

RECORD MACHINE DETAILS

MODEL

SERIAL No

DATE of PURCHASE

VOLTAGE

PHASE

CYCLES

QUOTE THIS INFORMATION
WHEN REQUESTING SERVICE
OR SPARES.

DISTRIBUTOR

This machine is engineered to a high standard of construction and performance. Attention to maintenance and service will be repaid by many years' trouble-free operating. Consult your Distributor in the event of difficulty or servicing requirements. Your Distributor is qualified to advise on the proper maintenance of your Machine, to assess any claims under the Guarantee and to supply and fit genuine STARTRITE parts.

STARTRITE®

Models

275/275DS

TILT ARBOR SAWBENCHES

HANDBOOK

16E

A.L.T. Saws & Spares Ltd

Startrite Machine Specialist

Unit 15, Pier Road Industrial Estate

Gillingham

Kent

ME7 1RZ

Tel/Fax: 01634 850833

www.altsawsandspares.co.uk

A.L.T. SAWS & SPARES LTD

**QUALITY
TCT CIRCULAR SAW
BLADES**

TO SUIT THE T/A275 MODEL

ORDER LINE- 01634 850833

A.L.T. SAWS & SPARES LTD

Unit 15, Pier Road Industrial Estate

Gillingham

Kent

ME7 1RZ

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SPECIFICATIONS :

Model 275	- 12" Tilt Arbor Sawbench
Model 275DS	- 12" Tilt Arbor Sawbench with Sliding Table
Saw Blade Size	- 305 mm Dia. x 1.6 mm Thick (x $\frac{5}{8}$ " Hole) 12" Dia. x .063" Thick (x $\frac{5}{8}$ " Hole)
Blade Speed	- 2865 m/min., 9400 ft/min.
Max. Rise of Saw 90° / 45°	- 105 mm, 4 $\frac{1}{8}$ " / 75 mm, 2 $\frac{7}{8}$ "
Max. Tilt of Saw	- 45°
Motor	- 3 Phase : 2.2 kW., 3 h.p., 2850 r.p.m. 1 Phase : 1.5 kW., 2 h.p., 2850 r.p.m.
Standard Voltages	220/240 Volt 3 Phase 50Hz. - 380/440 Volt 3 Phase 50Hz. 220/240 Volt 1 Phase 50Hz.
Gross Weight	- 275 : 180 kg., 390 lbs. 275DS : 210 kg., 460 lbs.

FOR BEST RESULTS USE 'STARTRITE' SAW BLADES.

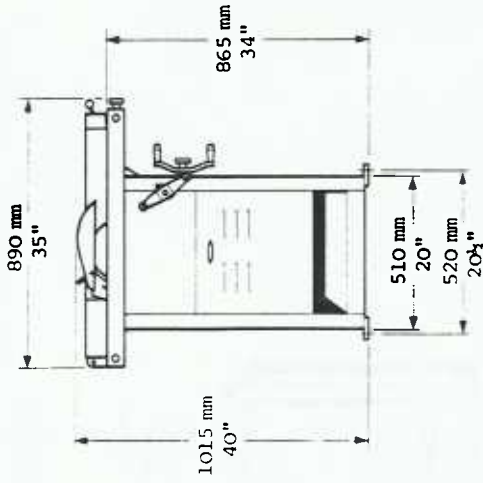
WHEN ORDERING PARTS, PLEASE STATE :-

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

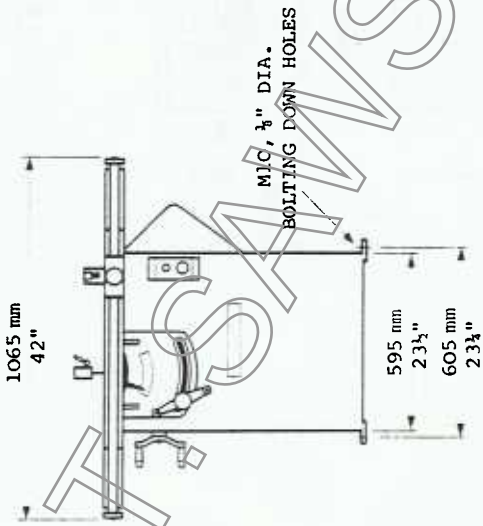
NOTE : ILLUSTRATIONS MAY VARY IN DETAIL, ACCORDING TO MODEL.

We reserve the right to change design and specification without notice.
Startrite Machine Tool Co. Ltd., Waterside Works, Gads Hill,
Gillingham, Kent, ME7 2SF, England.

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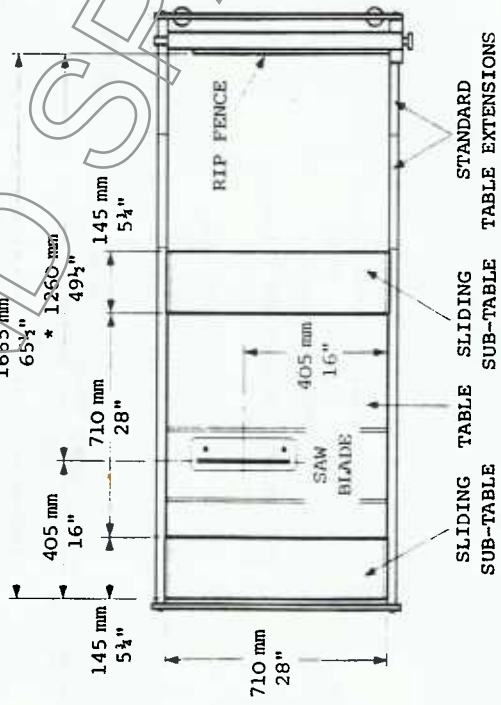
SIDE VIEW



FRONT VIEW

ALL DIMENSIONS APPROXIMATE.

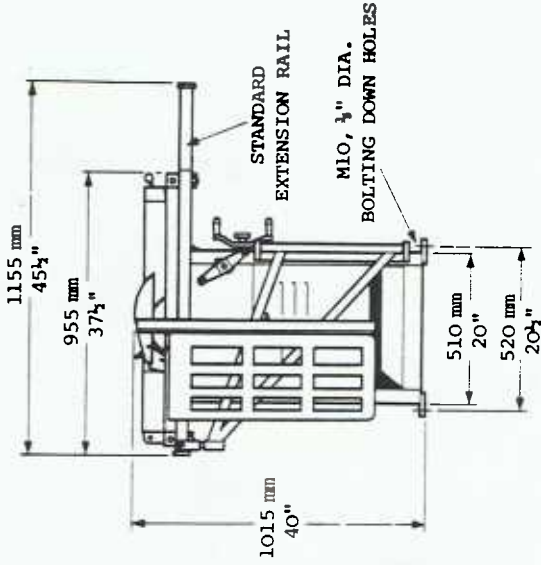
* 510 mm, 20" Max. distance from saw blade to rip fence when not using table extensions.



PLAN

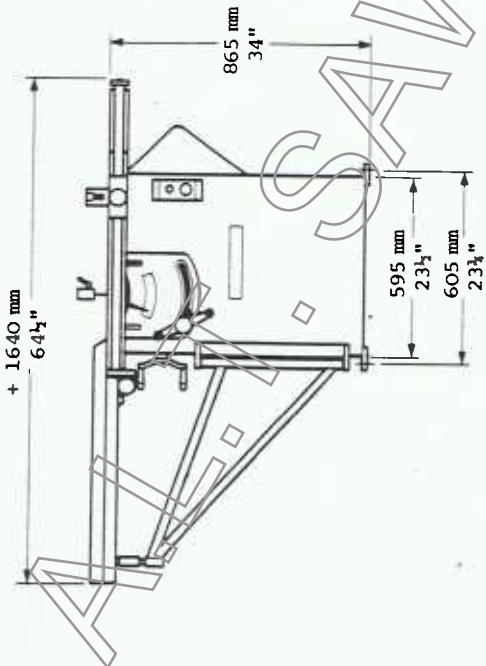
FOUNDATION PLAN OF MODEL 275 TILT ARBOR SAWBENCH.

ALL DIMENSIONS APPROXIMATE.

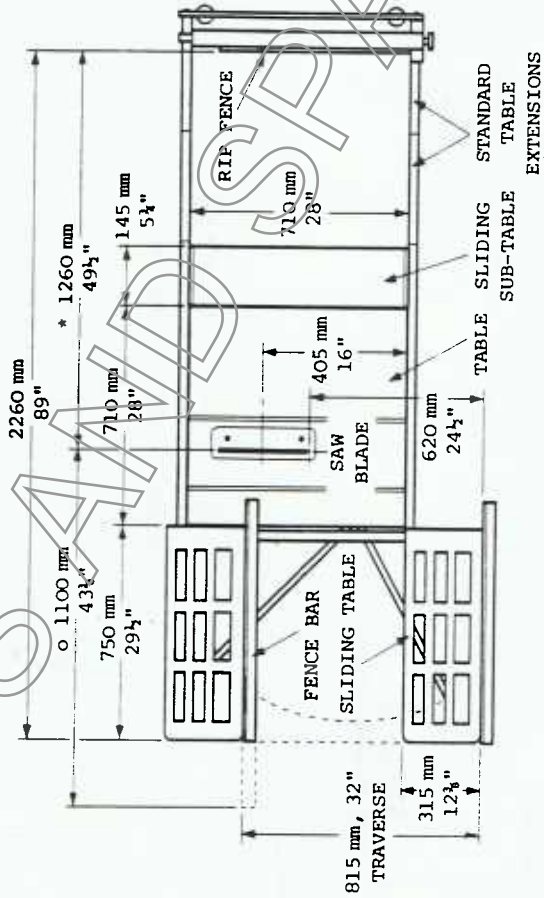


SIDE VIEW

- * 510 mm, 20" Max. distance from saw blade to rip fence when not using table extensions.
- o 2030 mm, 80" using SP305 Extending Fence Bar (Optional Extra)
- + 990 mm, 39" with Sliding Table folded away.



