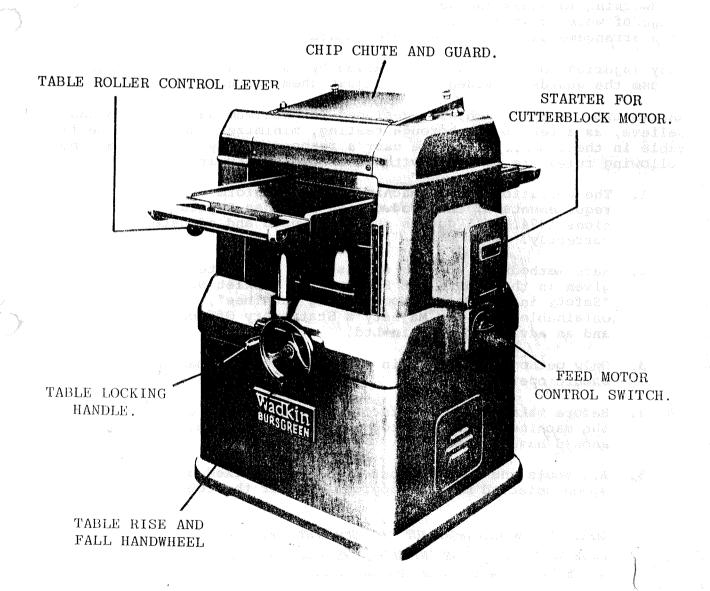
Modifications are made to these books from time to time and it is important therefore that only the book sent with the machine should be used as a working manual

PLEASE INSERT SERIAL NUMBER OF MACHINE

INSTRUCTION MANUAL FOR

# 12" BAO

### Roller Feed Planer & Thicknesser



FOR REPLACEMENT PARTS, TOOLS & ACCESSORIES CONTACT BRIAN STACEY

Telephone: Fence Houses 2385 (5 lines) Telex: 53441 (Bursgreen Duram)

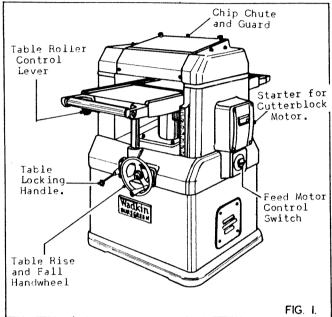
### BURSGREEN (DURHAM) LIMITED APPROVED LUBRICANTS

Application	Approved Lubricant								
	Castrol	B. P.	Shell	Esso	Texaco/ Caltex	Wadkin			
Worm Boxes	Alpha 617	Energol CS425	Vitrea 75	Pen-O-Led E. P.3	Regal Oil J	L.2.			
General Lubrication	Magna ED	Energol HP.20	Vitrea 33	Esstic 50	Ursa Oil P. 20	L.4.			
Pneumatic Lubricators	Hyspin AWS 32	Energol HL 65	Tellus 27	Nuto H 44	Rando Oil HDA				
Grease	Spheerol AP.3	Energrease LS.3	Alvania 3	Beacon 3 Starfak Premium 3	Regal	L.6.			
Brake Cables	Brake cable grease	Energrease L21M	Alvania 3	Multi-purpose grease H		A. A. Ber			

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### SPECIFICATION

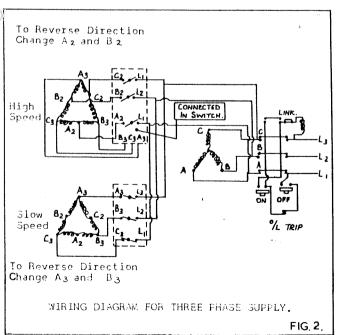
Length of thicknessing table		• • •		28 "	710mm
<ul> <li>Overall length including outer rol</li> </ul>	lers			35≥"	900mm
Capacit of machine				12¼"wide x 7" deep	310mm x 180mm
Cutting circle diameter of cutters	lock			4"	100mm
Speed of cutterblock Number of cutters:		• • •	• • •	5,000 rpm	5,000 rpm
Standard				2	2
Optional extra				3	3
H.P. of cutterblock motor				3	3
S n speed of cutterblock motor:					
50 cycles				3,000 rpm	3,000 rpm
60 cycles		• • •		3,600 rpm	3,600 rpm
Diameter of feed rollers Feed speeds per minute:	• • • •		• • •	2"	50mm
				14.4.4B	
3 phase		• • •		15 & 30ft.	4.5 & 9m
l phase				22f t.	6.7m
Floor space				35½" x 25½"	900mm x 650mm
Net weight		• • •	• • •	620 lb.	275 kg.



