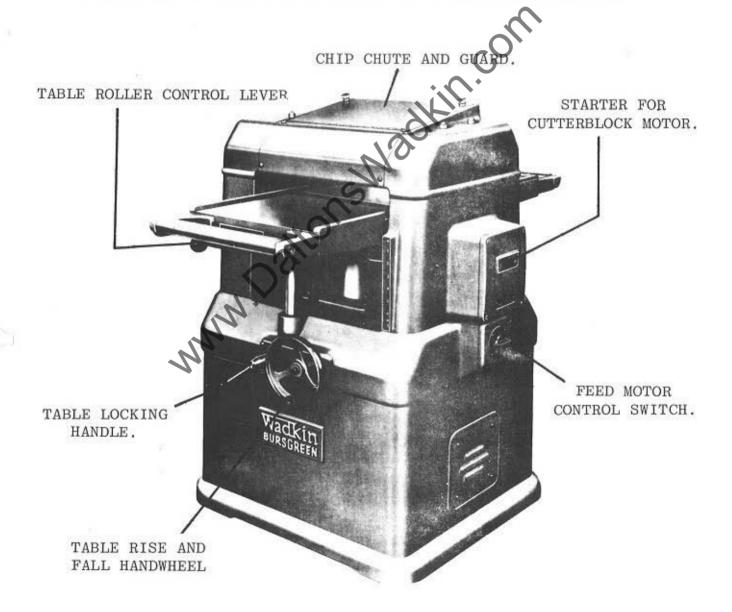
Modifications are made to these books from time to time and it is important therefore that only the book sent with the machine should be used as a working manual

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)



## SAFETY OF WOODWORKING MACHINES

Woodworking machines can be dangerous if improperly used. The wide range of work of which they are capable, requires adequate safeguarding arrangements against possible hazards.

Many injuries to machinists are caused by carelessness or failure to use the guards provided or to adjust them correctly.

WADKIN LTD., supply machinery designed for maximum safety which they believe, as a result of thorough testing, minimizes the risks inevitable in their use. It is the user's responsibility to see that the following rules are complied with to ensure safety at work:

- The operation of the machine should conform to the requirements of the Woodworking Machines Regulations 1974. All guards should be used and adjusted correctly.
- 2. Safe methods of working only should be adopted as given in the Health and Safety Work Booklet No.41, "Safety in the Use of Woodworking Machines", (obtainable from Her Majesty's Stationery Office) and as advised by Wadkin Ltd.
- Only personnal trained in the safe use of a machine should operate it.
- Before making adjustments or clearing chips, etc., the machine should be stopped and all movement should have ceased.
- All tools and cutters must be securely fixed and the speed selected must be appropriate for the tooling.

SAFETY IS OUR WATCHWORD BUT THE USER MUST COMPLY WITH THE ABOVE RULES IN HIS OWN INTEREST. WE WOULD BE PLEASED TO ADVISE ON THE SAFE USE OF OUR PRODUCTS.

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## **SAFETY**

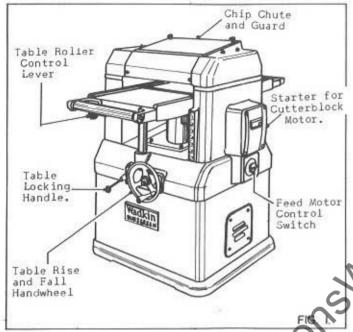
- 1. Read Instruction Book.
- 2. Securely Lock Cutters.
- 3. Set Guards Correctly.
- 4. Select Correct Speed.
- 5. Use Feeding Devices Where Possible.
- 6. Refer To HSW Booklet No.41. (in UK) For Safety In The Use Of Woodworking Machinery.

# BURSGREEN (DURHAM) LIMITED APPROVED LUBRICANTS

Application	Approved Lubricant										
	Castrol	B. P.	Shell	Esco	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	Virtea 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	Energy ase LS 3	Alvania 3	Beacon 3 Starfak Premium 3	Regal	L.6.					
Brake Cables	Brake cable	Energrease L21M	Alvania 3	Multi-purpose grease H							

