

RECORD MACHINE DETAILS

MODEL  
SERIAL No.  
DATE of PURCHASE  
VOLTAGE  
PHASE  
CYCLES

QUOTE THIS INFORMATION  
WHEN REQUESTING SERVICE  
OR SPARES.

DISTRIBUTOR

This Bandsaw 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 Bandsaw, to assess any claims under the Warranty and to supply and fit genuine STARTRITE parts.

**STARTRITE**

&



**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](http://www.altsawsandspares.co.uk)

CONTENTS :

SECTION 3 - GENERAL INFORMATION :

Foundation Plan  
General Layout of Machine  
Installation of Machine  
Operator Safety Precautions  
Machine Controls  
Maintenance, Approved Lubricants

SECTION 10 - ELECTRICAL SYSTEM :

Circuit Diagram  
Electric Control Panel  
Wiring Instructions  
Conversion for Alternative Voltage

SECTION 15 - SETTING UP THE MACHINE / BLADE GUIDES :

Setting up the Machine  
Solid Insert Guides  
Combination Guides  
Universal Guides  
Parts Lists & Illustrations for Guides

SECTION 16 - SAWING PRACTICE :

Saw & Speed Selection Chart  
Saw Terminology  
Contour Sawing  
Bandsawing Practice  
Common Sawing Problems

SECTION 21 - OPTIONAL EXTRA EQUIPMENT :

Air/Spray Coolant Kit  
Circle Cutting Attachment  
Rip Fence  
Bandfile Guide  
Abrasive Band Guide  
Pusher Attachment  
Geared Pusher Attachment  
Parts Lists & Illustrations for Optional Extra Equipment

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.  
Designed and Printed by Startrite Engineering Co. Ltd.

© STARTRITE 1974.

PARTS LISTS & ILLUSTRATIONS :

SECTION 30 - TRANSMISSION :

10 Speed Gearbox  
Instructions for Dismantling & Re-assembling

SECTION 33 - BANDWHEEL MOUNTINGS :

Top Brackets  
Tension Indicator  
Fixed Bandwheel Hub  
Tracking Bandwheel Hub  
Bandwheels  
Wheel Brush  
Pivot Bracket

SECTION 36 - FIXED TABLE :

Fixed Tables  
Auxiliary Table  
Cradle

SECTION 42 - MOTOR PLATFORM :

Motor Platforms  
Motor Pulley  
Vee-Belts

SPECIFICATIONS :

Model - T Series - 14T : 13½" Throat, 2 Wheel Machine.  
20T : 20" Throat, 3 Wheel Machine.  
30T : 30" Throat, 3 Wheel Machine.  
18T : 18" Throat, 3 Wheel Machine.  
24T : 24" Throat, 3 Wheel Machine.

Wheel Diameter - 14, 20, 30T : 355 mm, 14"  
18 & 24T : 305 mm, 12"

Gross Weights - 14T : 318 kg, 700 lbs.  
20T : 363 kg, 800 lbs.  
30T : 431 kg, 950 lbs.  
18T : 272 kg, 600 lbs.  
24T : 318 kg, 700 lbs.

Motor - 14, 20, 30T : 1½ h.p., 1.1 kW, 900 r.p.m.  
18 & 24T : 1½ h.p., 1.1 kW, 1200 r.p.m.

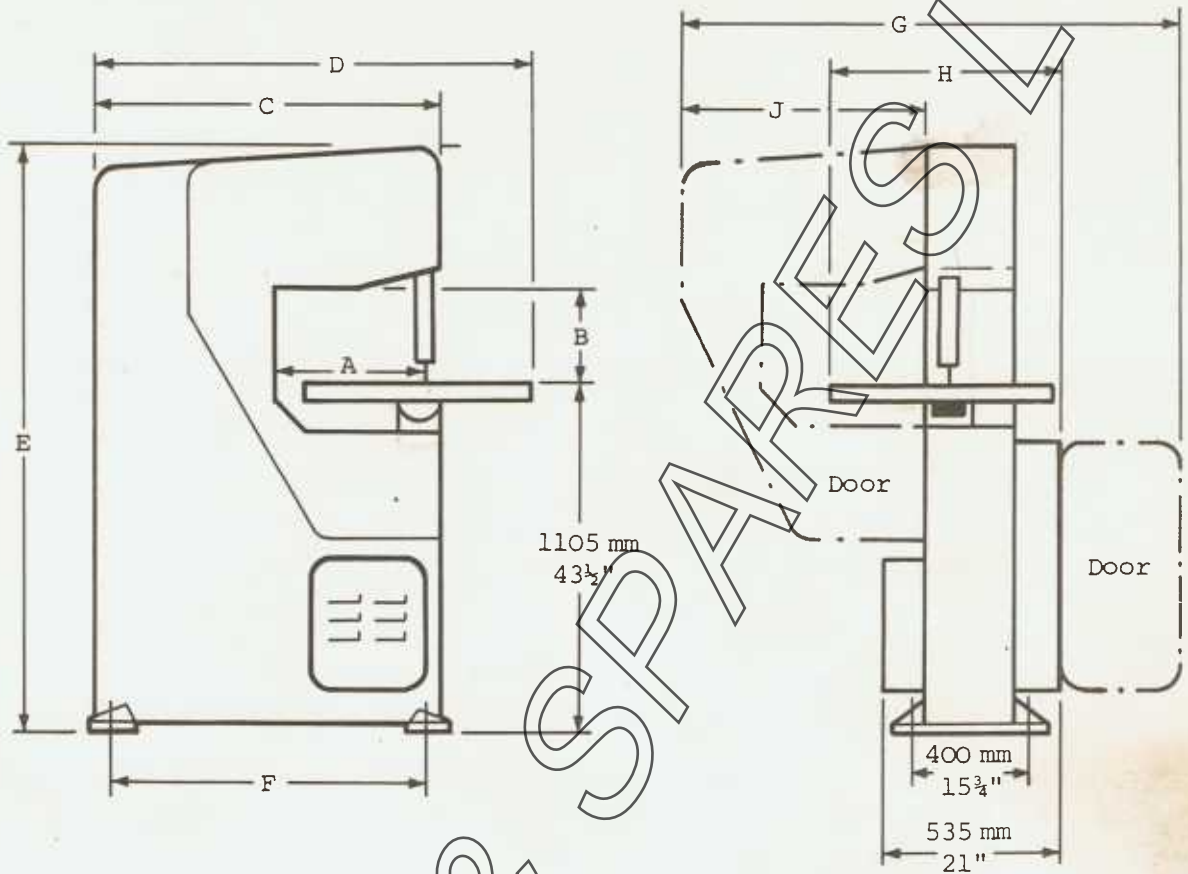
Electric Supply - 550 Volt 3 Phase 60Hz.  
220/240 Volt 3 Phase 60Hz.  
380/440 Volt 3 Phase 60Hz.

Blade Lengths - 14T : 2845 mm, 112"  
20T : 3305 mm, 130"  
30T : 2845 mm, 112" & 3735 mm, 147"  
18T : 2895 mm, 114"  
24T : 3200 mm, 126"

Max. Blade Width - 14, 20, 30T : 20 mm, ¾"  
18 & 24T : 15 mm, ⅝"

**GENERAL INFORMATION**

**SECTION 3**



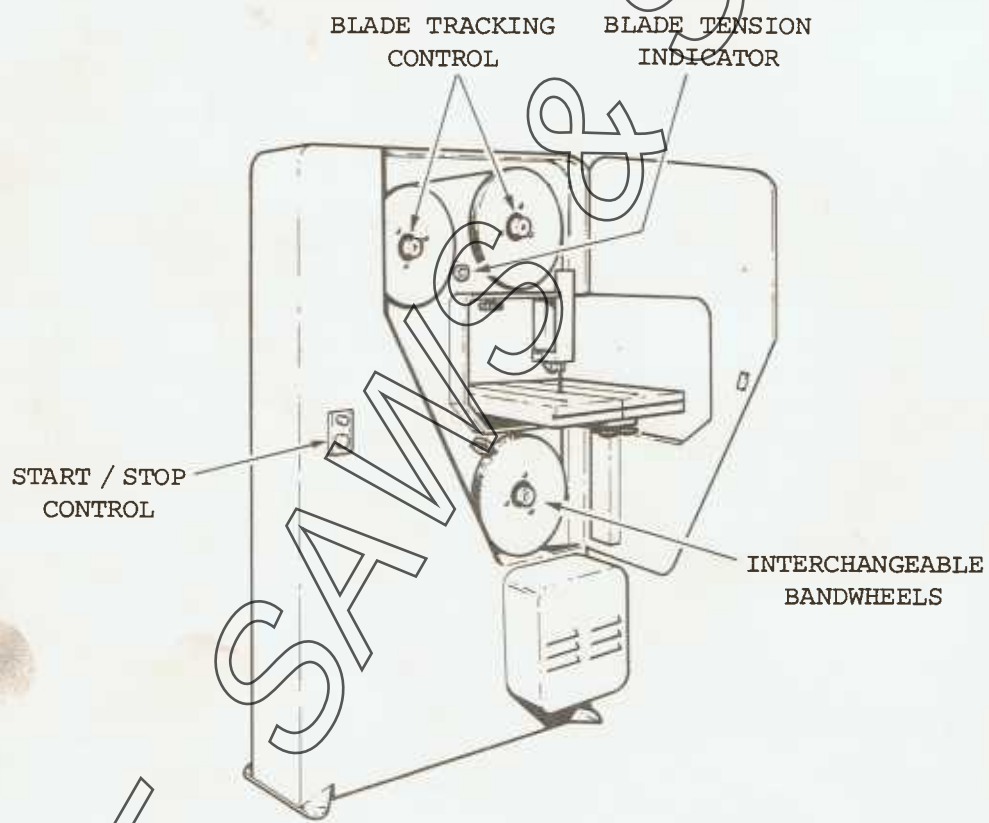
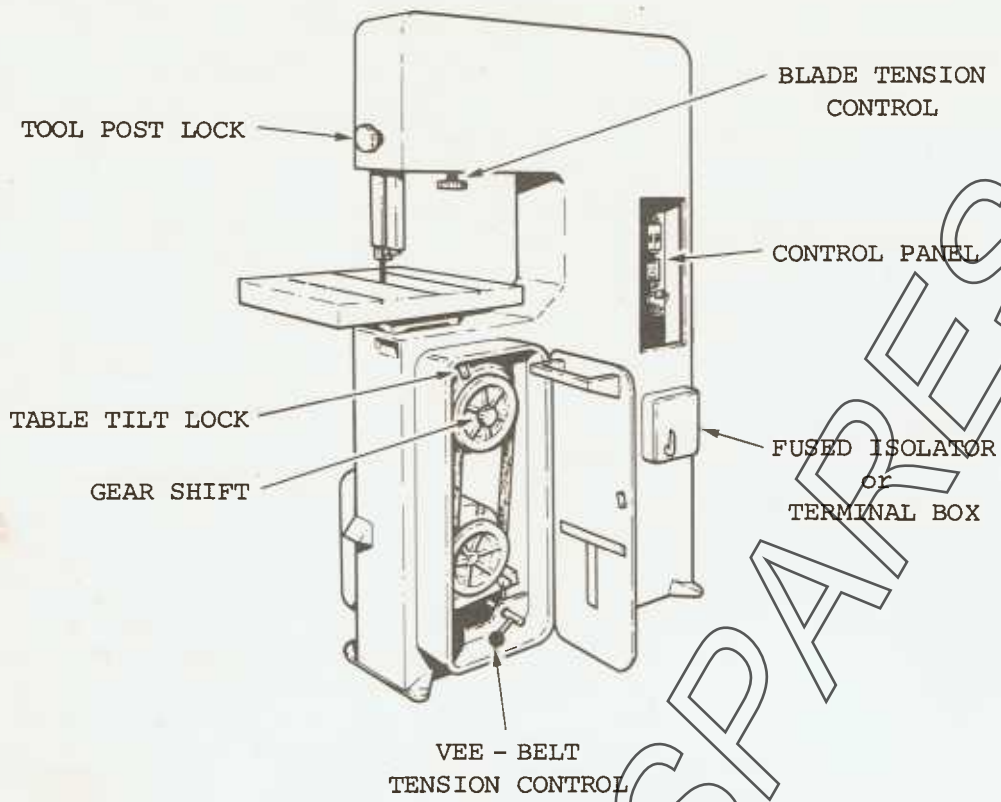
FOUNDATION PLAN

( DETAILS VARY ACCORDING TO MODEL )

| MACHINE TYPE                 | 14"     | 20"     | 30"      | 18"     | 24"     |
|------------------------------|---------|---------|----------|---------|---------|
| PRINCIPLE DIMENSIONS         | mm ins  | mm ins  | mm ins   | mm ins  | mm ins  |
| <b>A</b> THROAT SIZE         | 345 13½ | 510 20  | 760 30   | 455 18  | 610 24  |
| <b>B</b> HEIGHT UNDER GUIDES | 255 10  |         | 205 8    |         |         |
| <b>C</b> LENGTH OF BODY      | 610 24  | 890 35  | 1170 46  | 760 30  | 990 39  |
| <b>D</b> LENGTH OVERALL      | 840 33  | 1120 44 | 1400 55  | 965 38  | 1195 47 |
| <b>E</b> HEIGHT              | 1830 72 |         | 1755 69  |         |         |
| <b>F</b> BOLTING DOWN HOLES  | 595 23½ | 875 34½ | 1155 45½ | 750 29½ | 980 38½ |
| <b>G</b> WIDTH - DOORS OPEN  | 1420 56 | 1730 68 | 2310 79  | 1395 55 | 1625 64 |
| <b>H</b> WIDTH               | 560 22  |         | 535 21   |         |         |
| <b>J</b> MAIN DOOR           | 535 21  | 840 33  | 1115 44  | 685 27  | 915 36  |

ALL DIMENSIONS APPROXIMATE.





GENERAL LAYOUT OF BANDSAWING MACHINE.  
( DETAILS VARY ACCORDING TO MODEL )

## INSTALLATION.

To transport machine to site, use fork lift truck with forks placed under base of machine (steady machine during transport), or use hoist with sling positioned as shown in Fig.1.

**WARNING : ATTACHMENT OF SLING TO TABLE MAY DAMAGE THE MACHINE.**

Adequate working and job lay off space is essential to efficient operation, so do not site the machine in a cramped position in the workshop.

Bandsaw blades tend to get tangled and damaged if hung from a hook or stacked on the floor, therefore cupboard space provided adjacent to the machine will protect saw blades in storage and encourage the operator to select a suitable saw blade for the job.

The base of the machine is provided with four fixing holes to accept  $\frac{3}{8}$ " dia. anchor bolts (not supplied) but the machine may be fixed in position with resilient mounting pads secured by adhesive in order to avoid damage to the floor. Where necessary, the floor must be levelled so that the machine stands with equal firmness at all fixing points. Remove the anti-rust protective coating where applied, and in particular from the working elements of the machine.



Fig.1.

If the machine has been shipped with the table as a separate item, re-assemble table to machine in the following manner :-

1. Lift the table into position allowing the trunnion to seat and the bolt to pass through the slot in the cradle. Where necessary, the bolt may be assembled into the trunnion by passing it through the table insert aperture.
2. From the underside of the cradle platform, assemble in bolt on order :-  
 Spring Housing, spigot end first.  
 Spring, into body of housing.  
 Washer, plain face first.  
 Nut, using wrench supplied.

## CONNECTION TO THE ELECTRICITY SUPPLY.

Before connecting to the electricity supply, see Section on Electrical System for full instructions.

## SETTING UP THE MACHINE.

For full instructions on how to set up the machine for correct use, see Section on Setting Up / Blade Guides.

## OPERATOR SAFETY PRECAUTIONS.

Keep hands clear of the saw blade.

Position the top guide as close as possible to the workpiece.

Stop the machine to make adjustments.

Keep the blade guard(s) in position when sawing.

Keep the work area free of tools and off-cuts.

Do not leave bandsaw blades on the floor.

## MACHINE CONTROLS.

## 10 SPEED MACHINES :

Operation of the Vee-belt tension control releases the tension on the Vee-belt, see Fig.2, which enables a higher or lower speed to be selected.

Blade speed variation is effected by means of a five step pulley, in conjunction with a two speed gearbox. To select high gear pull OUT gearshift, to select low gear push IN gearshift, see Fig.2. Always ensure that the gearshift is fully engaged before starting the machine. Turning the Vee-belt pulley by hand will help gears engage.

**IMPORTANT : STOP THE MACHINE BEFORE SHIFTING GEAR. OPERATING THE GEARSHIFT WHILE THE TRANSMISSION IS IN MOTION WILL DAMAGE THE GEARBOX.**

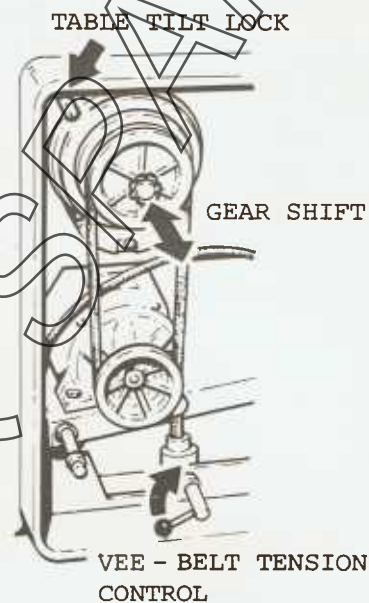


Fig.2.

## FIXED TABLES :

The table is secured in position by a single bolt passing through the cradle with the tilt locking nut accessible through the door at the rear of the machine, see Fig.2. Slackening the nut about one half turn will allow the table to be tilted. The table can be tilted 45° to the right. The table will also tilt 15° to the left if the zero stop pin is first removed from its position at the left hand side of the table mounting.

WEEKLY MAINTENANCE.

Remove embedded chips from bandwheel tires.  
Clean upper and lower blade guide assemblies.

MONTHLY MAINTENANCE.

Check condition and tension of Vee-belts.

YEARLY MAINTENANCE.

Drain gearbox, and refill with clean oil to level of filler hole.

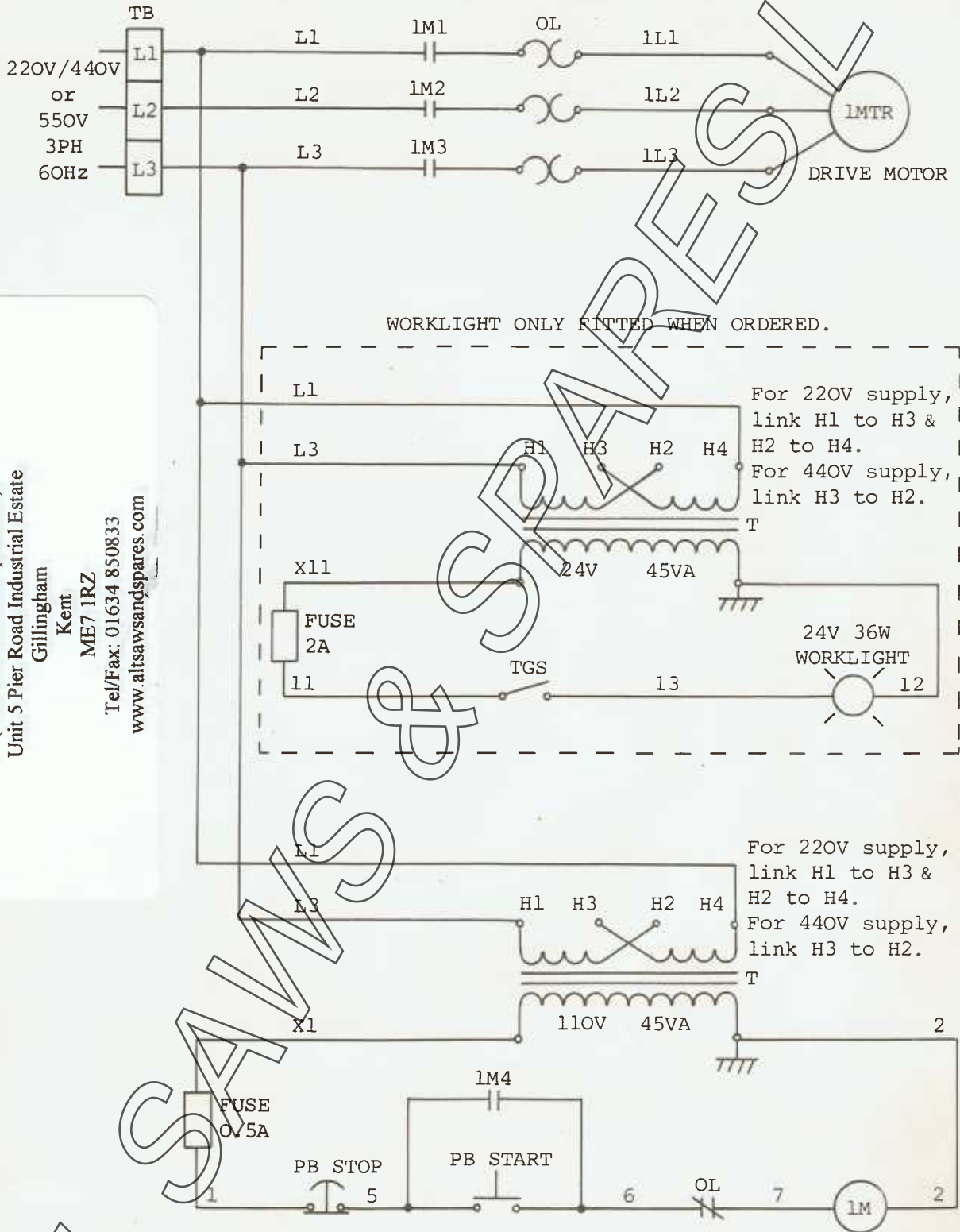
GENERAL.