INSTALLATION

Remove protective coating from bright parts by applying a cloth soaked in paraffin, turpentine or other solvent.

When machine is cased for export, the outer table rollers and rise and fall handwheel are removed and packed in the parcel. Remove and re-assemble as shown in Fig. 1.



WIRING DETAILS

The motor and control gear have been wired in before despatch. All that is required is to connect the power supply to the starter.

- ts to note when connecting to power supply: Check the voltage, phase and frequency correspond to those on the motor plate, also the correct coils and heaters are fitted to the starter.
- It is important that the correct cable is used

- It is important that the correct cable is used to give the correct voltage to the starter as running on low voltage will damage the motor check the main line fuses are of the correct capacity. See list below.

  Connect the line leads to the appropriate terminals. See Fig. 2 for three phase supply. Check all connections are sound.

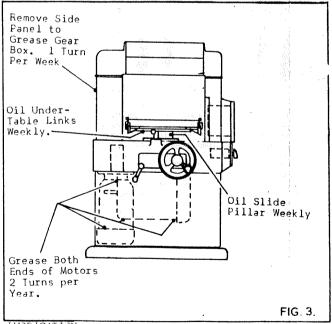
  Check the rotation of both motors for the correct direction. If these are incorrect reverse any two of the line lead connections. Single phase supply refer to booklet supplied.

For single phase supply refer to booklet supplied with starter for wiring details.

Voltage Phase. S.W.G. Tinned Amps

·orcode	riiose.	Copper Wire	<u>Emps</u>
550/400/440	3	23	20
380/420/340/380	3	22	24
220	3	21	29
200 - 250	1	17	65

Fuse capacity should not exceed three times full load current of machine.



LUBRICATION

It is advisable to keep all bright parts
covered with a thin film of oil to prevent rusting.

TYPE OF OIL RECOMMENDED FOWER EM. 125
TYPE OF GREASE RECOMMENDED SHELL ALV.NIA3.

All adjustments and alignments listed below have been Arr adjustments and ariginments inseed below have been carefully set and checked and the whole machine thoroughly tested before despatch from the works. During the first few weeks of operation and at regular intervals afterwards certain items such as belt tension and chain tension should be checked carefully. When adjustments are necessary proceed in accordance with the relative instructions given.

The anti-friction table rollers or bed rollers revolve on sealed for life ball bearings which require no lubrication. On machines prior to serial no. 63457 rollers were individually adjusted by set screws under the bearing blocks and should be adjusted to suit the relevant working conditions. On all machines after this number, the rollers are automatically adjusted in relation to the table surface by a single operating lever at the infeed end of the table.

A calibrated scale (O - 3) above the lever indicates the relevant positions, a guide to which is as follows:

Rollers are level with table surface and only very fine cuts on selected pre-machined timber are generally possible on this position. Feed permitting, however, very accurate step free planing can be carried out in this position. Positions 1 and 2.

These positions are the normal ones for general use, combining good feeding with first class results.

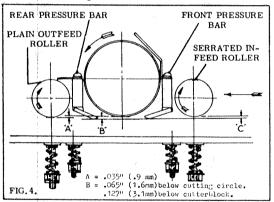
Position 3 maximum

This is for use with wet, twisted or roughly sawn material where feeding is most important feature.

In all cases the lowest position consistent with good and regular feeding should be used as this will give the best possible results. Should the table rollers be removed for any reason care must be taken to replace them exactly as before

wise the setting will be disturbed.

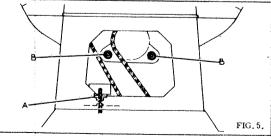
must be emphasised that a really good surface finish from a thicknessing machine is only possible when the face of the timber resting on the machine table is flat and has a reasonable finish. Wherever practicable this face should be pre-machined on an overhand jointer or surfacer to remove twist and other irregularities.



### FEED ROLLER AND PRESSURE BAR SETTINGS

These are pre-set at works in accordance with Fig. 4 and tical adjustment relative to the cutterblock is neither possible nor necessary provided the cutters are correctly set with the special setting gauge supplied with each machine. Should replacement feed rollers or pressure bars be fitted at any time the settings should be very carefully checked with

Some slight advantage in finish or feeding may on occasions be obtained by increasing or decreasing the tension of the pressure bar or feed roller springs. The springs should never be compressed to a point where the feed rollers and pressure bars cannot lift sufficient to allow the maximum cut to be taken.



BELT TENSION

The culterblock drive is by 2 Vee belts from a 3 HP motor.

