RECORD MACHINE DETAILS	DISTRIBUTOR
MODEL SERIAL No. DATE OF PURCHASE VOLTAGE PHASE Hz **QUOTE THIS INFORMATION WHEN REQUESTING SERVICE OR SPARES.**	

HANDBOOK
BO10030

502
DUALSPEED VERTICAL BANDSAW

Issue 1 28-06-93 RF 11096

QUALITY BANDSAW BLADES

TO SUIT THE 502 MODEL

ORDER LINE- 01634 850833

A.L.T. SAWS & SPARES LTD

Unit 15, Pier Road Industrial Estate

Gillingham

Kent

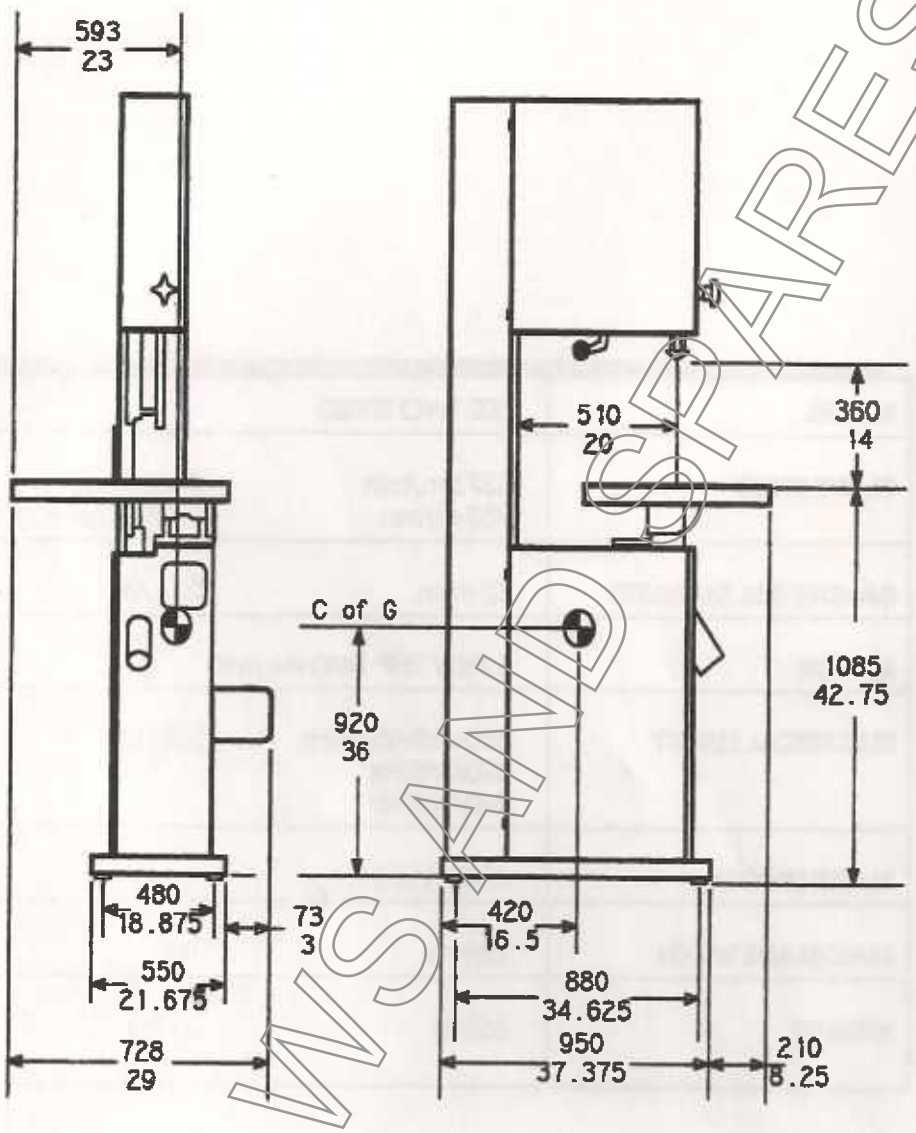
ME7 1RZ

www.altsawsandspares.com

SPECIFICATIONS

MODEL	502 TWO SPEED	
BLADE SPEED	1372 m/min 732 m/min	4500 ft/min 2400 ft/min
BANDWHEEL DIAMETER	521mm.	20 1/2in.
MOTOR	1.5KW 2HP 1440 rev/min	
ELECTRICAL SUPPLY	380-415V/3/50Hz 220/3/50Hz 240/1/50Hz	220/1/50
BLADE LENGTH	4140mm, 163in.	
MAX BLADE WIDTH	25mm.	1in.
WEIGHT	363Kg	800lbs

FOUNDATION PLAN



All dimensions are: mm
inches

NOTE: All dimensions are approximate.

Ensure that you fully understand this instruction manual and have received sufficient training in the use of this machine and the particular safety precautions to be observed.

Persons under the age of 18 years should not operate this machine, except under supervision during a course of training.

BEFORE OPERATING THIS MACHINE ENSURE THAT:

All guards and fences are securely fitted and correctly set in accordance with the current Regulations.

Tooling is of correct type, securely fastened, sharp and direction of rotation is appropriate.

Correct spindle speed and feed is selected (for the cutter equipment).

Loose clothing is either removed or fastened and jewellery removed.

Suitable jigs and push sticks are available for use where appropriate.

The working area is clean and unobstructed.

Extraction equipment is switched on, properly adjusted and working efficiently.

Suitable protective equipment is available, e.g. goggles, ear defenders and dust mask.

WHEN SETTING, CLEANING AND MAINTAINING THIS MACHINE:

Ensure all moving parts of the machine are stationary before setting, cleaning or making any adjustments.

Report immediately, to a person in authority, any machine malfunction or operator hazard. Do not attempt to repair the machine unless competent to do so.

The electrical equipment must be installed and used in accordance with the instructions contained in this manual. Regular inspection and safety tests must be undertaken by a competent person. Ensure all power sources are isolated before any maintenance work commences.

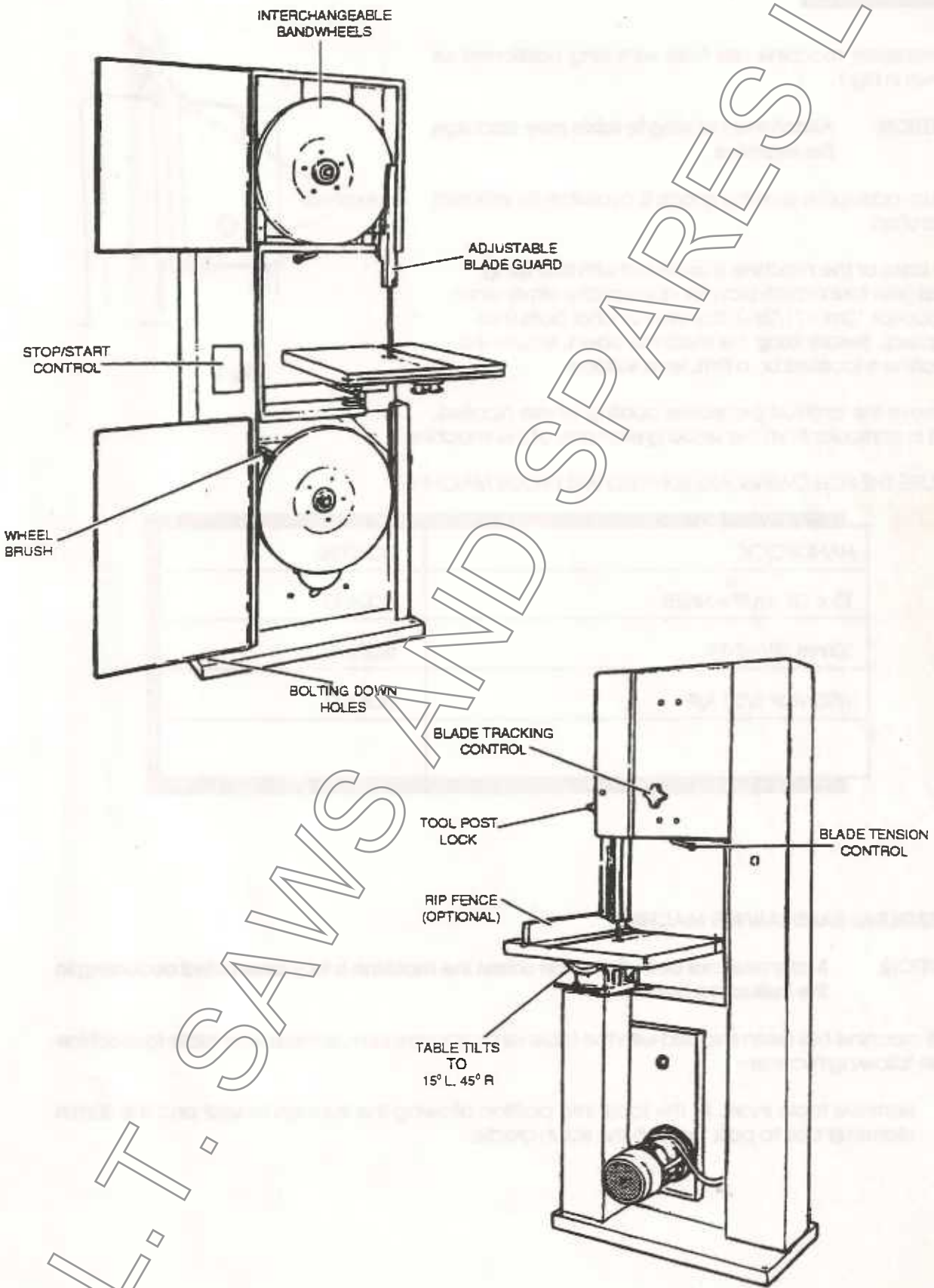
If the operator is likely to be subjected to noise levels greater than specified in the Noise At Work Regulation 1989, then a Noise Test Record Sheet will be included in this manual.

