INSTRUCTION MANUAL FOR



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



FOR REPLACEMENT PARTS, TOOLS & ACCESSORIES CONTACT BRIAN STACEY Telephone: Fence Houses 2385 (5 lines) Telex: 53441 (Bursgreen Duram)

PLEASE INSERT SERIAL NUMBER OF MACHINE

BOOK No. B466M

Bursgreen (Durham) Ltd. Fence Houses, Houghton-le-Spring, Tyne-Wear, England. DH4 5RQ

WARNING

THIS IS A 10" dia. SAWBENCH AND IS DESIGNED FOR NORMAL USE WITH 10" dia. SAWBLADES.

HOWEVER 12" dia. SAWBLADES CAN BE FITTED FOR OCCASSIONAL DEEP CUTTING ONLY.

SAFETY

Kin.cor

- 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.



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.
- 3. Only personnel trained in the safe use of a machine should operate it.
- 4. Before making adjustments or clearing chips, etc., the machine should be stopped and all movement should have ceased.
- 5. 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.

000

 WADKIN LTD * GREEN LANE WORKS * LEICESTER LE5 4PF * ENGLAND * TELEPHONE 0533 769111

 and York House. Empire Way, Wembley, Middletex HA9 0PA

 Teleschone: 01-902 7714

 Teleschone: 01-902 7714

 Teleschone: 01-902 7714

1

(

(

Specification

Standard diameter of saw.	10"	254mm
Maximum diameter of saw for		
occasional deep cutting.	12"	305mm
Diameter of saw arbor.	5/8"	15.8mm ·
20mm or	25mm dia can be suppli	ed.
Maximum depth of cut 10" saw.	3.1/8"	79.4mm
Maximum depth of 450 cut 10" saw.	2.1/8"	54mm
Maximum depth of cut 12" saw.	4.1/8"	105mm
Maximum depth of 45° cut 12"saw.	2.7/8"	73mm
Maximum size of dado or grooving		
set recommended.	6" dia x 13/16" wide	152.4mm x 20.6mm
Maximum size of circular		
cutterblock for moulding.	4.7/8'dia x ³ "wide	124mm x 20mm
Speed of saw spindle.	3,850rpm	
Size of table.	20 x 28"	508mm x 710mm
Size of table with extension.	40" x 28"	1016mm x 710mm
Saw to front edge of table with		
saw in top position(10"dia saw)	13"	330mm
Fence movement to right of saw.	25 <u>1</u> ''	650mm
Saw cants to right.	450	
Ripping fence.	28"long x 4"high	720mm x 94mm
Table height.	34"	865mm
Overall dimensions with table		
extensions and standard fence		
bars.	50" x 38"	1270mm x 965mm
Horsepower of motor.	2(3phase)	
	$1\frac{1}{2}(1 \text{ phase})$	
Optional Extra.	3 (3phase)	
Approx.net weight.	3921bs	178kg.
Approx.gross weight.	5141bs	233kg.
Approx shipping dimensions.	25cu.ft.	.7m ³ .



FOUNDATION

The clearances required for this machine are shown in fig. 5.

MOUNTING SAWBLADES.

To mount sawblade the undermentioned procedure should be followed:-

- 1. Check the machine is isolated electrically before starting to fit sawblade.
- 2. Swing sawguard to top position.
- 3. Remove aluminium table insert and raise saw arbor to its highest position.
- 4. Remove the arbor nut (left hand thread) and front saw
- flange. To facilitate the removal of the arbor nut, insert the
- toggle bar supplied, in the back saw flange.

Check all connections are sound. Check the rotation of the motor for the correct direction. If is is incorrect reverse any two line lead connections for three ase supply.

<u>DLTAGE</u> .	PHASE.	н.р.	S.W.G. TINNED	AMPS
			COPPER WIRE.	
0	3	2	23	20
0/420	3	2	25	15
0	3	2	29	10
0/250	1	2	17	65
0	3	3	21	29
0/420	3	3	23	20
0	3	3	25	15

5. Select the blade which is required depending on the type of work which is to be done. Check the blade is free from all dirt, gum or sawdust especially where it will be gripped by the flanges. Mount the blade onto, arbor. Check the front saw flange is clean and then fit into saw arbor. The saw teeth should point towards the front of the machine.

