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

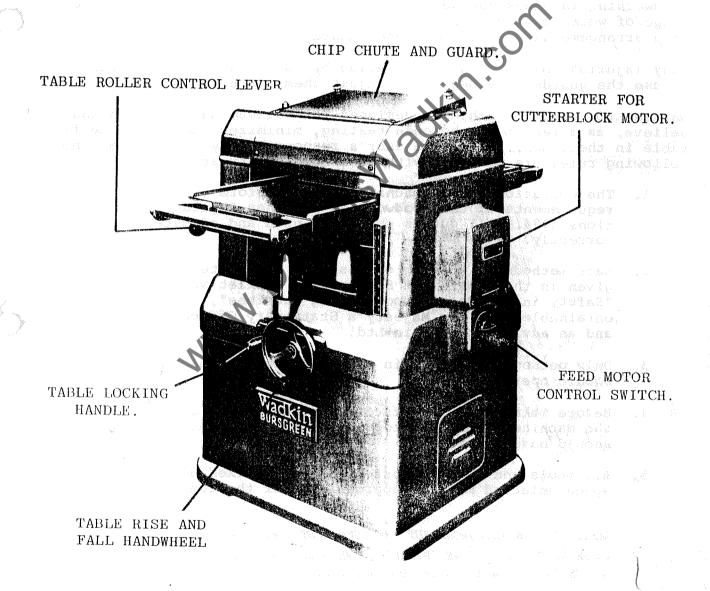
PLEASE INSERT SERIAL NUMBER OF MACHINE

INSTRUCTION MANUAL FOR

# 12" BAO

## DO NUT REMOVE

### Roller Feed Planer & Thicknesser



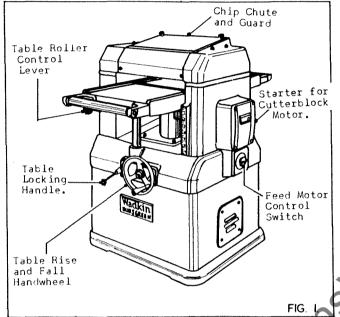
FOR REPLACEMENT PARTS, TOOLS & ACCESSORIES CONTACT BRIAN STACEY

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-Q-Led E, P.3	Regal Oil J	L.2.		
General Lubrication	Magna ED	Eñergol 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		1. 1. 9.4		

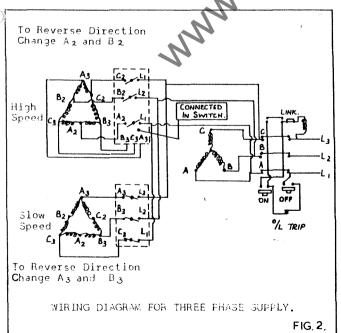
Length of thicknessing	table.			 	28 "	710mm
Overall length includi	ng buter	rolle:	rs	 	35⊘"	900mm
Capacit of machine				 	12¼"wide x 7" dee	o 310mm x 180mm
<ul> <li>Cutting circle diameter</li> </ul>	er of cutt	erslo	ck	 	4"	100mm
Speed of cutterblock				 	5,000 rpm	5,000 rpm
Number of cutters:					•	•
Standard.				 	2	2
Optional	extra .			 	3	3
H.P. of cutterblock mo				 	3	3
S <sub>i</sub> n speed of cutterblo						
50° cycle				 	3,000 rpm	3,000 rpm
60 cycle	·\$			 	3,600 rpm	3,600 rpm
Diameter of feed rolle				 	2"	5Omm I
Feed speeds per minute						1
3 phase.				 	15 & 3Oft.	4.5 & 9m
l phase.				 	22f t.	6.7m
				 	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 roliers and rise and fall handwheel are removed and packed in the parcel. Remove and reassemble 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.

- Points to note when connecting to power supply:

  1. Check the voltage, phase and frequency correspond to those on the motor plate, also the correct coils and heaters are fitted to the starter.
- starter.
  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.

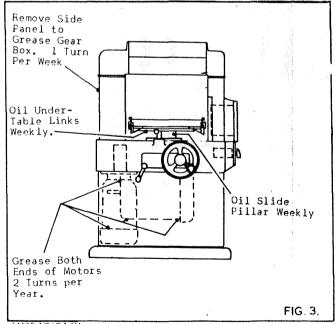
- terminals. See Fig. 2 for three phase supply. Check all connections are sound.

  6. Check the rotation of both motors for the correct direction. If these are incorrect reverse any two of the line lead connections. For single phase supply refer to booklet supplied with starter for wiring details.