NOISE AT WORK REGULATIONS 1989.

This information is provided in accordance with The Health & Safety Executive Noise At Work Regulations 1989

MODEL	502	
MOUNTING CONDITION	Free standing on concrete floor	
BACKGROUND READING dB(A)	64	
BLADE SPEED m/min (ft/min)	5200	
CUTTING (MATERIAL) 3 x 3 Soft Wood	84	

MAXIMUM dB(A) NOISE LEVEL READINGS ARE TAKEN WITHIN 1 METRE OF THE MACHINE & AT A HEIGHT OF 1.5 METRES.



GENERAL LAYOUT OF MODEL 502 BANDSAWING MACHINE
(DETAILS MAY VARY ACCORDING TO MODEL)

INSTALLATION

To transport machine use hoist with sling positioned as shown in Fig.1.

CAUTION: Attachment of sling to table may damage the machine.

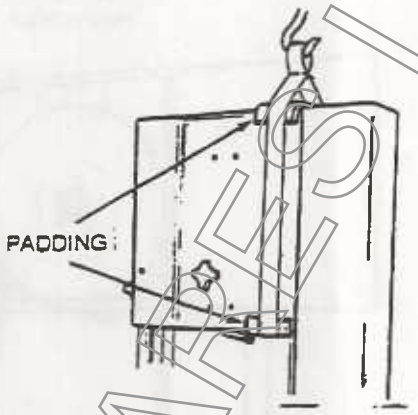


Fig 1

Ensure adequate working space is available for efficient operation.

The base of the machine is provided with four fixing holes (see foundation plan for appropriate dimensions to accept 12mm (1/2in.) diameter anchor bolts (not supplied). Before fixing the machine down, ensure the machine is located on a firm, level surface.

Remove the anti-rust protective coating where applied, and in particular from the working elements of the machine.

ENSURE THE FOLLOWING ARE SUPPLIED WITH YOUR MACHINE

HANDBOOK	BO10030
13 x 17mm SPANNER	BO2610
30mm SPANNER	BO2612
WRENCH 5/32 A/F	BO6472

ASSEMBLING BANDSAWING MACHINE.

CAUTION: Motor must not be switched on unless the machine is fully assembled according to the instruction below.

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

1. Remove table insert, lift the table into position allowing the trunnion to seat and the 20mm diameter bolt to pass through the slot in cradle.

2. From the underside of the cradle platform, assemble in bolt on order:-
   Spring Housing, spigot end first.
   Spring, into body of housing.
   Washer.
   Nut, using spanner supplied.

Ensure that the bandwheel housings are free of any obstructions, and the blade is tracked on centre (see Fig.3).

ELECTRICAL INSTALLATION

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

Pass supply cable through a suitable cable gland using hole in gland plate at rear of machine, feed up through machine to isolator removeable panel above stop/start buttons.

For three phase supply, connect supply leads to terminals L1, L2 & L3 of the isolator and earth lead to 'E' (earth) terminal.

IN ALL CASES THE MACHINE MUST BE EFFECTIVELY EARTHED.

The service of a competent electrical engineer must be obtained if there is any doubt regarding electrical installation of this machine.

MAINTENANCE

NOTE: Attention to maintenance will be repaid by many years of trouble-free operation.

GENERAL MAINTENANCE

Check blade tension frequently and adjust as necessary.

Remove blade and clean machine as required.

MONTHLY MAINTENANCE

1. Remove embedded chips from bandwheel tyres, check for wear and replace as necessary. Adjust wheel brush as required.

2. Clean and check upper and lower blade guide assemblies. Replace worn parts as required. Check guide settings, and adjust as necessary.

3. Check condition of vee-belt, and replace when necessary.

We strongly recommend this machine be serviced annually

FAULT	PROBABLE CAUSE	SUGGESTED REMEDY
Sawblade will not cut.	1) Blade teeth facing in wrong direction. 2) Material too hard for type blade being used.	1) Refit sawblade. 2) Fit suitable sawblade.
Blade vibrates in cut.	1) Workpiece not properly seated or securely held. 2) Guides set too close. 3) Blade speed too fast. 4) Blade pitch too coarse. 5) Insufficient blade tension. 6) Blade not backed by thrust roller	1) Securely hold and support workpiece. 2) Reset guides. 3) Select suitable speed. 4) Select suitable blade. 5) Check and retension blade. 6) Reset guides
Premature blade breakage.	1) Excessive feed pressure. 2) Unsuitable blade speed and/or blade selection. 3) Incorrect blade tension and/or tracking. 4) Worn or incorrectly set guides. 5) Blade joint improperly welded and annealed. 6) Workpiece not firmly held 7) Blade overheating. 8) Chippings building up on bandwheels. 9) Blade too wide for curved cut	1) Lighten feed pressure. 2) Check blade and speed, replace and/or reset. 3) Check tension and tracking and adjust as necessary. 4) Reset guides and replace if necessary. 5) Split weld and rejoin. 6) Securely hold and support workpiece. 7) Check blade guide clearance. 8) Clean bandwheels an check blade brushes, replace if necessary. 9) Select suitable blade
Teeth torn from blade.	1) Excessive feed pressure. 2) Blade speed too slow. 3) Blade pitch too fine. 4) Blade pitch too coarse. 5) Workpiece not securely held	1) Lighten feed pressure. 2) Select suitable speed. 3) Select suitable blade. 4) Select suitable blade. 5) Securely hold and support workpiece.
Crooked cuts.	1) Excessive feed pressure. 2) Incorrect blade tension. 3) Blade speed too slow. 4) Incorrect feed speed. 5) Worn or incorrectly set guides. 6) Blade teeth dull or pitch too fine. 7) Workpiece not securely held.	1) Lighten feed pressure. 2) Retension blade. 3) Select suitable speed. 4) Select suitable feed speed. 5) Reset guides and replace if necessary. 6) Check and replace blade. 7) Securely hold and support workpiece.

OPERATING INSTRUCTIONS

SETTING UP THE MACHINE:

Adjust the guides to support the saw blade in its natural path with the minimum of side clearance (0.002 in. to 0.004in.). A quick and positive method of setting the guides is to position one guide to just contact the saw blade, then adjust the second guide to contact the saw blade plus a 0.002in. feeler gauge. After setting the gap in the top and bottom blade guides, rotate bandwheels by hand to check that the welded joint of the saw blade does not obstruct as it passes through the blade guides.

After adjusting the top and bottom guides, rotate the bandwheels by hand to ensure that the saw blade runs free and that all the adjustments have been correctly carried out.

Replace upper and lower blade guards and close both bandwheel doors.

FITTING A BLADE

Select a saw blade suitable for the work in hand, see instruction plate on front of machine.

Open both bandwheel doors, remove upper and lower blade guards. Lower the top bandwheel by turning the blade tension control handle 'A' (see Fig.2) anti-clockwise and remove the saw blade.

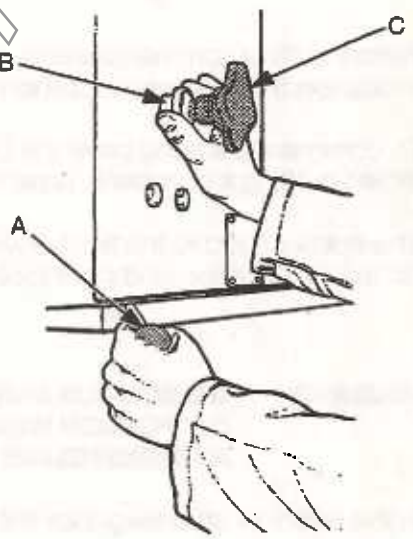


Fig. 2

Place selected saw blade over both bandwheels with the teeth facing forward and downward through the table. Apply only sufficient blade tension to remove the slack. It is important that both the top and bottom guides are set back clear of the saw blade so that it is not deflected and follows a true path between the bandwheels. At rear of machine slacken off knurled locking ring 'B' (see Fig.2). Rotate the bandwheels by hand, adjust the blade tracking control handknob 'C' so that the saw blade runs approximately central on the bandwheels. When saw blade is tracked correctly hold handknob 'C' and lock using knurled locking ring 'B'.