Otherwise than above, clean and lubricate working parts as required.  
The bandwheels have sealed-for-life bearings which do not require further lubrication.

| APPROVED LUBRICANTS. |  |
|----------------------|--|
| GENERAL LUBRICATION  | ESSO Esttic 50 Oil<br>GULF Service 51 Oil<br>MOBIL Vactra Heavy Medium Oil<br>TEXACO Ursa P20 Oil                        |
| MOTOR BEARINGS       | ESSO Beacon 3 Grease<br>GULF Gulfcrown No.3 Grease<br>MOBIL Mobilplex 48 Grease<br>TEXACO Regal Starfak Premium 3 Grease |
| GEARBOX              | ESSO Pen-o-led EP2 Oil<br>GULF EP65 Lubricant Oil<br>MOBIL Mobilgear 629 Oil<br>TEXACO Meropa 2 Lubricant Oil            |



**A.L.T. SAWS & SPARES LTD**  
 (Starrite Machine Specialist)  
 Unit 5 Pier Road Industrial Estate  
 Gillingham  
 Kent  
 ME7 1RZ  
 Tel/Fax: 01634 850833  
 www.altsawsandspares.com



CIRCUIT DIAGRAM FOR 220/440V OR 550V 3PH 60Hz MACHINES.

## SECTION 10

### WIRING INSTRUCTIONS.

If the machine is of the correct voltage, connect supply leads to terminals L1, L2 and L3 in terminal box (or disconnect switch if fitted) at rear of machine.

**IMPORTANT: DO NOT SHIFT GEAR WHEN MOTOR IS RUNNING.**

Check motor rotation, saw blade must pass downward through the table.

If necessary interchange supply leads L1 and L3 to reverse rotation.

### ELECTRIC CONTROL PANEL.

The electric control panel, see Fig.1, is located inside the machine body, and access is obtained by removing the panel cover situated at the rear of the machine. The complete panel may be removed from the machine by disconnecting the supply wires to the terminal block and securing nuts retaining the panel.

Item 1. Davenset transformer  
550V or 220/440V primary, 110V 45VA  
secondary for control circuit.

Item 2. Fuse holder Bussman type  
HKP and fuse Bussman type AGC  $\frac{1}{2}$ .

Item 3. Danfoss C10 contactor  
with 110V coil. Provides Start/  
Stop control for main motor.

Item 4. Danfoss overload unit  
( see Chart on page 3 for part  
numbers and amperage ratings ).  
Provides overload protection for  
main motor.

Item 5. Terminal block.

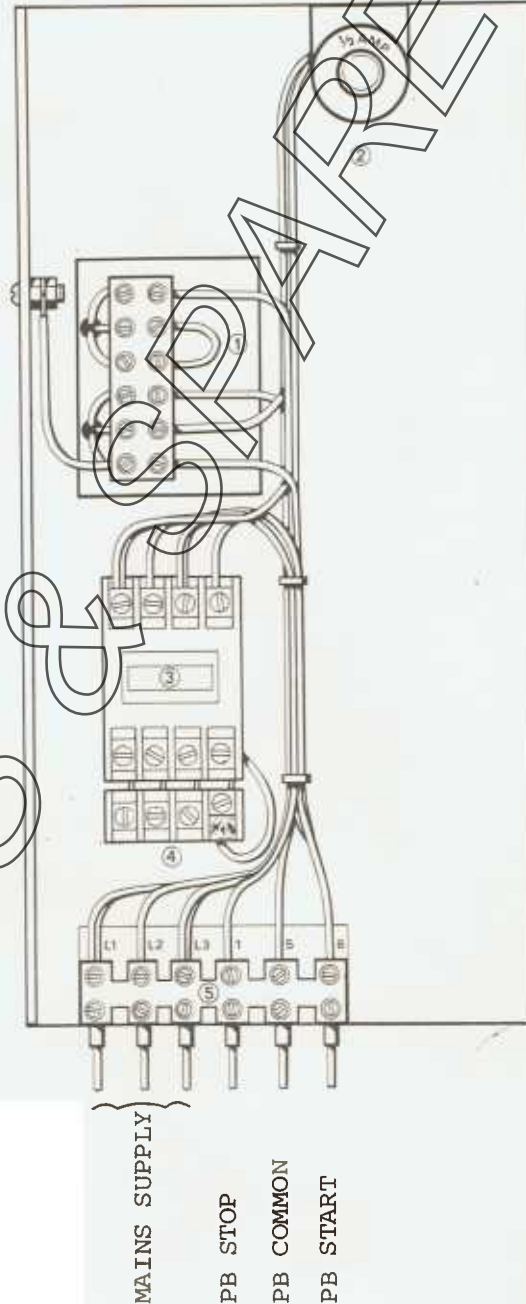


Fig.1.

CONVERSION FOR ALTERNATIVE SUPPLY VOLTAGE.

220 Volt machines will operate on 220/240V 3PH 60Hz supply.  
 440 Volt machines will operate on 380/440V 3PH 60Hz supply.  
 Machines supplied for use on 440V 3PH 60Hz supply may be adapted to operate on 220V 3PH 60Hz supply and vice-versa.

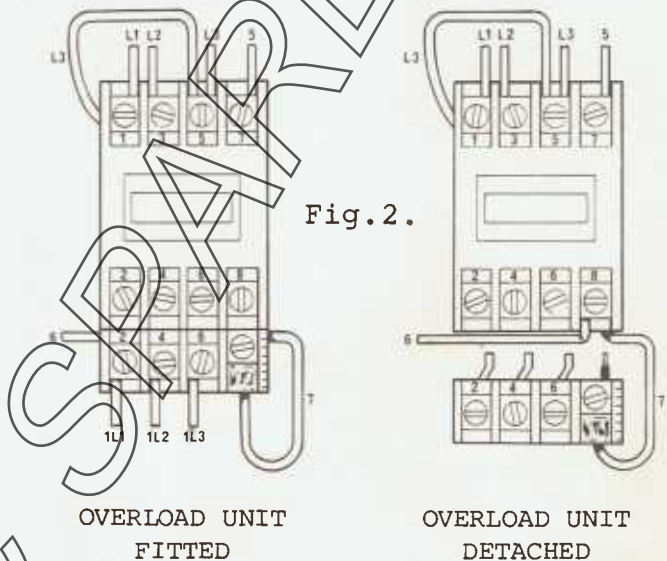
To effect conversion, it is necessary :-

- A. Replace the motor overload unit with one of suitable rating.
- B. Change the transformer terminal connections.
- C. Change the main drive motor terminal connections

Proceed as follows :-

**A.**

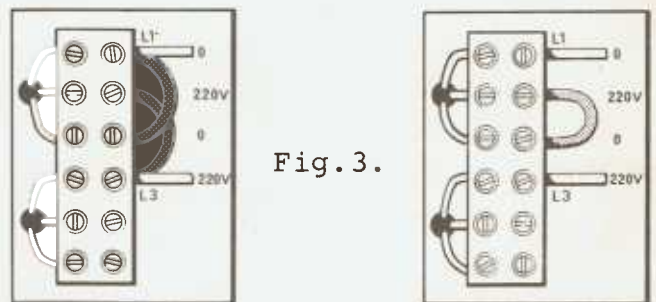
Remove control panel cover situated at rear of machine. Identify motor starter and overload unit, see Fig.2. Remove overload unit from starter after slackening starter terminal screws 2,4,6 & 8, and disconnecting wire 7. Fit alternative overload unit of suitable amperage rating according to supply voltage (see Chart below). Set pointer at side of overload unit to indicate full load amps of motor.



| MACHINE TYPE | MOTOR 3 PHASE 60Hz. |      |           |          |               | OVERLOAD UNIT |            |
|--------------|---------------------|------|-----------|----------|---------------|---------------|------------|
|              | HP.                 | RPM. | VOLTS     | F/L AMPS | STARTING AMPS | PART No.      | AMPS RANGE |
| 14"          | 1½                  | 900  | 550       | 2.4      | 13            | 47L0107       | 1.8 - 2.8  |
| 20"          |                     |      | 380 - 440 | 3.4      | 17            | 47L0108       | 2.7 - 4.2  |
| 30"          |                     |      | 220 - 240 | 5.9      | 29            | 47L0109       | 4.0 - 6.2  |
| 18"          | 1½                  | 1200 | 550       | 2.1      | 11            | 47L0107       | 1.8 - 2.8  |
| 24"          |                     |      | 380 - 440 | 2.7      | 13            | 47L0108       | 2.7 - 4.2  |
|              |                     |      | 220 - 240 | 5.3      | 26            | 47L0109       | 4.0 - 6.2  |

**B.**

On control panel, identify transformer and substitute links to suit supply voltage, as shown in Fig.3. (Split primary coil transformers only).



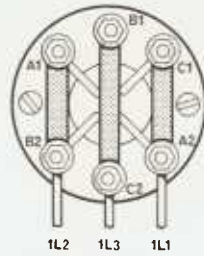
2 LINKS FOR 220V 3PH SUPPLY

1 LINK FOR 440V 3PH SUPPLY



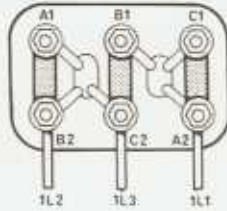
C.

Remove cover of motor terminal box. Identify main drive motor terminal arrangements, see Figs.4, 5,6 & 7. Change the motor terminal linkage to suit appropriate voltage as shown, using correct method of connection.



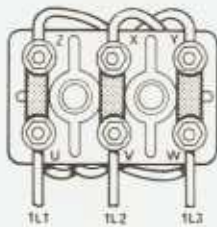
3 LINKS FOR 220V 3PH SUPPLY.  
2 LINKS FOR 440V 3PH SUPPLY.

Fig.4.



3 LINKS FOR 220V 3PH SUPPLY.  
2 LINKS FOR 440V 3PH SUPPLY.

Fig.5.

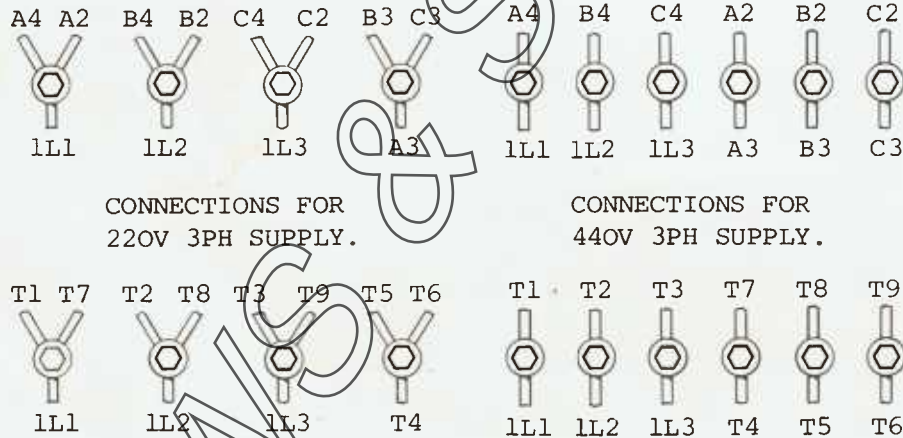


3 LINKS FOR 220V 3PH SUPPLY.  
2 LINKS FOR 440V 3PH SUPPLY.

Fig.6.



Connections to be made by nut, bolt and washers, and to be wrapped with adhesive p.v.c. insulating tape.



CONNECTIONS FOR 220V 3PH SUPPLY.

CONNECTIONS FOR 440V 3PH SUPPLY.

Fig.7.

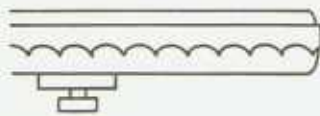


**SETTING UP THE MACHINE.**

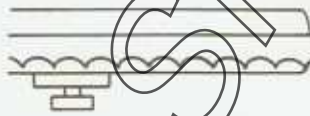
Select a saw blade suitable for the work in hand, see Section on Sawing Practice.

Place the saw blade upon the bandwheels with the teeth facing forwards and downwards through the table. Apply sufficient tension to take up the slack of the saw blade. Rotate the bandwheels by hand and at the same time operate the blade tracking control so that the saw blade runs approximately central on the bandwheels, see Fig.1. It is important that the guides are set back clear of the saw blade whilst this operation is being carried out in order that the saw blade is free to follow its natural path between the bandwheels.

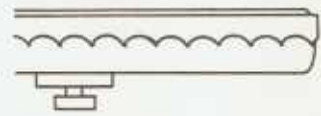
NOTE: 30" Throat Machines have a tracking control fitted to both the top and third bandwheels. Care must be taken when setting these machines in order to avoid conflicting settings between the tracking controls. For this reason, the top bandwheel should be set in the mean position and the tracking controlled from the third bandwheel. After this procedure has been completed a small final adjustment may be necessary to the top bandwheel control. This point does not arise of course when the machine is to be used on two wheel operation, as the tracking procedure is carried out solely by the top bandwheel control.



**TRACKING CORRECT**  
Blade runs approximately central on bandwheel.



**TRACKING INCORRECT**  
Blade runs toward front edge of bandwheel.



**TRACKING INCORRECT**  
Blade runs toward rear edge of bandwheel.

Fig.1.

When the saw blade is tracking in a satisfactory manner, apply the appropriate blade tension as shown by the tension indicator, see Fig.2. The tension scale registers tension applied in terms of saw blade width, thus a reading of  $\frac{1}{2}$  indicates that tension to suit a  $\frac{1}{2}$ " wide saw blade has been applied. The saw blade length, provided that it is acceptable to the machine, does not affect the indicated tension. The indicator will give a fair guide as to the correct tension required, but it may be necessary to vary this slightly according to circumstances.

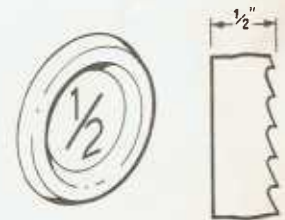


Fig.2.

**BLADE GUIDES.**

Several types of blade guides are available and these are described on the following pages.

It is most important that the guides are set to offer maximum support to the blade in its working condition. The top blade guide should be set as close as possible to the workpiece.

Using the machine with incorrectly adjusted guides can only result in poor quality work and short blade life.

**SOLID INSERT GUIDES.**

These guides give the greatest possible support to the blade and are therefore most suitable for precision sawing. In most cases greater working life of the blade can be obtained than is possible with other types of guides.

Solid insert guides (see Fig.3) as the name implies, have the guiding faces machined into a solid block, thereby eliminating the need for individual adjustment to separate controlling elements. The guide inserts are made in a range of sizes to suit blade widths (see Parts List). After initial setting each size of insert is automatically positioned when fitted into the guide holder.

Check each new blade before use for smoothness on sides and back edge at welded joint.

New guide inserts should be allowed to bed in by being subjected only to light feed pressure during the first few minutes of use.

An occasional small application of saw wax or tallow to the blade will generally improve performance and prolong working life of both blade and inserts. Remove and clean the inserts at each blade change, or more frequently if necessary. Do not allow the inserts to become seized in the holders so that the self aligning action is inhibited.

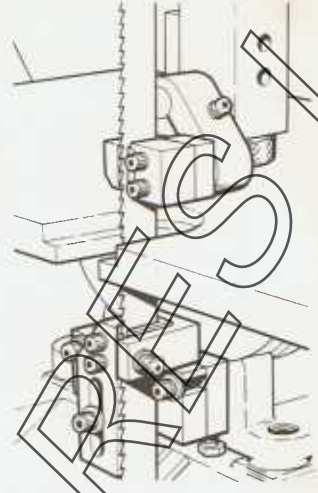


Fig.3.

**INSTRUCTIONS.**

Fit guide inserts (Item 21) to suit width of blade to be used.

Initial setting of the guide holders is best accomplished by fitting a wide blade. Slacken securing screws (Items 1 & 19) and position the insert locators to hold the inserts with minimum side clearance but free enough to pivot under finger pressure.

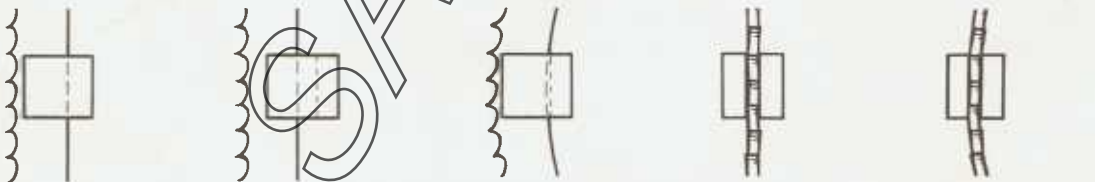
The use of the correct size guide insert permits maximum engagement with the flanks of the saw blade without snagging the set of the teeth, see Fig.4.

With the blade correctly tracked and tensioned, position both guide holders so that guide inserts support the blade without deflecting it from a straight line, see Fig.5. After adjusting the guides, rotate the handwheels by hand to ensure that the saw blade runs free and that all the adjustments have been correctly carried out.



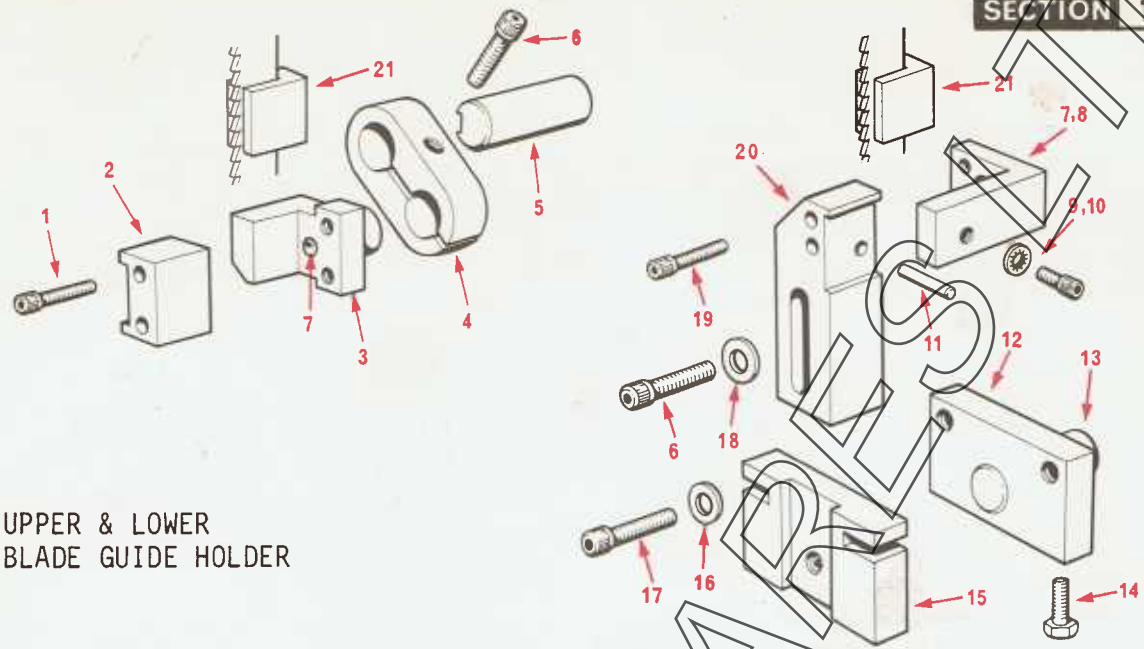
CORRECT INCORRECT INCORRECT

Fig.4.