FRONT VIEW

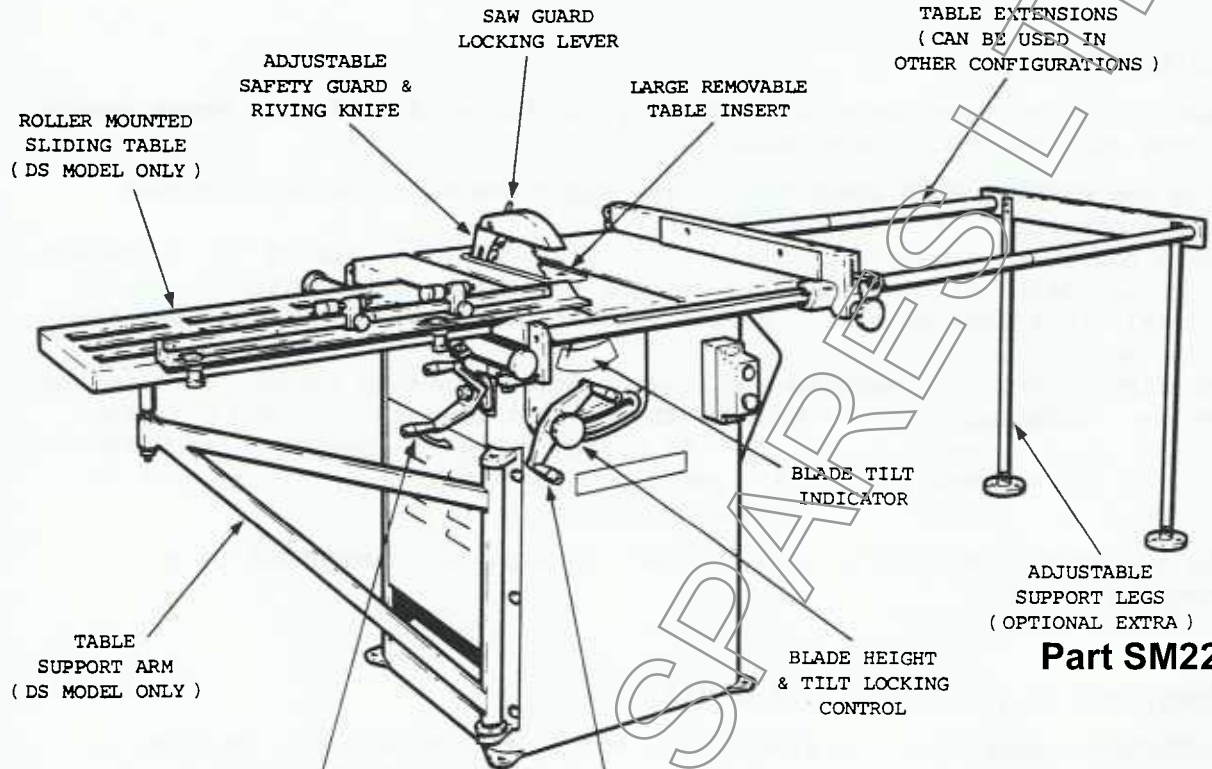


PLAN

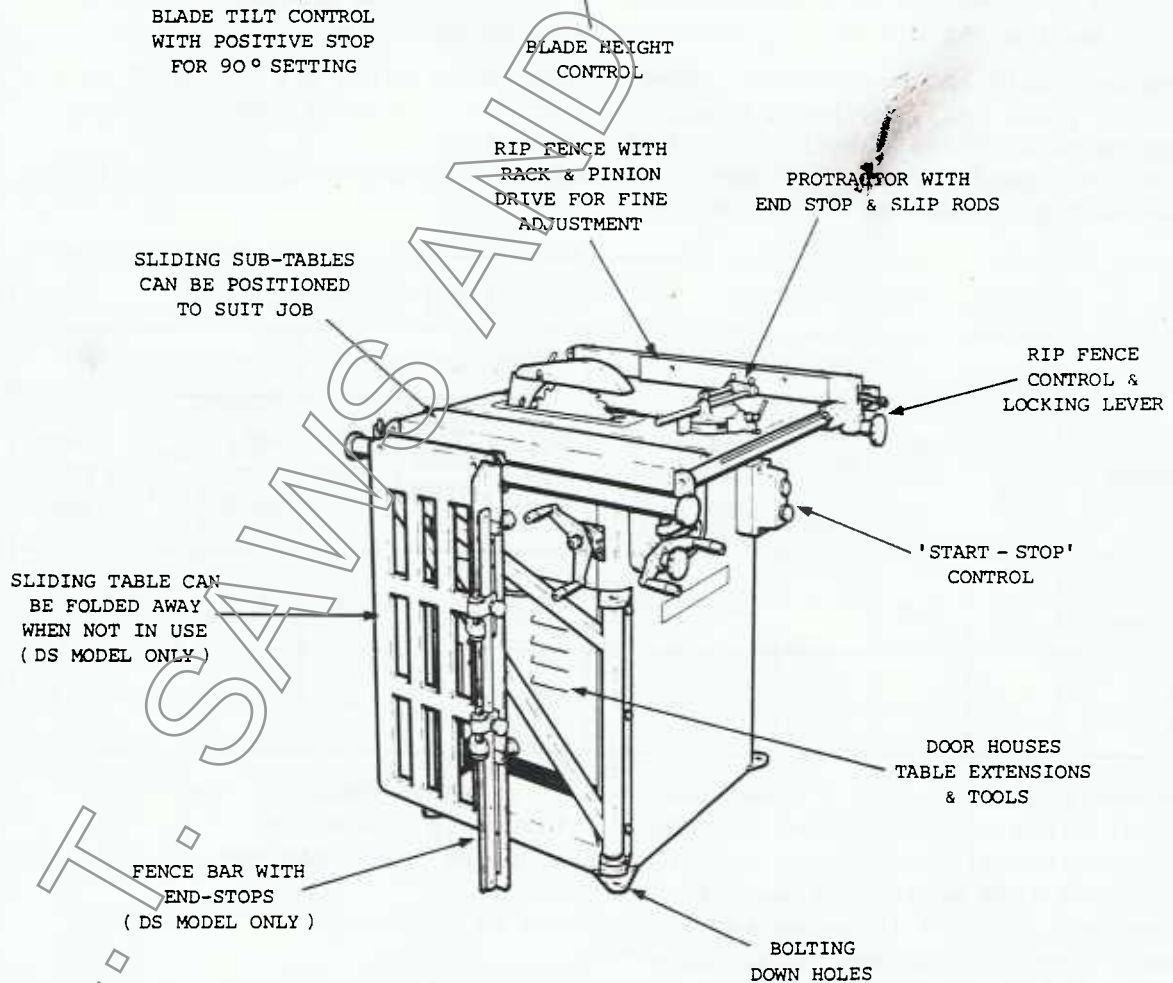
FOUNDATION PLAN OF MODEL 275DS TILT ARBOR SAWBENCH.

Part 1805

TABLE EXTENSIONS
(CAN BE USED IN
OTHER CONFIGURATIONS)



Part SM221



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

INSTALLATION.

WARNING : Do not move machine by holding rip fence, as this may cause damage to the rack and pinion mechanism.

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
175 175DS	1.1 1.5	9.8	1.5	25	1.5 2	5.2	1.0	15	3.2	1.0	15
275 275DS	1.5 2	14.2	2.5	30	2.2 3	8.0	1.0	20	4.6	1.0	15

Connect the machine to a fused isolator of suitable capacity (see Chart above) using cables encased in conduit. Temporary connection (i.e. for demonstrations) may be made with flexible cables, provided that it is protected from accidental damage.

To connect machine to mains supply, proceed as follows:-
Remove cover of starter (four screws).

For single phase supply, connect two supply leads to top terminals L1 & L3 of contactor (see Fig.1).

For three phase supply, connect three supply leads to top terminals L1, L2 & L3 of contactor (see Fig.2).

CONNECTION TO THE ELECTRICITY SUPPLY (CONTINUED).

An adequate earth continuity lead (yellow/green) must be connected to the earth terminal of the starter.

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

The contactor incorporates an overload release and it is essential that it is set correctly in order that the motor is protected against sustained overload. The pointer on the overload unit must be set to indicate the full load amps of the motor.

A three phase motor may run in either direction, therefore, check that 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 starter cover.

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

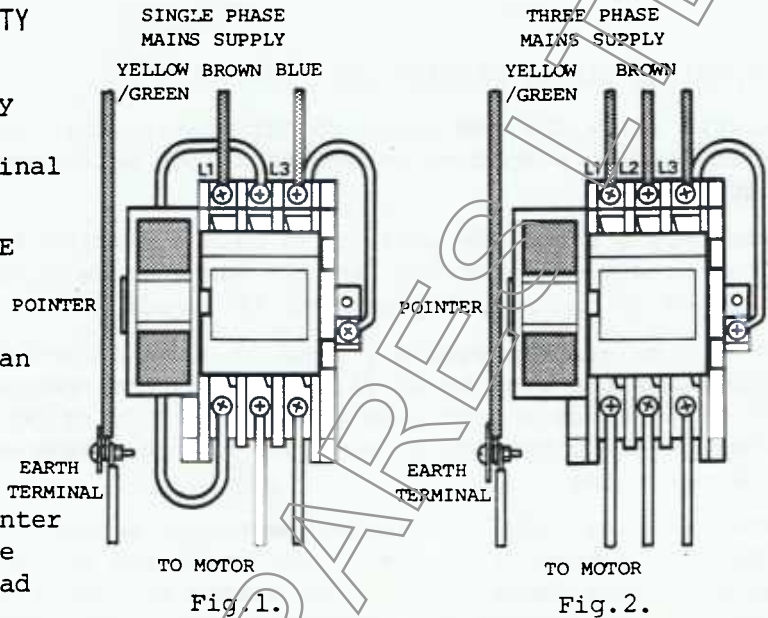


Fig. 3.