When the saw blade is tracking in a satisfactory manner, turn the blade tension control handle 'A' until the appropriate reading appears in the 'window',

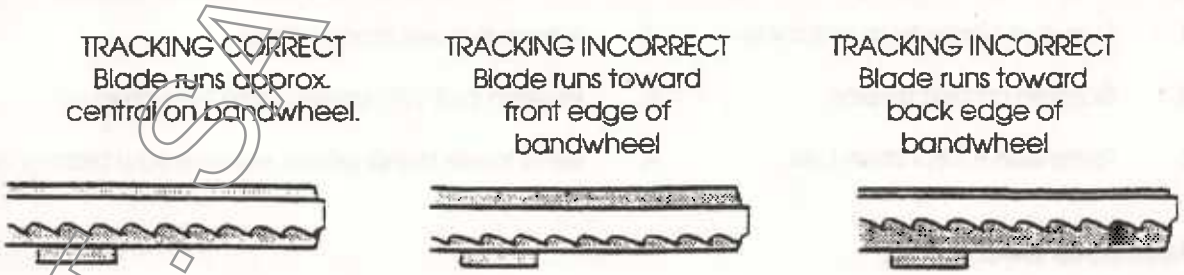
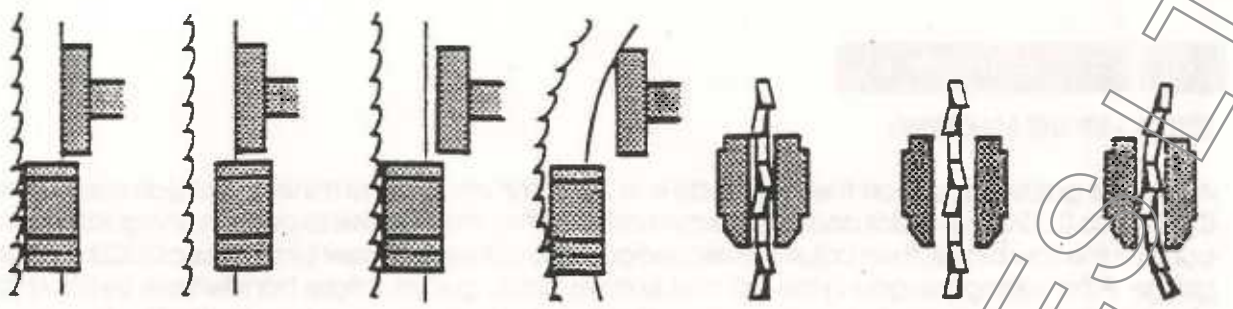


Fig. 3

It is important that the guides are set to offer maximum support to the saw blade without deflection, and to permit maximum engagement with the flanks of the saw blade without snagging the set of the teeth, (see Fig.4).



CORRECT Maximum support for blade.	INCORRECT Insufficient support for blade from guide.	INCORRECT Insufficient support for blade from thrust rod.	INCORRECT Thrust rod deflecting blade.	CORRECT Maximum support for blade.	INCORRECT Insufficient support for blade.	INCORRECT Guide deflecting blade.

Fig 4

Before cutting commences ensure that all necessary adjustments have been made, all guards are in position, the guides close to the material (see Fig.5) and that the sawblade is clear of the workpiece.

To commence sawing press the ON button on the spine.
When cuttting is complete, press the STOP button.

The isolator fitted to the front cover should be switched to the OFF position and all chippings removed.

Fig 5

WARNING: THE ISOLATOR SWITCH SHOULD BE SET TO THE OFF POSITION WHENEVER ANY ADJUSTMENTS ARE MADE TO THE MACHINE.

In the event of an emergency the STOP button, fitted to the spine should be pressed.

To recommence sawing, the STOP button must first be released by turning the button, then the ON button will function as normal. Should the power fail, the machine will stop sawing. On reconnection of the power, the machine will not recommence sawing until the ON button is pressed.

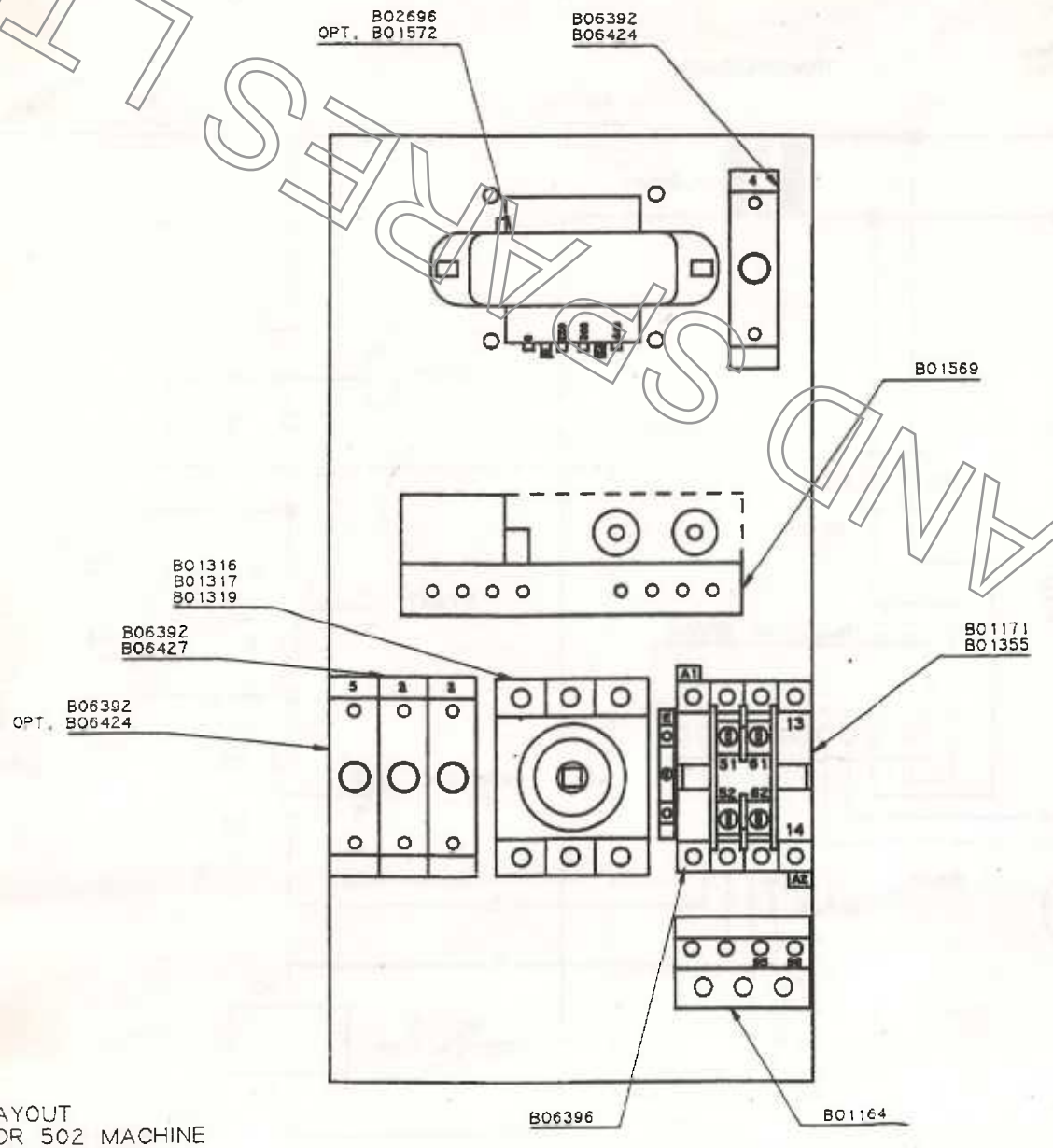
CHANGING THE BELT FOR HIGH & LOW SPEED

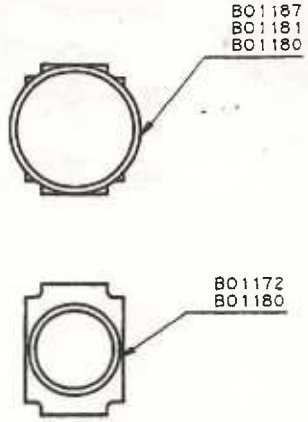
To change from high to low speed first isolate the machine from all mains power.