CORRECT Maximum support for blade. INCORRECT Insufficient support for blade. INCORRECT Guide deflecting blade. CORRECT Guide supporting blade. INCORRECT Guide deflecting blade.

Fig.5.



UPPER & LOWER  
BLADE GUIDE HOLDER

UPPER BLADE GUIDE HOLDER - PART No.SP624

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 1    | Soc.Cap Screw               | 2       |
| 2    | 4157 Insert Locator         | 1       |
| 3    | 4158 Stem                   | 1       |
| 4    | 4156 Guide Arm              | 1       |
| 5    | 4154 Spigot                 | 1       |
| 6    | Soc.Cap Screw               | 1       |
| 7    | Drive Screw                 | 1       |

LOWER BLADE GUIDE HOLDER - PART No.SP712

|    |                     |   |
|----|---------------------|---|
| 6  | Soc.Cap Screw       | 1 |
| 7  | Drive Screw         | 1 |
| 8  | 4326 Insert Locator | 1 |
| 9  | Shakeproof Washer   | 1 |
| 10 | Soc.Cap Screw       | 1 |
| 11 | Mills Pin           | 1 |
| 12 | 4324 Back Plate     | 1 |
| 13 | 4327 Spigot         | 1 |
| 14 | Hex.Hd.Screw        | 2 |
| 15 | 4325 Stem Holder    | 1 |
| 16 | Std.Washer          | 2 |
| 17 | Soc.Cap Screw       | 2 |
| 18 | Std.Washer          | 1 |
| 19 | Soc.Cap Screw       | 2 |
| 20 | 4323 Stem           | 1 |

SOLID GUIDE INSERTS.

|    |  |   |
|----|--|---|
| 21 | 4146 Guide Inserts for $\frac{1}{8}$ " Blade Width | 2 |
|    | 4147 " " " $\frac{3}{16}$ " " "                    | 2 |
|    | 4148 " " " $\frac{1}{4}$ " " "                     | 2 |
|    | 4149 " " " $\frac{3}{8}$ " " "                     | 2 |
|    | 4150 " " " $\frac{1}{2}$ " " "                     | 2 |
|    | 4151 " " " $\frac{5}{8}$ " " "                     | 2 |
|    | 4152 " " " $\frac{3}{4}$ " " "                     | 2 |

NOTE : Blade width capacity of machines vary according to model.



## COMBINATION GUIDES.

Combination guides, as the name implies, have two different functions. They can be set in the normal position (see Fig.6) and used for continuous high speed sawing, or they can be set at an angle (see Fig.7) and used for angled sawing. Combination guides will accept either guide inserts or side rollers (see Parts List). The guides, which are available as an optional extra, utilise standard location points on the machine, and are therefore fully interchangeable with other guides and attachments on all models.

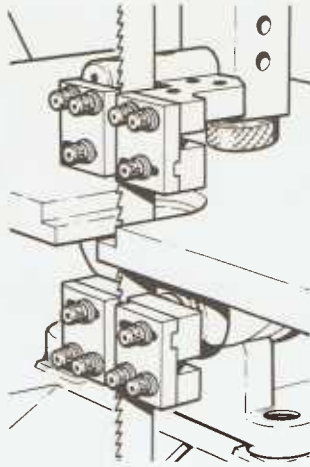


Fig.6.

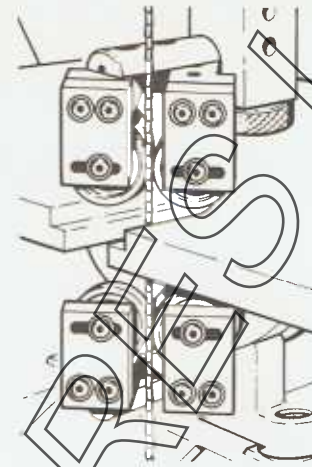


Fig.7.

## INSTRUCTIONS.

With the blade correctly tracked and tensioned, assemble the guides to the machine using the standard location points. Fit guide inserts (Item 39) or side rollers (Item 38) to suit width of blade to be used. The use of the correct size guide inserts permits maximum engagement with the flanks of the saw blade without snagging the set of the teeth.

Slacken securing screws (Item 36) and position the guide inserts so that they support the blade without deflecting it from a straight line. After adjusting the guides, rotate the handwheels by hand to ensure that the saw blade runs free and that all the adjustments have been correctly carried out.

The Arm (Item 30) may be set at an angle to the Guide Body (Item 32) so that the saw blade is twisted at an angle of approximately  $40^\circ$  to the axis of the table, see Figs.7 & 8. By this means the limitation imposed by the throat size when sawing a long narrow workpiece is avoided. When the guides are used in the angled position, side rollers (Item 38) must be fitted and the saw blade speed should not exceed 300 feet per minute.

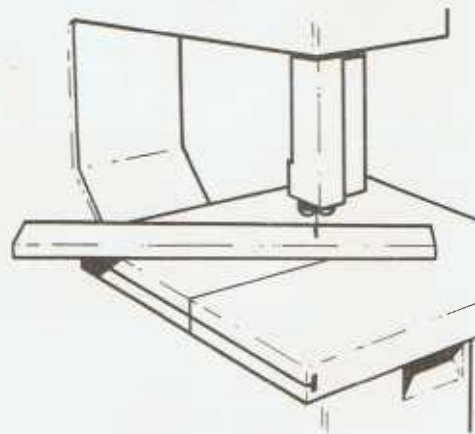
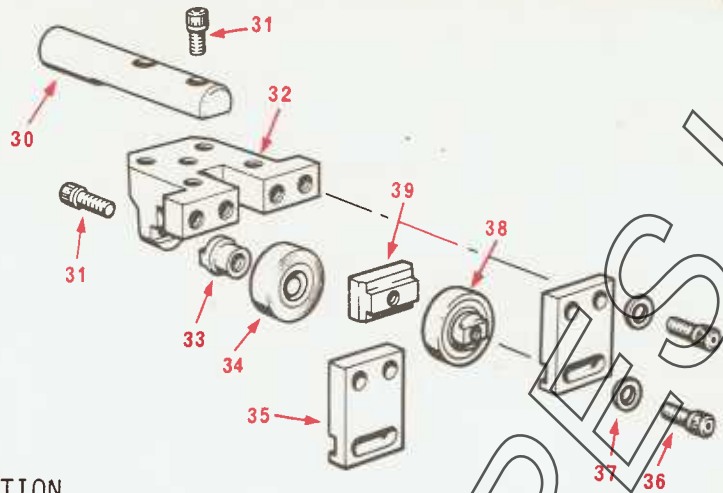


Fig.8.





COMBINATION  
BLADE GUIDES

COMBINATION BLADE GUIDE ASSEMBLY - PART No.SP290

NOTE : Two SP290 Combination Blade Guide Assemblies required per machine.  
Quantities shown below, are for TWO assemblies.

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 30   | 2563 Arm                    | 2       |
| 31   | Soc.Cap Screw               | 6       |
| 32   | 2562 Guide Body             | 2       |
| 33   | 2565 Bearing Bush           | 2       |
| 34   | Ball Race                   | 2       |
| 35   | 2564 Guide Bracket          | 4       |
| 36   | Soc.Cap Screw               | 8       |
| 37   | Std.Washer                  | 8       |

SIDE ROLLERS.

|    |  |   |
|----|--|---|
| 38 | SP306 Side Rollers for $\frac{5}{8}$ " Blade Width | 4 |
|    | SP307 " " " $\frac{1}{2}$ " " "                    | 4 |

GUIDE INSERTS.

|    |  |   |
|----|--|---|
| 39 | SP316 Guide Inserts for $\frac{1}{32}$ " - $\frac{1}{8}$ " Blade Width | 4 |
|    | SP317 " " " $\frac{1}{4}$ " - $\frac{3}{16}$ " " "                     | 4 |
|    | SP318 " " " $\frac{1}{2}$ " - $\frac{3}{8}$ " " "                      | 4 |
|    | SP319 " " " $\frac{5}{8}$ " " "  | 4 |

**SECTION 15**

**UNIVERSAL GUIDES.**

The universal blade guides, see Fig.9, are most suitable for high speed sawing and general cut-off work where sawing accuracy is not very important. These guides use the same size inserts (see Parts List) for all widths of blades.

The guides, which are available as an optional extra, utilise standard location points on the machine, and are therefore fully interchangeable with other guides and attachments on all models.

**INSTRUCTIONS.**

With the blade correctly tracked and tensioned, assemble the guides to the machine by using the standard location points.

Position the guides so that they permit maximum engagement with the flanks of the saw blade without snagging the set of the teeth. Make sure the guides support the blade, without deflecting it from a straight line. After adjusting the guides, rotate the bandwheels by hand to ensure that the saw blade runs free and that all the adjustments have been correctly carried out.

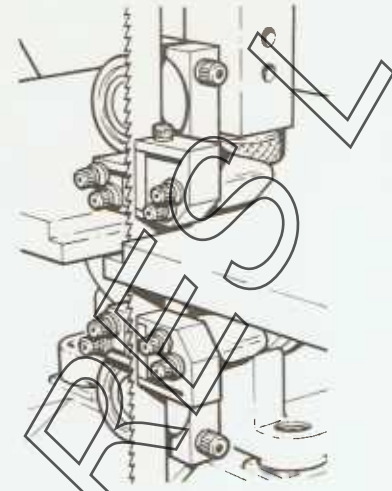
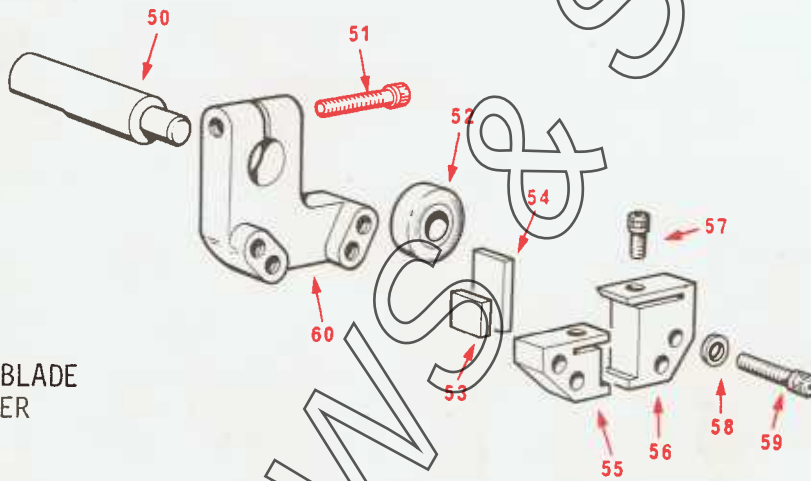
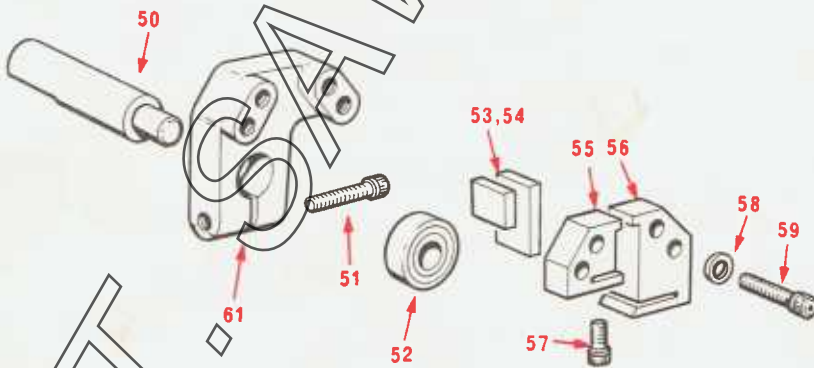


Fig.9.

UNIVERSAL BLADE GUIDE - UPPER



UNIVERSAL BLADE GUIDE - LOWER



## UNIVERSAL BLADE GUIDE - UPPER - PART No.SP454

| ITEM | PART NUMBER AND DESCRIPTION | No OFF |
|------|-----------------------------|--------|
| 50   | 3504 Support Arm            | 1      |
| 51   | Soc.Cap Screw               | 1      |
| 52   | Ball Race                   | 1      |
| 53   | 3512 Guide Insert - Small   | 1      |
| 54   | 3513 Guide Insert - Large   | 1      |
| 55   | 3505 Guide Holder - Small   | 1      |
| 56   | 3506 Guide Holder - Large   | 1      |
| 57   | Soc.Cap Screw               | 2      |
| 58   | Std.Washer                  | 4      |
| 59   | Soc.Cap Screw               | 4      |
| 60   | 3507 Guide Body - Upper     | 1      |

## UNIVERSAL BLADE GUIDE - LOWER - PART No.SP455

|    |                           |   |
|----|---------------------------|---|
| 50 | 3504 Support Arm          | 1 |
| 51 | Soc.Cap Screw             | 1 |
| 52 | Ball Race                 | 1 |
| 53 | 3512 Guide Insert - Small | 1 |
| 54 | 3513 Guide Insert - Large | 1 |
| 55 | 3505 Guide Holder - Small | 1 |
| 56 | 3506 Guide Holder - Large | 1 |
| 57 | Soc.Cap Screw             | 2 |
| 58 | Std.Washer                | 4 |
| 59 | Soc.Cap Screw             | 4 |
| 61 | 3508 Guide Body - Lower   | 1 |

SAW AND SPEED SELECTION CHART.

| MATERIAL                               | WATER TO STARCOOL RATIO |     | MATERIAL THICKNESS |       |       |         |
|--|-------------------------|-----|--------------------|-------|-------|---------|
|  |                         |     | UNDER ¼"           | ¼"-½" | ½"-1" | OVER 1" |
| ANALINE FORMALDEHYDE                   | -                       | FPM | 3500               | 3200  | 3000  | 2900    |
|  |                         | TPI | 18                 | 14    | 10    | 3S      |
| ALUMINIUM - Die Casting                | 20                      | FPM | 1500               | 1200  | 900   | 750     |
|  |                         | TPI | 18                 | 10    | 8     | 6S      |
| ALUMINIUM - Sand Cast Alloy            | 20                      | FPM | 1200               | 1000  | 800   | 600     |
|  |                         | TPI | 18                 | 14    | 10    | 6S      |
| ALUMINIUM - Rolled & Extruded Sections | 20                      | FPM | 2500               | 2000  | 1500  | 1400    |
|  |                         | TPI | 18                 | 10    | 8     | 6S      |
| ASBESTOS - Corrugated                  | -                       | FPM | 3000               | 3000  | 3000  | 3000    |
|  |                         | TPI | 14                 | 10    | 6     | 3S      |
| ASBESTOS - Paper                       | -                       | FPM | 3000               | 3000  | 3000  | 2800    |
|  |                         | TPI | 10                 | 8     | 6     | 3S      |
| ASBESTOS - Wall Board                  | -                       | FPM | 150                | 100   | 100   | 100     |
|  |                         | TPI | 14                 | 10    | 6     | 3S      |
| BABBIT                                 | 20                      | FPM | 2500               | 2000  | 1500  | 1200    |
|  |                         | TPI | 18                 | 14    | 8     | 6       |
| BAKELITE                               | -                       | FPM | 2500               | 2300  | 2000  | 1500    |
|  |                         | TPI | 14                 | 10    | 8     | 6S      |
| BERYLLIUM                              | -                       | FPM | 175                | 150   | 100   | 75      |
|  |                         | TPI | 18                 | 14    | 10    | 8       |
| BONE                                   | -                       | FPM | 3500               | 3200  | 3000  | 3000    |
|  |                         | TPI | 10                 | 8     | 6     | 3S      |
| BRAKE LINING                           | -                       | FPM | 300                | 250   | 200   | 200     |
|  |                         | TPI | 14                 | 10    | 8     | 6       |
| BRASS - Cast                           | -                       | FPM | 350                | 300   | 200   | 150     |
|  |                         | TPI | 18                 | 14    | 6     | 3S      |
| BRASS - Hard Drawn                     | -                       | FPM | 360                | 330   | 300   | 280     |
|  |                         | TPI | 18                 | 14    | 8     | 6       |
| BRASS - Soft Commercial                | -                       | FPM | 2500               | 2000  | 1500  | 1300    |
|  |                         | TPI | 18                 | 14    | 8     | 6       |
| BRONZE - Aluminium                     | -                       | FPM | 330                | 320   | 300   | 250     |
|  |                         | TPI | 18                 | 14    | 10    | 6       |
| BRONZE - Manganese                     | -                       | FPM | 800                | 600   | 350   | 300     |
|  |                         | TPI | 18                 | 14    | 8     | 6       |
| BRONZE - Phosphor                      | -                       | FPM | 500                | 350   | 300   | 250     |
|  |                         | TPI | 18                 | 14    | 8     | 6       |

Speeds indicated are for Carbon Steel Saw Blades.  
 (Regular tooth where not stated otherwise.)  
 H = Hook Tooth S = Skip Tooth SC = Scallop Blade KN = Knife Edge Blade  
 W = Water FPM = Feet Per Minute TPI = Teeth Per Inch



**SECTION 16**

**SAW AND SPEED SELECTION CHART.**

| MATERIAL                 | WATER TO STARCOOL RATIO |            | MATERIAL THICKNESS |            |            |            |
|--------------------------|-------------------------|------------|--------------------|------------|------------|------------|
|                          |                         |            | UNDER 1/4"         | 1/4"-1/2"  | 1/2"-1"    | OVER 1"    |
| BRONZE - Silicon         | -                       | FPM<br>TPI | 1200<br>18         | 900<br>14  | 600<br>10  | 400<br>6   |
| CADMIUM                  | -                       | FPM<br>TPI | 3500<br>10         | 3200<br>8  | 3000<br>6H | 2800<br>4H |
| CARBON                   | -                       | FPM<br>TPI | 3600<br>18         | 3600<br>14 | 3600<br>6  | 3000<br>3S |
| CARDBOARD - Corrugated   | -                       | FPM<br>TPI | 3500<br>SC         | 3500<br>SC | 3000<br>SC | 3000<br>SC |
| CARDBOARD - Sheet        | -                       | FPM<br>TPI | 3000<br>14         | 3000<br>10 | 3000<br>8  | 2500<br>6H |
| CELLULOSE ACETATE        | 20                      | FPM<br>TPI | 3500<br>14         | 3500<br>10 | 3000<br>8  | 2500<br>3S |
| CELLULOSE NITRATE        | W                       | FPM<br>TPI | 1500<br>10         | 1200<br>8  | 1100<br>6S | 1000<br>3S |
| COPPER - Beryllium       | 20                      | FPM<br>TPI | 2500<br>14         | 2500<br>10 | 1600<br>6  | 1200<br>3S |
| COPPER - Hard Drawn      | 20                      | FPM<br>TPI | 800<br>18          | 700<br>14  | 550<br>10  | 400<br>6H  |
| COPPER - Commercial Pure | 20                      | FPM<br>TPI | 3200<br>18         | 3000<br>14 | 2700<br>6  | 2500<br>3S |
| CORK                     | -                       | FPM<br>TPI | 3500<br>14         | 3500<br>10 | 3500<br>6H | 3500<br>4H |
| ETHYL CELLULOSE          | W                       | FPM<br>TPI | 3500<br>10         | 3000<br>8  | 2500<br>6  | 2000<br>3S |
| FIBER BOARD              | -                       | FPM<br>TPI | 2500<br>18         | 1500<br>14 | 1100<br>10 | 1000<br>6  |
| FORMICA                  | -                       | FPM<br>TPI | 3500<br>18         |            |            |            |
| FRONTIER METAL           | 20                      | FPM<br>TPI | 800<br>18          | 750<br>14  | 700<br>8   | 600<br>3S  |
| GLASS BONDED MICA        | -                       | FPM<br>TPI | 75<br>18           | 75<br>14   | 50<br>10   | 50<br>8    |
| GLASS FIBER              | -                       | FPM<br>TPI | 1000<br>18         | 1000<br>14 | 1000<br>10 | 1000<br>6H |
| GRAPHITE                 | -                       | FPM<br>TPI | 3000<br>18         | 3000<br>14 | 3000<br>10 | 2500<br>4H |