NOTE:- If the flanges and the saw are not clean the saw will run out of true, causing vibration and indifferent sawing. 6. Lock the saw securely in position with the arbor nut (Left

hand thread). To tighten arbor nut hold spindle in position with the toggle bar in the back saw flange.

7. Replace table insert and position sawguard depending on the thickness of timber to be worked.



RISE AND FALL CONTROLS

The saw arbor rises and falls a total travel of 3. 1/8" (79.4 mm). The travel of the saw is pre-set before despatch from the works. The rise and fall is controlled by the conveniently placed handwheel "A" in fig. 6. The rise and fall is through a wormwheel and racked quadrant.

To lock thesaw in any position, lock plastic handwheel ""

CANTING CONTROLS.

The saw cants 45° to the right, with positive stops at 90° and 45° which are accurately set before despatch from the works. The motion is through a wormwheel and racked quadrant and is controlled by the conveniently placed handwheel "C", in fig. 6. The angle of cant is shown on the graduated scale "D".

To lock the saw at any angle, lock handwheel "E".



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

The drive is by three vee belts from 2 H. P. motor. To tension the belts loosen the four hexagon head bolts "A", in fig. 7. Move motor until required tension is reached, then re-lock the hexagon head bolts "A".



The riving knife complete with the sawguard, ris and falls with the saw. The riving knife should be set as close as practicable to the saw blade and should not exceed 12mm at the table level. To adjus the riving knife to this position, loosen the 2 hexagon nuts "A" in Fig 8 and position riving knife where required, then relock in position.

The guard should then be adjusted to protect as much of the saw as possible by loowening the handwheel "B" and positioning the guard where required. When set relock handwheel "B".



The table grooves are accurately set before despatch, but should the table be disturbed in transit or for any other reaso: the undermentioned procedure should be followed to set the table grooves parallel to the saw:-

1. Loosen the four 3/8'' whit nuts securing the table to the matrix frame.

2. With the saw fitted to arbor, select a tooth and position straight stop rod of mitre fence so that it just touches the saw as shown in fig. 0 just touches the saw as shown in fig. 9.

3. Slide mitre fence to rear position of the saw, swing tooth of saw which was used in item 2. Check whether the stop rod touches the tooth by the same

amount. Should the slot be out of alignment with the saw, position table until correct. The correct position of the saw in relation to the table insert slot is l"(25.4mm) from the right hand side. This will ensure clearance on the table insert when the saw is canted. When set tighten all screws. 4. To check this alignment cut several pieces of wood using the mitre fence to ensure there is no back cut as the stock is passed through the sawblades.



RIP FENCE CONTROLS.

The rip fence slides on a round bar fitted to front of table. Rapid fence adjustment and micro adjustment are provided with an effective lock. For rapid fence adjustment follow the undermentioned procedure:

1. Lift handle "A" in fig 10A, then disensage the pinion from front racked fence bar by pulling handwheel "B" out of fence front bracket.
2. Position fence where required then depress handle "A" to lock fence in position. A ripping capacity scale on fence slide bar "C" is indicated by an adjustable pointer "D" located in the fence body and secured by knurled knob "E"
3. For micro adjustment the pinion should be engaged in the racked fence slide bar 1.e. handwheel "B" pushed into the fence front bracket.

Fence Plate Positions. The fence plate "F" in fig.10 has 2 positions. Position shown in fig.10A is for use with deep stock. Position shown in fig.10B is for use with faced panels, melamine, veneer, etc.

To Change the Fence Plate Position, Proceed as follows:

Loosen handles "G" in fig.10A, then slide fence plate "F" from fence body.
 Slide fence plate over the 2 locking plates to position shown in fig.10B then relock handles "G".

Fence Pointer Adjustment. When the fence plate position has been changed as previously described, the pointer "D" in fig.lOA must be re-set accordingly.