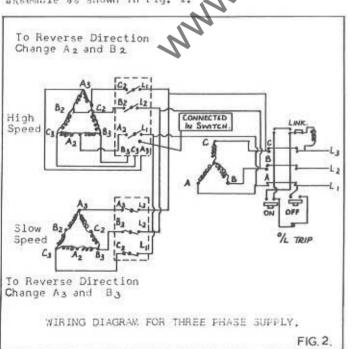
#### www.DaltonsWadkin.comION

Length of thic	g tab	le.				XXX	28 "	710mm	
Overall length including outer roller					ers		10.000	35%"	900mm
Capacit of n						12% "wide x 7" deep	310mm x 180mm		
Capacit of machine Cutting circle diameter of cutter-lock								4"	100mm
Speed of cutt	artlack							5,000 rpm	5,000 rpm
Number of cut	tore							5,000 Ipin	5,000 rpm
		252							
	Standar	d	* * *		50404			2	2
Optional extra								3	3
H D of suttacklast water								2 3 3	2 3 3
5 n speed of	cutterb	lock	motor	(***	105.0	1000	* * *	270	1.5%
	50 cyc			•				3,000 rpm	2 0000
			2000	1.55		*2.5.25	5.555		3,000 rpm
60 cycles,				4.4.4		3,600 rpm	3,600 rpm		
Diameter of F				+ + +				2"	50mm
Feed speeds p	er minu	te:							
Market of State of St	3 phase	e						15 & 30ft.	4,5 & 9m
	1 phase	0						22ft.	6.7m
Floor space.								35%" x 25%"	
Net weight.									900mm x 650mm
wer werdur.	4.4.4	***	******	A CHARLES	2 4774000	0.000	econo a	620 lb.	275 kg.



INSTALLATION
Remove protective coating from brigh parts by applying a cloth soaked in paraffin, typertine or

When machine is cased for export, the outer table rollers 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.

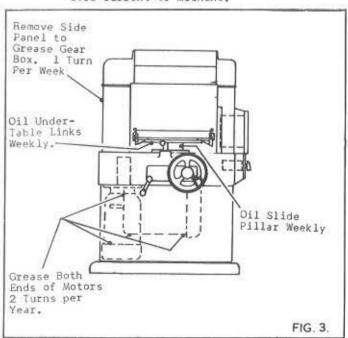
starter.
It is important that the correct cable is used to give the correct voltage to the starter as running on low voltage will damage the motor. Check the main line fuses are of the correct capacity. See list below.
Connect the line leads to the appropriate terminals. See Fig. 2 for three phase supply. Checked is connections are sound.

4.

terminals. See Fig. 2 for three phase supply Check all connections are sound. Check the rotation of both motors for the chartest direction. If these are incorrect everse any two of the line lead connections. single phase supply refer to booklet supplied

tarter for wiring details. Phase. S.W.G. Tinned Copper Wire 550/400/440 23 20 380/420/340/380 22 3 24 220 3 21 29 17

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



<u>LUBRICATION</u>
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 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. Comachines 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 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.

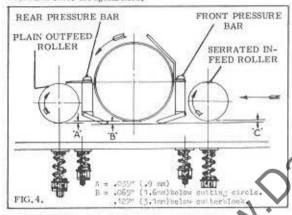
These positions are the normal ones for general use, combining good feeding with first class results,

Position 3 maximum

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

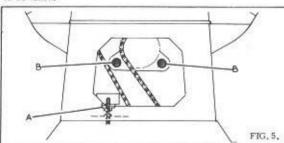
In all cases the lowest position consistent with good and regular feeding should be used as this will give the best possible results. Should the table rollers be removed for any reason care must be taken to replace them exactly as before otherwise the setting will be disturbed,

It 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.



These are pre-set at works in accordance with Fig. 4 and vertical adjustment relative to the cutterblock is wither possible nor necessary provided the cutterbark correctly set with the special setting gauge supplied the 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

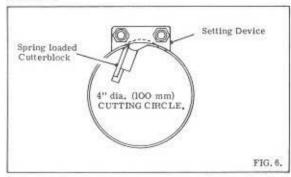
The culterblock drive is by 2 Vee belts from a 3 HP motor, Tension is effected to these bolts by an adjustable jockey pulley. To adjust, remove sheet steel panel from drive side of the machine and turn the knurled nut "A" in Fig. 5 in the direction indicated until the required tension is reached.

Replace panel before operating machine.

www.DaltonsWadkin.comsION
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



#### CUTTER SETTING

The cutters are held in the cutterblock by a steel clamping bar secured with a  $5 - \frac{1}{2}$ " what heat treated socket head screws. When the locking screws are released the head screws. When the locking screws are released the cutter is ejected slightly by a small leaf sorter. This is to facilitate easy setting with the special graph sapplied. As the amount of cutter projection is vital to the correct operation of the machine it is most important that the actual setting gauge supplied with the machine should be used. Should any other method of cutter setting be employed the amount of cutter projection must so respond exactly with that given by the setting gauge supplied and failure to observe this instruction will result habit feeding and poor finish.