Speeds indicated are for Carbon Steel Saw Blades.  
 (Regular tooth where not stated otherwise.)  
 H = Hook Tooth S = Skip Tooth SC = Scallop Blade KN = Knife Edge Blade  
 W = Water FPM = Feet Per Minute TPI = Teeth Per Inch

SAW AND SPEED SELECTION CHART.

| MATERIAL            | WATER TO STARCOOL RATIO |     | MATERIAL THICKNESS |         |         |         |
|---------------------|-------------------------|-----|--------------------|---------|---------|---------|
|                     |                         |     | UNDER ¼"           | ¼" - ½" | ½" - 1" | OVER 1" |
| HORN - Animal       | -                       | FPM | 2500               | 2000    | 1500    | 1200    |
|                     |                         | TPI | 24                 | 18      | 14      | 10      |
| IRON - Grey Cast    | -                       | FPM | 200                | 150     | 125     | 100     |
|                     |                         | TPI | 24                 | 18      | 14      | 10      |
| IRON - Malleable    | -                       | FPM | 275                | 260     | 230     | 200     |
|                     |                         | TPI | 18                 | 14      | 10      | 6       |
| IRON - Meehanite    | -                       | FPM | 150                | 130     | 120     | 110     |
|                     |                         | TPI | 18                 | 14      | 10      | 6       |
| LEAD                | 20                      | FPM | 3000               | 2500    | 1800    | 1200    |
|                     |                         | TPI | 18                 | 14      | 10      | 6S      |
| LEATHER             | -                       | FPM | 3500               | 3200    | 3000    | 2800    |
|                     |                         | TPI | 14                 | 10      | 6       | 3S      |
| LINEN               | -                       | FPM | 3500               | 3500    | 3500    | 3500    |
|                     |                         | TPI | KN                 | KN      | SC      | SC      |
| MAGNESIUM           | W                       | FPM | 3500               | 3300    | 3200    | 3000    |
|                     |                         | TPI | 14                 | 10      | 6H      | 4H      |
| MICA                | -                       | FPM | 225                | 225     | 200     | 200     |
|                     |                         | TPI | 18                 | 14      | 10      | 8       |
| MONEL               | -                       | FPM | 150                | 125     | 50      | 50      |
|                     |                         | TPI | 18                 | 14      | 8       | 6H      |
| NEOPRENE            | -                       | FPM | 3000               | 2800    | 2500    | 2300    |
|                     |                         | TPI | 10                 | 8       | 6       | 4H      |
| NICKEL SILVER       | 20                      | FPM | 300                | 250     | 200     | 180     |
|                     |                         | TPI | 18                 | 14      | 10      | 6       |
| PAPER - Sheet       | -                       | FPM | 3000               | 3000    | 2500    | 2500    |
|                     |                         | TPI | 18                 | 14      | 10      | 6H      |
| PAPER - Tissue      | -                       | FPM | 3500               | 3500    | 3500    | 3000    |
|                     |                         | TPI | SC                 | SC      | SC      | SC      |
| PAPIER MACHE        | -                       | FPM | 3500               | 3500    | 3000    | 3000    |
|                     |                         | TPI | KN                 | 10      | 6H      | 4H      |
| PERSPEX             | 20                      | FPM | 3500               | 3500    | 3000    | 2500    |
|                     |                         | TPI | 14                 | 10      | 6       | 3S      |
| PHENOL FORMALDEHYDE | -                       | FPM | 3500               | 3500    | 3000    | 3000    |
|                     |                         | TPI | 14                 | 10      | 6       | 3S      |
| PLEXIGLASS          | -                       | FPM | 3500               | 3500    | 3000    | 2500    |
|                     |                         | TPI | 14                 | 10      | 6       | 3S      |

Speeds indicated are for Carbon Steel Saw Blades.

(Regular tooth where not stated otherwise.)

H = Hook Tooth S = Skip Tooth SC = Scallop Blade KN = Knife Edge Blade

W = Water FPM = Feet Per Minute TPI = Teeth Per Inch

**SECTION 16**

**SAW AND SPEED SELECTION CHART.**

| MATERIAL  | WATER TO STARCOOL RATIO |     | MATERIAL THICKNESS |           |         |         |
|---|-------------------------|-----|--------------------|-----------|---------|---------|
|   |                         |     | UNDER 1/4"         | 1/4"-1/2" | 1/2"-1" | OVER 1" |
| POLYSTYRENE   | -                       | FPM | 3000               | 2500      | 2000    | 2000    |
|   |                         | TPI | 10                 | 8         | 6       | 35      |
| RUBBER - Crepe  | -                       | FPM | 3500               | 3500      | 3500    | 3000    |
|   |                         | TPI | 10                 | 8         | 6       | 6S      |
| RUBBER - Hard   | -                       | FPM | 3000               | 2800      | 2500    | 2300    |
|   |                         | TPI | 10                 | 8         | 6       | 4H      |
| SILVER  | 20                      | FPM | 2800               | 2400      | 2200    | 2000    |
|   |                         | TPI | 18                 | 14        | 10      | 6       |
| SLATE   | -                       | FPM | 750                | 700       | 600     | 500     |
|   |                         | TPI | 18                 | 14        | 10      | 6       |
| STEEL - Carbon Case Hardening<br>SAE 1010 1012 1016 EN32A/B         | 20                      | FPM | 180                | 160       | 150     | 140     |
|   |                         | TPI | 24                 | 14        | 10      | 6H      |
| STEEL - 0.2% Carbon<br>SAE 1018 - 1023 EN3                          | 20                      | FPM | 240                | 210       | 180     | 160     |
|   |                         | TPI | 24                 | 14        | 10      | 6H      |
| STEEL - Carbon Manganese<br>SAE 1024 1027 EN14                      | 20                      | FPM | 240                | 220       | 200     | 175     |
|   |                         | TPI | 18                 | 14        | 10      | 6       |
| STEEL - 0.3% Carbon<br>SAE 1029 1030 EN5                            | 20                      | FPM | 230                | 200       | 180     | 160     |
|   |                         | TPI | 24                 | 14        | 10      | 6       |
| STEEL - 0.4% Carbon<br>SAE 1037 - 1040 EN8                          | 20                      | FPM | 200                | 150       | 125     | 100     |
|   |                         | TPI | 24                 | 14        | 10      | 6       |
| STEEL - 0.55% Carbon<br>SAE 1054 1055 EN9                           | 20                      | FPM | 200                | 150       | 125     | 100     |
|   |                         | TPI | 24                 | 14        | 10      | 6H      |
| STEEL - Low Carbon Free Cutting<br>SAE 1111-1113 1211-1213 1215 EN1 | 20                      | FPM | 250                | 220       | 200     | 180     |
|   |                         | TPI | 18                 | 14        | 10      | 6H      |
| STEEL - Case Hard Free Cutting<br>SAE 1115 1117 EN32M,202           | 20                      | FPM | 200                | 190       | 180     | 160     |
|   |                         | TPI | 24                 | 14        | 10      | 6       |
| STEEL - 0.4% Carbon Free Cutting<br>SAE 1137-1141 EN8M              | 20                      | FPM | 230                | 200       | 180     | 160     |
|   |                         | TPI | 24                 | 14        | 10      | 6       |
| STEEL - 3% Nickel<br>SAE 2317 2330-2345 EN33,51                     | 20                      | FPM | 150                | 125       | 100     | 90      |
|   |                         | TPI | 18                 | 14        | 10      | 6H      |
| STEEL - 1% Chrome Molybdenum<br>SAE 4130-4140 EN19,20               | 20                      | FPM | 150                | 100       | 90      | 60      |
|   |                         | TPI | 18                 | 14        | 10      | 6H      |
| STEEL - 1 1/2% Nickel Chrome Moly<br>SAE 4340 EN24                  | 15                      | FPM | 150                | 125       | 100     | 75      |
|   |                         | TPI | 18                 | 14        | 10      | 6H      |
| STEEL - 2% Nickel Molybdenum<br>SAE 4640 EN160                      | 15                      | FPM | 150                | 125       | 100     | 75      |
|   |                         | TPI | 18                 | 14        | 10      | 6H      |

Speeds indicated are for Carbon Steel Saw Blades.  
(Regular tooth where not stated otherwise.)

H = Hook Tooth    S = Skip Tooth    SC = Scallop Blade    KN = Knife Edge Blade  
W = Water    FPM = Feet Per Minute    TPI = Teeth Per Inch



SAW AND SPEED SELECTION CHART.

| MATERIAL  | WATER TO<br>STARCOOL<br>RATIO | MATERIAL THICKNESS |           |           |           |           |
|---|-------------------------------|--------------------|-----------|-----------|-----------|-----------|
|   |                               | UNDER ¼"           | ¼"-½"     | ½"-1"     | OVER 1"   |           |
| STEEL - 1% Chrome Vanadium<br>SAE 6150 EN47       | 15                            | FPM<br>TPI         | 175<br>18 | 125<br>14 | 100<br>10 | 75<br>6H  |
| STEEL - Nickel Chrome Moly<br>SAE 8616-8645 EN100 | 20                            | FPM<br>TPI         | 140<br>18 | 110<br>14 | 90<br>10  | 70<br>6H  |
| STEEL - Silicon Manganese<br>SAE 9255 EN45        | 20                            | FPM<br>TPI         | 160<br>18 | 140<br>14 | 125<br>10 | 100<br>6H |
| STEEL - 3% Nickel Chrome<br>SAE 9310-9217 EN36    | 15                            | FPM<br>TPI         | 125<br>18 | 100<br>14 | 80<br>10  | 60<br>6H  |
| STEEL - 1% Carbon Chrome<br>SAE 50100-52100 EN31  | 15                            | FPM<br>TPI         | 160<br>24 | 130<br>14 | 100<br>10 | 75<br>6H  |
| STEEL - Die<br>D-2 D-3                            | 15                            | FPM<br>TPI         | 125<br>18 | 100<br>14 | 80<br>10  | 60<br>6H  |
| STEEL - Die<br>D-7                                | 15                            | FPM<br>TPI         | 100<br>24 | 80<br>18  | 65<br>10  | 60<br>6H  |
| STEEL - Hot Working<br>H-12 H-13 H-21             | 15                            | FPM<br>TPI         | 125<br>18 | 100<br>14 | 75<br>10  | 60<br>6H  |
| STEEL - Tool<br>L-6 L-7                           | 15                            | FPM<br>TPI         | 115<br>18 | 95<br>14  | 80<br>10  | 65<br>8   |
| STEEL - High Speed<br>M-1                         | 20                            | FPM<br>TPI         | 185<br>18 | 150<br>14 | 125<br>10 | 90<br>6H  |
| STEEL - High Speed<br>M-2 M-3 M-4 M-5 M-10        | 15                            | FPM<br>TPU         | 130<br>18 | 100<br>14 | 80<br>10  | 60<br>6H  |
| STEEL - Die<br>O-1 O-2                            | 20                            | FPM<br>TPI         | 175<br>18 | 150<br>14 | 125<br>10 | 100<br>6H |
| STEEL - Die<br>O-6                                | 20                            | FPM<br>TPI         | 210<br>18 | 180<br>14 | 150<br>10 | 120<br>6H |
| STEEL - Shock Resisting<br>S-1                    | 15                            | FPM<br>TPI         | 125<br>18 | 100<br>14 | 80<br>10  | 65<br>6H  |
| STEEL - Shock Resisting<br>S-2 S-5                | 15                            | FPM<br>TPI         | 100<br>18 | 80<br>14  | 60<br>10  | 55<br>6H  |
| STEEL - High Speed<br>T-1 T-2                     | 15                            | FPM<br>TPI         | 140<br>18 | 110<br>14 | 90<br>10  | 70<br>6H  |
| STEEL - High Speed<br>T-4 T-5 T-6 T-8             | 15                            | FPM<br>TPI         | 115<br>18 | 95<br>14  | 85<br>10  | 70<br>6H  |
| STEEL - Water Hardening                           | 20                            | FPM<br>TPI         | 175<br>18 | 150<br>14 | 125<br>10 | 100<br>6H |

Speeds indicated are for Carbon Steel Saw Blades.

(Regular tooth where not stated otherwise.)

H = Hook Tooth S = Skip Tooth SC = Scallop Blade KN = Knife Edge Blade

W = Water FPM = Feet Per Minute TPI = Teeth Per Inch



SAW AND SPEED SELECTION CHART.

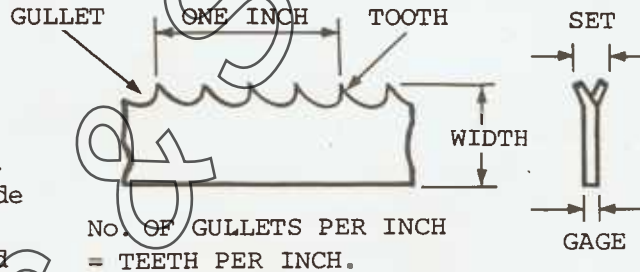
| MATERIAL    | WATER TO STARCOOL RATIO |            | MATERIAL THICKNESS |            |            |            |
|-------------|-------------------------|------------|--------------------|------------|------------|------------|
|             |                         |            | UNDER 1/4"         | 1/4"-1/2"  | 1/2"-1"    | OVER 1"    |
| STRAW BOARD | -                       | FPM<br>TPI | 3500<br>14         | 3500<br>10 | 3000<br>8  | 3000<br>6S |
| STRING      | -                       | FPM<br>TPI | 3500<br>SC         |            |            |            |
| TUFNOL      | -                       | FPM<br>TPI | 2500<br>14         | 2300<br>10 | 2000<br>6H | 1500<br>6H |
| WOOD        | -                       | FPM<br>TPI | 3600<br>14         | 3600<br>10 | 3600<br>6H | 3600<br>4H |
| ZINC        | 20                      | FPM<br>TPI | 2500<br>14         | 2300<br>10 | 2000<br>6H | 1500<br>6H |

Speeds indicated are for Carbon Steel Saw Blades.  
(Regular tooth where not stated otherwise.)

H = Hook Tooth S = Skip Tooth SC = Scallop Blade KN = Knife Edge Blade  
W = Water FPM = Feet Per Minute TPI = Teeth Per Inch

SAW TERMINOLOGY.

An understanding of the design and application of the various types of saw blades obtainable is essential if the bandsawing technique is to be fully exploited. Selection of the most suitable blade for the job is very important as a poor choice can lead to much wasted time and money.

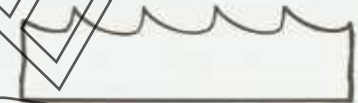


TOOTH PITCH is important if optimum blade performance is to be obtained. Tooth pitch is determined mainly on the basis of material thickness and to some extent on material hardness. For a given material thickness, a tough or abrasive material will require more teeth in engagement than a soft ductile one. Too many teeth in engagement will decrease the tooth loading to the point where the teeth cannot penetrate the material and so skid across the cutting face. The heat generated by friction due to this rubbing action will cause the cutting edges to break down. It is a common error, especially where work hardening materials are concerned, to increase feed pressure so as to make the saw teeth bite under these conditions. This practice will produce a ragged inaccurate cut and rapidly destroy the saw blade. Where there are insufficient teeth in engagement however, they can penetrate the material too quickly to produce a well formed chip. The stubby chip so produced leaves an inclined face where it breaks away from the cutting face and so causes the succeeding tooth to bounce. When this condition is reached, the uneven penetration of the teeth set up periodic vibrations in the form of saw blade chatter. Persistent sawing under these conditions can dull the teeth by impact and in extreme cases, cause the tips of the teeth to break away. The chip produced by each tooth remains trapped in the gullet until it emerges from the underside of the workpiece, therefore as the material thickness

increases, the gullet must accommodate a larger chip. Considerable heat is generated if the chip is compressed into insufficient gullet space and with ductile materials, such chips tend to become welded to the teeth resulting in seizure or breakage of the saw blade.

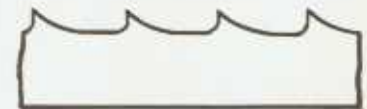
TOOTH FORM refers to the profile of the tooth. Metal cutting bandsaw blades are generally manufactured with one of three basic forms, namely, Regular, Skip, or Hook tooth form. Terminology varies among saw blade manufacturers and these may be otherwise referred to as Precision, Buttress, and Claw tooth respectively.

REGULAR TOOTH saw blades are the most common in use because the zero front rake and well rounded gullet present a robust tooth with good shock resistance and work penetration properties. It will produce accurate fine finish work in steel and most medium hard materials but tend to clog when used on soft or ductile alloys. Standard pitches are 6, 8, 10, 14, 18, 24 & 32 teeth per inch.

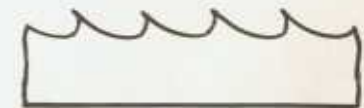


REGULAR TOOTH

SKIP TOOTH form is similar to the regular tooth form but alternate teeth are omitted, a design which allows greater gullet capacity without unduly weakening the body of the blade. Providing the thickness of the material permits, a skip tooth saw blade will give best performance on aluminium and copper alloys. Fast economical sawing of hardwoods and plastics are possible with this type of saw blade. Standard pitches are 3, 4 & 6 teeth per inch.



SKIP TOOTH



HOOK TOOTH

HOOK TOOTH form has positive front rake which considerably assists work penetration and hence produces faster cutting times on harder materials. The coarse pitch and large gullets associated with this type of saw blade make it particularly suitable for sawing deep sections. It is not recommended for use on abrasive materials. Standard pitches are 2, 3, 4 & 6 teeth per inch.

TOOTH SET is the angling of the saw teeth so that the tips protrude beyond the body of the saw blade. The width of the saw cut produced provides the working clearance necessary for the body of the saw blade and permits some degree of steering to negotiate curves.

STANDARD SET teeth are set alternately to the left and to the right, a style which is popular for cutting soft materials and wood.

RAKER SET saw blades have one tooth set to the left and one tooth set to the right followed by one unset tooth. This style of set is widely used and is to be preferred for contour sawing.



RAKER SET

WAVY SET blades have the teeth alternately set to the left and right in groups or waves. With this formation of tooth set, relatively few teeth are cutting at the side of the kerf and therefore there is some tendency for the saw blade to jam when sawing abrasive materials.

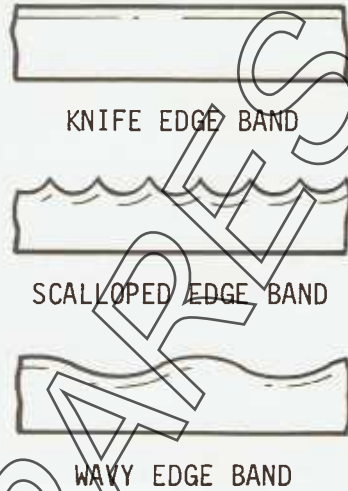


WAVY SET

**SECTION 16**

SAW GAGE is the actual thickness of the body of the saw blade. Some makers produce special gage saw blades for specific purposes but generally saw blades up to and including  $\frac{1}{2}$ " wide are .025",  $\frac{3}{8}$ " and  $\frac{3}{4}$ " wide are .032", and 1" wide are .035" gage thickness.