1. Remove blade from machine.
2. Remove lower band wheel.
3. Slacken off belt tension.
4. Position belt into appropriate Vee groove.
5. Retension motor drive belt.
6. Re-fit lower band wheel, replace saw blade and tension.,

ADJUSTING TABLE ANGLE

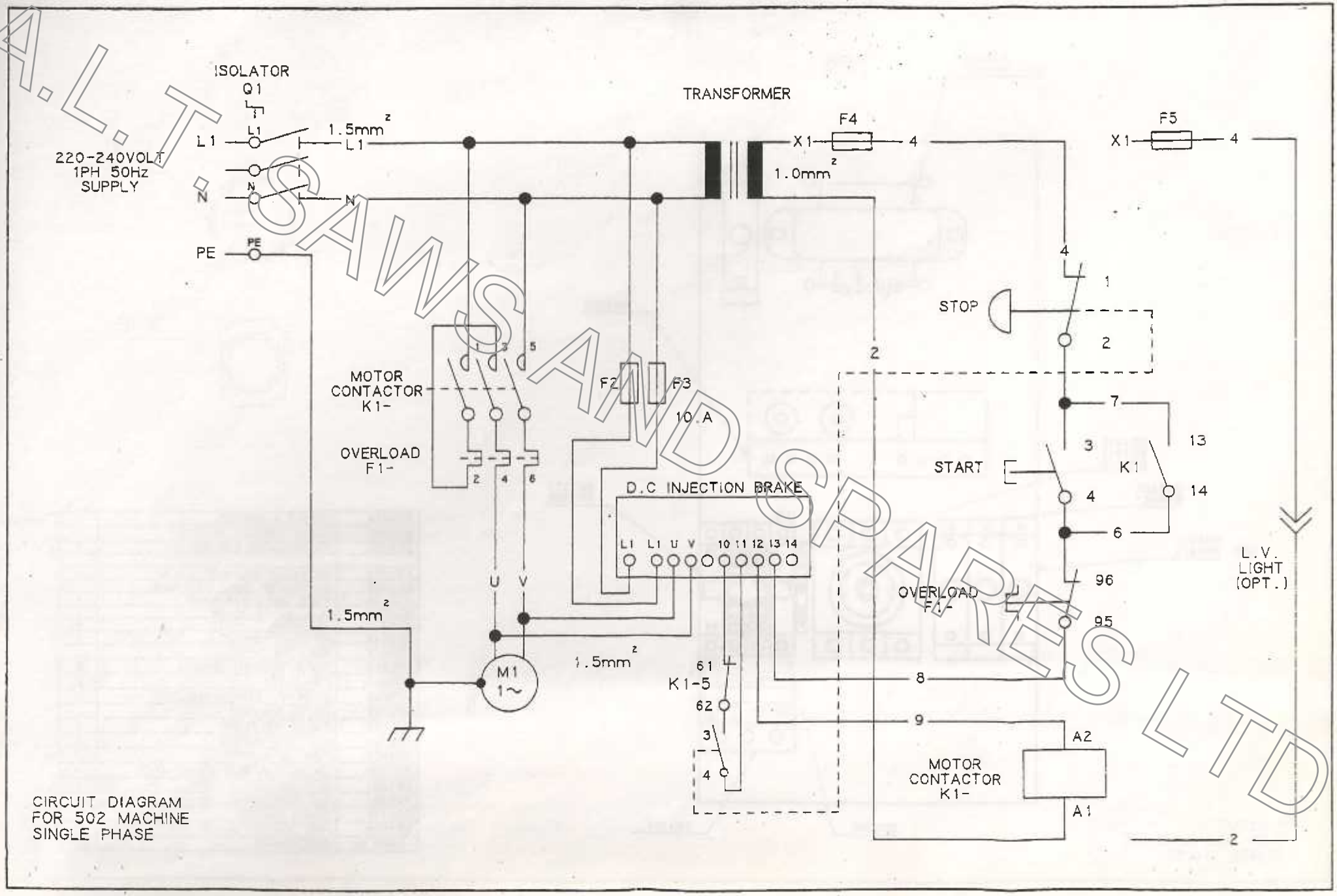
Adjust the table angle, using the spanner provided. Slacken table clamping nut (Section 1065, Item 18) and align the protractor scale to the pointer mounted to the table cradle. Re-tighten the clamping nut when the required angle is set.

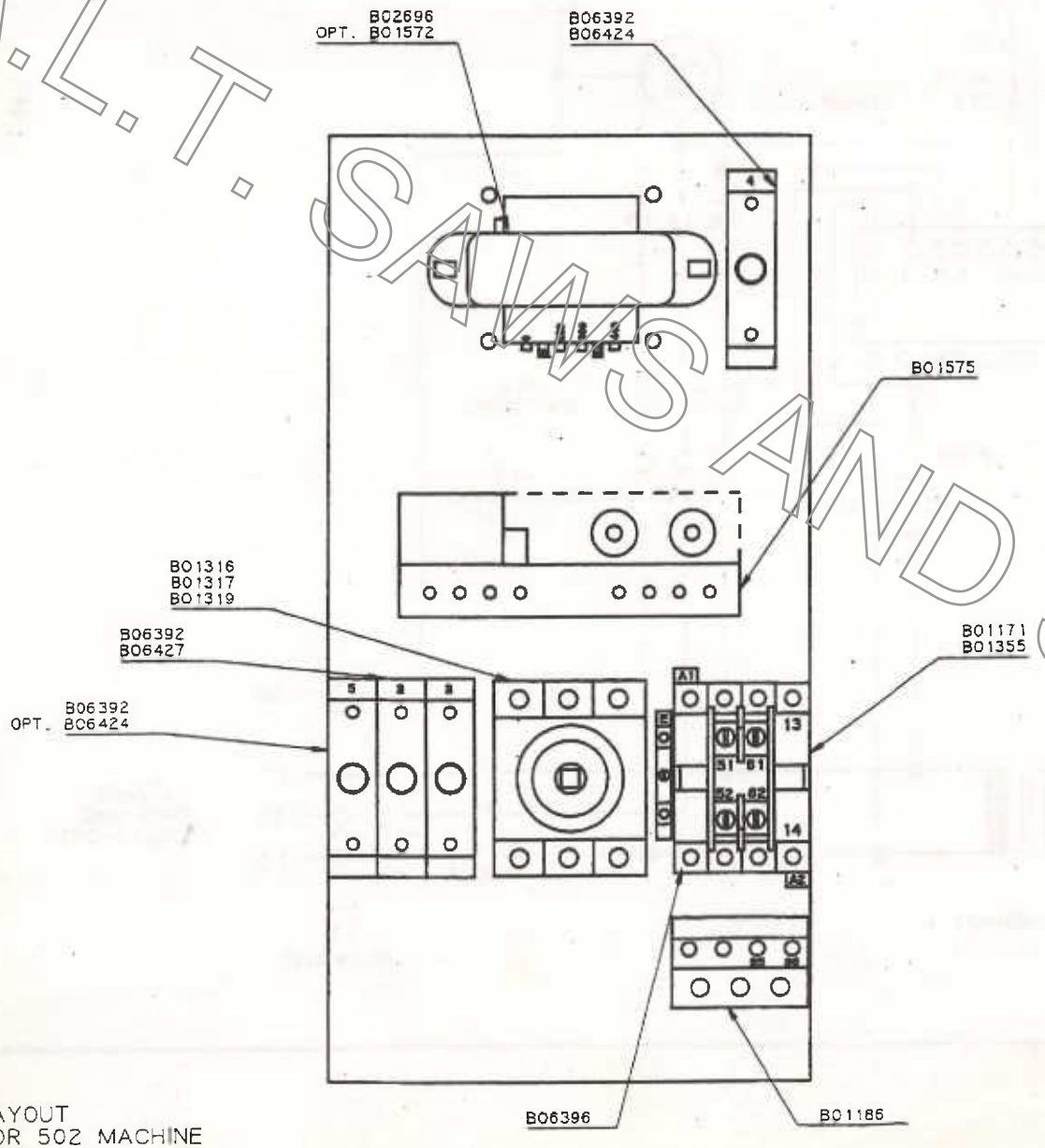


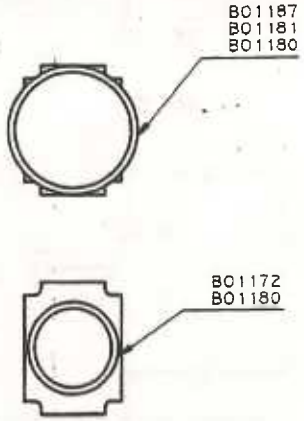


PART No	DESCRIPTION	QTY	
B06424	FUSE 2.0 AMPRES	1	OPTION FOR
B06392	FUSED TERMINAL BLOCKS	1	
B01572	TRANSFORMER 24V 150VA	1	L.V. LIGHT
B01171	AUXILIARY CONTACT 2 N/C	1	
B01355	CONTACTOR 24v 50-60Hz	1	
B01164	OVER LOAD 4.5-6.0AMP	1	
B01569	D.C. BRAKE 10AMP	1	
B01316	ISOLATOR	1	
B01317	ISOLATOR HANDLE	1	
B01319	ISOLATOR SHAFT	1	
B06392	FUSED TERMINAL BLOCKS	3	
B06393	END PLATE	2	
B06394	STANDARD TERMINAL BLOCKS	2	
B06396	EARTH TERMINAL BLOCKS	2	
B06397	EARTH END PLATE	1	
B06424	FUSE 2.0 AMPRES	1	
B06427	FUSE 10 AMPRES	2	
B02696	24 VOLT OUTPUT TRANSFORMER	1	
B01187	STAY-IN STOP BUTTON	1	
B01181	N/C CONTACT BLOCK	1	
B01172	START BUTTON	1	
B01180	N/O CONTACT BLOCK	2	