To remove the cutters and reset with the "Bursgreen" cutter setting gauge puresed as follows:

1. Remove the forthological nuts and washers securing the guard and chil chute and lift the complete guard clear of the machine.

2. Turn the cutterfoliock to approximately the position show in Fig. 6 and slacken the securing screws but in the safe is just free of the cutterblock.

Can should be taken when loosening the last screw sithe knives are spring loaded.

On the knives are spring loaded.
The drives can now be removed for grinding or replacing.
When grinding it is most important that knives are ground d straight and balanced in pairs or sets

An efficient regrinding service is available, charges are moderate and service prompt. To avail yourself with this service, return cutters to:

service, return cutters to:
BURSGREEN (DURHAM) LTD., FENCE HOUSES,
HOUGHTON-LE-SPRING, CO, DURHAM.

3. To re-set the knives, the cutterblock should be in approximately the position as shown in Fig. 6. Place the knife in the slot making sure that all faces are clean and the clamping bar free from burrs. Press the knife into the cutterblock with the setting device as in Fig. 6 until the four predominant pads rest on the outer surface of the cutterblock, Position the knife central in the cutterblock.

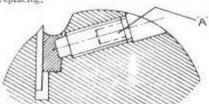
4. Holding the setting device securely in this position.

 Holding the setting device securely in this position, tighten the securing screws. Before fully tightening the knives, check that they have not moved in the setting process. The cutting edge should now be dead parallel to the thicknessing table.

Check that all the securing screws have been tightened before setting the next knife.

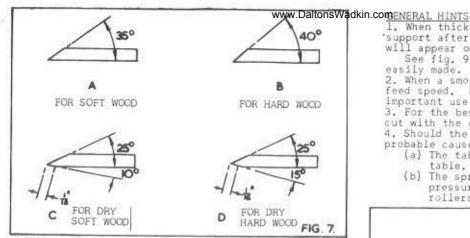
5. Rotate cutterblock until the next knife is in position and repeat the procedure until all the knives have been set,

 When changing cutters it is advisable to check that all the locking screws are adequately lubricated and quite free. Periodically examine for damage or cracks particularly in the hexagon hole. Any doubtful screws should be replaced and all screws well lubricated with "Molyslip" or similar oil, before replacing,



### NOTE:-

It is most important that hexagon socket "A" in the knife locking screws is kept clear of all gum and dirt, to ensure easy removal of screws when changing knives. Always ensure that the hexagon key is fully inserted in the screw when locking or unlocking the cutters. This avoids damage to the hexagon socket.



CUTTER CARE

The cutters supplied are 12%"long (310mm) x 1%" wide (32 mm) x %" 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. 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 have a hammering effect on the wood and more than normal power will be required to run the cutterblow

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 of
necessary, by the following procedure.

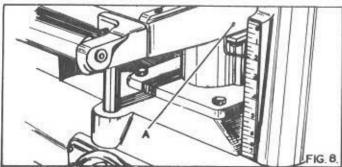
1. Feed a short length of timber approximately 2" square (50 mm) x 18" long (460 cm) through the machine to one side of the thicknessing table.

2. 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.

3. If a cut is taken or it does not touch the wood adjust the fine thread adjusters on the underside of the table to sit and when set tighten all screws.

As the knife setting levice sets the knives parallel to the cutterblock it is vitally important that the table is set parallel to the knives for

that the table is set parallel to the knives for accurate thicknessing.



THICKNESSING RULE

THICKNESSING RULE

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. pointer to the correct thickness.

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

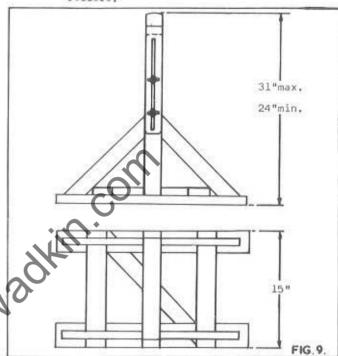
See fig. 9 for suggested support which can be easily made.

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

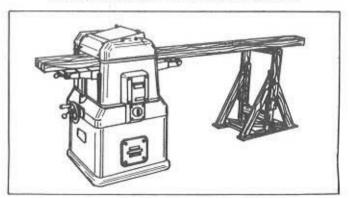
3. For the best results always feed the timber to cut with the grain.
4. Should the timber stick when thicknessing two probable causes are given below:

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

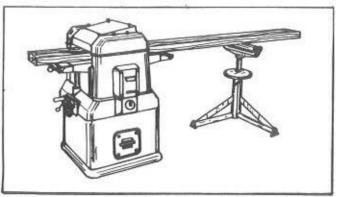
(b) The spring pressure is too great on the pressure bars and too little on the feed rollers.