Knife edge bands are suitable for cutting soft material such as woven fabrics, sponge, rubber, and corrugated cardboard. Where the nature of the material is fibrous and difficult to sever, wavy or scalloped edge blades are better as the teeth provide a more positive cutting action. Typical applications are cutting cork, filter elements, felt and composite materials such as transformer coils. Because these bands separate the material, no dust or swarf is produced and a smooth finish is usually obtained. Most plastics can be sawn with a metal cutting saw blade. Very little difficulty should be experienced in sawing thermosetting materials, although some have an abrasive nature which shortens the life of a saw blade.



**BLADE WIDTH FOR CONTOUR SAWING.**

For contour sawing the width of the saw blade must be chosen with regard to the smallest radius to be sawn, thus a small radius will demand the use of a narrow saw blade. The beam strength and permissible tension decreases rapidly for narrow saw blades and it therefore follows that narrow saw blades are particularly sensitive to excessive stress which will cause stretching and deformation at low speed or premature breakage through fatigue at high speed. Saw blades which fail through abuse of this kind are useless and must be discarded although the teeth may be still in good condition. It is impossible to be precise as to the smallest radius any given saw blade will cut as so much depends on job conditions and the skill of the operator.

The Saw Blade Width Selection Chart below offers a basic guide on this point. Several drilled holes at strategic points around the contour may be necessary to negotiate small radii or cut to a sharp corner.

|                       |                  |                  |                 |                   |                   |                 |                   |
|-----------------------|------------------|------------------|-----------------|-------------------|-------------------|-----------------|-------------------|
| SAW BLADE WIDTH       | $\frac{1}{8}$ "  | $\frac{3}{16}$ " | $\frac{1}{4}$ " | $\frac{3}{8}$ "   | $\frac{1}{2}$ "   | $\frac{5}{8}$ " | $\frac{3}{4}$ "   |
| MINIMUM SAWING RADIUS | $\frac{3}{16}$ " | $\frac{5}{8}$ "  | 1"              | 1 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " | 4"              | 5 $\frac{3}{4}$ " |

NOTE : Blade width capacity of machines vary according to model.

**BANDSAWING PRACTICE.**

For straight sawing use the widest saw blade the machine will accept. The success of a bandsawing operation is determined by the accuracy, finish, blade cost and operating time involved. It is usually possible to improve on one of these factors at the expense of the others, and this may be expressed in general terms as follows :-

- Maximum saw blade life : Medium saw blade tooth pitch, speed and feed.
- Minimum sawing time : Coarse tooth pitch, fast speed and heavy feed.
- Fine accurate finish : Fine tooth pitch, fast speed and light feed.

The foregoing must be interpreted with discretion as there are limits to which the factors involved can be varied.



## COMMON SAWING PROBLEMS.

BLADE WANDERS FROM TRUE LINE :

Excessive feed pressure.  
Blade teeth dull or of too fine pitch.  
Guide inserts not controlling blade through wear or incorrect adjustment.  
Blade tracking incorrect.  
Loss of set to one side of saw teeth.

PREMATURE BLADE BREAKAGE :

Excessive feed pressure, and/or too much blade tension.  
Worn or incorrectly set guides.  
Joint improperly welded and annealed.  
Blade too wide for curved cut.  
Bandwheels worn.  
Blade teeth of too fine pitch.

BLADE BOWS IN DEEP CUT :

Excessive feed pressure.  
Blade teeth dull or of too fine pitch.  
Insufficient blade tension, and/or blade too narrow for depth of cut.  
Blade running off at start of cut.

BLADE TEETH DULL RAPIDLY :

Insufficient feed pressure.  
Blade pitch too fine.  
Guide inserts snagging set of teeth.  
Speed too fast.

TEETH TORN FROM BLADE :

Excessive feed pressure.  
Gullets of teeth loading.  
Pitch of teeth too coarse.  
Blade speed too fast.

BLADE DEVELOPING TWIST :

Excessive feed pressure.  
Guide inserts snagging blade.  
Blade too wide for radius of cut.  
Excessive blade tension.  
Blade not tracking correctly.  
Loss of set to one side of saw teeth.

BLADE VIBRATES IN CUT :

Workpiece not properly seated or securely held.  
Blade speed too fast, and/or blade pitch too coarse.  
Insufficient blade tension.



AIR / SPRAY COOLANT KIT.

Fig.1 shows the air/spray coolant kit (Part No.PK115) fitted to a machine. The coolant is delivered through a drip feed system, which works in conjunction with an air pump driven from the main motor. The spray nozzle should be positioned as close as is convenient to the saw blade with the air jet impinging on the teeth at the point of entry into the workpiece. Apart from cooling and lubricating the saw teeth, the air/spray assists in cleaning the saw gullets and removes swarf ahead of the saw cut to facilitate following a marked line. A solution of one part STARCOOL soluble cutting oil with twenty parts water will prove suitable for machining most materials where a coolant is required. The necessary quantity to be applied is quite small and generally be no more than can be evaporated and carried away by the chips. Pools of coolant forming on the job and table serve no useful purpose and usually indicate that excessive coolant is being used.

NOTE : DILUTED STARCOOL SOLUBLE CUTTING OIL IS THE ONLY RECOMMENDED COOLANT. USE OF OTHER OILS MAY CAUSE DIFFICULTY IN OPERATION, AND IN SOME CASES, DAMAGE TO PARTS OF THE MACHINE.

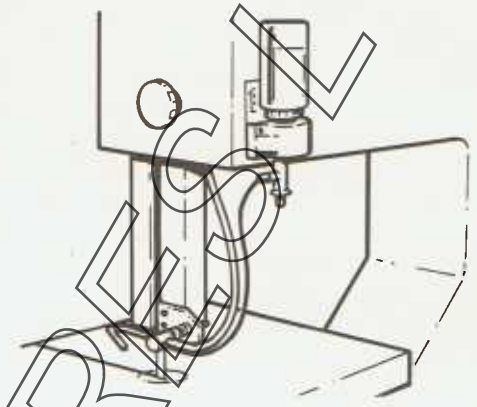


Fig.1.

CIRCLE CUTTING ATTACHMENT.

Fig.2 shows the circle cutting attachment (Part No.SP260) in use on a machine, which facilitates the production sawing of circular blanks up to 18" dia. The unit is easily fitted to the tool post and thus may be raised and lowered when feeding blanks without disturbing the setting of the location pin. A drilled or punched location point will be required in each blank, the location being positioned at a distance equal to the sawing radius from one edge. Sufficient material should be allowed on the other sides of the blank to prevent the blade emerging from the cut until the full circle has been completed. Select the blade width according to the radius to be sawn. The location pin must be set to lie tangential to the blade otherwise blade wander will result. If the blade tends to cut away from a true circle, the pin position is incorrect, or possibly the blade is too wide.

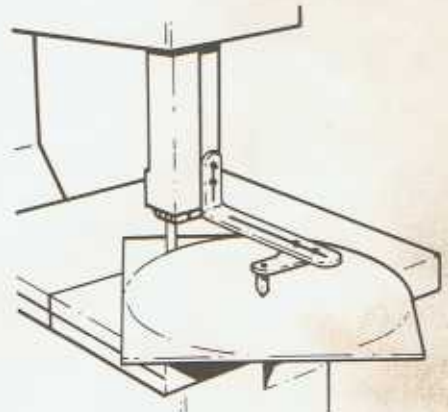


Fig.2.

RIP FENCE.

Fig.3 shows the rip fence (Part No. SP302) in use on a machine. It can be used for making accurate parallel cuts using hand feed, or as a work stop using power feed.

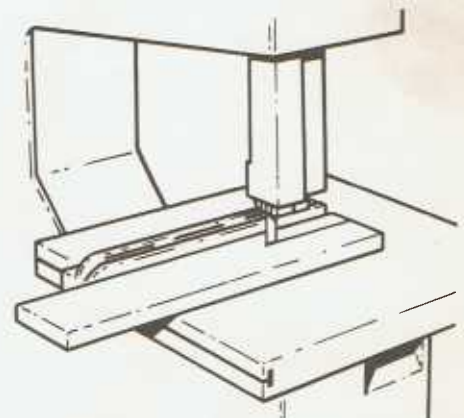


Fig.3.

## BANDFILE GUIDE.

Fig.4 shows the bandfile guide (Part No. SP287) in position on a machine, which adapts the machine for power filing. Band filing presents an economic method of production machining straight and contour faces. Because there is no tendency for the file to rock, wide faces can be finished to fairly close tolerances. Bandfiles consist of short lengths of file sections attached to a flexible steel band which has a joint for unlocking and re-joining, thus permitting the filing of internal contours. The guides will accommodate standard files of  $\frac{1}{4}$ ",  $\frac{3}{8}$ ", or  $\frac{1}{2}$ " width.

To set up the machine for bandfiling :-

Remove the saw blade, blade guides, blade guard and table insert. Assemble back guide and spacers to suit width of file to be used. Insert the support arms into the same holes as used to locate the blade guides. Mount the band file on the bandwheels with the teeth facing downwards through the table, and track in a similar way to a saw blade. Apply only sufficient tension to keep the fileband on the bandwheels without it slipping. NOTE: EXCESSIVE TENSION WILL DAMAGE THE BAND. Position the bandfile back guide just clear of the back fence of the band. Fit special table insert provided.

WARNING: An incorrectly adjusted file guide may prevent the file segments from interlocking in the correct manner and thus result in the segments being torn from the backing band. It is important that a new bandfile is only lightly loaded when first used in order to allow the file segments to bed down.

Use a filing speed of around 60 feet per minute for die steel, and up to 120 feet per minute for mild steel. Speeds in excess of 300 feet per minute may damage the bandfile.

Embedded swarf should be periodically removed to prevent the workpiece being scored. This problem can be reduced by a light application of tallow or chalk. Care must be taken to avoid kinking the backing band in storage and for this reason, the bandfile should be stored in its original container when not in use.

## ABRASIVE BAND GUIDE.

Fig.5 shows the abrasive band guide (Part No. SP298) set up on a machine. One inch wide abrasive bands are available in 40, 80 or 120 grit and are ideal for a large variety of small finishing and deburring operations.

To set up the abrasive band guide :-

Remove the saw blade, blade guides, blade guard and table insert. Assemble abrasive band guide into the same holes as used to locate the blade guides. Mount the abrasive band on the bandwheels, with the joint of band overlap (on the abrasive side) to face upwards from the table. Apply tension as for a  $\frac{1}{4}$ " wide blade. Align face of guide to back of band. Use highest blade speed available.

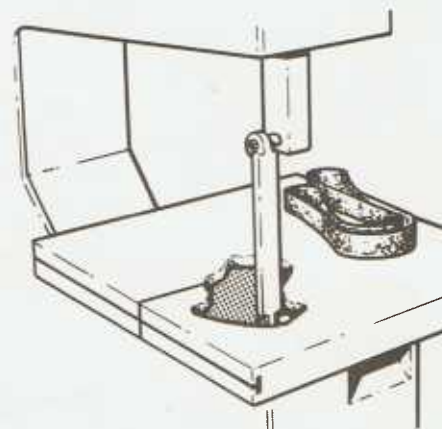


Fig.5.

### PUSHER ATTACHMENT.

Fig.6 shows the pusher attachment (Part No. SP198) in use on a machine. The pusher provides an easy means of feeding and controlling the workpiece.

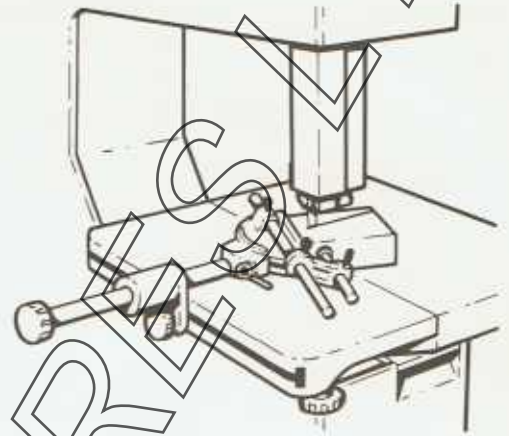


Fig.6.

### GEARED PUSHER ATTACHMENT.

Fig.7 shows the geared pusher attachment (Part No. SP46) in use on a machine. On machines with fixed tables some mechanical advantage may be obtained by using this equipment. The geared pusher attachment is clamped to the front table flange and provides a practical means of applying feed pressure with a high degree of control.

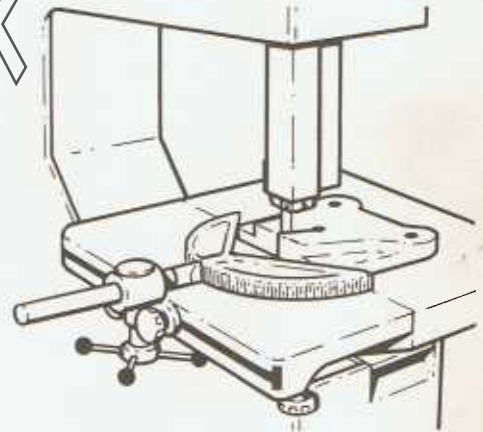


Fig.7.



**SECTION 21**

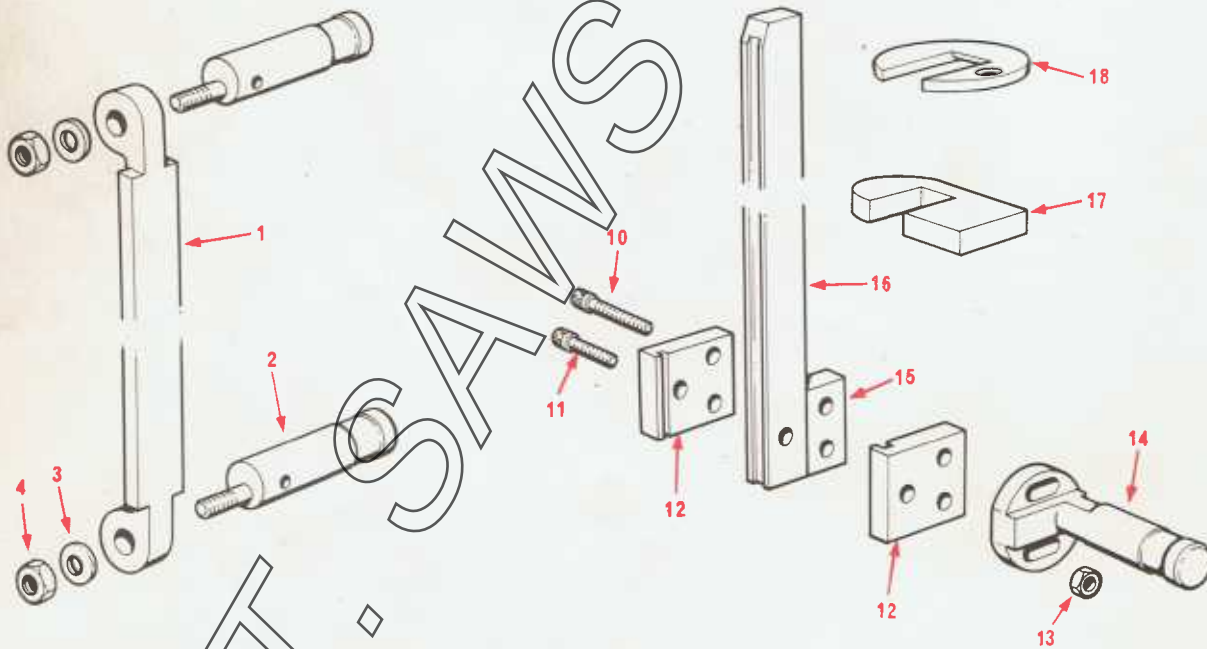
PARTS LISTS & ILLUSTRATIONS  
FOR OPTIONAL EXTRA EQUIPMENT.

**ABRASIVE BAND GUIDE ASSEMBLY - PART No.SP298**

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 1    | 2426 Back Guide             | 1       |
| 2    | 2425 Support Arm            | 2       |
| 3    | Std.Washer                  | 2       |
| 4    | Std.Nut                     | 2       |

**BANDFILE GUIDE ASSEMBLY - PART No.SP287**

|    |  |   |
|----|--|---|
| 10 | Soc.Cap Screw  | 4 |
| 11 | Soc.Cap Screw  | 1 |
| 12 | 1984 Edge Guide                                      | 4 |
| 13 | Std.Nut  | 4 |
| 14 | 2377 Guide Bracket                                   | 2 |
| 15 | 1990A Spacer for 1/4" Bandfile                       | 2 |
|    | 1990B " " 3/8" "                                     | 2 |
|    | 1990C " " 1/2" "                                     | 2 |
| 16 | 1989A Back Guide for 1/4" Bandfile                   | 1 |
|    | 1989B " " " 3/8" "                                   | 1 |
|    | 1989C " " " 1/2" "                                   | 1 |
| 17 | 2422 Table Insert ( 18" & 24" Throat Machines )      | 1 |
| 18 | 3134 Table Insert ( 14", 20" & 30" Throat Machines ) | 1 |



ABRASIVE BAND GUIDE

BANDFILE GUIDE



CIRCLE CUTTING ATTACHMENT - PART No.SP260

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 20   | 2545 Arm                    | 1       |
| 21   | Soc.Cap Screw               | 5       |
| 22   | Std.Washer                  | 5       |
| 23   | 2544 Bracket                | 1       |
| 24   | 2543 Location Pin           | 1       |

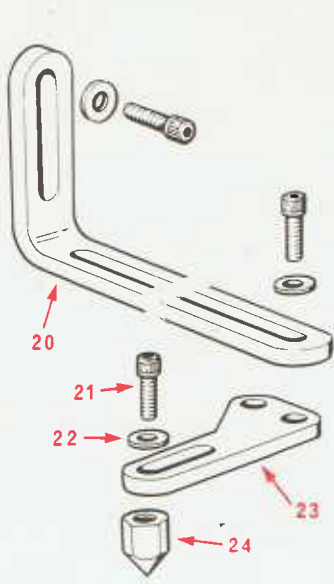
AIR / SPRAY COOLANT KIT - PART No.PK115

|    |   |   |
|----|---|---|
| 30 | SP679 Coolant Tube                                  | 1 |
| 31 | 3630 Sleeve   | 1 |
| 32 | Flexible Nylon Tube                                 | 1 |
| 33 | Flexible PVC. Tube                                  | 1 |
| 34 | 3635 Adjustment Screw                               | 1 |
| 35 | Hex.Nut   | 2 |
| 36 | Std.Washer  | 2 |
| 37 | 3628 Thumb Knob                                     | 1 |
| 38 | 4241 Mounting Plate - 14" 20" & 30" Throat Machines | 1 |
|    | 4243 Mounting Plate - 18" & 24" Throat Machines     | 1 |
| 39 | Soc.Cap Screw                                       | 2 |
| 40 | Shakeproof Washer                                   | 2 |
| 41 | Nylon Tube  | 1 |
| 42 | Nut Simplifix                                       | 1 |
| 43 | Ferrule Simplifix                                   | 1 |
| 44 | Metering Valve Simplifix                            | 1 |
| 45 | Soc.Cap Screw                                       | 4 |
| 46 | Shakeproof Washer 2BA                               | 4 |
| 47 | Mills Pin   | 1 |
| 48 | 4202 Valve Stem                                     | 1 |
| 49 | 4200 Valve Body                                     | 1 |
| 50 | 1209 Sealing Washer                                 | 1 |
| 51 | 4203 Screw Cap                                      | 1 |
| 52 | 'O' Ring  | 1 |
| 53 | Polypropylene Bottle                                | 1 |
| 54 | Tap Washer Neoprene                                 | 1 |
| 55 | 4201 Bush   | 1 |
| 56 | 4204 Instruction Plate                              | 1 |
| 57 | 4199 Mounting Bracket                               | 1 |