LAYOUT
FOR 502 MACHINE
THREE PHASE

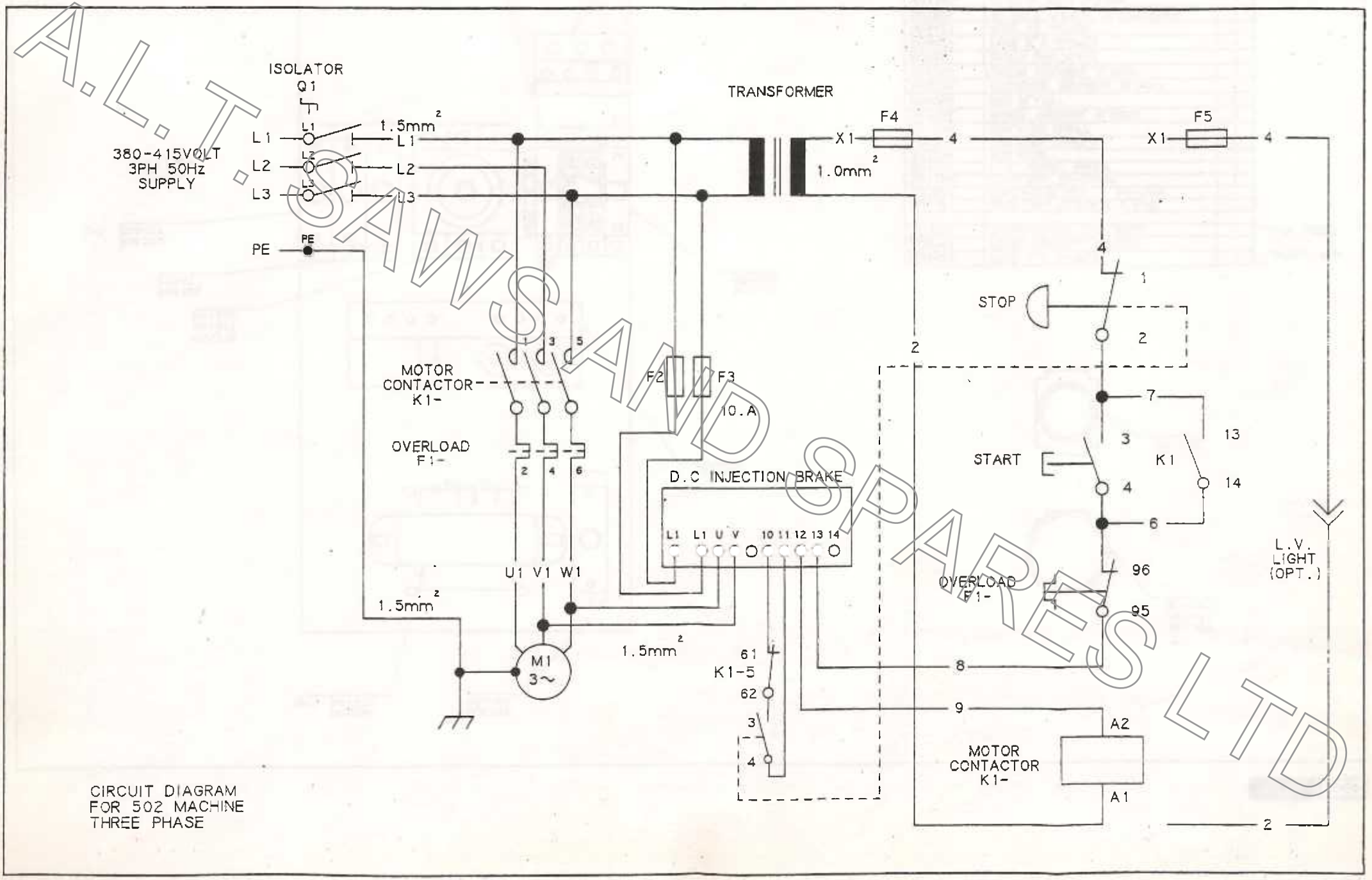






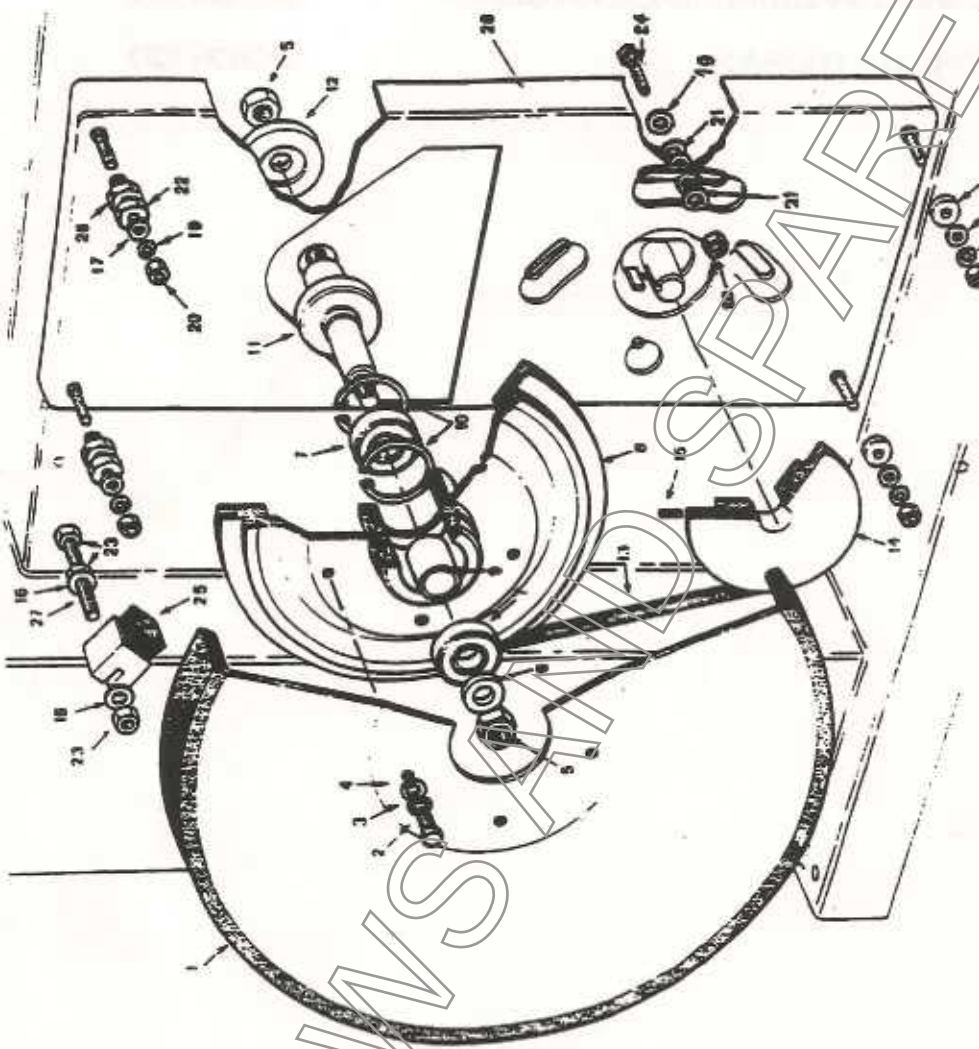
LAYOUT
FOR 502 MACHINE
SINGLE PHASE

PART No	DESCRIPTION	QTY	
B06424	FUSE 2.0 AMPRES	1	OPTION FOR
B06392	FUSED TERMINAL BLOCKS	1	
B01572	TRANSFORMER 24V 150VA	1	L.V. LIGHT
B01171	AUXILIARY CONTACT 2 N/C	1	
B01355	CONTACTOR 24v 50-60Hz	1	
B01190	O/LOAD 10-13AMP	1	
B01575	D.C. BRAKE 10AMP	1	
B01316	ISOLATOR	1	
B01317	ISOLATOR HANDLE	1	
B01319	ISOLATOR SHAFT	1	
B06392	FUSED TERMINAL BLOCKS	3	
B06393	END PLATE	2	
B06394	STANDARD TERMINAL BLOCKS	2	
B06396	EARTH TERMINAL BLOCKS	2	
B06397	EARTH END PLATE	1	
B06424	FUSE 2.0 AMPRES	1	
B06427	FUSE 10 AMPRES	2	
B02696	24 VOLT OUTPUT TRANSFORMER	1	
B01187	STAY-IN STOP BUTTON	1	
B01181	N/C CONTACT BLOCK	1	
B01172	START BUTTON	1	
B01180	N/O CONTACT BLOCK	2	