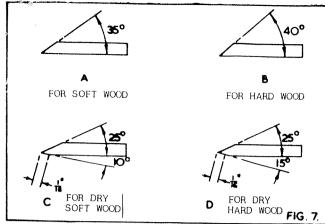
Tension is effected to these belts by an adjustable jockey pulley. To adjust, remove sheet steel panel from drive side of the machine and turn the knurled nut "A" in Fig. 5 in the direction indicated until the required tension is reached.

Replace panel before operating machine.

### FEED CHAIN TENSION

PEED CHAIN TENSION
Drive to feed rollers is by roller chain from a worm
gearbox directly coupled to the feed motor. Feed motor on 3
phase machines is 2 speed giving feed speeds of 15 and 3O
ft/min (4.5 and 9 m/min) and on single phase, single speed
giving a feed speed of 22 ft/min (6.7 m/min) only.
The feed chain must be run with sufficient slack to allow
the front or serrated feed roller to freely lift \(\frac{1}{4}\tilde{1}\) (6 m/m)
from next position. To adjust program delication and

from rest position. To adjust, remove drive side panel, loosen the two nuts "B" in Fig. 5 and move idler sprocket as required. Check feed roller lift as above, tighten nuts and replace panel



CUTTER CARE

The cutters supplied are 12¼"long (310mm) x 1¼" wide (32 mm) x ½" thick (3mm) in balanced sets. They should be kept in balanced sets by ensuring that the cutters have equal dimensions after grinding and that the cutting edge is straight and parallel to the back edge.

parallel to the back edge.

For general work knife angles for soft and hard woods are recommended as in Fig. 7 (a) and (b).

When a very fine finish is required in dry soft and hard woods a slight front bevel is given as in Fig. 7 (c) and (d). For wet or green timber the cutting bevel may be decreased five degrees, but the front bevel should not be given.

Keep the cutters sharp when in position by using a fine grade oil stone dipped in paraffin. Allow the stone to rest lightly and flat on the bevel and pass over the cutter with a rotating action a few times. Give about two stokes on the full length of each knife on the face side to remove all burrs from the cutting edge.

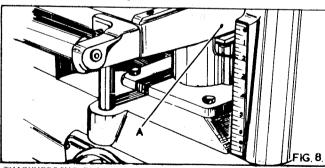
Do not allow a heel greater than 1/32" wide on

Do not allow a heel greater than 1/32" wide on the bevel before removing and regrinding. When the heel becomes too wide the knives may heat up or have a hammering effect on the wood and more than normal power will be required to run the cutterblock.

SETTING THICKNESSING TABLE PARALLEL TO CUTTERBLOCK
The machine table is accurately set parallel to cutterblock before despatch but should it be disturbed for any reason it must be carefully checked and made parallel to the cutterblock, if necessary, by the following procedure.

 Feed a short length of timber approximately 2" square (50 mm) x 18" long (460 mm) through the machine to one side of the thicknessing table.
 Without adjustment to the height of the table feed the timber through the machine again on the opposite side of the table to that in item 1.
 If a cut is taken or it does not touch the wood adjust the fine thread adjusters on the underside of the table to suit and when set tighten all screws. all screws.

As the knife setting device sets the knives parallel to the cutterblock it is vitally important that the table is set parallel to the knives for accurate thicknessing.



THICKNESSING RULE

The pointer on the machine table is pre-set The pointer on the machine table is pre-set before despatch. Should it be disturbed, feed a piece of timber through the machine and measure the thickness accurately. Check that the reading given by the pointer corresponds to the thickness of timber machined. Should adjustment be necessary slacken the screw "A" in Fig. 8 and set pointer to the correct thickness. GENERAL HINTS

1. When thicknessing long lengths of timber always support after the machine table, otherwise a step will appear on either or both ends.

See fig. 9 for suggested support which can be easily made.

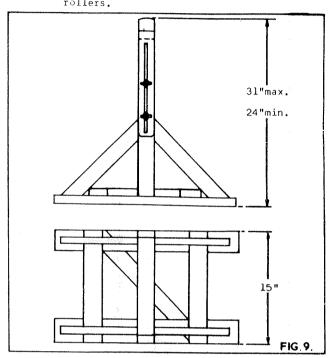
2. When a smooth finish is-required use the slow feed speed. For roughing when the finish is not important use the fast feed speed.