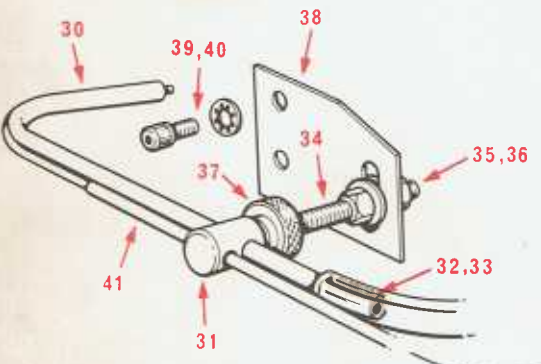
RIP FENCE ASSEMBLY - PART No.SP302

|    |                        |   |
|----|------------------------|---|
| 60 | 1205 Fence             | 1 |
| 61 | 2575 Spring            | 1 |
| 62 | 1114 Special Washer    | 1 |
| 63 | 1143 Locking Handle    | 1 |
| 64 | Mills Pin              | 1 |
| 65 | 1112 Adjustment Collar | 1 |
| 66 | 1111 Locking Handle    | 1 |
| 67 | 1206 Bracket           | 1 |
| 68 | 3229 Stud              | 1 |
| 69 | 2842 Tenon Nut - Small | 2 |
| 70 | 2841 Stud              | 1 |
| 71 | 1113 Adjustment Screw  | 1 |

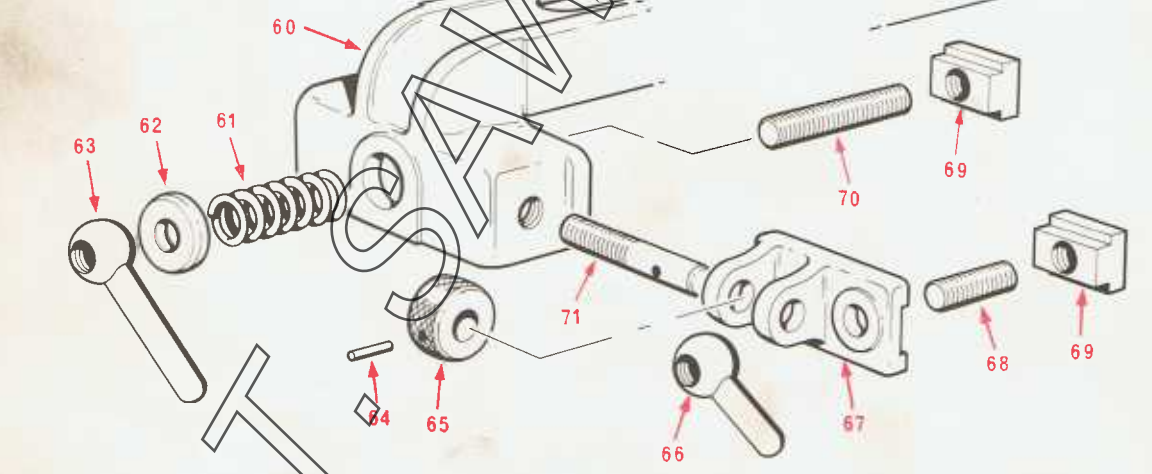
SECTION 21



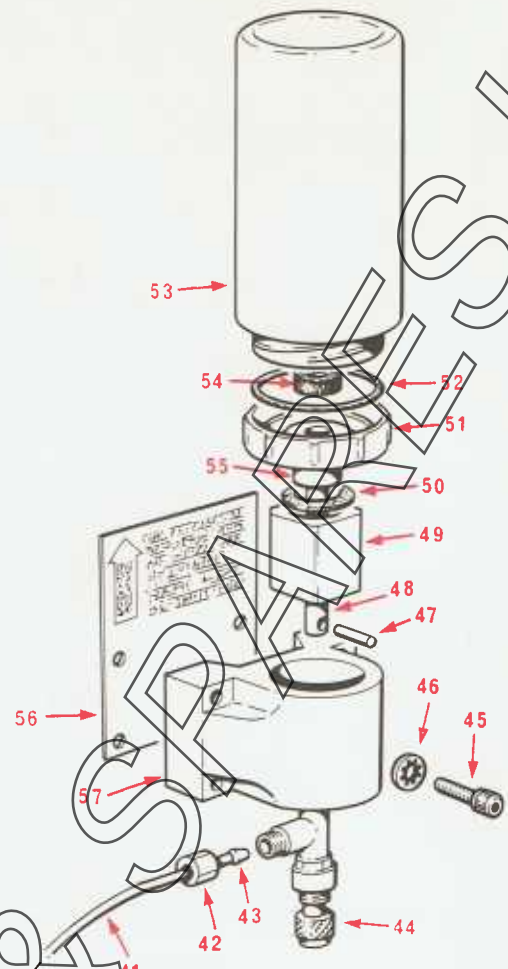
CIRCLE CUTTING ATTACHMENT



AIR / SPRAY COOLANT KIT



RIP FENCE



## PUSHER ATTACHMENT - PART No.SP198

| ITEM | PART NUMBER AND DESCRIPTION |                      | No. OFF |
|------|-----------------------------|----------------------|---------|
| 80   | 1822                        | Slide Shaft          | 1       |
| 81   | 1507                        | End Stop Bracket     | 1       |
| 82   |                             | Soc.Grub Screw       | 1       |
| 83   | 1388                        | Zero Plate           | 1       |
| 84   |                             | Drive Screw          | 2       |
| 85   | 1513                        | Indicator Scale      | 1       |
| 86   |                             | Rd.Hd.Screw          | 2       |
| 87   |                             | Thumb Screw          | 3       |
| 88   | 1526                        | Stop Rod             | 1       |
| 89   | 1837                        | End Stop             | 1       |
| 90   |                             | C'sk.Screw - Slotted | 2       |
| 91   | 1821                        | Wood Facing Plate    | 1       |
| 92   | 1511                        | Protractor Body      | 1       |
| 93   | 1820                        | Special Nut          | 1       |
| 94   |                             | Lock Nut             | 1       |
| 95   | 1514                        | Cradle               | 1       |
| 96   | 1499                        | Compression Spring   | 1       |
| 97   | 1516                        | Stud                 | 1       |
| 98   | 1515                        | Sleeve               | 1       |
| 99   | 1143                        | Ball Handle          | 1       |
| 100  | 2842                        | Tenon Nut - Small    | 1       |
| 101  | 3229                        | Stud                 | 1       |
| 102  |                             | Std.Washer           | 1       |
| 103  | 2513                        | Thumb Knob           | 1       |
| 104  |                             | Hand Knob            | 1       |
| 105  | 2512                        | Housing              | 1       |
| 106  | 2514                        | Shaft                | 1       |

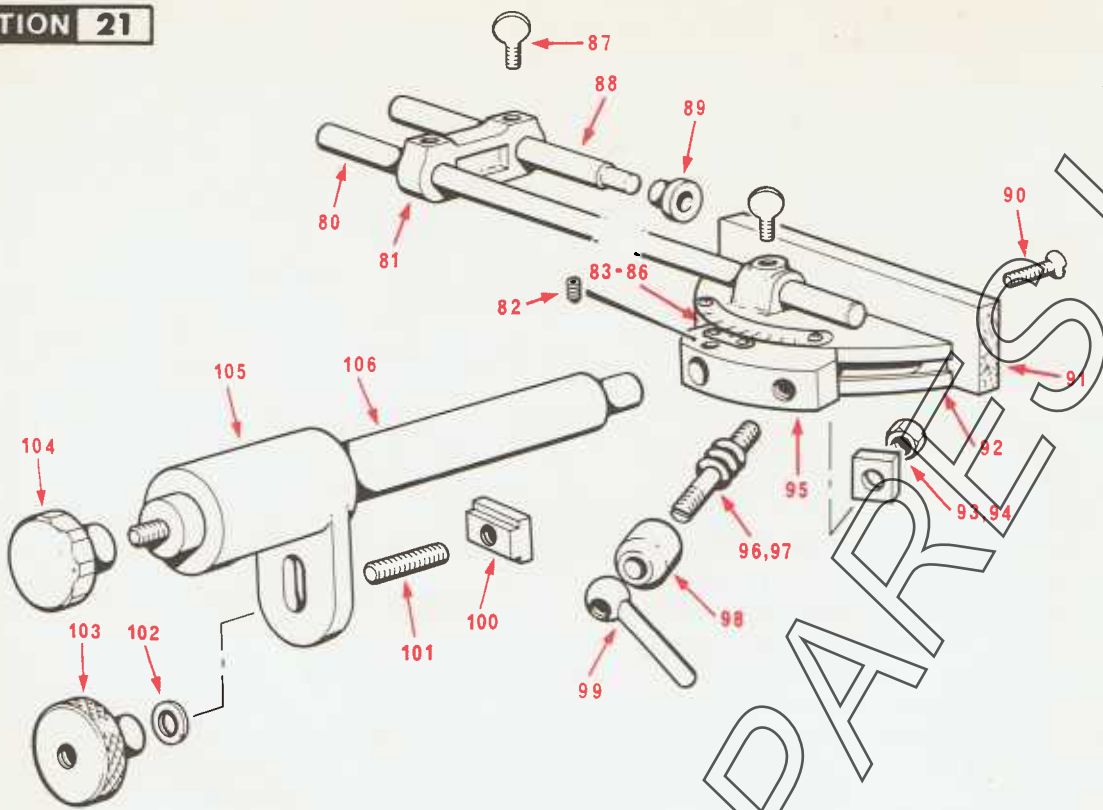
## GEARED PUSHER ATTACHMENT - PART No.SP46

NOTE : Items 80 to 99 of SP198 common to SP46.

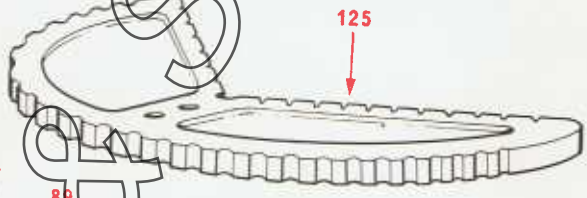
|                   |       |                     |   |
|-------------------|-------|---------------------|---|
| 110               |       | Rd.Hd.Screw         | 3 |
| 111               | 1525  | Cover Plate         | 1 |
| 112               | 1077  | Pinion              | 1 |
| 113               | 1519  | Housing             | 1 |
| 114               |       | Hand Knob           | 2 |
| 115               |       | Mills Pin           | 1 |
| 116               | 1522  | Hub                 | 1 |
| 117               | 1391  | Lever               | 4 |
| 118               |       | Ball Knob           | 4 |
| 119               | 1524  | Rack                | 1 |
| 120               | SP351 | Tenon Strip         | 1 |
| 121               |       | Soc.Grub Screw      | 3 |
| 122               | 2057  | Pusher Head - Split | 1 |
| 123               | 2058  | Leaf Spring         | 1 |
| 124               | 2056  | Pusher Head - Solid | 1 |
| 125               | 2008  | Work Holder         | 1 |
| NOT ILLUSTRATED : |       |                     |   |
|                   |       | Grease Nipple       | 1 |



SECTION 21



PUSHER ATTACHMENT

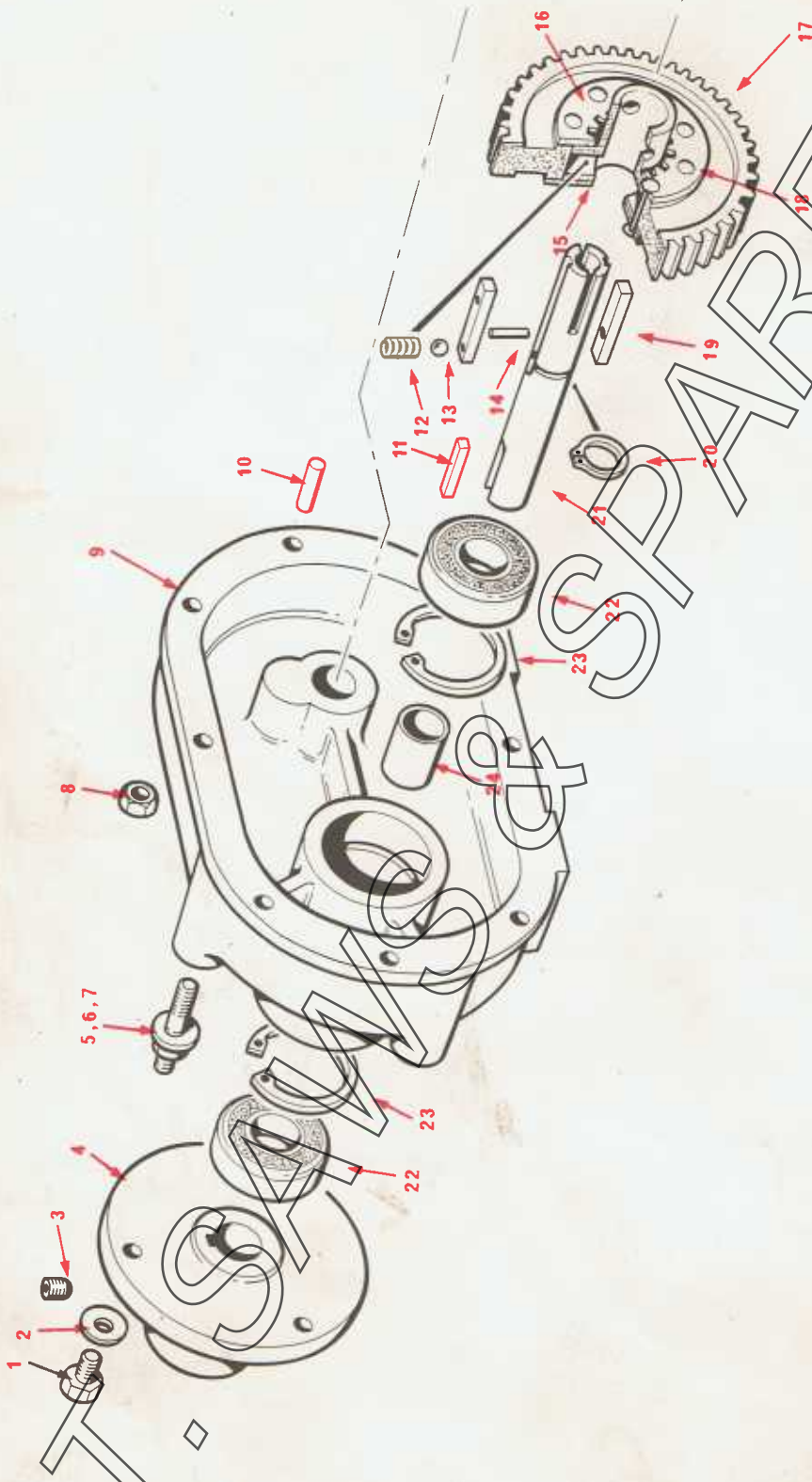


GEARED PUSHER ATTACHMENT

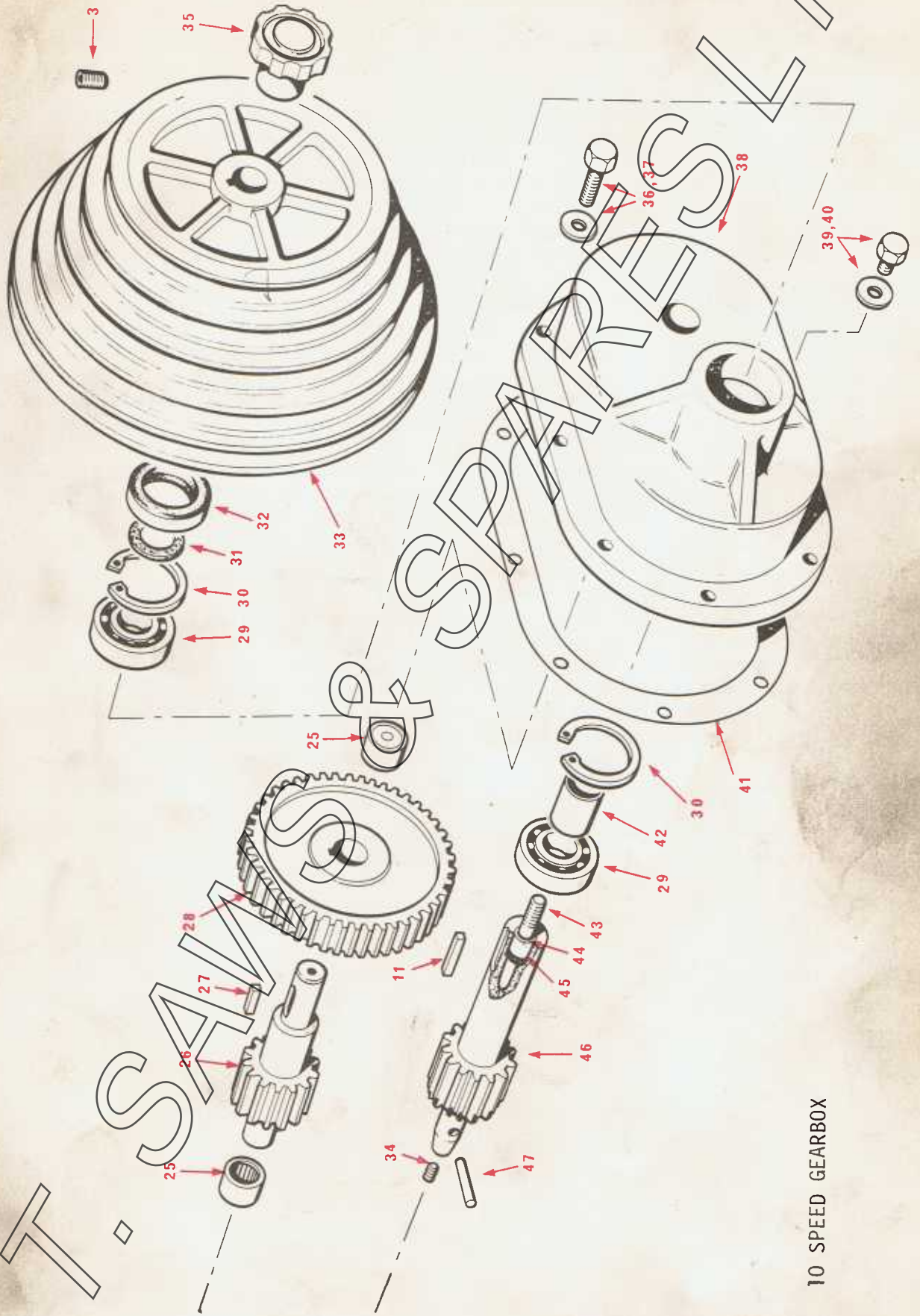


## 10 SPEED GEARBOX ASSEMBLY - PART No.SP681

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 1    | Hex.Hd.Screw                | 3       |
| 2    | Std.Washer                  | 3       |
| 3    | Soc.Grub Screw              | 2       |
| 4    | 2561 Bandwheel Hub          | 1       |
| 5    | Std.Stud                    | 3       |
| 6    | Std.Washer                  | 3       |
| 7    | Std.Nut                     | 3       |
| 8    | Std.Nut                     | 6       |
| 9    | 4172 Gearbox Housing        | 1       |
| 10   | Std.Dowel                   | 2       |
| 11   | 1148 Key                    | 2       |
| 12   | Compression Spring          | 1       |
| 13   | Steel Ball                  | 1       |
| 14   | Mills Pin                   | 1       |
| 15   | 1036 Liner                  | 1       |
| 16   | 1035 Clutch Plate           | 1       |
| 17   | 1044 Gear                   | 1       |
| 18   | Snap Hd.Rivet               | 8       |
| 19   | 1027 Key                    | 2       |
| 20   | Circlip                     | 1       |
| 21   | 1029 Output Shaft           | 1       |
| 22   | Ball Race                   | 2       |
| 23   | Circlip                     | 2       |
| 24   | 1030 Spacer                 | 1       |
| 25   | Needle Bearing              | 2       |
| 26   | 3253 Layshaft               | 1       |
| 27   | 1147 Key                    | 1       |
| 28   | 3252 Gear                   | 1       |
| 29   | Ball Race                   | 2       |
| 30   | Circlip                     | 2       |
| 31   | 1209 Washer                 | 1       |
| 32   | Oil Seal                    | 1       |
| 33   | 1228 Pulley                 | 1       |
| 34   | Soc.Grub Screw              | 1       |
| 35   | Handknob                    | 1       |
| 36   | Hex.Hd.Screw                | 6       |
| 37   | Std.Washer                  | 6       |
| 38   | 4173 Gearbox Cover          | 1       |
| 39   | Hex.Hd.Screw                | 2       |
| 40   | Fibre Washer                | 2       |
| 41   | 4223 Gasket                 | 1       |
| 42   | 1031 Spacer                 | 1       |
| 43   | 1037 Control Rod            | 1       |
| 44   | Compo Bush                  | 1       |
| 45   | 'O' Ring                    | 1       |
| 46   | 1032 Input Shaft            | 1       |
| 47   | 1024 Pin                    | 1       |



10 SPEED GEARBOX



10 SPEED GEARBOX



## INSTRUCTIONS FOR DISMANTLING AND RE-ASSEMBLING GEARBOX.

Remove blade and lower bandwheel from the rear of the machine, remove main drive Vee-belt and nuts securing gearbox to body.