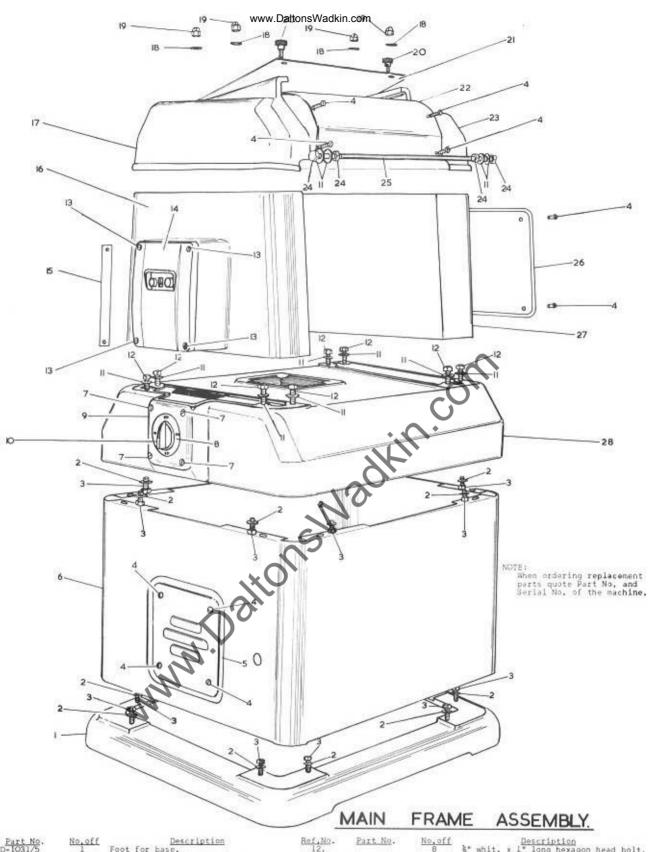
OVERALL DIMENSIONS OF SUGGESTED SUPPORT



SKETCH SHOWING WOOD SUPPORT IN POSITION



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



Ref.No.	Part No. D-1031/5	No. off 1 16 16	Description Foot for base. %" cadmium washer.	Ref.No. 12. 13,	Part No.	No.off 8 4	Description %" whit, x 1" long hexagon head bolt. %" whit, x 1" long theese head screw.
3.		16	§" whit, x %" long cadmium hexagon	14.	84 ADS/FO	1	MEM starter.
4. 5. 6.	8-1031/53	22	head bolt, %" whit, x %" long round head screw. Panel for base.				NOTE: I phase and 60 cycle supplies have separate push button controls for full details refer to manufacturer.
6.	E-1031/7	1	Base (Standard).	15.	B-1031/25	1	Thicknessing table rule (English).
	C-1031/97	1	Base (Single phase).		B=1031/65	1	Thicknessing table rule (Metric).
7. 8.		-4	4" whit. x 2" long countersunk screw.	16.	B-1031/3	2.	Rebate side frame.
В.	B-1031/67	1	Escutcheon plate for rotary switch	17. 18. 19.	D=1031/22	1	Rebate side guard.
			(Standard),	18.		4	5/16" washer.
	A-1031/93	- 1	Escutcheon plate for rotary switch	20.	n inna ka	4	5/16" whit, domed nut.
0400	H 1884 V 21 4	7.6	(Single phase).	21.	D-1797/62 D-1031/31	2	Knurled knob for chip chute.
9.	B-1031/16	+	Faceplate for rotary switch.	22.	D-1031/31	1	Front chip chute.
10.	SR.1310BG74	1	Santon 2 speed rotary switch (3phase,	23.	D-1031/31	A .	Back chip chute.
	00 100	91	50 cycles).	24.	D-1031/21		Drive side quard.
	SR.123	1	Santon rotary switch (1phase, 50	25.	A-1031/34	9	4" whit, nut, Guard tie bar,
	SR, 1316AR65	4	cycles). Santon 2 speed rotary switch (3phase,	26.	B=1031/52	1	Drive side frame panel.
	3N.1310ANO3	*	60 cycles).	27.	D-1031/2	3	Drive side frame,
11.		16	%" washer.	28.	E-1031/1	î	Main frame,