3. For the best results always feed the timber to

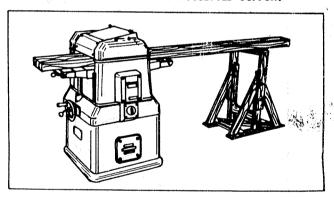
3. For the cest results always reed the timber to cut with the grain.4. Should the timber stick when thicknessing two probable causes are given below:
 (a) The table rollers are set too low in the

table.

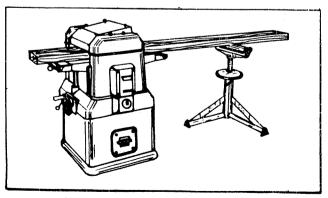
(b) The spring pressure is too great on the pressure bars and too little on the feed



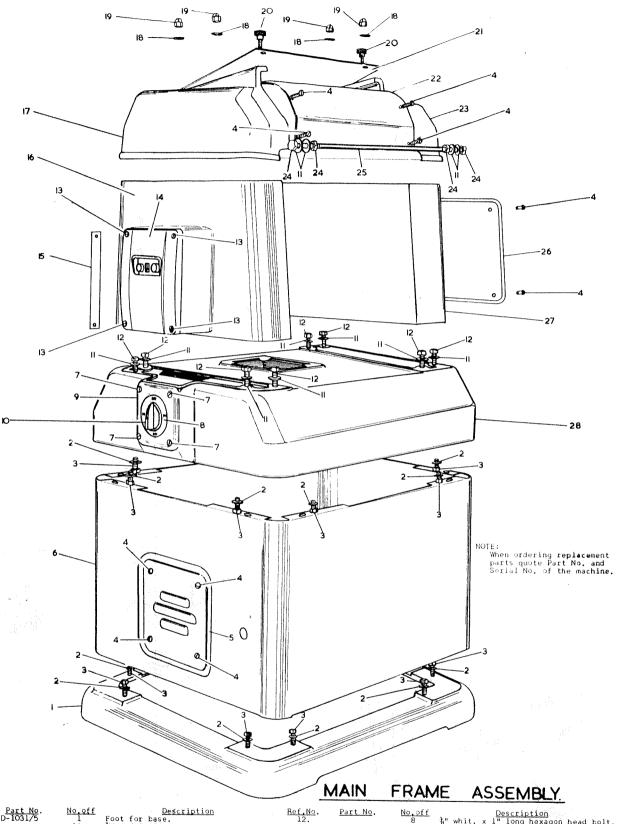
OVERALL DIMENSIONS OF SUGGESTED SUPPORT



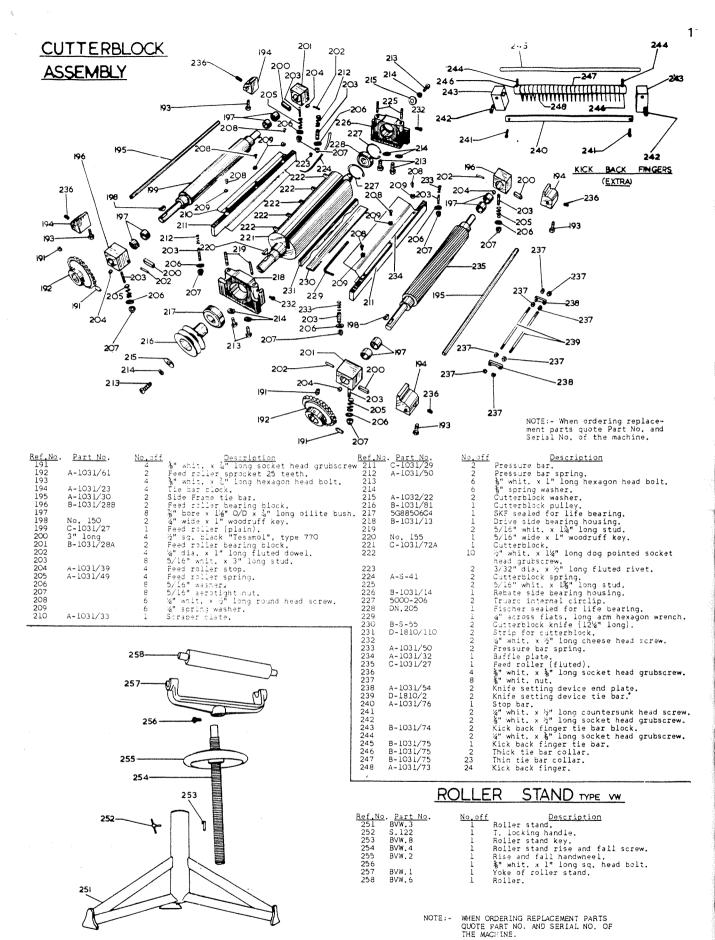
SKETCH SHOWING WOOD SUPPORT IN POSITION

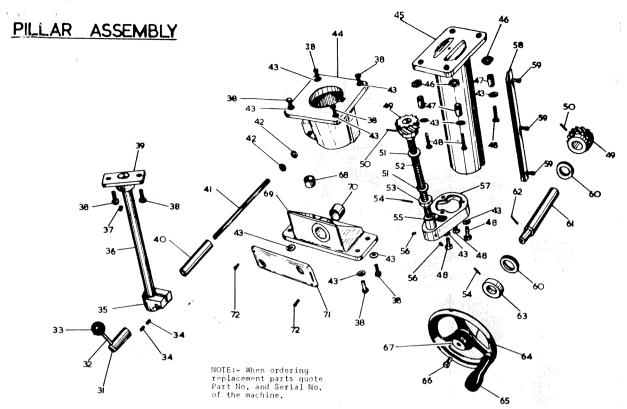


SKETCH SHOWING WADKIN/BURSGREEN ROLLER STAND TYPE VW IN POSITION.

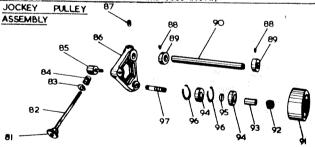


Ref. No.	Part No.	No.off	Description	Ref.No.	Part No.	No. of f	Description
1	D-1031/5	1	Foot for base.	12.		8	" whit, x l" long hexagon head bolt.
2		16	者" cadmium washer.	13.		4	"whit. x l" long cheese head screw.
3.		16	å" whit. x ¾" long cadmium hexagon	14.	84ADS/FO	1	MEM starter.
			head bolt.	- •		•	NOTE: I phase and 60 cycle supplies
4.		22	4" whit, x %" long round head screw.				MOTE: I phase and ou cycle supplies
5.	B-1031/53	~~	Panel for base.				have separate push button controls