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 an adjustment 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 the ends from hanging loose. For greater safety wear the type of tie that has a weak elastic neck band or a collar clip.

OPERATING SAFETY PRECAUTIONS (CONTINUED).

Always allow the 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 9) and for the work in 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 and 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 extended table supports 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 Roller 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 or Tamper Proof Blade Guard Hood (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.

IMPORTANT :- Isolate machine from mains before changing or adjusting saw blades.

SETTING UP THE MACHINE.

Set the saw blade tilt upright (0° on tilt scale) and raise the saw blade to its maximum height. Remove saw guard, table insert and saw blade. Clean spindle nose and thread with a suitable brush and apply a few drops of very thin oil. Placing clamping washer (Item 86 - see Parts List) 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 (item 87) 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 :-

Models 175/175DS - 152 mm (6") diameter

Models 275/275DS - 182 mm (7.2") diameter

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

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

Position the rip fence as required and lock in place. To cut large panels it will be necessary to set up the table extensions (standard equipment). These may be fitted all to one side of the machine, using support legs (Optional Extra), or a pair on each side (Not DS Models) according to the nature of the job. Before fitting the extension bars, ensure that the screw threads and locating faces are clean. A few drops of light oil on these faces will prove useful. The fine adjustment control on the rip fence must be pulled outwards so as to disengage the pinion before the fence can be moved onto the extension bars. When cutting large sheets of flimsy material, the sliding sub-table should be positioned adjacent to the rip fence for extra support.

Feed Off Roller Assembly and set of Feed & Run Off Rollers are available (Optional Extras), and these will considerably assist in the handling of large sheets.

It should be noted that whilst a long fence is useful in guiding sheets, for rip sawing, the fence should finish level with the commencement of the cut. Therefore, a wooden facing is fitted to the fence to prevent the timber jamming should there be a tendency for it to splay out. A steel face plate is available as an Optional Extra.

The protractor (standard equipment) is used to guide the workpiece whilst cross-cutting and permits the cutting of compound mitres. The scale, marked in degrees provides a useful guide for setting the required angle, but a test piece should be carefully checked for accuracy before proceeding further.

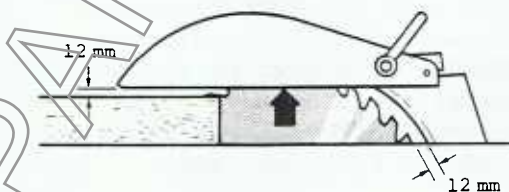


Fig.4.

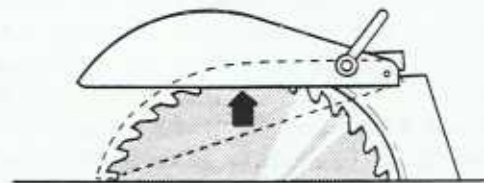


Fig.5.

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.6). It is easily bolted directly to the top of the rip fence so that the bearing portion of the springs are more or less over the saw centre.

The unit complies with the 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 the work to be carried out.

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

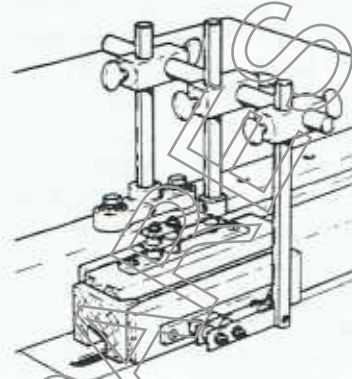


Fig.6.

WOBBLE SAW (OPTIONAL EXTRA).

The wobble saw comprises of a robust saw blade, complete with a set of tapered washers (see page 30). By adjusting the relative position of the washers the saw blade may be made to 'wobble', and thus cut a groove (see Fig.7). Both blade clamping washers (Item 86) 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).

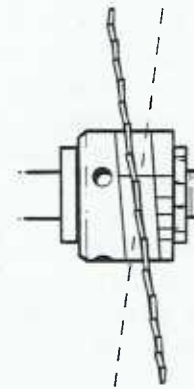


Fig.7.

SAW BLADES.

NOTE :The most important part of the machine is the saw 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 materials.

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.

RIP & CROSS-CUT SAW BLADES.

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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, ie. with the 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.



RIP TOOTH
SAW BLADE

RIP & CROSS-CUT SAW BLADES (CONTINUED).

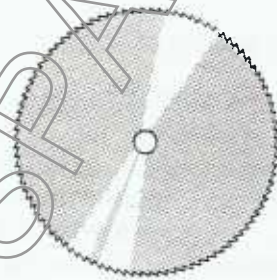
The rip saw blades as received from the manufacturer will have the teeth shaped to meet average conditions, and this shape should not drastically be modified without good reason.

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 the 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 alternate teeth only. Front bevel to the teeth should be kept to the minimum and should certainly not exceed 5° for hard woods.

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 0.25 mm (.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.



CROSS-CUT
SAW BLADE

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 down firmly on the table by both hands.

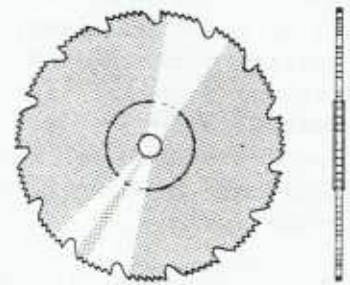
HOLLOW GROUND SAW BLADES.

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, and the height of the saw blade should be reduced to avoid chipping the underside of the material. Heavier sections of some plastic materials will cut much more easily if the saw blade is lubricated with soap, or soapy water.



HOLLOW GROUND
MITRE SAW BLADE

HOLLOW GROUND SAW BLADES (CONTINUED).

Aluminium, zinc and lead based alloys may be cut in thin sections using a small quantity of paraffin or soluble cutting oil to aid cutting and give a better finish.

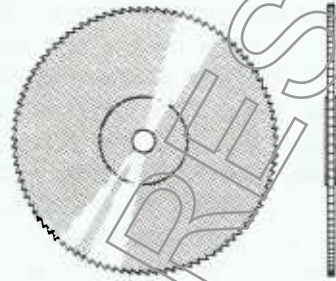
Due to small working clearance of hollow ground saw blades there is a marked tendency for them to overheat once the teeth have lost their fine edge, and it is important, therefore, that that these blades are frequently re-sharpened. Saw blades with tungsten carbide stellite tipped teeth are available, 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 diameter saw blade is much stiffer due to its reduced diameter, and this is an important factor in preventing blade wander.

A Special Motor Platform and 90mm (3½") diameter Motor Pulley (Optional Extras) are available for cutting plastics, which often require a faster cutting speed.



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 and for cutting hardwoods and abrasive materials.

A 10" x ⅜" x 20 tooth saw blade is suggested for good fast feed rip sawing, and also suitable for cross and panel cutting where finish is not important. A 10" x ⅜" x 42 tooth saw blade is suggested for general purpose cutting. This will cut all natural and man made material at reasonable feed, speed and finish, whilst a 10" x ⅜" x 60 tooth saw blade is best for plastic faced panels and thin sheet materials, where a good 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.



CARBIDE TIPPED
SAW BLADE

CARBIDE TIPPED SAW BLADES (CONTINUED).

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.

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 case 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.

A.L.T. SAWS AND SPARKES LTD

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 (Item 71) and moving platform up or down as required. A good guide as to the correct belt tension is that it should be possible to give the vee-belt a quarter twist midway between pulleys using thumb and forefinger only. The vee-belts are fitted as a matched pair and should only one belt fail, it is necessary to replace both belts (Part No.SPZ 800).

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

PROTRACTOR :

The locking position of the clamping lever (Item 159) may be adjusted for wear by releasing the nut (Item 155) from the clamping stud (Item 157) and turning the stud by means of the screwdriver slot provided. It should be adjusted so that the lever locks in the upright position and clears the saw blade during cutting.

RIP FENCE :