  Voltage Phase. S.W.G. Tinned Amps

1100	111036.	Copper Wire	<u>C⊪</u> h∌
550/400/440 380/420/340/380	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 ALVANIA3.

All adjustments and alignments listed 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.

### TABLE ROLLERS

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.

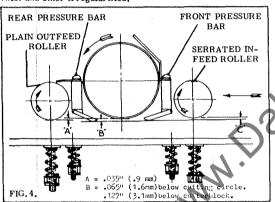
Position 3 maximum

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.

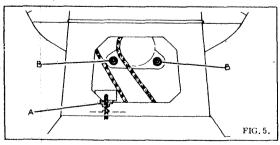
a must be emphasised that a really good surface finish from a thicknessing machine is only possible when the face of the timber resting on the machine table is flat and has a reasonable finish. Wherever practicable this face should be pre-machined on an overhand jointer or surfacer to remove twist and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

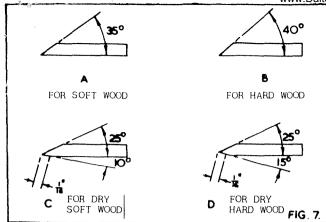
FEED CHAIN TENSION

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 30 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  $\frac{1}{4}$ " (6 m/m) 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

Hons Wadkin.com



CUTTER CARE

The cutters supplied are 12½"long (310mm) x 1½" 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

grinding and that the cutting edge is straight and 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.

Keen the cutters share when in nosition by

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.

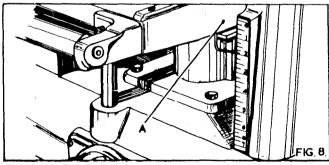
Do not allow a heel greater than 1/32" wide on the bevel before removing and regrinding. When the heel becomes too wide the knives may heat up or have a hammering effect on the wood and more than normal power will be required to run the cutterblock.

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. 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. For the best results always feed the timber to

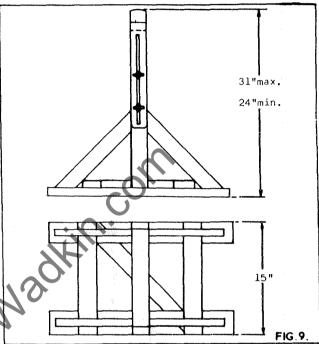
cut with the grain.
4. Should the timber stick when thicknessing two

probable causes are given below:

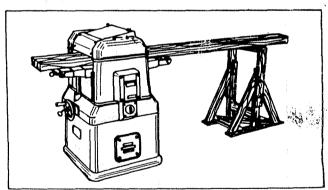
(a) The table rollers are set too low in the

table.

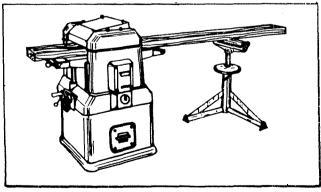
(b) The spring pressure is too great on the pressure bars and too little on the feed