To Re-Set Pointer, Proceed as follows:

Lift handle in fig.10A then move fence to a position which would allow a reasonable cut to be taken. Depress handle "A" to lock fence in position.
 Start machine, then feed a piece of timber past the sawblade keeping timber firmly against the fence. Stop machine.

3. Accurately measure the width of timber after cut then loosen knurled screw "E" and set rule pointer "D" accordingly. Re-lock knurled screw "E".



SETTING SAW TO RIVING KNIFE.

It is important that the saw and riving knife are 1 line. To re-set should the spindle have been in line. disturbed, the undermentioned procedure should be followed.

1. Loosen the hexagon head adjuster bolt "A" in fig. 12. and tap spindle where required, taking care not to damage the thread on spindle end. Place a steel rule along both sides of the riving knife to check whether the saw is central.

2. When set re-tighten the hexagon head bolt "A". 3. To check this setting feed a short piece of timber from the rear, along both sides of the riving knife. If the riving knife is incorrectly set the blade will cut unequal shoulders as shown in fig.ll (a), and when correctly set equal shoulders as shown in fig.11(b).



HOW TO REPLACE SPINDLE BEARINGS.

To replace the spindle bearings the undermentioned procedure should be followed.

1. Remove saw, sawguard (complete with riving knife) and the table.

2. Release the tension on the belts as previously

described and remove belts. 3. Remove the 5/8" whit nut (right hand thread)"B" in fig.12, remove spindle pulley "C" which is keyed to the spindle.

to the spindle. 4. Remove the hexagon head bolt "A", securing the remaining spindle assembly in the housing, tap out assembly from the pulley end. Care should be taken not to damage the threads on spindle end. 5. To remove the bearings, remove the woodruff key then loosen the two i" whit hollow set screws "D", remove the spindle locking collar. 6. The bearing and spindle distance piece can now be driven from the spindle.

driven from the spindle. The bearings should now be replaced as the

arrangement in fig.12. Care should be taken not to preload the bearings i.e. the spindle distance piece should be just free between the two bearings. When the locking collar has been replaced and the

assembly is ready to be replaced in the spindle housing a hollow set screw should be inserted in the spindle trapping collar "E". This will assist in lining up the 3/8" whit x 1" long heaxagon head bolt "A" on assembly.

To re-assemble the spindle assembly into the spindle housing:

1. Line up the hollow set screw with the hole in the spindle housing and tap in spindle assembly. 2. Remove hollow set screw and replace hexagon head

bolt "A". 3. Replace riving knife and set saw central to riving

knife as previously described.4. Replace the pulley and belts then re-tension belts.The table can now be replaced.

5. Before locking table in position ensure the mitre fence slot is parallel to the saw as previously described. When set tighten all bolts.

MITRE FENCE.

The mitre fence can be used on either side of the saw and slides in a rectangular slot, which should be kept clean and free from sawdust.



www.DaltonsWadkin.com

1" (25.4mm).

the wobble saw is fitted.

Maximum diameter of saw which can be used is 6" (152.4mm)which will cut any width of groove between 1/8" and 5/8" (3mm and 15.8mm) to a maximum depth of

Table insert ref.no.1026M/211 should be used when

5



HOW TO FIT DADO HEAD.

A dado head is made up of two outside saws and four inner cutters. Various combinations of saws and cutters can be used to cut grooves 1/8" to 13/16" (3 mm to 20.6 mm) wide. Inner cutters are heavily swaged and must be arranged so that the heavy portion falls in the gullets of the outside saws, as shown in fig. 17 (a).

Fig. 17 (b) shows how the saws and cutters overlap, "A" being the saw and "B" being the inside cutter.

A $\frac{1}{4}$ " (6 mm) groove is cut by using the two outside saws fitting the ground teeth directly opposite as shown in fig. 17(c) in order to allow clearance for the slight set of the saw teeth. The dado head is secured to the saw spindle by means of a

special knurled locking nut as shown in fig. 18.

To fit dado head remove the table insert, riving knife complete with sawguard and front saw flange.