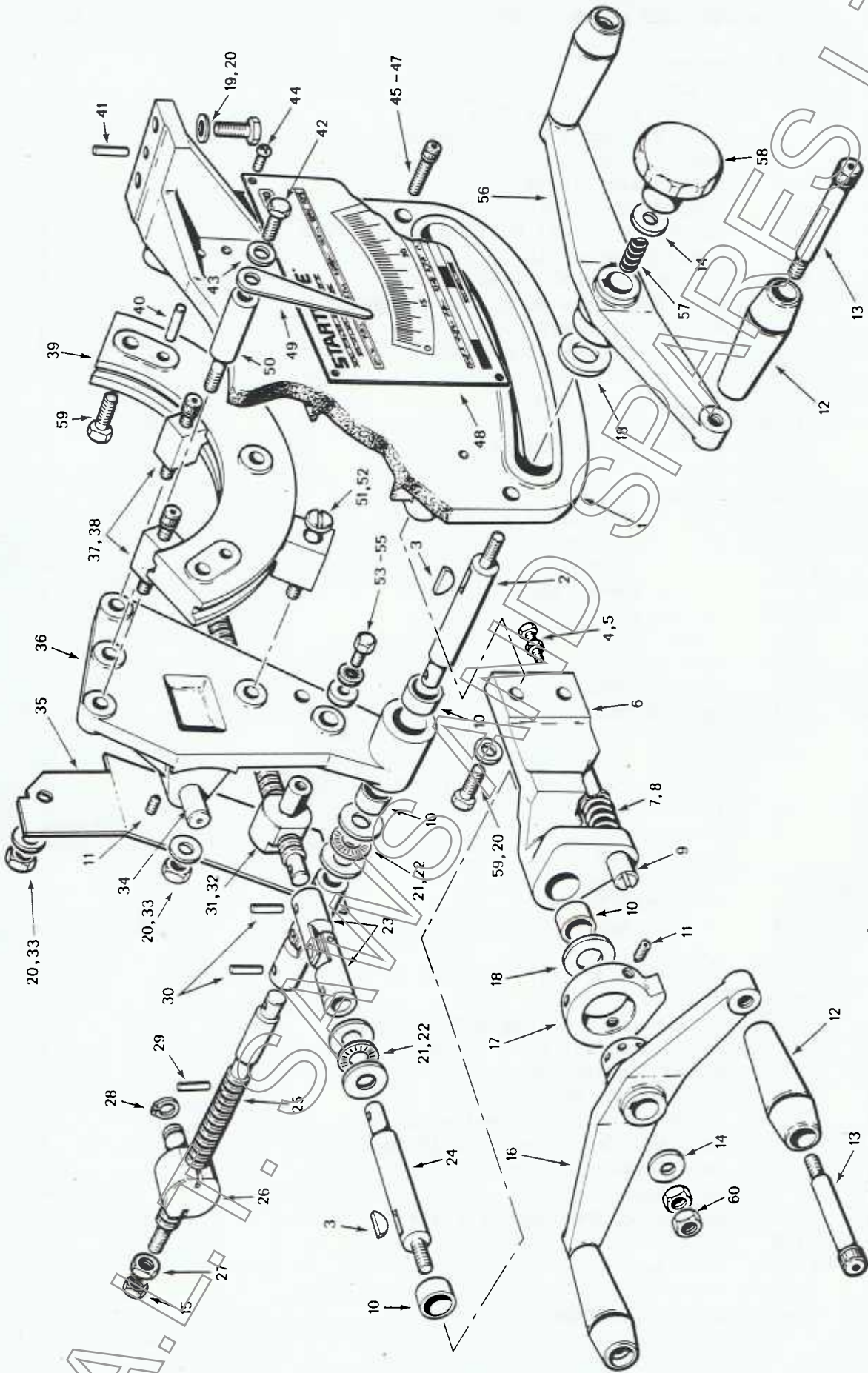
After a period of use it may be necessary to adjust the fence clamping mechanism. This is done by releasing the set screw (Item 121) locking the trunnion nut (Item 120) at the rear end of the fence. Turn the tie rod (Item 116) by means of screwdriver slot provided until the clamping action starts to be felt when the locking lever (Item 128) is approximately 30° from the horizontal position, and tighten set screw.

CAUTION : Excessive clamping pressure will cause damage to the fence mechanism.

APRON - BLADE HEIGHT & TILT MECHANISM - ASSEMBLY No. SM177

ITEM	PART NUMBER	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		Oilite Bush	4
11		Soc. Set Screw	2
12		Handle	4
13		Shoulder Screw	4
14		Std. Washer	2
15		Hex. Locknut	1
16	3339A	Handle	1
	5532	Handle (DS Models Only)	1
17	2071	Positive Stop Collar	1
18	1798	Special Washer	2
19		Hex. Hd. Screw	3
20		Std. Washer	10
21	1795	Special Washer	4
22		Needle Thrust Race	2
23	SP212	Universal Joint	2
24	1790	Shaft	1
25	4542	Feed Screw	1
26	4541	Trunnion Nut	1
27	5634	Special Nut	1
28		Circlip External	1
29		Sel-Lok Pin	1
30		Sel-Lok Pin	4
31	1791	Feed Screw	1
32	5735	Trunnion Nut	1
33		Hex. Nut	6
34	1812	Pivot Pin	1
35	5651	Deflector Plate	1
36	1738	Tilting Arm	1
37	1777	Internal Shoe	2
38		Soc. Hd. Cap Screw	2
39	1737	Segment	1
40		Std. Dowel	2
41		Dowel	2
42		Hex. Hd. Screw	1
43		Std. Washer	1
44		Rd. Hd. Screw Recessed	4
45		Soc. Hd. Cap Screw	4
46		Self Locking Nut	4
47		Std. Washer	4
48	8089	Serial No./Protractor Plate	1
49	3338	Pointer	1
50	1793	Pointer Support	1
51	1776	External Shoe	1
52	1794	Eccentric Screw	1

(CONTINUED)



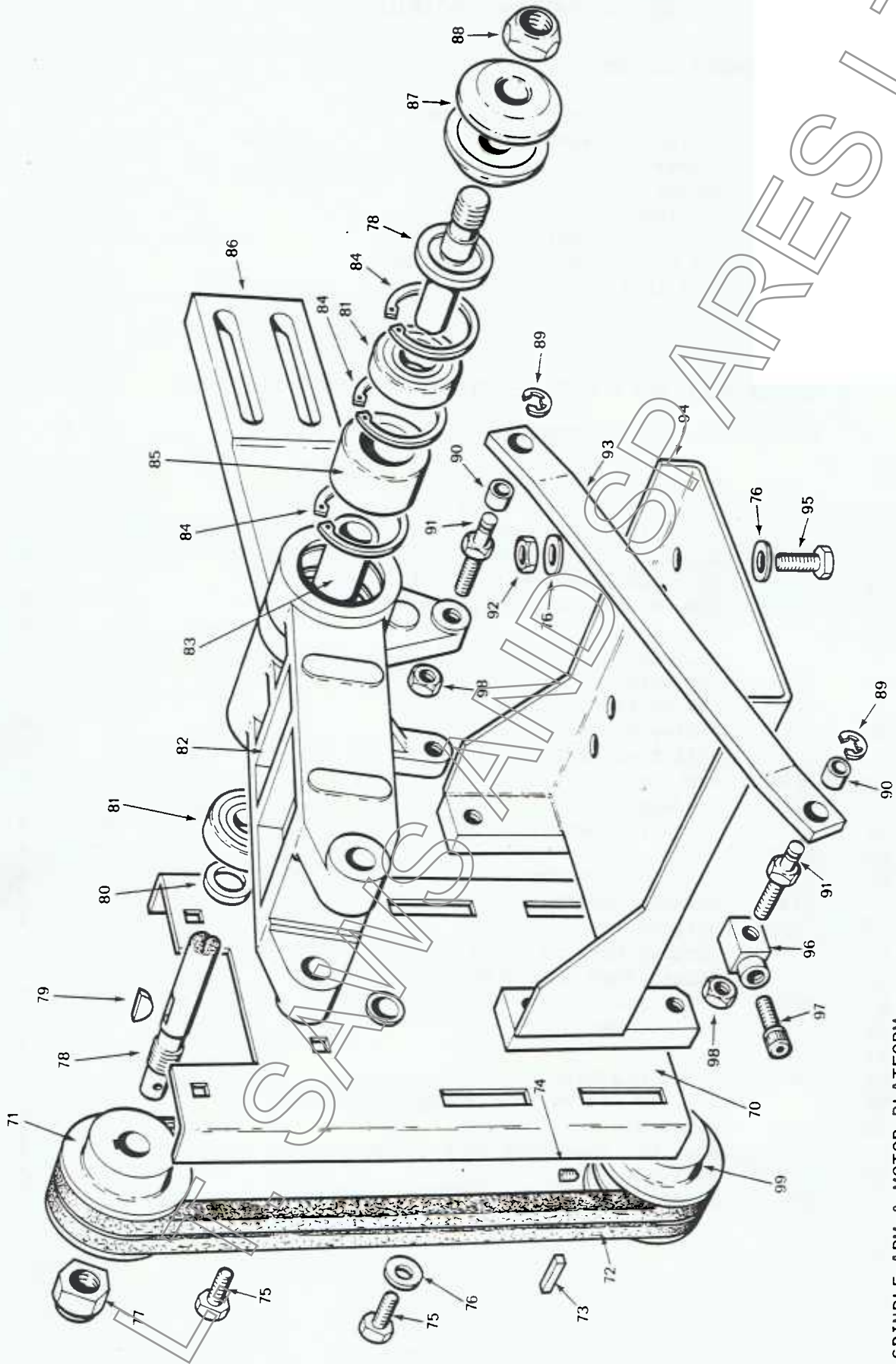
ARON - BLADE HEIGHT & TILT MECHANISM

APRON - ASSEMBLY No. SM177 - CONTINUED

ITEM	PART NUMBER AND DESCRIPTION	No. OFF
53	Hex. Hd. Screw	1
54	Shakeproof Washer	1
55	5736 Washer	1
56	3339 Handle	1
57	1499 Compression Spring	1
58	5130 Handknob	1
59	Hex Hd. Screw	3
60	Self Lock Nut	1

SAW SPINDLE ARM & MOTOR PLATFORM - ASSEMBLY No. SM274

ITEM	PART NUMBER AND DESCRIPTION	No. OFF
70	SM403 Motor Bracket	1
71	2251/A Pulley (State Bore Dia.)	1
72	Vee-Belt	2
73	Key	1
74	Soc. Set Screw	1
75	Hex. Hd. Screw	7
76	Std. Washer	12
77	Self Locking Nut	1
78	1784 Saw Spindle	1
79	Key	1
80	683 Pulley Spacer	1
81	Ball Bearing	2
82	2246 Saw Arm	1
83	1785 Bearing Spacer	1
84	Circlip Internal	3
85	2255 Bush	1
86	2247 Riving Knife Arm	1
87	1936 Clamping Washer	2
88	1190 Spindle Nut	1
89	Circlip External	2
90	Oilite Bush	2
91	2151 Pivot Pin	2
92	Hex Nut	4
93	2252 Tie Bar	1
94	SM404 Motor Platform	1
95	Hex. Hd. Screw	4
96	2147 Pivot Block	1
97	Soc. Hd. Cap Screw	1
98	Lock Nut	2
99	2251/C Pulley	1