CIRCUIT DIAGRAM
FOR 502 MACHINE
THREE PHASE

PARTS LISTS



LOWER BANDWHEEL AND
MOTOR PLATFORM ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	No.OFF
1	10023	Bandwheel	1
2	BO5562	Hex. Hd. Screw	5
3	BO5944	Locking Washer	5
4	BO5917	Washer Form A	5
5	BO5777	Self Locking Nut M16	2
6	5216/A	Washer	1
7	BO2006	Radial Ball Bearing	2
8	**9891 - 7968**	Bandwheel Pulley	1
9	7982/A	Spacer	1
10	BO6041	Internal Circlip	2
11	7983	Bandwheel Spindle	1
12	8063	Special Washer	1
13	BO2184	Vee Belt	1
14	**9892 - 7969**	Motor Pulley	1
15	BO5194	Soc Screw	2
16	BO5918	Washer Form C	2
17	BO5919	Washer Form A	4
18	8006	Spacer	2
19	BO5945	Lock Washer	8
20	BO5716	Hex Nut	8
21	BO5920	Washe Form C	16
22	7824	Jacking Bolt	2
23	BO5715	Hex Nut	3
24	BO5574	Hex Hd Screw	4
25	2270	Wheel Brush	1
26	BO5764	Hex Locknut	2
27	5352/B	Stud	1
28	SM2693	Motor Platform	1

TABLE ASSEMBLY - ASSEMBLY NO: SM2806

ITEM	PART NUMBER	DESCRIPTION	No.OFF
1	8601	Fixed table	1
2	2922	Table Insert	1
3	BO5267	C/Sk Screw;	1
4	BO5839	Stud;	2
5	2828	Swing Latch	1
6	BO2547	Handwheel; 6687/52	2
7	BO5920	Washer form C	2
		CRADLE ASSEMBLY DETAILS	
10	BO5615	Hex. Bolt;	1
11	BO5452	Domed Screw	2
12	7874	Clamp	1
13	8156	Trunnion	1
14	BO5094	Cap Screw;	4
15	7748/A	Tilt Cradle	1
16	7875	Collar	1
17	BO2215	Spring 4041100	1
18	7876	Special Nut	1
19	2812	Pointer	1
20	7336	Stop Pin	1
21	BO5753	Locknut	1
22	BO5563	Hex.Screw	1
23	BO5415	Phillips Rec.Screw;	1
24	7872	Protractor Scale	1
25	BO5892	Selock Pin	2
26	6893	Spacer	2
27	BO5944	Washer INT	3
28	SM1703	Guide Support	1
29	BO5917	Washer Form a	3
30	BO5561	Hex Screw	2
31	BO5524	Hex Screw	1
32	4919	Washer	1

GUIDE POST & UPPER BLADE GUARD ASSEMBLIES

SECTION 1068

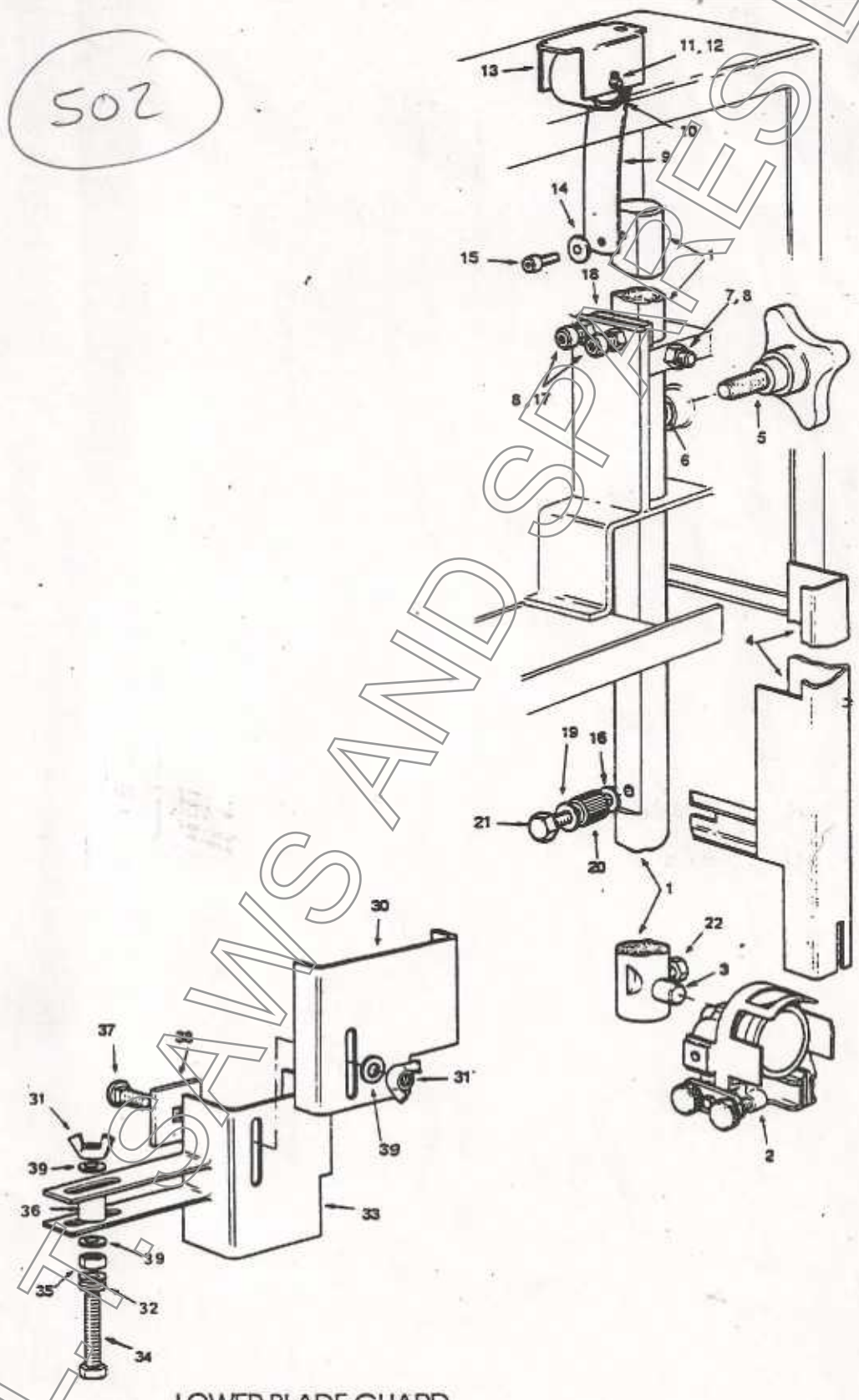
ITEM	PART NUMBER	DESCRIPTION	No.OFF
1	7989	Guide Post	1
2	BO2592	Carter Guide	2
3	7992	Rod Top Guide	1
4	SM1705	Upper Guard Assy	1
5	SM1704	Clamping Handle Assembly	1
6	BO2208	Spring - Flexo	1
7	BO5207	Soc.Set Screw Dog Point	2
8	BO5715	Hex. Nut	4
9	BO2189	Tensator Spring	1
10	4105	Reel	1
11	2379	Reel Spindle	1
12	BO5810	Split Pin	2
13	2378	Reel Bracket	1
14	BO5912	Washer Form C	1
15	BO5046	Soc.Hd. Cap Screw	1
16	BO5918	Washe Form C	1
17	5313	Modified Soc. Hd. Cap Screw	2
18	4859	Guide Block	1
19	BO5917	Washer Form A	3
20	5496	Blade Guard Handle	1
21	BO5567	Hex. Hd. Screw	1
22	BO5561	Hex Hd Screw	1

LOWER BLADE GUARD - ASSEMBLY No.SM886

30	5099	Visor	1
31	BO5785	Wingnut	2
32	BO5917	Washe Form A	2
33	SM885	Lower Guard	1
34	BO5568	Hex. Hd. Screw	1
35	BO5715	Hex. Nut	1
36	5100	Spacer	1
37	BO5620	Coach Bolt	1
38	5096	Clamp Plate	1
39	BO5918	Washe Form C	3