Drain oil by removing drain plug at lower end of gearbox casing.

Unscrew handknob (Item 35). Remove two dowels (Item 10), six screws (Item 36) and separate the two halves of the gearbox casing. Lift out layshaft and gear (Items 26 & 28). Pull the control shaft (Item 43) away from the box (Item 9), which will also remove the gear (Item 17) and clutch assembly. (Take care not to lose the spring loaded ball (Items 12 & 13) concealed inside the hub.) Stand the box (Item 9) on its joint face and remove the hub (Item 4) and key (Item 11). Press out the output shaft (Item 21). Remove circlips, spacer and bearings (Items 22, 23 & 24).

The shift gear (Item 17) is rivetted to the clutch plate (Item 16) and liner (Item 15). Should it be necessary to replace any of these items, (15, 16 & 17) it is recommended that the three items be ordered as pre-assembled. Eight mild steel snap head rivets (Item 18) will be required to re-assemble this unit if individual items are replaced. It is essential that the liner (Item 15) slides freely over the dimpled keys (Item 19), and this point must be checked before re-assembling further. Before final re-assembly insert the spring (Item 12) followed by the steel ball (Item 13) into the hole which opens into the bore of the liner (Item 15). Press the ball into the hole and slide shaft into bore.

Centralize the control rod and continue sliding on the hub assembly until a second click is heard which will indicate that the seating in the dimple in the key and the hub is fully home on the shaft.

If the needle bearings (Item 25) are replaced, take care to ensure that the end of the bearing casing is slightly underflush on re-assembly.

The lid section (Item 38) of the box may be dismantled by first removing the drive pulley (Item 33) and key (Item 11). Press out the input shaft (Item 46). Remove bearings, spacer and circlips (Items 29, 30 & 42). Do not damage cork sealing washer (Item 31).

The oil seal (Item 32) may be left undisturbed unless this item is to be replaced. If only the oil seal is to be replaced, it is not necessary to remove the bearing etc. as the old seal may be levered from its seating with the input shaft in position. When re-assembling shaft and oil seal, ensure that the sharp edges of the shaft keyway do not damage the wiping lip of the oil seal.

When the lid section is re-assembled it is important that the following points are observed :-

The threaded end of the control rod must be coated with grease before the rod is inserted into the input shaft. Carefully press the control rod through the 'O' ring seal (Item 45). The pulley must be pressed home and locked in order to compress the cork sealing washer (Item 31) between the faces of the pulley hub and bearing.

Failure to follow this procedure may result in oil leakage along the input shaft.

The two halves of the gearbox may now be re-assembled.

Fill with oil according to maintenance instructions.



## TOP BRACKET ASSEMBLY - PART Nos.SP598 &amp; SP599

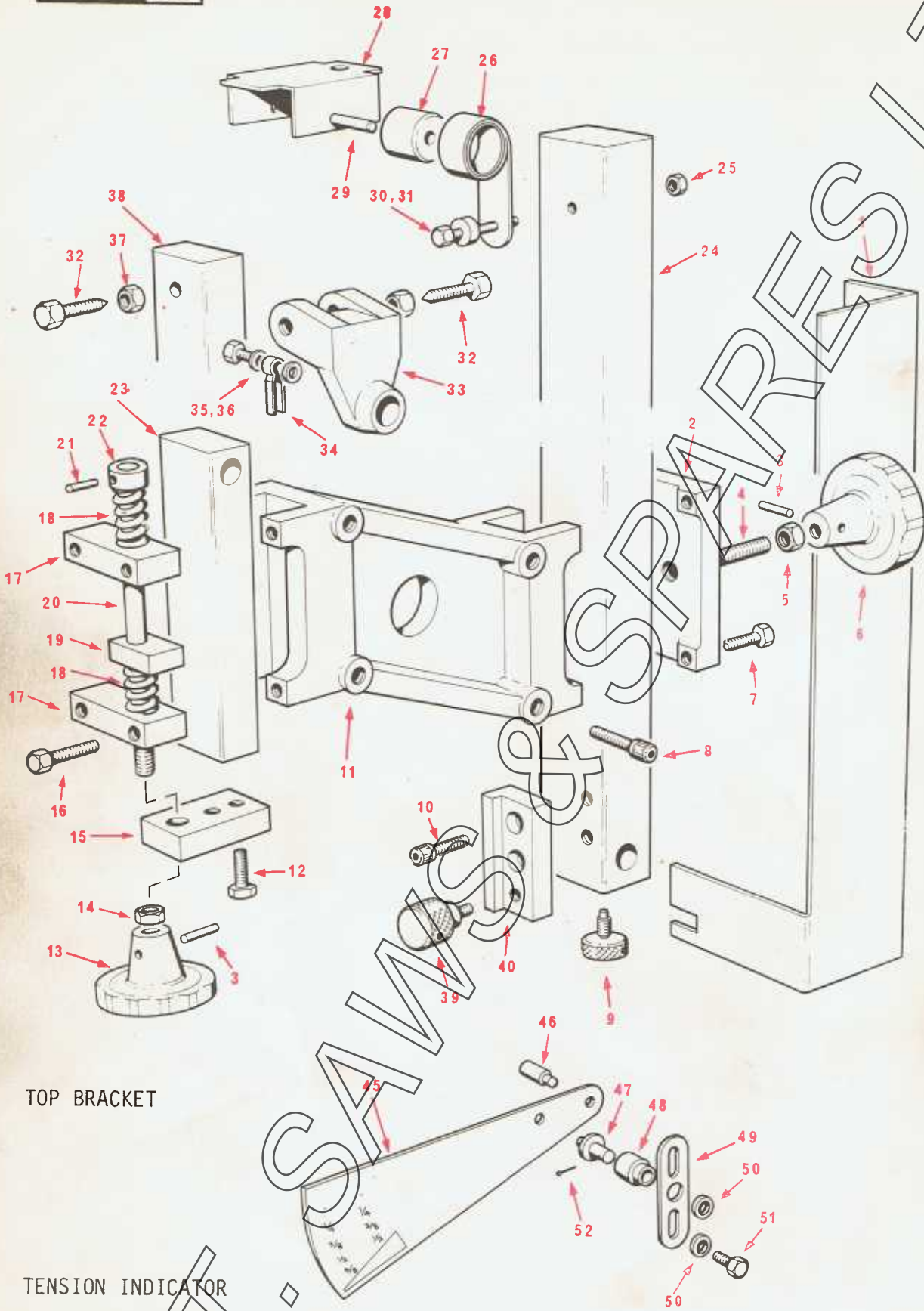
NOTE : SP598 - Items 1 to 31 ONLY. ( 20" Throat Machines )  
 SP599 - Items 1 to 40. ( 14" & 30" Throat Machines )

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 1    | 2364 Blade Guard            | 1       |
| 2    | 4108 Capping Plate          | 1       |
| 3    | Mills Pin                   | 2       |
| 4    | 2339 Clamping Stud          | 1       |
| 5    | Lock Nut                    | 1       |
| 6    | Handknob                    | 1       |
| 7    | Hex.Hd.Screw                | 4       |
| 8    | Soc.Cap Screw               | 4       |
| 9    | 2501 Thumb Screw            | 1       |
| 10   | Soc.Cap Screw               | 2       |
| 11   | 4103 Top Bracket            | 1       |
| 12   | Hex.Hd.Screw                | 2       |
| 13   | Handknob                    | 1       |
| 14   | Lock Nut L.H.               | 1       |
| 15   | 2345 Threaded Block         | 1       |
| 16   | Hex.Hd.Screw                | 4       |
| 17   | 3258 Cap                    | 2       |
| 18   | 2490 Compression Spring     | 2       |
| 19   | 2341 Register Block         | 1       |
| 20   | 3260 Tensioning Screw       | 1       |
| 21   | Mills Pin                   | 1       |
| 22   | 2520 Threaded Collar        | 1       |
| 23   | 4107 Guide Bar              | 1       |
| 24   | 4106 Tool Post              | 1       |
| 25   | Std. Nut                    | 1       |
| 26   | Tensator Spring             | 1       |
| 27   | 4105 Reel                   | 1       |
| 28   | 2378 Reel Bracket           | 1       |
| 29   | Mills Pin                   | 1       |
| 30   | Hex.Hd.Screw                | 1       |
| 31   | 4104 Washer                 | 1       |
| 32   | 2336 Pivot Screw            | 2       |
| 33   | 2332 Tilt Bracket           | 1       |
| 34   | 2344 Locking Spring         | 1       |
| 35   | Hex.Hd.Screw                | 1       |
| 36   | Std.Washer                  | 2       |
| 37   | Lock Nut                    | 2       |
| 38   | 3259 Guide Bar              | 1       |
| 39   | 2338 Thumb Screw            | 1       |
| 40   | 2453 Top Guard Bracket      | 1       |

## TENSION INDICATOR ASSEMBLY - PART No.SP291

|    |                      |   |
|----|----------------------|---|
| 45 | 2353 Indicator Plate | 1 |
| 46 | 2349 Register Pin    | 1 |
| 47 | 2350 Fulcrum Pin     | 1 |
| 48 | 2351 Fulcrum Bush    | 1 |
| 49 | 2352 Fulcrum Plate   | 1 |
| 50 | Std.Washer           | 3 |
| 51 | Hex.Hd.Screw         | 2 |
| 52 | Split Pin            | 1 |

SECTION 33



## TOP BRACKET ASSEMBLY - PART No.SP283

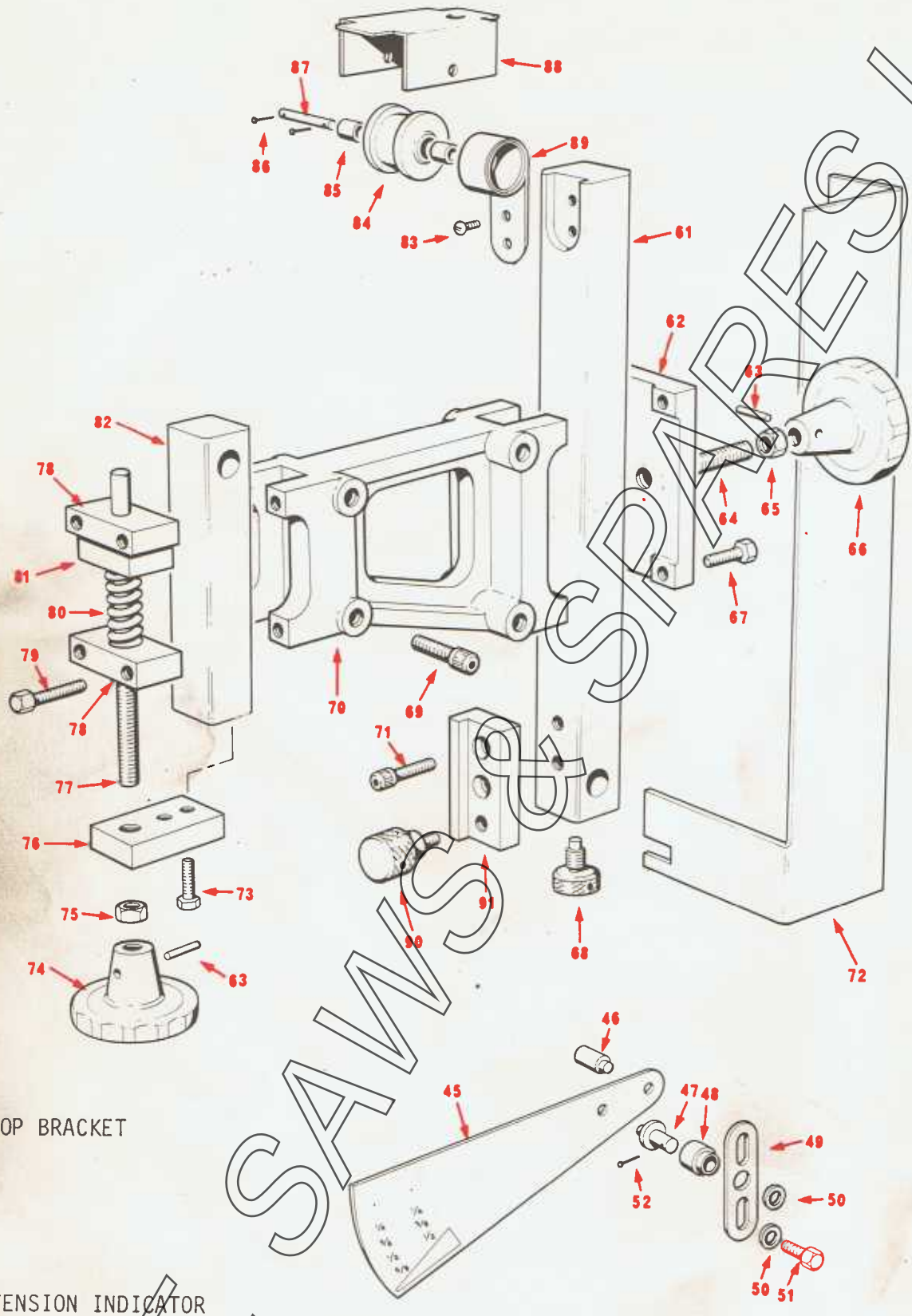
NOTE : SP283 Used on 18" &amp; 24" Throat Machines.

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 61   | 2343 Top Guide Pillar       | 1       |
| 62   | 2331 Guide Pillar Cap       | 1       |
| 63   | Mills Pin                   | 2       |
| 64   | 2339 Clamping Stud          | 1       |
| 65   | Lock Nut                    | 1       |
| 66   | Handknob                    | 1       |
| 67   | Hex.Hd.Screw                | 4       |
| 68   | 2501 Thumb Screw            | 1       |
| 69   | Soc.Cap Screw               | 4       |
| 70   | 2330 Top Bracket            | 1       |
| 71   | Soc.Cap Screw               | 2       |
| 72   | 2364 Blade Guard            | 1       |
| 73   | Hex.Hd.Screw                | 2       |
| 74   | Handknob L.H.               | 1       |
| 75   | Lock Nut L.H.               | 1       |
| 76   | 2345 Threaded Block         | 1       |
| 77   | 2340 Tensioning Screw       | 1       |
| 78   | 2337 Cap                    | 2       |
| 79   | Hex.Hd.Screw                | 4       |
| 80   | 2490 Compression Spring     | 1       |
| 81   | 2341 Register Block         | 1       |
| 82   | 2342 Slide Bar              | 1       |
| 83   | Rd.Hd.Screw                 | 2       |
| 84   | 2380 Reel                   | 1       |
| 85   | Compo Bush                  | 2       |
| 86   | Split Pin                   | 2       |
| 87   | 2379 Reel Spindle           | 1       |
| 88   | 2378 Reel Bracket           | 1       |
| 89   | Tensator Spring             | 1       |
| 90   | 2338 Thumb Screw            | 1       |
| 91   | 2453 Top Guard Bracket      | 1       |

## TENSION INDICATOR ASSEMBLY - PART No.SP291

|    |                      |   |
|----|----------------------|---|
| 45 | 2353 Indicator Plate | 1 |
| 46 | 2349 Register Pin    | 1 |
| 47 | 2350 Fulcrum Pin     | 1 |
| 48 | 2351 Fulcrum Bush    | 1 |
| 49 | 2352 Fulcrum Plate   | 1 |
| 50 | Std.Washer           | 3 |
| 51 | Hex.Hd.Screw         | 2 |
| 52 | Split Pin            | 1 |





## FIXED BANDWHEEL HUB ASSEMBLY - PART No.SP213

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 121  | 2415 Spindle                | 1       |
| 122  | 2061 Bandwheel Hub          | 1       |
| 123  | 1940 Circlip                | 2       |
| 124  | Ball Race                   | 2       |
| 125  | 2064 Spacer                 | 1       |
| 126  | 3644 Washer                 | 1       |
| 127  | Hex.Hd.Screw                | 1       |
| 128  | Std.Washer                  | 3       |
| 129  | Hex.Hd.Screw                | 3       |

## TRACKING BANDWHEEL HUB ASSEMBLY - PART No.SP284

|     |                        |   |
|-----|------------------------|---|
| 122 | 2061 Bandwheel Hub     | 1 |
| 123 | 1940 Circlip           | 2 |
| 124 | Ball Race              | 2 |
| 125 | 2064 Spacer            | 1 |
| 128 | Std.Washer             | 3 |
| 129 | Hex.Hd.Screw           | 3 |
| 130 | 2347 Jacking Screw     | 1 |
| 131 | 2346 Spindle           | 1 |
| 132 | Soc.Grub Screw         | 2 |
| 133 | 2348 Thumb Knob        | 1 |
| 134 | 2466 Instruction Label | 1 |
| 135 | 2473 Bandwheel 14" Dia | 3 |
|     | 2473 Bandwheel 14" Dia | 2 |
|     | 1102 Bandwheel 12" Dia | 3 |

## WHEEL BRUSH DETAILS

|     |                  |   |
|-----|------------------|---|
| 136 | Std.Nut          | 3 |
| 137 | Std.Washer       | 2 |
| 138 | 2579 Stud        | 1 |
| 139 | 2270 Wheel Brush | 1 |

## PIVOT BRACKET ASSEMBLY - PART No.SP333

|     |                     |   |
|-----|---------------------|---|
| 150 | 3708 Bridge Piece   | 1 |
| 151 | Lock Nut            | 2 |
| 152 | 2336 Pivot Screw    | 2 |
| 153 | Hex.Hd.Screw        | 1 |
| 154 | Std.Washer          | 1 |
| 155 | 2344 Locking Spring | 1 |
| 156 | 2332 Tilt Bracket   | 1 |
| 157 | Soc.Cap Screw       | 4 |

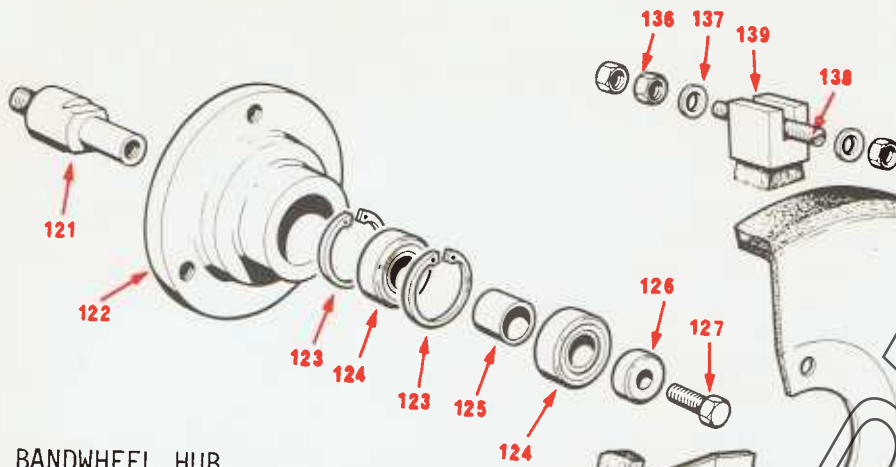
## INTERMEDIATE SAW GUARD ASSEMBLY - NOT ILLUSTRATED.

NOTE : 30" Throat Machines Only.