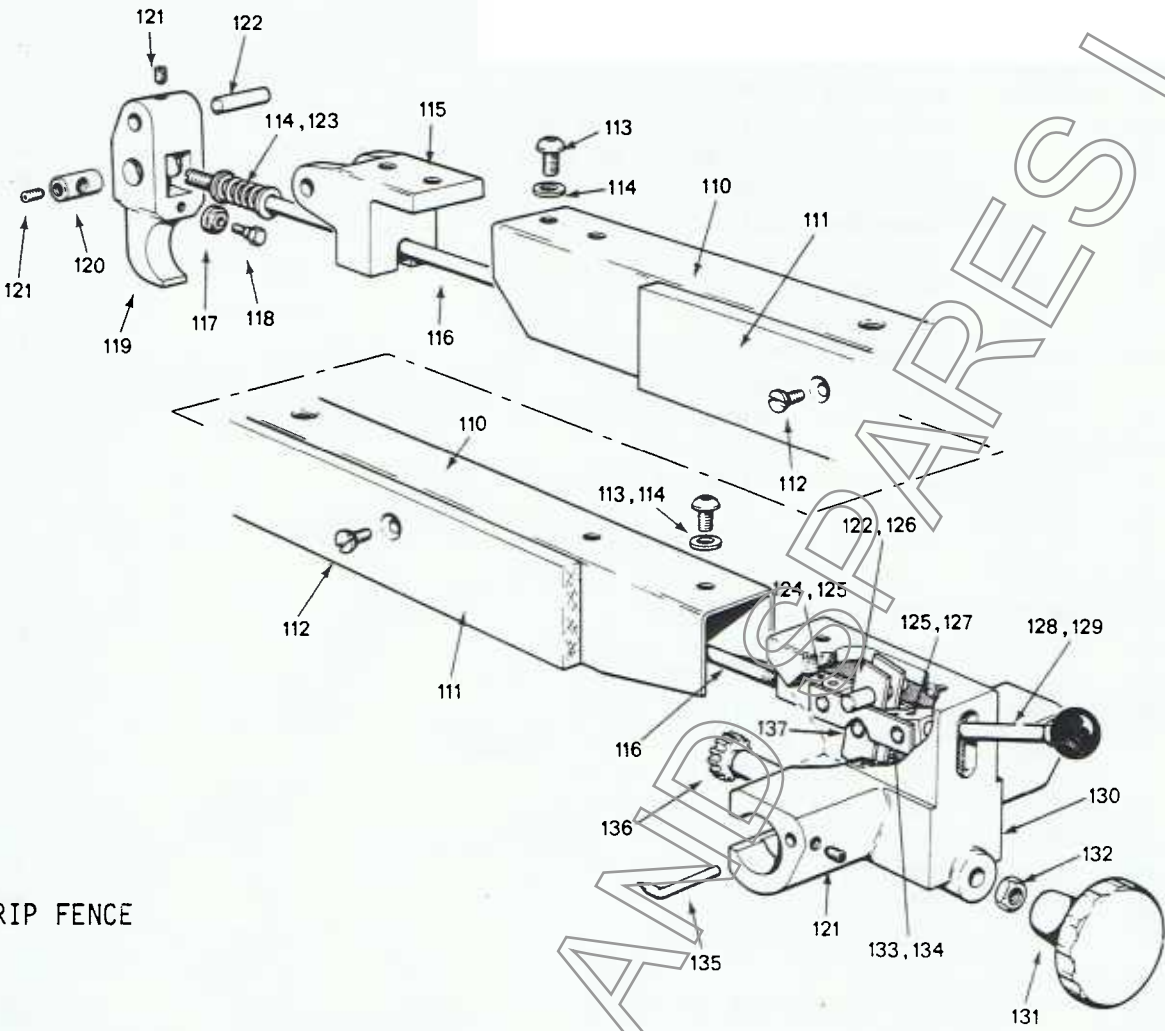
SAW SPINDLE ARM & MOTOR PLATFORM

RIP FENCE - ASSEMBLY No.SM285

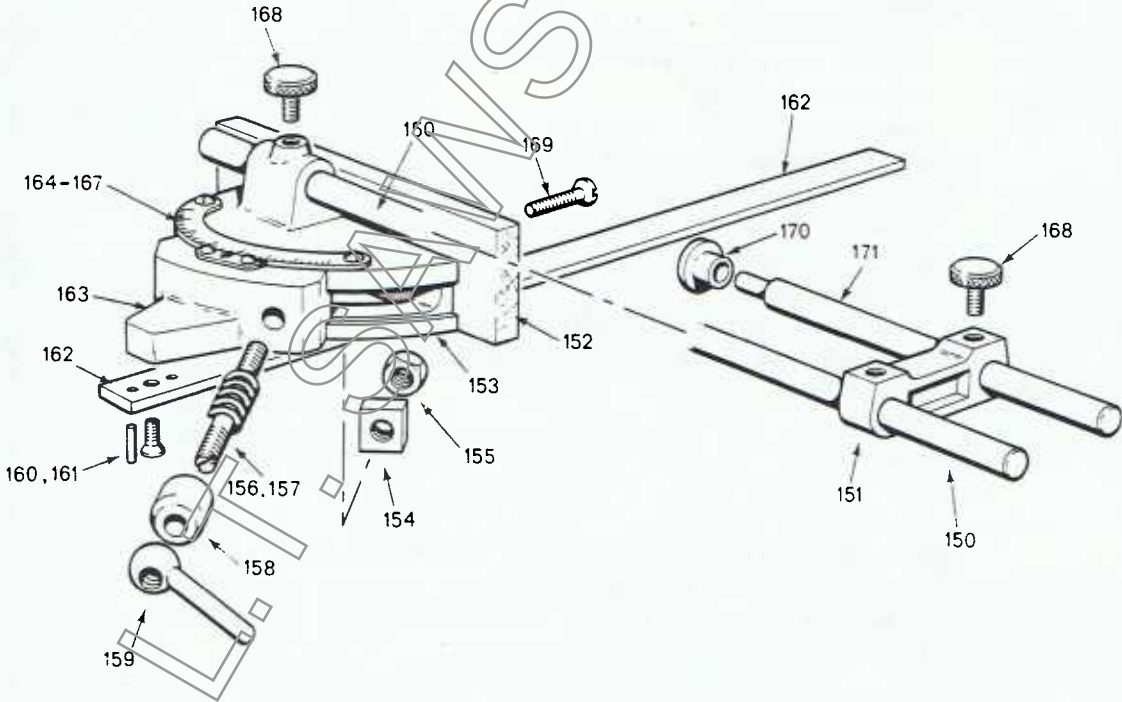
ITEM	PART NUMBER AND DESCRIPTION	No.OFF
110	SM280 Fence Body	1
111	2550 Wooden Face Plate	1
112	C'sk. Hd. Screw Slotted	2
113	Soc. Dome Hd. Screw	4
114	Std. Washer	6
115	2429 Rear End Casting	1
116	2548 Tie Rod	1
117	2717 Roller	1
118	2718 Shoulder Screw	1
119	2547 Clamp Finger	1
120	2433 Trunnion Nut	1
121	Soc. Set Screw	3
122	2435 Pin	2
123	2516 Compression Spring	1
124	2432 Pivot Block	1
125	Sel Lok Pin	2
126	2549 Yoke	2
127	2439 Tongued Pivot Block	1
128	1756 Locking Lever	1
129	Ball Knob	1
130	2546 Front End Casting	1
131	5130 Handknob	1
132	Hex. Nut	1
133	2434 Pin	2
134	2431 Link	2
135	1836 Pointer	1
136	1948 Pinion	1
137	2436 Pin	1

PROTRACTOR - ASSEMBLY No.SM210

150	1822 Bar	1
151	1507 Bridge Piece	1
152	1821 Wooden Facing Strip	1
153	1511 Protractor Body	1
154	1820 Special Nut	1
155	Hex. Locknut	1
156	1499 Compression Spring	1
157	1516 Stud	1
158	1515 Spring Housing	1
159	1143 Locking Lever	1
160	C'sk. Hd. Screw Slotted	1
161	Sel Lok Pin	2
162	1817 Tenon Strip	1
163	1819 Cradle	1
164	1388 Zero Plate	1
165	Drive Screw	2
166	1513 Indicator Segment	1
167	Rd. Hd. Screw Recessed	2
168	7480 Thumb Screw	3
169	C'sk. Hd. Screw Slotted	2
170	1837 End Stop	1
171	1526 Bar	1