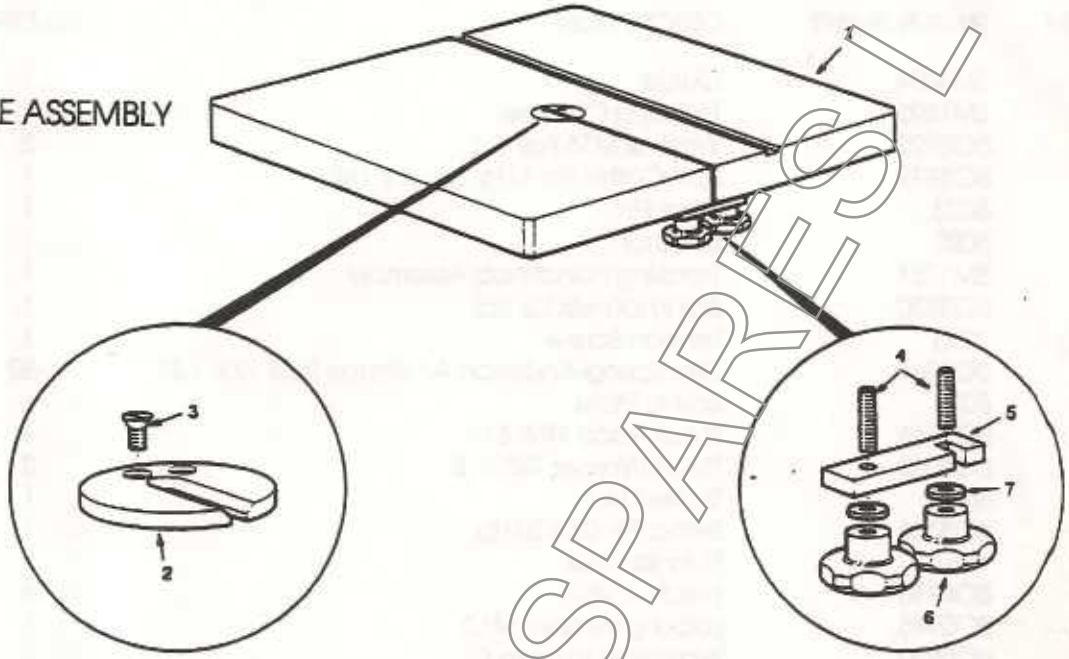
GUIDE POST AND UPPER BLADE GUARD

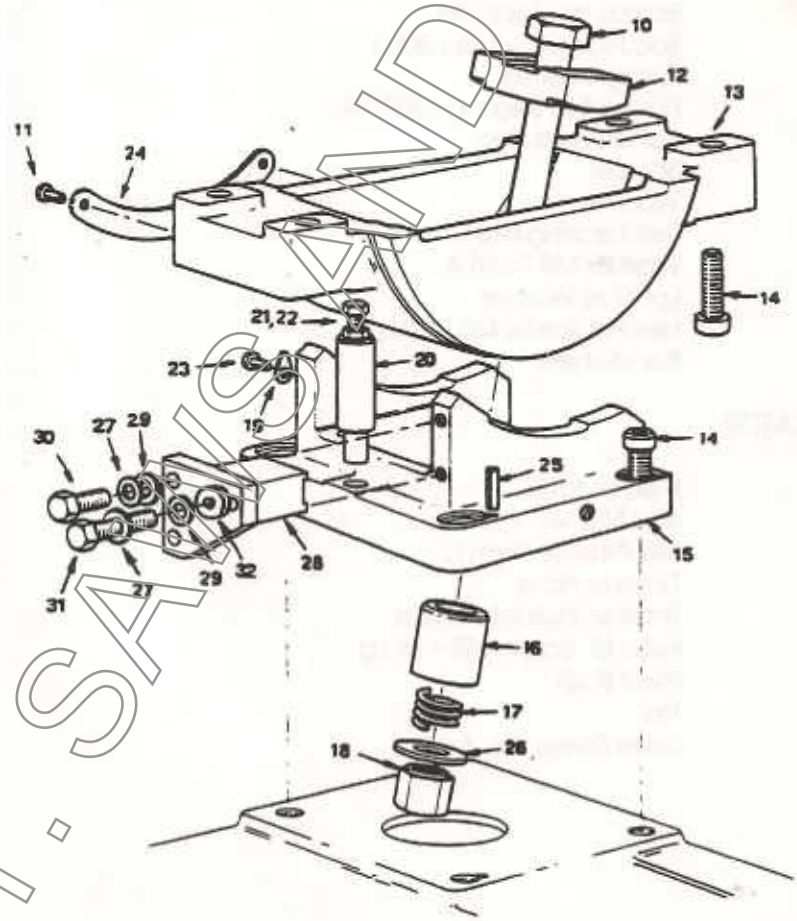
502



LOWER BLADE GUARD

TABLE ASSEMBLY



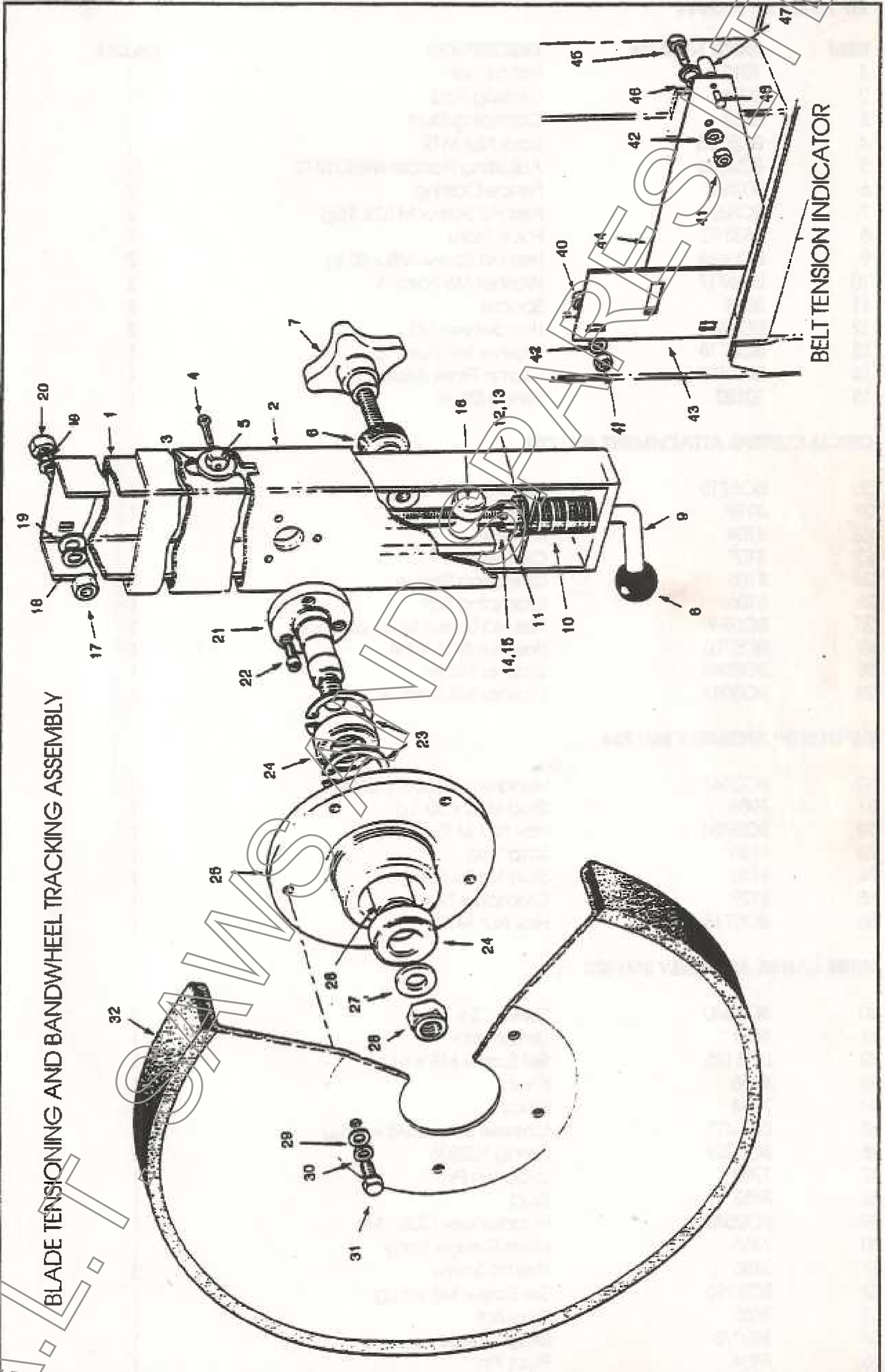


CRADLE ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	No.OFF
1	SM1694	Guide	1
2	SM1695	Tracking Channel	1
3	BO5922	Washer Form A	2
4	BO5812	Split Cotter Pin	1
5	8003	Pivot Pin	1
6	8020	Locknut	1
7	SM1727	Tracking Handknob Assembly	1
8	BO2530	Ball Knob	1
9	7996	Tension Screw	1
10	BO2244	Disc Spring-Anderton	32
11	8002	Spring Plate	1
12	BO2066	Thrust Race	1
13	BO2065	Thrust Washer	2
14	8001	Slotted Nut	1
15	BO5346	Selloc Pin	1
16	7967	Trunnion Nut	1
17	BO5716	Hex.Nut	4
18	BO5945	Locking Washer	8
19	BO5920	Washer Form C	4
20	BO5573	Hex.Hd.Screw	4
21	7981	Bandwheel Spindle	1
22	BO5068	Soc.Hd.Screw	3
23	BO6041	Circlip Internal	2
24	BO2006	Radial Ball Bearing	2
25	7978	Bandwheel Hub	1
26	7982/B	Spacer	1
27	5216/B	Washer	1
28	BO5777	Sellf Locking Nut	1
29	BO5917	Washer Form A	5
30	BO5944	Locking Washer	5
31	BO5562	Hex.Hd.Screw	5
32	7791	Bandwheel	1