6.	E-1031/7	1	Base (Standard).	16	D 1001 /00		for full details refer to manufacturer.
٥.		,		ļ5.	B-1031/25	1	Thicknessing table rule (English).
-	C-1031/97	1	Base (Single phase).		B-1031/65	1	Thicknessing table rule (Metric).
7.		4	4" whit. x 2" long countersunk screw.	16.	B-1031/3	1	Rebate side frame.
8.	B-1031/67	1	Escutcheon plate for rotary switch	17.	D-1031/22	1	Rebate side quard.
			(Standard).	18.	,	4	5/16" washer.
	A-1031/93	1	Escutcheon plate for rotary switch	19.		4	5/16".whit. domed nut.
	, , ,	-	(Single phase).	2ó.	D-1797/62	~	5/10 Will, domed nut,
9.	B-1031/16	1				2	Knurled knob for chip chute.
10.		1	Faceplate for rotary switch.	21.	D-1031/31	1	Front chip chute.
10.	SR.1310BG74	1	Santon 2 speed rotary switch (3phase,		D-1031/31	1	Back chip chute.
			50 cycles).	23.	D-1031/21	1	Drive side guard,
	SR.123	1	Santon rotary switch (lphase, 50	24.		8	者" whit, nut.
			cycles).	25.	A-1031/34	ž	Guard tie bar.
	SR,1316AR65	1	Santon 2 speed rotary switch (3phase,		B-1031/52	ī	
	-11, 1010111100	•				÷	Drive side frame panel.
1.1		17				1	
11.		10	∄" wasner.	28,	E-1031/1	1	Main frame.
11.		16	60 cycles).	27. 28.	D-1031/2 E-1031/1	1	Drive side frame panel. Drive side frame. Main frame.