RIP FENCE



PROTRACTOR

SAW GUARD & RIVING KNIFE - ASSEMBLY NO.SM889

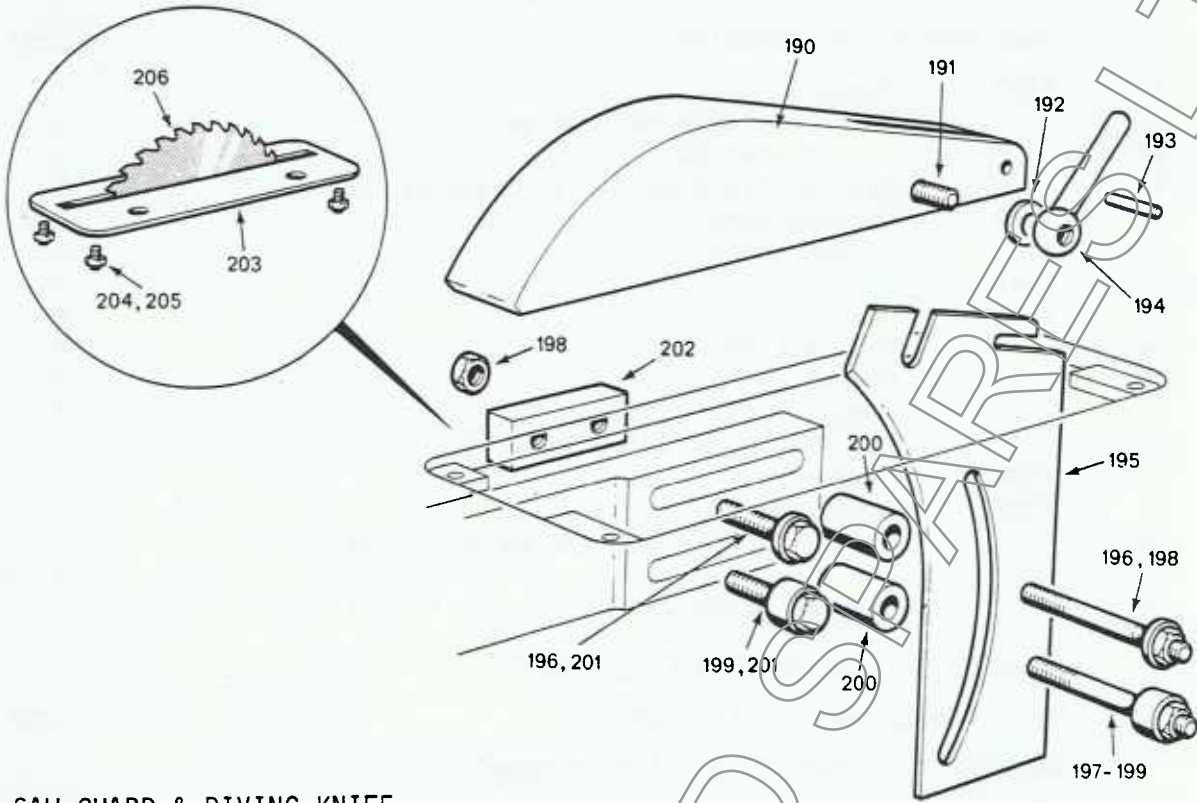
ITEM	PART NUMBER AND DESCRIPTION	No.OFF
190	4937 Guard	1
191	Hex. Hd. Screw	1
192	Std. Washer	1
193	Sel-Loc Pin	1
194	4943 Locking Lever	1
195	5105 Riving Knife	1
196	4941 Washer	2
197	4940 Stud	2
198	Hex. Nut	4
199	4942 Spacer	2
200	4939 Spacer	2
201	Hex. Hd. Screw	2
202	4938 Clamp	2
203	1810 Table Insert	1
204	Soc. Set Screw	4
205	Hex. Nut	4
206	Rip Saw Blade	1

TABLE & SLIDING SUB-TABLE ASSEMBLY

ITEM	PART NUMBER AND DESCRIPTION	No.OFF
NOTE : * Denotes No.Off for DS Model.		
220	1741 Table	1
221	1879 Fence Bar Seating Washer	6
222	Soc. Hd. Cap Screw	6
223	1823/M Scale - Metric	1
	1823/I Scale - Imperial	1
224	1802 Front Fence Bar	1
	5527 Front Fence Bar (DS Model)	1
225	1838 Standard End Bar	*1 2
226	1846 Shoulder Screw	*2 4
227	Soc. Clsk. Hd. Screw	*6 12
228	Std. Washer	*6 12
229	Hex. Locknut	*6 12
230	Spring Dowel	*4 8
231	1848 Sub-Table	*1 2
232	1849 Sub-Table End Piece	*2 4

NOT ILLUSTRATED :

1805	Fence Bar (Table) Extension	4
1808	Rear Fence Bar	1
5528	Rear Fence Bar (DS Model)	1



SAW GUARD & RIVING KNIFE

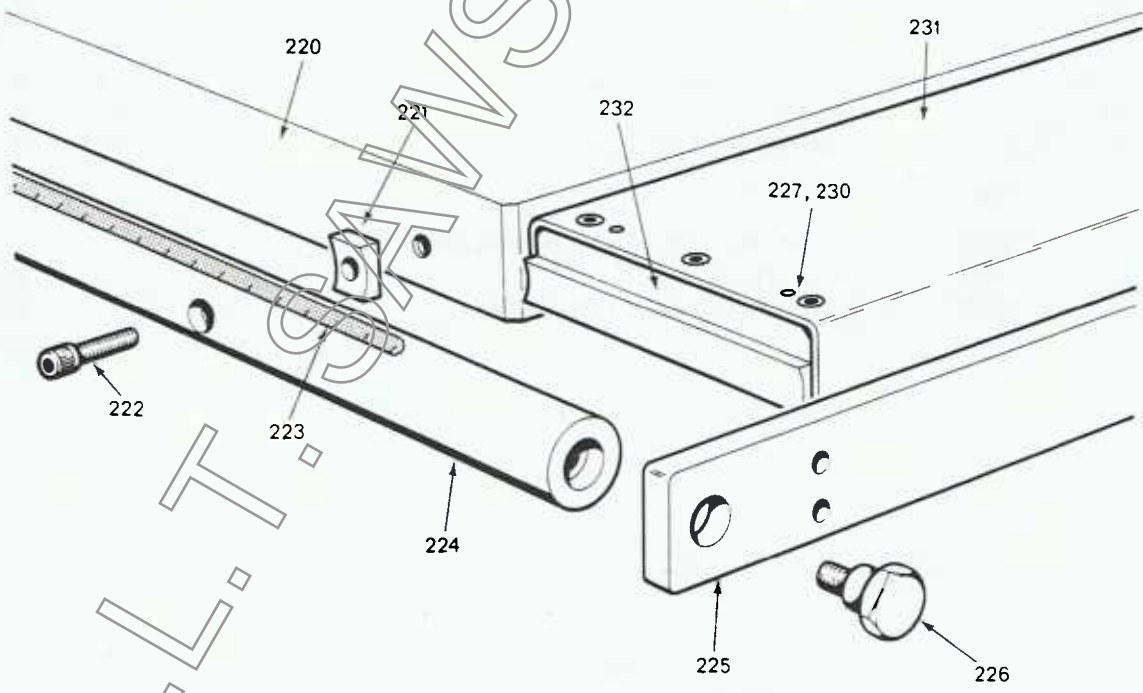


TABLE & SLIDING SUB-TABLE ASSEMBLY

SLIDING TABLE - ASSEMBLY No. SM1005 (DS MODEL ONLY)

SLIDING TABLE MOUNTING ASSEMBLY

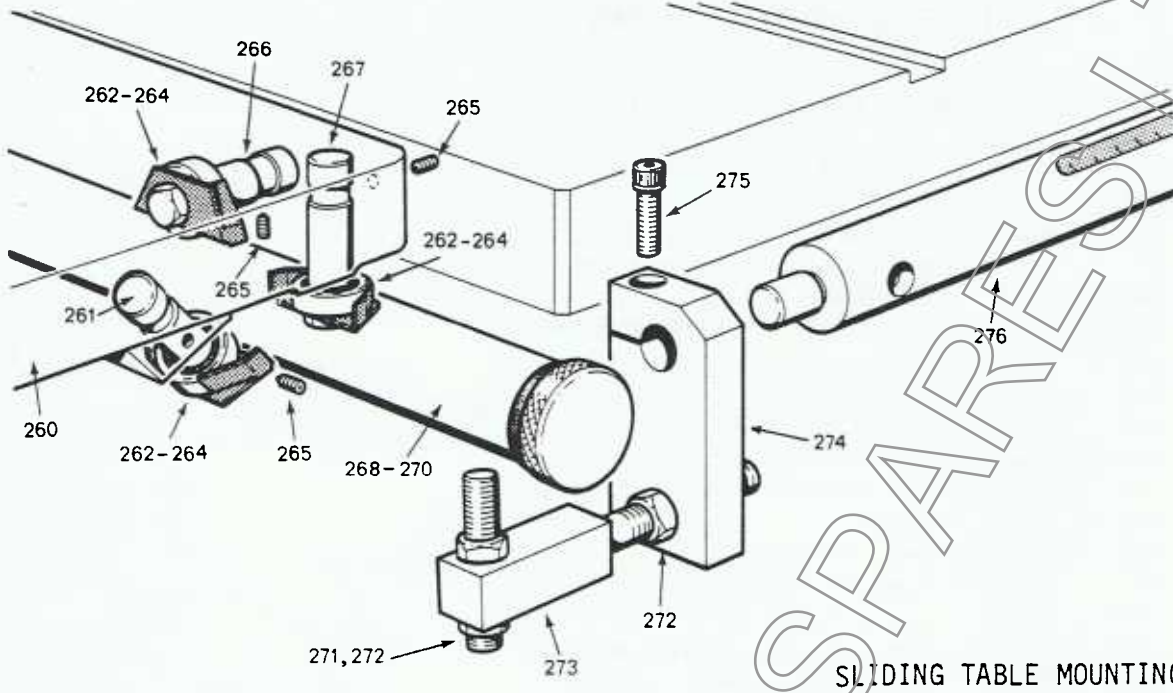
ITEM	PART NUMBER AND DESCRIPTION	No. OFF
260	5503 Sliding Table	1
261	5520 Eccentric Pin	2
262	5559 Scraper	6
263	Ball Bearing	6
264	5561 Shoulder Screw	6
265	Soc. Set Screw	6
266	5522 Pin	2
267	5521 Pin	2
268	5529 Table Slide Rail	1
269	5523 Stop Screw	2
270	'O' Ring	2
271	5526 Stud	2
272	Hex. Locknut	8
273	5525 Support Stud	2
274	5524 Clamp Bracket	2
275	Soc. Hd. Cap Screw	2
276	5527 Front Fence Bar	1