BLADE TENSION INDICATOR

40	BO5713	Hex. Nut	4
41	BO57773	Binx Nut	3
42	BO5914	Washer Form C	3
43	7878	Tension Plate	1
44	8079	Tension Indicator Plate	1
45	BO5547	Hex.Hd. Screw	1
46	7839	Pivot Bush	1
47	4906	Pin	1
48	BO5871	Drive Screw	1



RIP FENCE KIT SM2811

ITEM	PARET NUMBER	DESCRIPTION	No.OFF
1	10121	Fence Rail	1
2	2924	Locking Pad	1
3	8069	Clamping Stud	1
4	BO5755	Lock Nut	1
5	BO2555	Adjusting Handle	1
6	8075/B	Fence Casting	1
7	BO5629	Hex Hd Screw	2
8	7338/C	Face Plate	1
9	BO5568	Hex Hd Screw	2
10	BO5717	Washer Form A	2
11	8074	Spacer	2
12	BO2533	Handwheel	2
13	BO5718	Washer Form C	1
14	SM1795	Clamp Plate Assembly	1
15	10120	Fence Block	1

CIRCLE CUTTING ATTACHMENT SM1720

20	BO5715	Hex Nut	1
21	4919	Washer	1
22	8104	Bracket	1
23	8107	Centre Rod	1
24	8105	Clamping Sleeve	1
25	8106	Clamping Bolt	1
26	BO5519	Hex Hd Screw	1
27	BO5703	Hex Nut	1
28	BO5944	Washer	1
29	BO5917	Washer	1

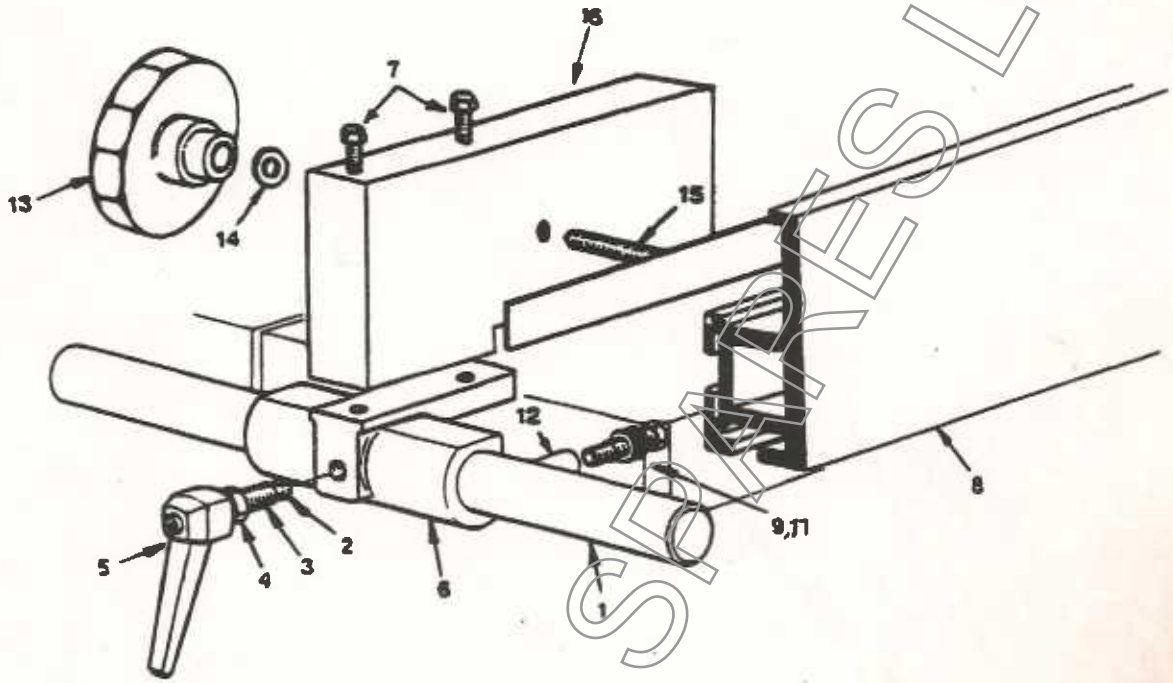
DEPTH STOP ASSEMBLY SM1734

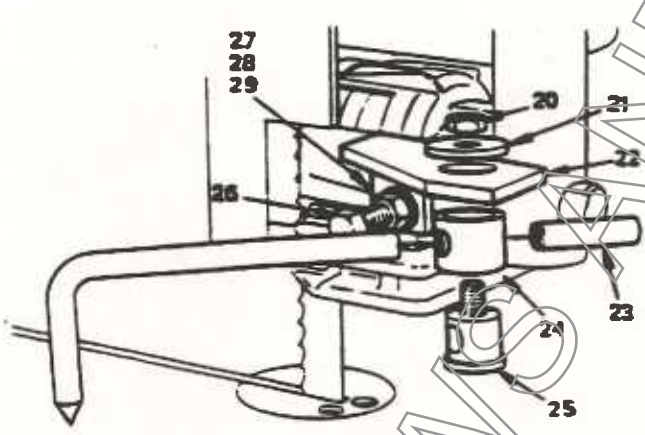
30	BO2547	Handwheel	2
31	7988	Stud	1
32	BO5754	Hex Nut	1
33	8130	Stop Rod	1
34	8145	Stud	1
35	8129	Clamping Block	1
36	BO5716	Hex Nut	1

MITRE GAUGE ASSEMBLY SM1522

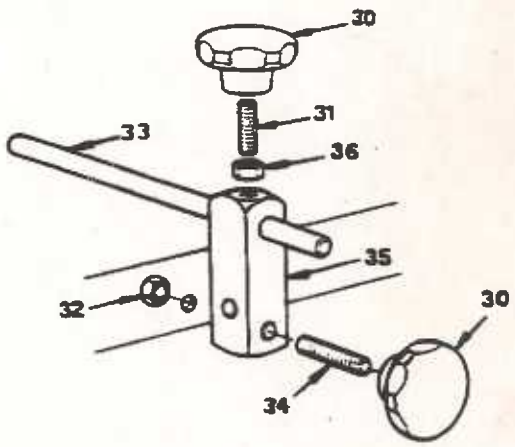
40	BO5340	Set-Loc	2
41	7451	Tenon strip	1
42	BO5185	Set Screw	1
43	8068	Knob	1
44	7794	Block	1
45	BO5473	Cheese Screw	2
46	BO2229	Spring	1
47	7793	Location Pin	1
48	7453	Stud	1
49	BO2542	Handwheel	1
50	7436	Mitre Gauge Body	1
51	7486	Thumb Screw	3
52	BO5193	Set Screw	1
53	7485	Stop Bar	1
54	1507/B	Bridge Piece	1
55	7454	Pivot Pin	1
56	7484	Clamp Bar	1

RIP FENCE KIT SM2811

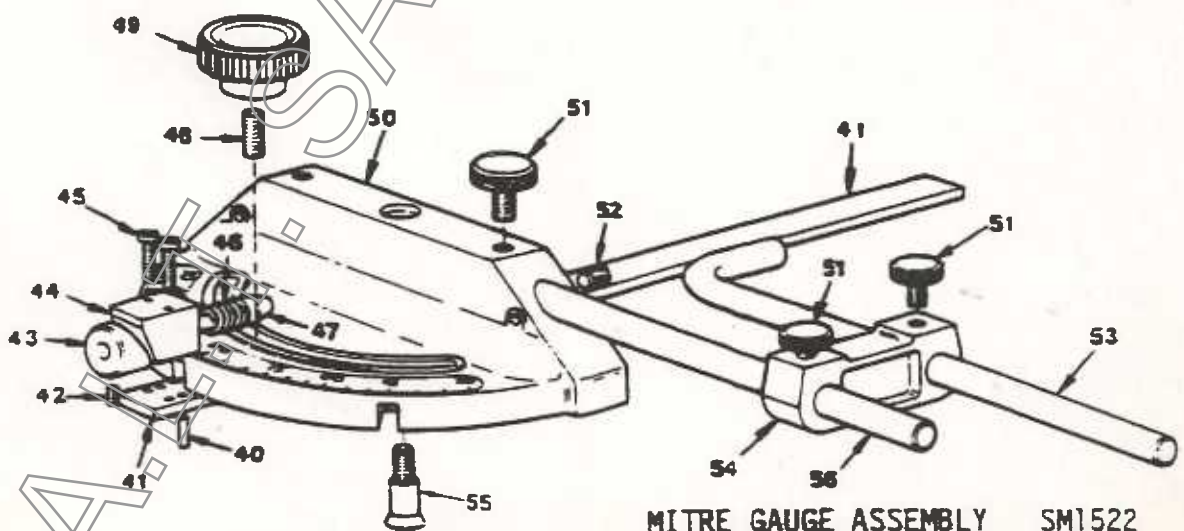




CIRCLE CUTTING ATTACHMENT SM1720



DEPTH STOP ASSEMBLY SM1734



MITRE GAUGE ASSEMBLY SM1522