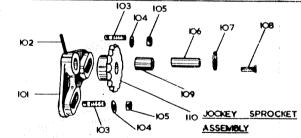




Ref.No.	<u>Part No.</u> A-1031/84	No.off	<u>Description</u> Undertable support locking handle.	Ref.No.	Part No.	No.off	Description
32.	A-1002/90A	î	Table rise and fall locking handle.	J4.		2	3/16" dia. x 1½" long groverlok
33.	Patt. No.30	1	版" dia. plastic ball, 和" whit.	55.	A-1031/58	1	spring dowel. Nut for thicknessing table rise
34.		2	4" whit. x 2" long socket head	55.	A-1031/30	1	and fall.
			grubscrew.	56.		2	5/16" whit. x ½" long socket head
35.	A-1031/83	1	Úndertable support bar clamp.			-	grubscrew.
36.	A-1031/87	1	Undertable support bar.	57.	B-1031/15	1	Pillar end cap.
37.		1	å" whit. x å" long sorket head	58	A-1031/44	î.	Thicknessing table pillar key.
			grubscrew.	59.		3	5/16" whit. x %" long socket head
38.		10	ቼ" whit. x l" long hexagon head			-	cap screw.
			bolt.	60.	EW.1	2	Hoffmann thrust race.
39.	A-1031/89	1	Undertable support bar bracket.	61.	A-1031/41	ī	Thicknessing table rise and fall
40.	A-1031/86	1	Undertable support locking bush.				shaft.
41.	A-1031/85	1	Undertable support locking stud.	62.		1	3/16" dia. x 1%" long groverlok
42.		2	ろ" whit. locknut.			-	spring dowel.
43.		15	h" washer.	63.	A-1031/114	1	Collar for rise and fall shaft.
44.	D-1031/10	1	Pillar slide bracket.	64.	B-1026/8	ī	Rise and fall handwheel.
45.	D-1031/8	1	Pillar.	65.	Patt. No.4	1	3" plastic handle.
46.	A-1031/51	4	້າ" simplex locknut.	66.		ĩ	4" whit. x %" long hexagon head
47.	A-1031/95	4	Thicknessing table adjusting screw.			-	bolt.
48.		7	a" whit, x 12" long hexagon head	67.	A-1031/70	1	Washer for handwheel.
			bolt.	68.		î	a" bore x 1" O/D x a" long oilite
49.	CK,187	2	Spiral gear for rise and fall.	• • •		•	bush.
50.		2	3/16" dia. x 2" long groverlok	69.	C-1031/11	1	Bracket for rise and fall
			spring dowel,	٠,٠	, 1001/11		mechanism.
51.	EW. %	2	Hoffmann thrust race.	70.		1	
52.	B-1031/42	1	Thicknessing table rise and fall	,		r	1" bore x 14" O/D x 1" long silite
			screw.	71.	B-1031/17		bush.
53.	A-1031/94	1	Collar for thicknessing table rise	72.	0-1001/17	2	Faceplate for rise and fall handle.
		-	and fall screw.	14.		2	¼" whit. x ¼" long round head screw.
IOCKE	V ====================================	97					

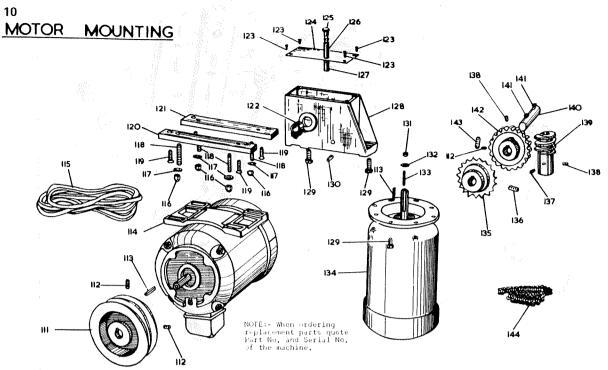


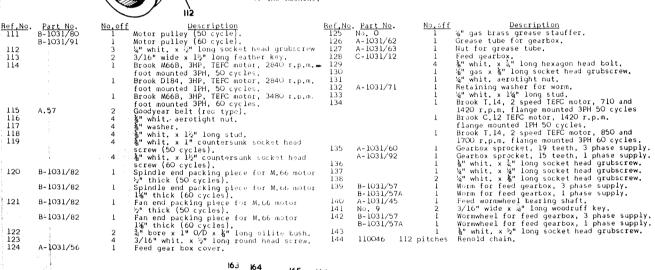
			91
Ref.No. 81.	Part No. A-1002/87	No. off	Description
82.	A-1031/46	÷	Jockey pulley adjusting nut.
	N=1031/46	1	Belt tension screw.
83.		1	者" washer.
84.	A-1024/21	1	Spring for belt tensioner.
85.	A-1031/40	1	Belt tensioner pivot nut.
86.	C-1031/9	1	Lever for belt tensioner.
87.	, ,	î	We are a left least oner.
٠,٠		1	'6" gas x ½" long socket head
0.0		_	grubscrew.
88.		2	名" whit, x 2" long socket head
			grubscrew.
89.	A-1031/69	2	Jockey pulley pivot shaft collar.
90.	A-1031/47	1	Pivot pin for belt tension lever.
91.	A-1031/20	ī	Belt tension pulley.
92.	1001/20	ī	bert tension purity.
	4 1001 /40	1	½" whit. aerotight nut.
93.	A-1031/48	1	Bearing bush for belt tension
			pulley.
94.	6203.F.	2	Fischer single seal bearings.
95.	A-1031/78	1	Jockey pulley distance piece.
96.	5008-156	2	"Truarc" 40 m/m internal circlip.
97.		2 1	5" whit. x 25" long stud.
			2 white x 22" long stud.