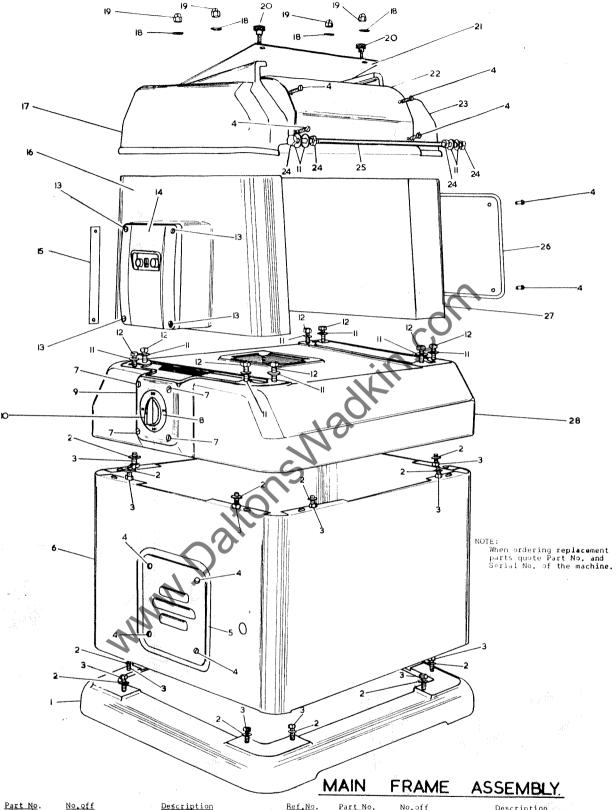
OVERALL DIMENSIONS OF SUGGESTED SUPPORT



SKETCH SHOWING WOOD SUPPORT IN POSITION

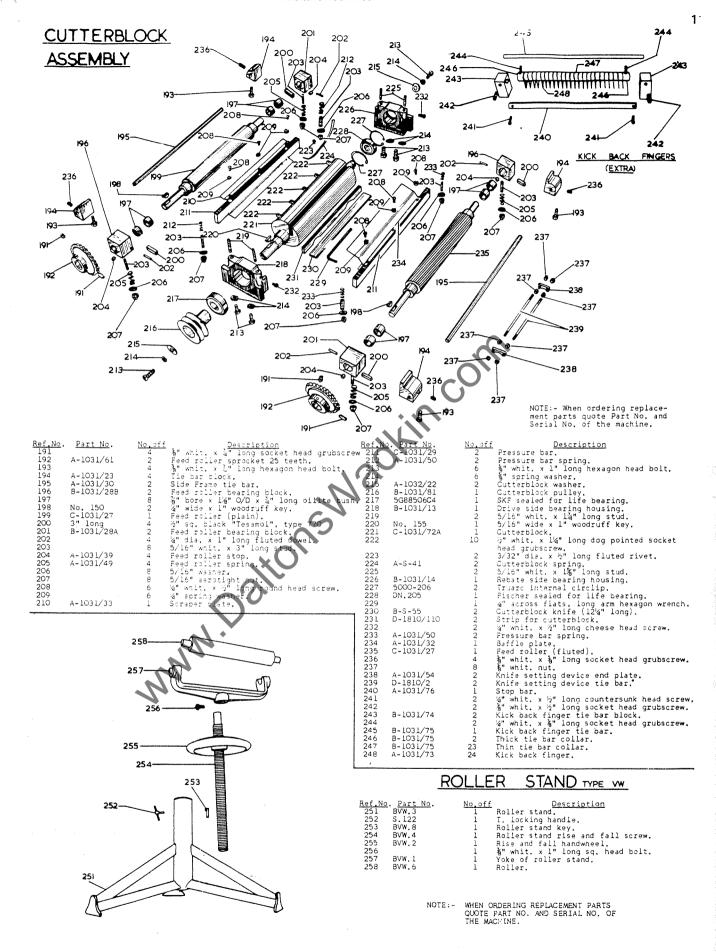


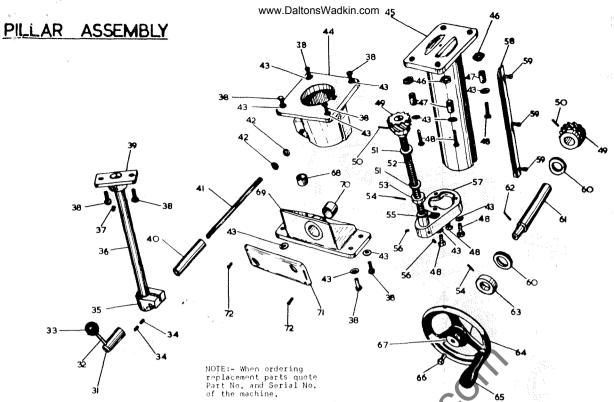
SKETCH SHOWING WADKIN/BURSGREEN ROLLER STAND TYPE VW IN POSITION.



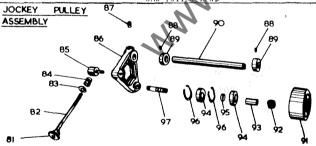
Dec No	Down & Mo	No off	0.6.3.11	D C N			
Refine.	Part No. D-1031/5	No.off	Description	Ref.No.	<u>Part No</u> .	No.off	Description
1	D-1031/5	, 1	Foot for base.	12.		8	å" whit, x l" long hexagon head bolt.
2		16	黃" cadmium washer.	13.		4	4" whit. x l" long cheese head screw.
3.		16	å" whit. x ¼" long cadmium hexagon	14.	84ADS/FO	1	MEM starter,
			head bolt.				NOTE: 1 phase and 60 cycle supplies
4.		22	省" whit, x 者" long round head screw.				have separate push button controls
5.	B-1031/53	2	Panel for base,				for full details refer to manufacturer.
6.	E-1031/7	1	Base (Standard).	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 4" 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	i	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).	20.	D-1797/62	2	Knurled knob for chip chute.
9.	B-1031/16	1	Faceplate for rotary switch.	21.	D-1031/31	ī	Front chip chute.
10.	SR, 1310BG74	1	Santon 2 speed rotary switch (3phase,		D-1031/31	ī	Back chip chute.
			50 cycles).	23.	D-1031/21	ĩ	Drive side guard.
	SR. 123	1	Santon rotary switch (lphase, 50	24.	D 1001/ L1	à	#" whit, nut.
			cycles),	25.	A-1031/34	ž	Guard tie bar.
	SR.1316AR65	1	Santon 2 speed rotary switch (3phase,		B-1031/52	ī	
		-	60 cycles).	27.	D-1031/32	1	Drive side frame panel.
11.		16	å" washer.	28.	E-1031/1	÷	Drive side frame.
		10	A magner.	۷٠,	E-1031/1	1	Main frame.