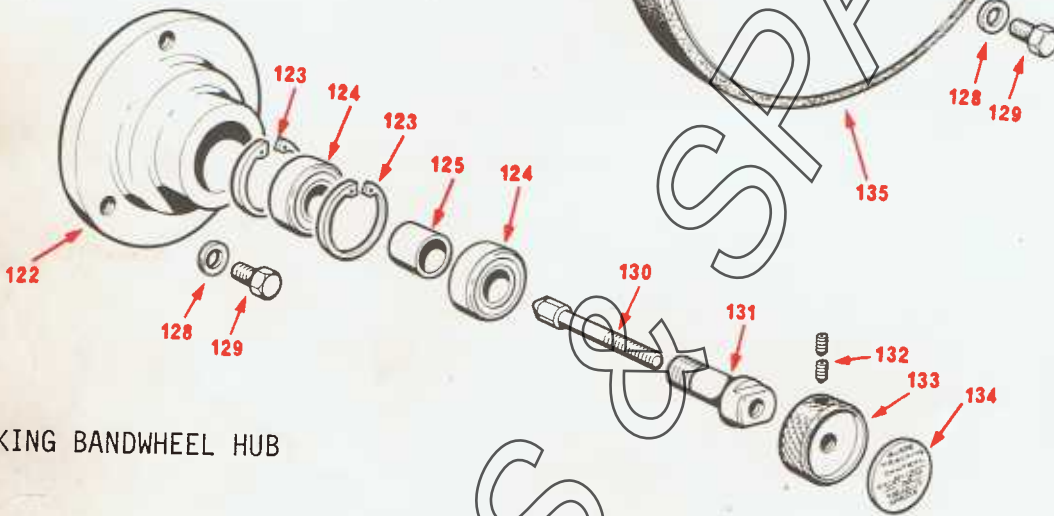
|       |                        |   |
|-------|------------------------|---|
| SP443 | Intermediate Saw Guard | 1 |
| 2711  | Thumb Knob             | 2 |
|       | Lock Nut               | 2 |
|       | Std.Washer             | 2 |
|       | Rd.Hd.Screw -          | 1 |
|       | Rd.Hd.Screw -          | 1 |

SECTION 33

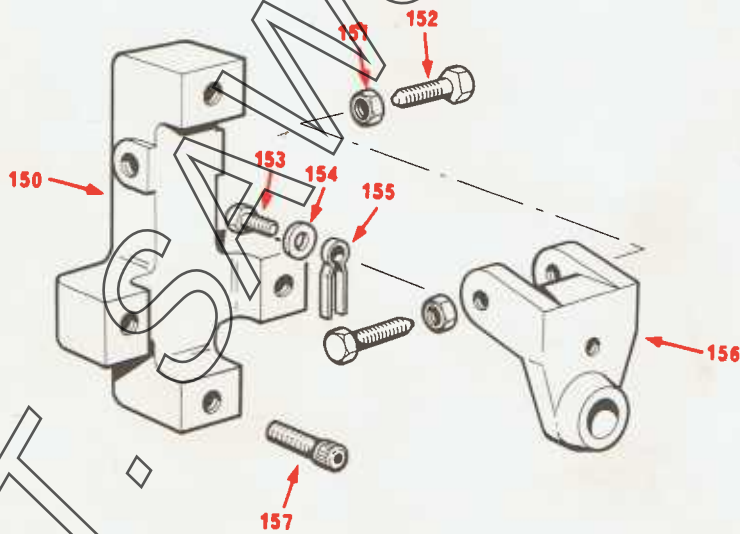
WHEEL BRUSH



FIXED BANDWHEEL HUB



TRACKING BANDWHEEL HUB



PIVOT BRACKET



## TABLE ASSEMBLY - PART No.SP569

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 1    | 3346 Table                  | 1       |
| 2    | C'sk.Hd.Screw               | 1       |
| 3    | 2922 Table Insert           | 1       |
| 4    | 2828 Swing Latch            | 1       |
| 5    | Std.Stud                    | 2       |
| 6    | Std.Washer                  | 2       |
| 7    | Handknob                    | 2       |

## TABLE ASSEMBLY - PART No.SP301

|    |                                     |   |
|----|-------------------------------------|---|
| 10 | 2365 Fixed Table                    | 1 |
| 11 | 2366 Sub - Table                    | 1 |
| 12 | 2375 Table Insert                   | 1 |
| 13 | Soc.Grub Screw<br>with Nylon Insert | 4 |
| 14 | Std.Stud                            | 2 |
| 15 | Std.Washer                          | 2 |
| 16 | Handknob                            | 2 |

## AUXILIARY TABLE ASSEMBLY - NOT ILLUSTRATED.

NOTE : 30" Throat Machines Only.

|      |                 |    |
|------|-----------------|----|
| 2705 | Auxiliary Table | 1  |
| 2709 | Spacer          | 4  |
| 2936 | Stud            | 4  |
|      | Std.Nut         | 12 |

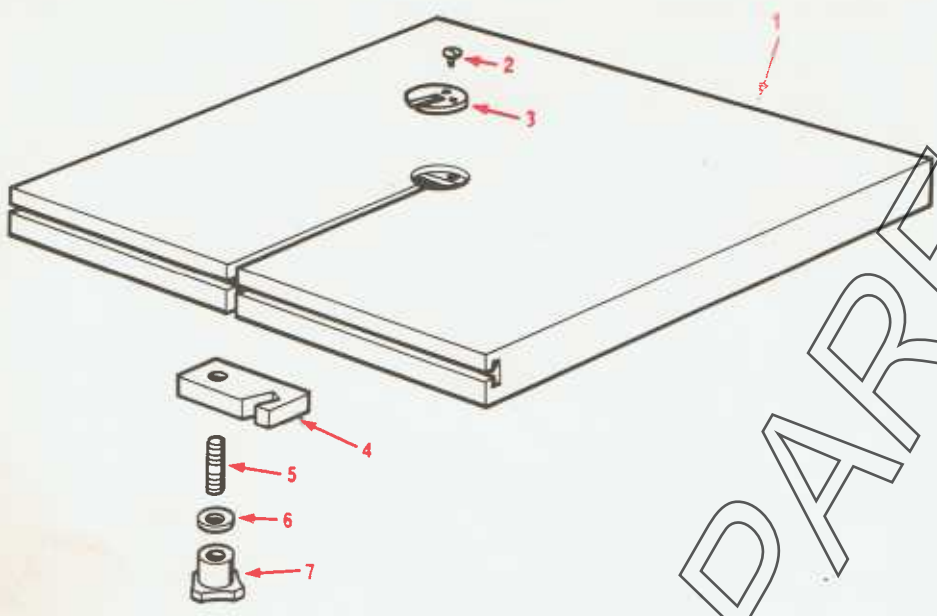


TABLE ASSEMBLY

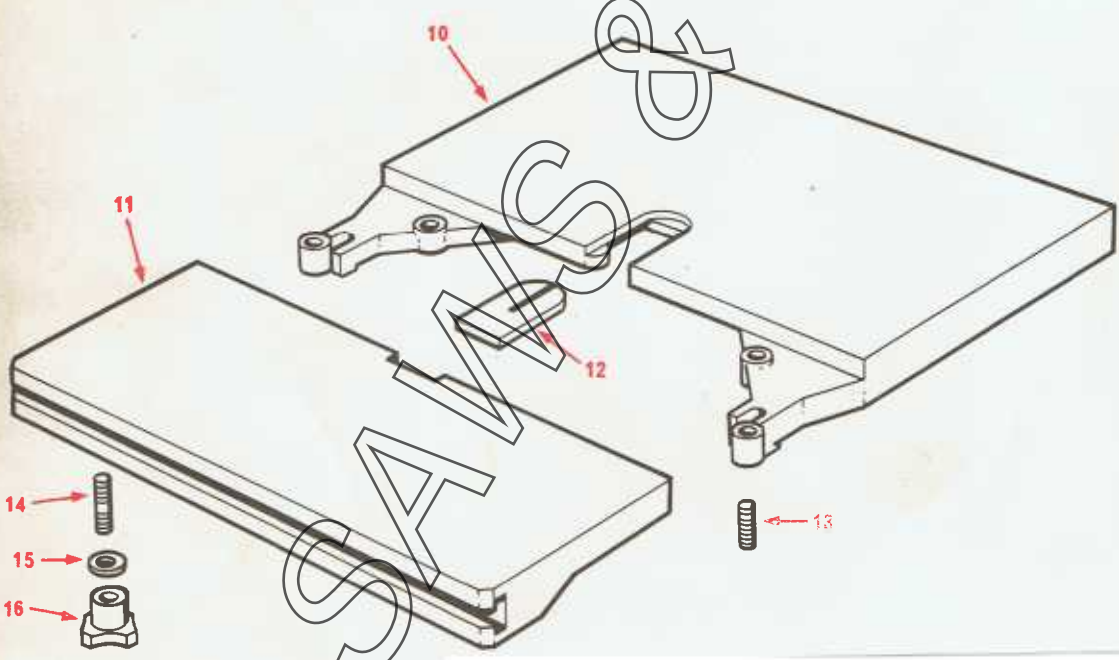
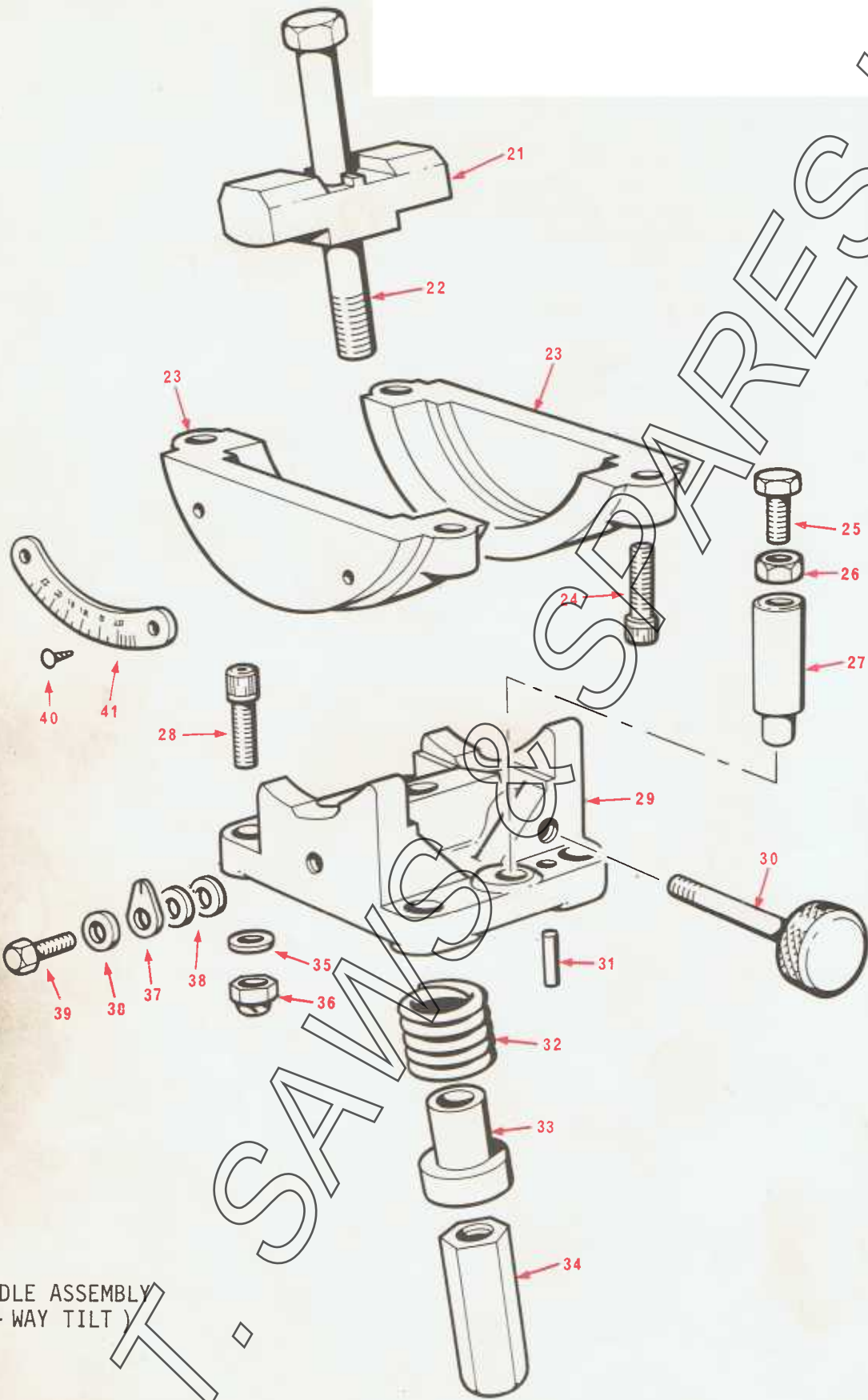


TABLE ASSEMBLY

## CRADLE ASSEMBLY ( 2 - WAY TILT ) - PART No.SP286

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 21   | 2369 Clamp                  | 1       |
| 22   | Hex.Hd.Screw                | 1       |
| 23   | 2368 Trunnion               | 2       |
| 24   | Soc.Cap Screw               | 4       |
| 25   | Hex.Hd.Screw                | 1       |
| 26   | Std.Nut                     | 1       |
| 27   | 2373 Stop Pillar            | 1       |
| 28   | Soc.Cap Screw               | 4       |
| 29   | 2367 Cradle                 | 1       |
| 30   | 2500 Thumb Screw            | 1       |
| 31   | Spring Dowel                | 1       |
| 32   | Compression Spring          | 1       |
| 33   | 2370 Sleeve                 | 1       |
| 34   | 2409 Special Nut            | 1       |
| 35   | Std.Washer                  | 4       |
| 36   | Simmonds Nut                | 4       |
| 37   | 2372 Pointer                | 1       |
| 38   | Std.Washer                  | 3       |
| 39   | Hex.Hd.Screw                | 1       |
| 40   | Drive Screw                 | 1       |
| 41   | 2371 Tilt Scale             | 1       |





CRADLE ASSEMBLY  
(2-WAY TILT)

## MOTOR PLATFORM ASSEMBLY - PART No.SP683

NOTE : SP683 used on 18" &amp; 24" Throat Machines.

| ITEM | PART NUMBER AND DESCRIPTION | No. OFF |
|------|-----------------------------|---------|
| 1    | 2449 Motor Platform         | 1       |
| 2    | 2851 Mounting Sleeve        | 4       |
| 3    | Rubber Bush                 | 4       |
| 4    | Cotter Pin                  | 2       |
| 5    | Std.Washer                  | 2       |
| 6    | 2870 Pivot Shaft            | 1       |
| 7    | Soc.Grub Screw              | 4       |
| 8    | 2452 Collar                 | 4       |
| 9    | 2488 Latch                  | 1       |
| 10   | 2450 Support Shaft          | 1       |
| 11   | Lock Nut                    | 1       |
| 12   | Rd.Hd.Screw                 | 1       |
| 13   | 2447 Washer                 | 1       |
| 14   | Std.Nut                     | 4       |
| 15   | 2446 Trunnion               | 1       |
| 16   | 1756 Lever                  | 1       |
| 17   | Ball Knob                   | 1       |
| 18   | 2445 Fork                   | 1       |
| 19   | 2936 Stud                   | 1       |
| 20   | 2558 Spring                 | 1       |

## MOTOR PLATFORM ASSEMBLY - PART No.SP684 - NOT ILLUSTRATED

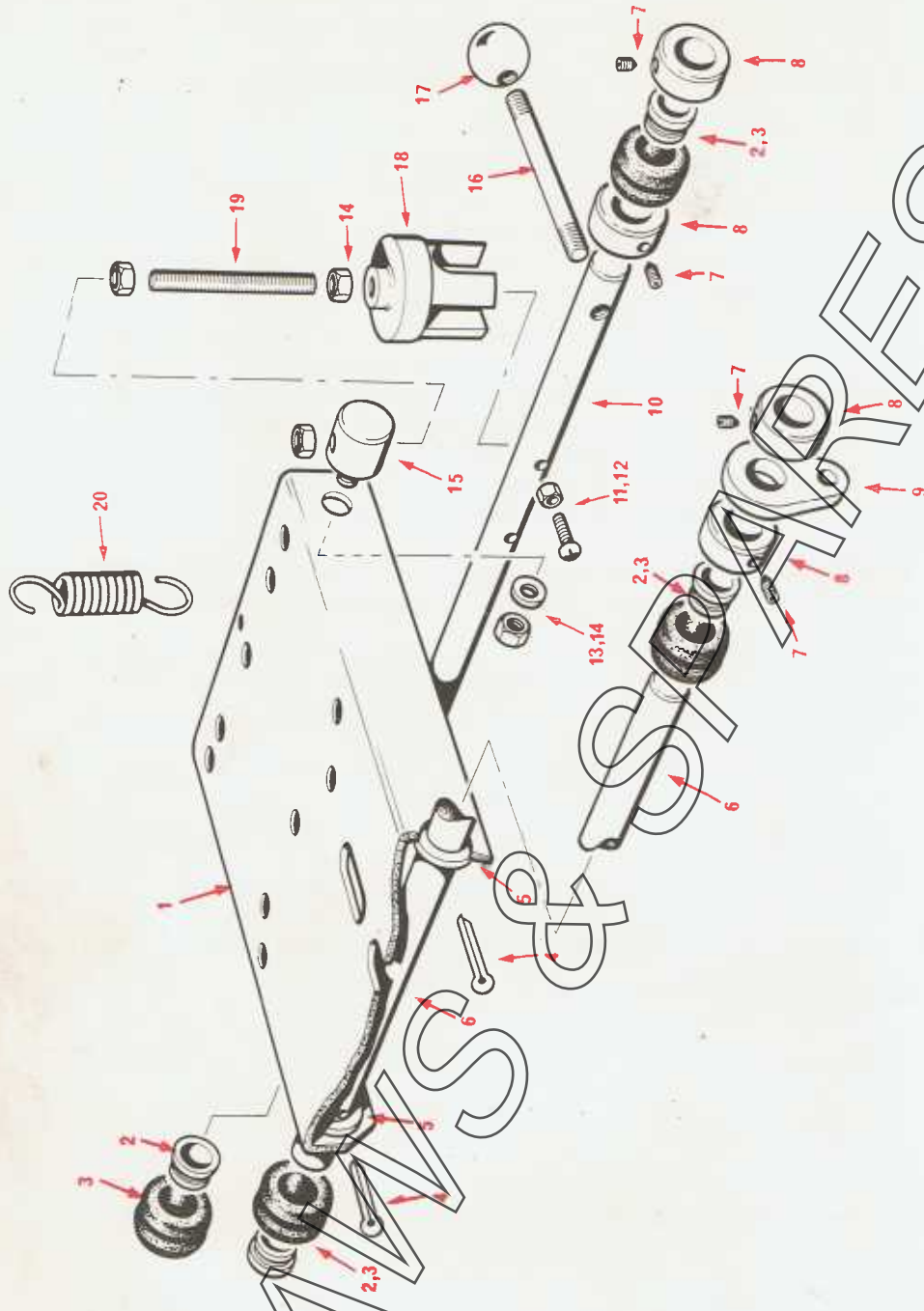
NOTE : SP684 used on 14", 20" &amp; 30" Throat Machines.

|       |                |   |
|-------|----------------|---|
| 2957  | Motor Platform | 1 |
| 2446A | Trunnion       | 1 |

NOTE : Items 2 to 14, &amp; 16 to 20 of SP683 common to SP684.

## MOTOR PULLEY DETAILS &amp; VEE-BELTS - NOT ILLUSTRATED

|      |  |   |
|------|--|---|
| 2010 | Motor Pulley   | 1 |
| 1149 | Key  | 1 |
|      | Mills Pin  | 1 |
|      | Soc.Grub Screw   | 1 |
|      | Main Drive Vee-belt ( 18" & 24" Throat Machines )      | 1 |
|      | Main Drive Vee-belt ( 14", 20" & 30" Throat Machines ) | 1 |



A.L.T. SAWS & SUPPLIES LTD