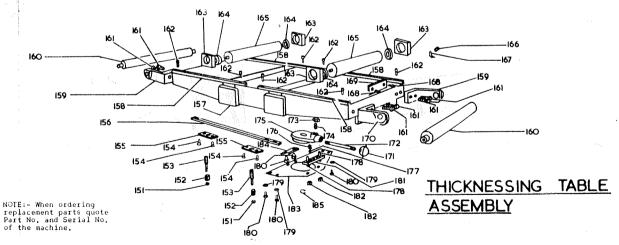


Ref.No. 101. 102.	Part No. C-1031/6	No.off 1 1	Description Bracket for jockey sprocket. 3/16" dia. x 1½" long groverlok
103. 104. 105. 106. 107.	A-1031/35 A-1027/86	2 . 2 1 1	spring dowel.  ## whit. x 1½" long stud.  # washer.  # whit. nut.  Jockey sprocket bearing pin.  Countersunk washer for jockey
108.		1	sprocket. 5/16" whit. x ¼" long countersunk
109.		1	head screw. 4" bore x %" O/D x 1%" long oilite
110.	A-1031/59	1	Jockey sprocket (19 teeth).

NOTE:- WHEN ORDERING REPLACEMENT PARTS QUOTE PART NO. AND SERIAL NO. OF THE MACHINE.







Ref No.	. Part No.	No.off	Description		. Part No.	No off	Description
151		4	5/16" whit. locknut.	169	A-1031/117	1	Undertable roller adjustment plate.
152	A-1031/115	4	Pinion.	170	B-1031/24	2	Thicknessing table roller bracket (Lt.Hd)
	A-1031/116	4	Adjusting screw for pinion,	171		1	l" dia. plastic ball, %" whit.
154		8	"whit. x ½" long countersunk head screw	172	A-1031/103	1	Undertable roller adjustment handle.
155	A-1031/101	4	Rack trapping plate.	173		1	者" whit. locknut.
156	B-1031/100	2	Adjustment rack.	174		1	å" whit. x ½" long socket head grubscrew.
	D-1031/4	ī	Thicknessing table.	175	B~1031/99	1	Undertable roller adjustment cam.
	A-1031/36	4	Thicknessing table strip,	176	A-1031/118	1	Undertable roller adjustment spring.
159	B-1031/24	2	Thicknessing table roller bracket (Rt.Hd)	177		1	5/16" dia. steel ball.
	B-1031/68	2	Outer table roller.	178	A-1031/106	2	Stop screw for cam.
161	A-1031/110	8	Outer table roller bracket securing screw	179		4	4" washer.
162	1001/110	Ř	&" whit, x 2" long cheese head screw.	180		6	¼" whit. x ½" long hexagon head bolt.
163	A-1031/38	4	Undertable roller bearing block,	181	A-1031/104	1	Cam outer bearing plate.
	DN 200	4	Fischer sealed for life bearing.	182		2	¼" whit, nut.
165	B-1031/37	2	Undertable roller.	183	C-1031/98	1	Undertable adjusting bracket.
166	D-1031/3/		%" whit. x %" long socket head grubscrew	184	A-1031/105	ï	Cam inner bearing plate.
	. 1001/40	1	7 white x 2 ind socket head glubstrew	185	/( 1001/ 100	ī	l" external circlip.
167	A-1031/43	1	Thicknessing table rise and fall pointer,	100			
1.68		2	省" dia. x 労" long fluted rivets.				

## 12" BAO

# CUTTER SETTING

during up. Should gange рe wedge, into which is fitted knife finger tight whilst This allows both hands to b of cutter setting in result slip back tightened knife is held in the cutterblock by a wedge, into whice ing loaded balls, these balls hold the knife finger tigning loaded balls, these balls hold the knife finger tigning or move whilst the wedge screws are being tightene other method of cutter setting be employed the amount jection must correspond exactly with that given by the olied and failure to observe this instruction will resu projection must correspond supplied and failure to obs finish and poor setting or move spring any

setting "BURSGREEN" knife re-set with the To remove the knives and regauge, proceed as follows:-

