (Long)



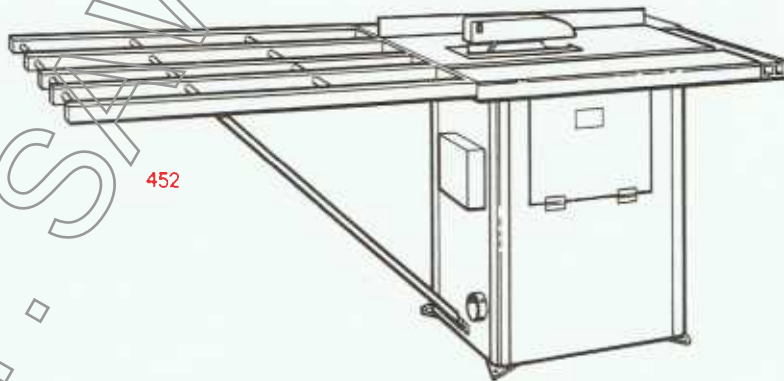
450

'CYCLAIR'
EXTRACTOR UNIT



451

RIGHT EXTENSION TABLE



452

REAR EXTENSION TABLE