www.DaltonsWadkin.com

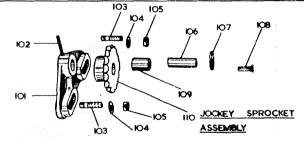




						( 1	
Ref.No.	Part No.	No.off	Description	Ref.No.	Part No.	No. off	Description
31.	A-1031/84	l	Undertable support locking handle,	54.		2	3/16" dia, x 12" long groverlok
32,	A-1002/90A	ī	Table rise and fall locking handle.		* <b>*</b>		spring dowel.
33.	Patt. No.30	ī	l¼" dia. plastic ball, 為" whit.	55.	A=1031/58	1	Nut for thicknessing table rise
34.		2	William whit, x 2" long socket head			•	and fall.
			grubscrew.	56.	11	2	5/16" whit. x 5" 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	者" whit. x 者" long sorket head	58.	A-1031/44	1	Thicknessing table pillar key.
			grubscrew.	56.	$\wedge$	3	5/16" whit. x %" long socket head
38.		10	ች" whit. x l" long hexagon head		$\mathbf{O}^{\cdot}$	_	cap screw.
		_	bolt.	60.	EW. I	2	Hoffmann thrust race.
39.	A-1031/89	1	Undertable support bar bracket.	61.	A-1031/41	1	Thicknessing table rise and fall
40.	A-1031/86	1	Undertable support locking bush.				shaft.
41.	A-1031/85	1	Undertable support locking stud.	762.		1	3/16" dia. x 1¼" long groverlok
42.		.2	%" whit. locknut.		. 10001.014	,	spring dowel.
43.	n 1001/10	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	1	Rise and fall handwheel.
45.	D-1031/8	1.	Pillar.	65.	Patt. No.4	ļ	3" plastic handle.
46.	A-1031/51	4	a" simplex locknut.	66.		1	¼" whit. x ¾" long hexagon head
47.	A-1031/95	4	Thicknessing table adjusting screw.		. 1051 (00	,	bolt.
48.		7	å" whit. x l½" long hexagon head	67.	A-1031/70	Ť	Washer for handwheel.
			bolt.	68.		i	å" bore x 1" O/D x å" long oilite
49.	CK,187	2	Spiral gear for rise and fall.	10	0. 1001 /11	,	bush.
50.		2	3/16" día. x 2" leng groverlok	69.	C-1031/11	1	Bracket for rise and fall
	m		spring dowel.	***	·	,	mechanism.
51.	EW.¾	2	Hoffmann thrust race.	70.		T	l" bore x 14" O/D x 1" long cilite
52.	B-1031/42	1	Thicknessing table rise and fall	71.1	n 1001/17	,	bush.
	1001/04	,	screw.	71.	B-1031/17	1	Faceplate for rise and fall handle.
53.	A-1031/94	Ţ	Collar for thicknessing table rise	72.		2	¼" whit. x ¾" long round head screw.
			and fall screw.				