- chij and guard machine. securing the the of guard clear and washers the complete domed nuts four and lift Remove the chute
- ဖ FIG. approximately the position shown in remove carefully cutterblock to approximately the n the 5-M12 hexagon head screws, from cutterblock. and loosen the the Turn 0

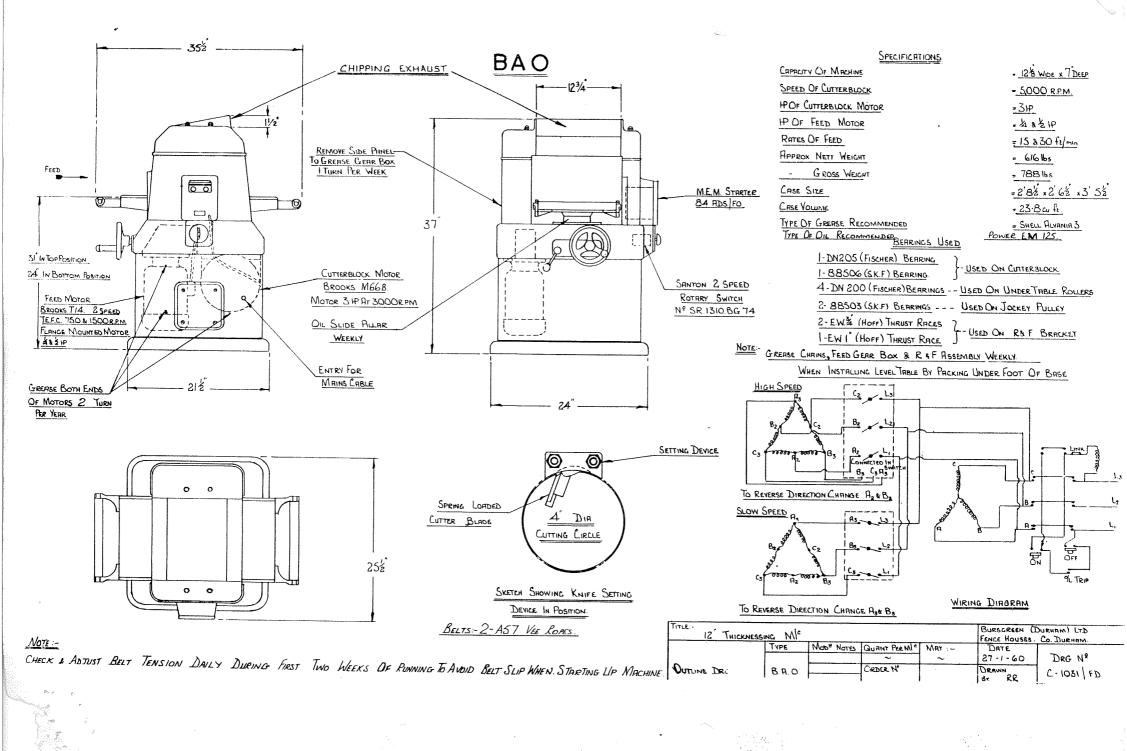
ground are inding it is most important that knives and balanced in pairs or sets. grinding dead straight

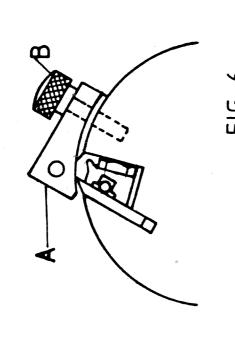
are moderat ont re-grinding service is available, charges are eprompt. To avail yourself with this service, BURSGREEN (DURHAM), FENCE HOUSES, TYNE & WEAR. An efficient re-grinding service is and service ţ

- approximate in between wedge slightly. the cutterblock should be in the FIG.6. Place knife in between we forward drawn blade To re-set the knives the shown in cutterblock with position as က
  - П shown to as device 'A' FIG.6, the knife setting device Carefully secure cutterblock with 4
- device screws pe setting ws 'B' FIG.6, knife will is reached when knurled touches knife screws 'B' just setting which ion and knife locking in position these to correct turning locked lowered Whilst Ŋ
- screws hexagon hexagon head the 5-M12 he then securely lock the 5-M12 tighten When the knife is correctly set, remove knife setting device, then screws head 9
- and repeat is in position set peen the next knife the knives have until procedure until all Rotate cutterblock ~

 $\infty$ 

ar the locking When changing knives it is advisable to check that all the local screws are adequately lubricated and quite free. Periodically examine for damage or cracks. Any doubtful screws should be replaced and all screws well lubricated with "Molyslip" or sim "Molyslip" replaced and all screw





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