NOT ILLUSTRATED:

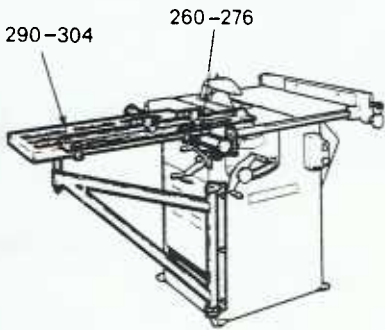
5530	Extension Slide Rail	1
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FENCE BAR ASSEMBLY

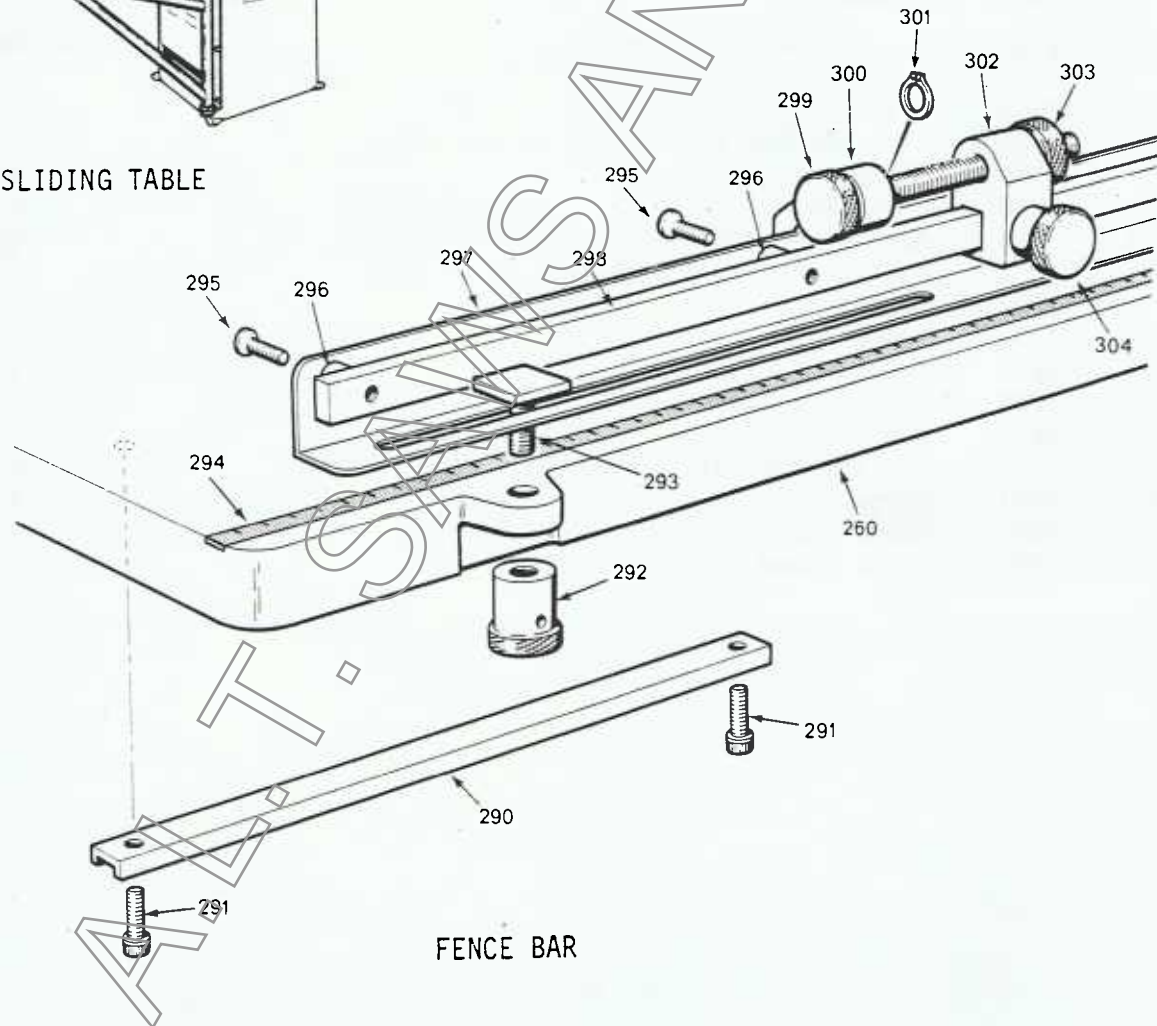
ITEM	PART NUMBER AND DESCRIPTION	No. OFF
290	5572 Wear Strip (If fitted)	1
291	Soc. Hd. Cap Screw	2
292	2280 Clamp Nut	2
293	2279 Clamp Bolt	2
294	5514 Scale - Metric	1
295	Soc. C'sk. Hd. Screw	5
296	2282 Spacer	5
297	2278 Fence	1
298	2281 Gauge Bar	1
299	2285 Adjusting Screw	2
300	2284 Stop	2
301	Circlip External	2
302	2283 Gauge Clamp	2
303	2286 Thumb Nut	2
304	2287 Thumb Screw	2



SLIDING TABLE MOUNTING



SLIDING TABLE

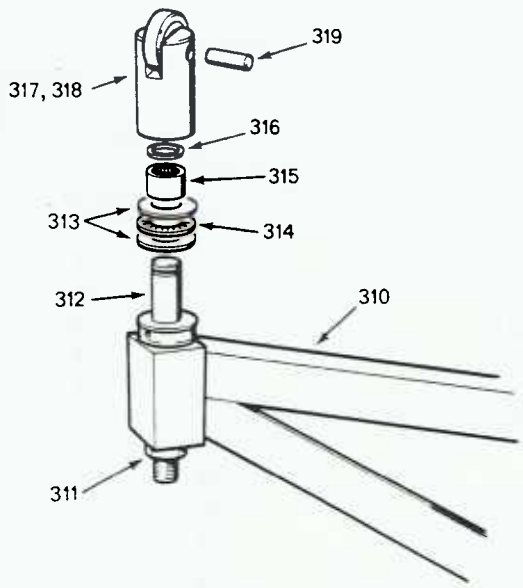


FENCE BAR

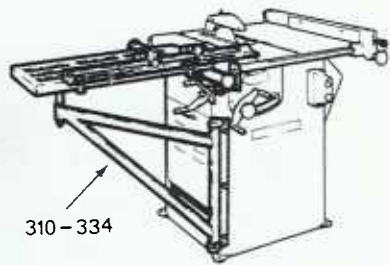
SLIDING TABLE - ASSEMBLY No.SM1005 (DS MODEL ONLY)
- CONTINUED.

SUPPORT ARM ASSEMBLY

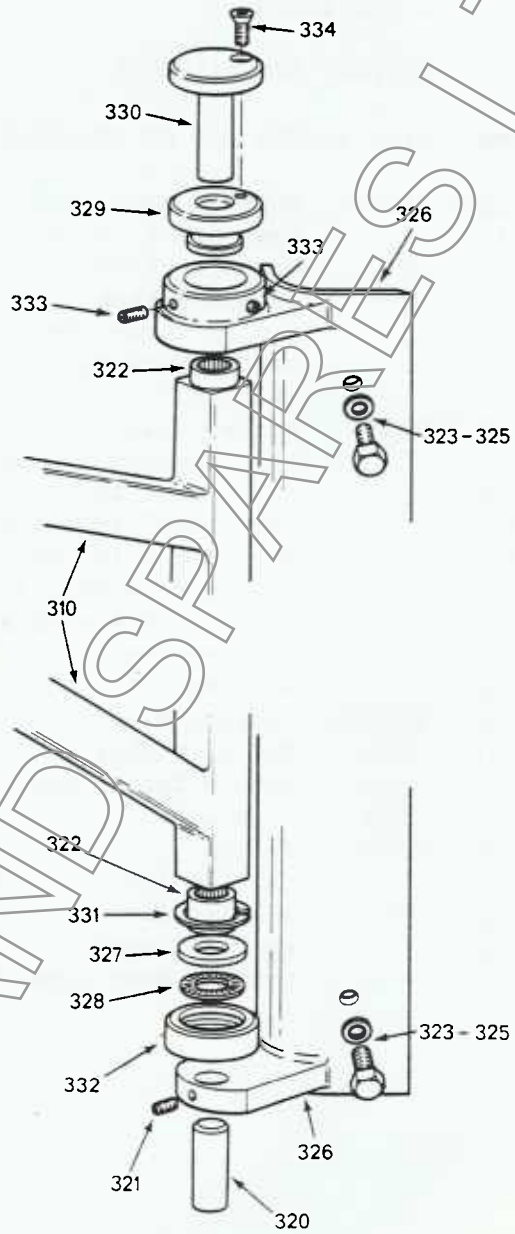
ITEM	PART NUMBER AND DESCRIPTION	No. OFF
310	SP278 Support Arm	1
311	Hex. Nut	1
312	2274 Support Pillar	1
313	1795 Thrust Washer	2
314	Needle Thrust Bearing	1
315	Needle Race	1
316	Circlip	1
317	2275 Roller Fork	1
318	Ball Bearing	1
319	Std. Dowel	1
320	Std. Dowel	1
321	Soc. Set Screw	1
322	Needle Race	2
323	Hex. Hd. Screw	6
324	Std. Washer	12
325	Hex. Nut	6
326	SM1650 Support Bracket	1
327	2384 Thrust Washer	1
328	Needle Thrust Bearing	1
329	7783 Bush	1
330	7782 Spigot	1
331	Circlip Anderton	1
332	7784 Bearing Housing	1
333	Soc. Set Screw	3
334	Counter Sunk Screw	1