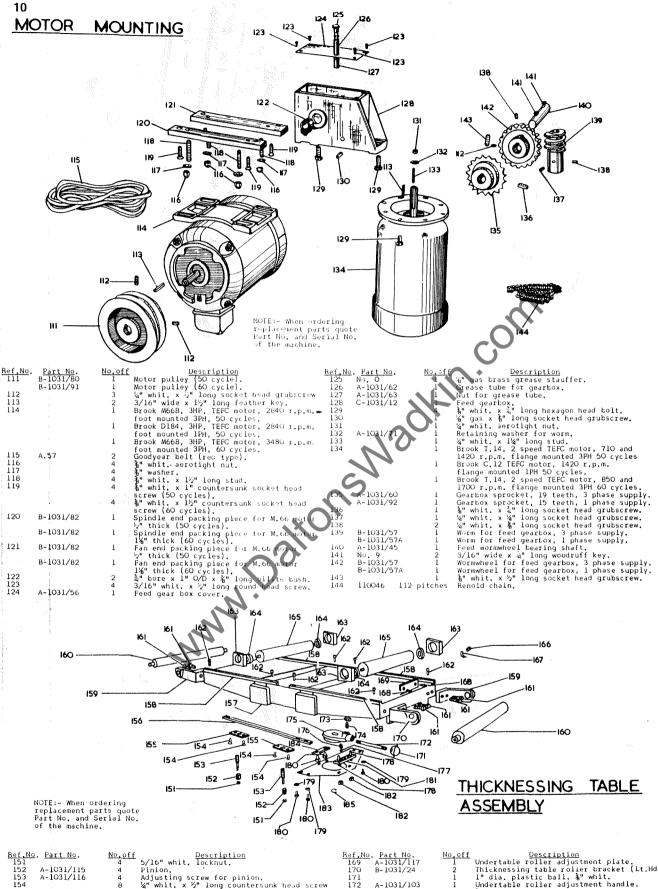


81	v		91
Ref.No.	Part No.	No.off	Description
81.	A-1002/87	1.	Jockey pulley adjusting nut.
82.	A-1031/46	l	Belt tension screw.
83.		1	å" washer.
84.	A-1024/21	1	Spring for belt tensioner.
85.	A-1031/40	1	Belt tensioner pivot nut.
86.	C-1031/9	1	Lever for belt tensioner.
87.		1	省" gas x 2" long socket head
			grubscrew.
88.		2	¼" whit, x ½" long socket head
			grubscrew.
89.	A-1031/69	2 1	Jockey pulley pivot shaft collar.
90.	A-1031/47	1	Pivot pin for belt tension lever.
91.	A-1031/20	1	Belt tension pulley.
92.		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 1	"Truarc" 40 m/m internal circlip.
97.		1	2" whit. x 25" 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 spring dowel.
103. 104.		2 . 2	ま) whit. x 以 long stud. 者 washer. 者 whit. nut.
105. 106. 107.	A-1031/35 A-1027/86	2 1 1	者" whit. nut. Jockey sprocket bearing pin. Countersunk washer for jockey
108.	,, ====,, ,=	1	sprocket. 5/16" whit. x ¼" long countersunk
109.		1	head screw. %" bore x %" O/D x 1%" long oilite bush.
110.	A-1031/59	1	Jockey sprocket (19 teeth).

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



	101111	10,011	Description	11.0	, 10L t 110.		OCCUPATION OF THE PROPERTY OF
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)
153	A-1031/116	4	Adjusting screw for pinion,	171		1	l" dia. plastic ball, &" whit.
154		8	"whit, x " long countersunk head screw	172	A-1031/103	1.	Undertable roller adjustment handle.
155	A-1031/101	4	Rack trapping plate.	173		1	å" whit, locknut.
156	B-1031/100	2	Adjustment rack.	174		1	{ whit, x ½ long socket head grubscrew.
157	D-1031/4	1	Thicknessing table.	175	B~1031/99	1	Undertable roller adjustment cam.
158	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.
160	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	1 1	8	¼" whit, x ½" 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.
164	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	•	ī	%" whit, x 2" long socket head grubscrew	184	A-1031/105	1	Cam inner bearing plate.
167	A-1031/43	ĩ	Thicknessing table rise and fall pointer,	185		1	l" external circlip.
168		2	%" dia. x %" long fluted rivets.				•

www.DaltonsWadkin.com

### 12" BAO

### CUTTER SETTING

The knife is held in the cutterblock by a wedge, into which is fitted spring loaded balls, these balls hold the knife finger tight whilst the 5-Ml2 hexagon head screws are loose. This allows both hands to be free to adjust the blade & ensure that it will not slip back during setting or move whilst the wedge screws are being tightened up. Should any other method of cutter setting be employed the amount of cutter projection must correspond exactly with that given by the setting gauge supplied and failure to observe this instruction will result in bad feeding and poor finish.