SUPPORT ARM



SLIDING TABLE



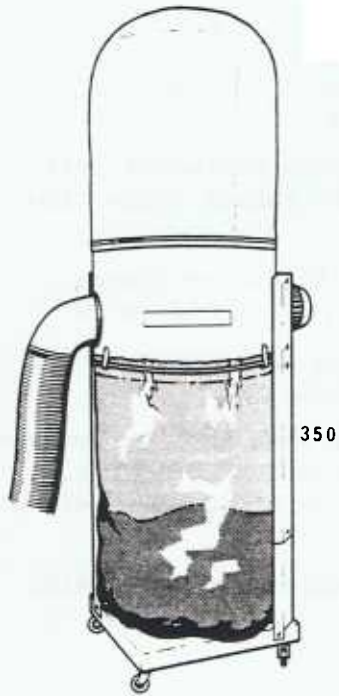
A.L.T. SAWS AND SPARE LTD

OPTIONAL EXTRAS & ACCESSORIES

ITEM	PART NUMBER	DESCRIPTION
350		'Cyclair' Extractor Unit - 1 Phase 'Cyclair' Extractor Unit - 3 Phase
351	SM1045	Lower Extractor Coupling Kit, enables Extractor Unit to be coupled directly to sawbench (rubber connecting sleeve and elbow not shown)
352	SP199	Set of Feed and Run-Off Rollers with keeper plates extending work space to 1370mm x 1830mm (54" x 72")
353	SP221	Two adjustable Support Legs for use with standard extension systems and for use with SP199
354	SM926	Feed Off Roller Assembly. Complies with the requirements of the Woodworking Machinery Regulations 1974 (U.K.), and gives an additional working area of 1040mm (41") wide x 1145mm (45") long
355	SM928	Tamper Proof Blade Guard Hood, complete with mounting bracket, lock and keys

NOT ILLUSTRATED :

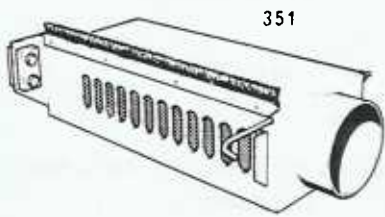
SM305	Extending Fence Bar 2030mm (80") long - DS Model only
3875	90mm (3½") Dia. Motor Pulley, gives faster speed for cutting plastics etc.
SP528	Special Motor Platform (must be used in conjunction with 3875 Motor Pulley)
SM1031	Large Sliding Sub-Table 370mm (14½") wide
5414	Steel Face Plate for SP285 Rip Fence
5537	Front Fence Bar 1780mm (70") long with scale graduated in mm up to 1360mm (53½"). Used in conjunction with standard extension systems
5105/1	Special Riving Knife 2.5mm (7/64") wide for use with carbide tipped saw blades.
SM881/1	Key Operated Switch
SM1065	Electrical Interlock
SM1066	Fused Isolator
SM1067	Trailing Foot Switch
SM1069	Non-Fused Isolator



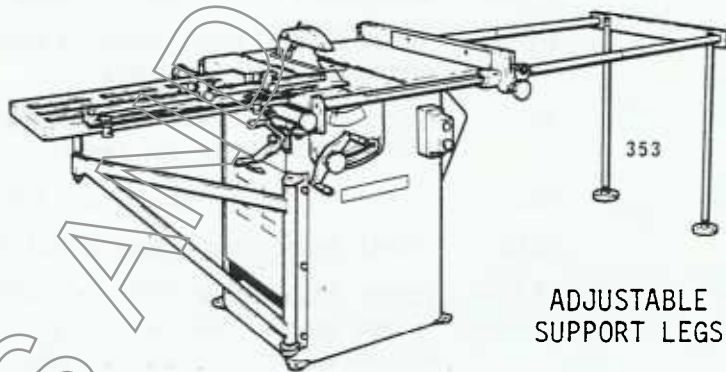
'CYCLAIR'
EXTRACTOR UNIT



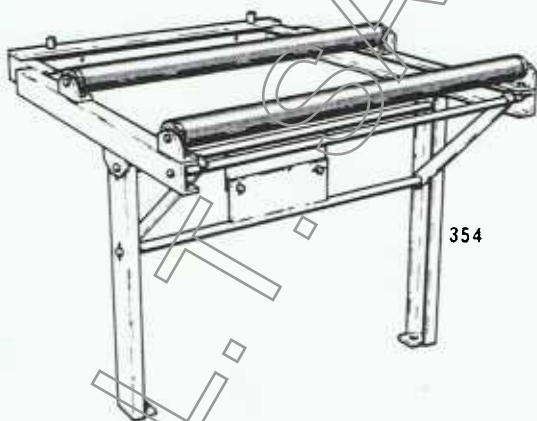
FEED & RUN-OFF ROLLERS



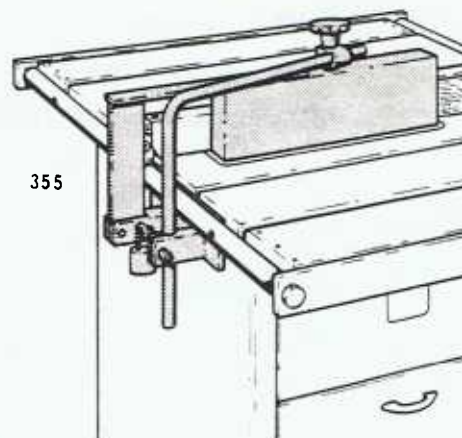
LOWER EXTRACTOR
COUPLING KIT



ADJUSTABLE
SUPPORT LEGS



FEED OFF ROLLER ASSEMBLY



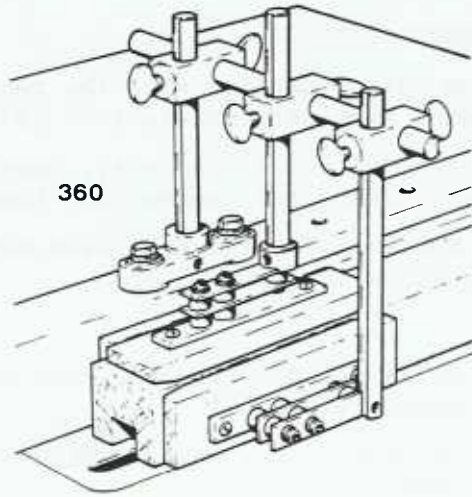
TAMPER PROOF
BLADE GUARD HOOD

OPTIONAL EXTRAS AND ACCESSORIES.

ITEM	PART NUMBER	DESCRIPTION
360	SM833	Hold Down Unit. Complies with the requirements of the woodworking Machinery Regulations 1974 (U.K.).
361	SP254	Wobble Saw 1/4" - 5/8" capacity, complete with screwed and graduated collar, 'C' spanner and tommy bar.
362	1880	Special Table Insert (must be used with Wobble Saw and Moulding Block).

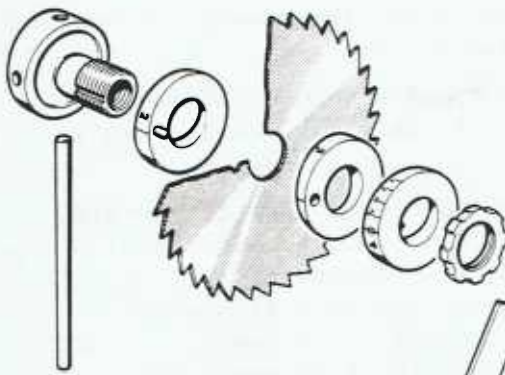
SAW BLADES:

363	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.) - 1/8", 3/16" or 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.



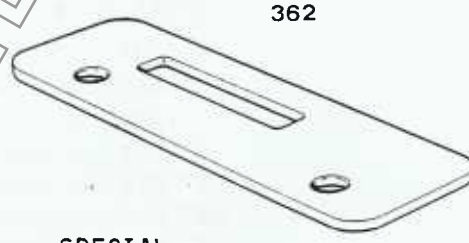
360

HOLD DOWN UNIT



361

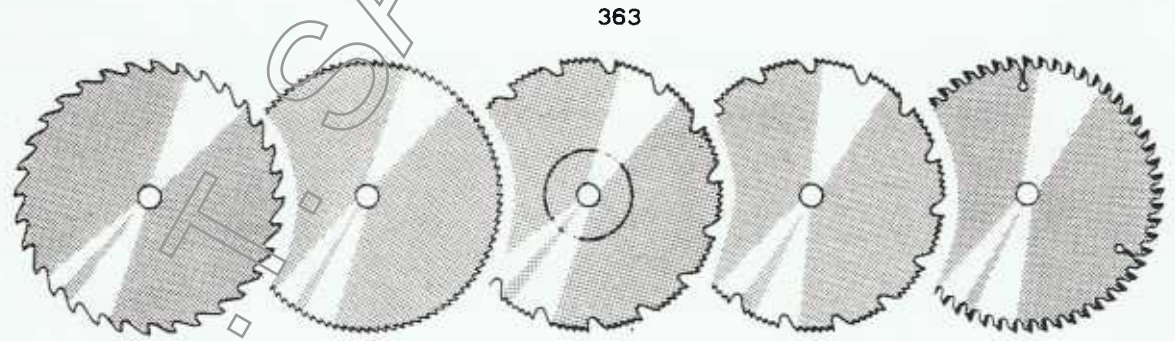
WOBBLE SAW



362

SPECIAL TABLE INSERT

SAW BLADES



363

RIP TOOTH

CROSS-CUT TOOTH

NOVELTY COMBINATION TOOTH

HOLLOW GROUND CROSS-CUT

CARBIDE TIPPED

ALWAYS AND SPARES LTD