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

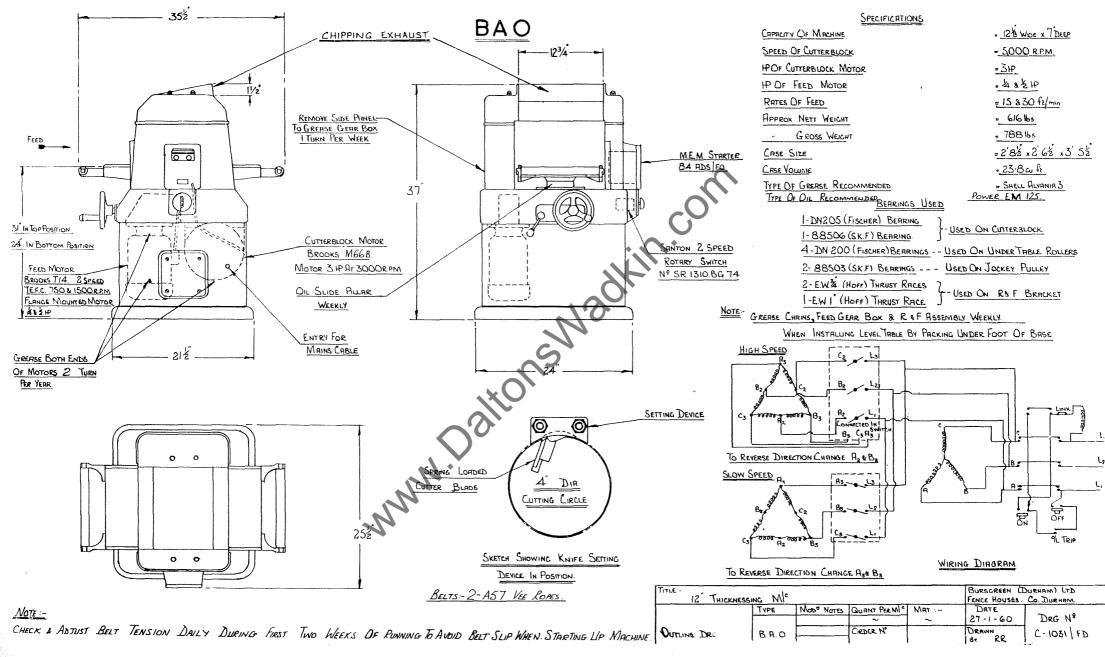
- Remove the four domed nuts and washers securing the guard and chip chute and lift the complete guard clear of the machine.
- Turn the cutterblock to approximately the position shown in FIG.6 and loosen the 5-M12 hexagon head screws, carefully remove knife from cutterblock.

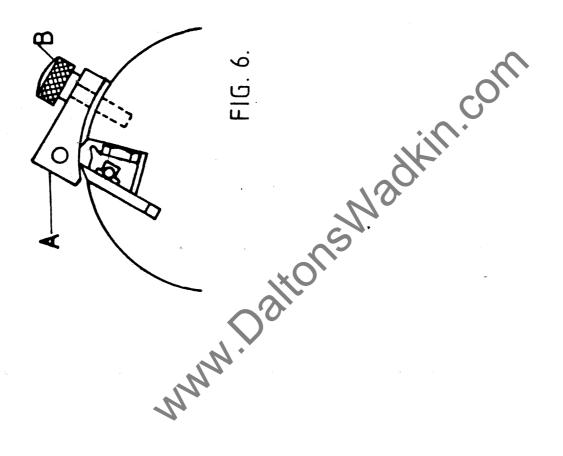
NOTE: When grinding it is most important that knives are ground dead straight and balanced in pairs or sets.

An efficient re-grinding service is available, charges are moderate and service prompt. To avail yourself with this service, return knives to BURSGREEN (DURHAM), FENCE HOUSES TYNE & WEAR.

- To re-set the knives the cutterblock should be in the approximate position as shown in FIG.6. Place knife in between wedge and cutterblock with the blade drawn forward slightly.
- 4 Carefully secure the knife setting device 'A' FIG.6, to the cutterblock with the two knurled locking screws 'B' as shown in FIG.6.
- 5 Whilst turning these locking screws 'B' FIG.6, knife will be lowered to correct setting which is reached when knurled screws are locked in position and knife just touches knife setting device.
- When the knife is correctly set, tighten 5-M12 hexagon head screws, remove knife setting device, then securely lock the 5-M12 hexagon head screws.
- 7 Rotate cutterblock until the next knife is in position and repeat the procedure until all the knives have been set.
- When changing knives it is advisable to check that all the locking 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 similar oil, before replacing.

P.T.O.





:: :