Fit the outer saws and required inner cutters on the spindle and lock in position with the special knurled locking nut.

The table insert No. 1026/76 B should be used when a dado head is fitted.



The cutterblock is 4.7/8" dia x $\frac{3}{4}$ " wide (124mm x 19 mm) and takes 5/32" (4 mm) or $\frac{1}{4}$ " (6 mm) thick cutters. The

cutterblock is secured to the spindle by means of the standard arbor nut without the front saw flange, as shown in fig. 19.

The procedure when fitting the cutterblock is similar to that when fitting the wobble saw and dado set.

The table insert ref. No. 1026/76A should be used when the cutterblock is fitted.

When using the cutterblock it is necessary to face the fence with a wood facing, to span the cutters so that only the required amount of cutters are exposed when making a moulding. The approximate sizes of such a facing are shown in fig. 20.

The facing is secured to the fence with wood screws through the holes provided.

Before securing the knives always ensure that the slots and cutters are free from sawdust and dirt.



SAFETY PRECAUTIONS

Always adjust the guard to protect as much of the saw as possible and adjust the riving knife to within $\frac{1}{4}$ of the saw. These adjustments are previously described.

FIG.21

A push stick as shown in fig. 21, should be used whenever practicable when feeding timber.

When changing the sawblade, always isolate the machine electrically.

SAW MAINTENANCE

Efficient operation of circular saw depends on the true running of the saw spindle and the collars being perfectly square on the faces with the axis of the spindle, It must run at the correct peripheral speed to ensure straight cutting.

All Bursgreen saw benches embody these requirements and provided the sawblade is maintained in a sharp condition with the teeth correctly sharpened and set, efficient service will be given.

Before putting a new saw into use, it is essential that it is 'ranged down' on the teeth, to ensure each tooth is cutting and to maintain true running.



Ranging down should be done on a new saw or any saw after the fourth or fifth re-sharpening.

To range down a saw, feed a square edge abrasive block in wooden holder as shown in fig. 22, lightly against the saw teeth

The amount of set to the teeth should be sufficient to give clearance to the body of the saw, so that there is freedom from friction between saw and timber. It is generally accepted that the teeth are " spring set" i.e. tops of alternate teeth are bent to the right and left, as shown in fig. 26. For good sawing the amount of set on each side of the saw must be identical, otherwis the saw will run to one side. To check the set, cut into a piece of wood a few inches when a small even triangle should be cut as in fig. 27.

The exact amount of set each sides varies with the timber being cut, usually .010 to .015" (.3 mm to .4 mm)

For clean cutting just sufficient set should be allowed to prevent bending and heating. More set is required for wet wooll timber than for dry close grained timber and the amount of set is greater for crosscutting saws than for ripping.



SAW SHARPENING

Ć

Do not run a saw when blunt; remove and re-sharpen. To sharpen by hand hold the saw rigid in a vice, as shown in fig 23, then proceed to sharpen the saw.

With rip saw teeth chisel edges and square faces are required, see fig. 24. Sharpen by giving each tooth an equal number of strokes with a flat face saw file with rounded edges. At the same time file the gullet, taking care to keep the gullet well rounded.

With a crosscut saw, points are needed with back and front bevels as fig. 25.

In the case of repeated filing the teeth loose the original shape and the gullets shallow. To restore the shape of each tooth essential for satisfactory performance, it is necessary to grind the saw on a saw sharpening machine. These machines are usually of the automatic type and each tooth is given equal spacing or pitch.



HAND SETTING

Where the number of saws does not warrant a machine being installed, the saws can be set by hand using a tool, as shown in fig. 28. This tool is provided with six notches to take saws 8 to 14 gauges thick.

For this process of setting the saw should be securely clamped in a vice.

ļ

;

3726

34

35

30

MAIN FRAME ASSEMBLY.



Ę

Ĺ

<u>Ref.No</u> .	Part No.	<u>No.01</u> f	Description.	Ref.No.	Part No.	No.Off	Description.
1.	C-1026M/10	2	Foot for base.	19	C-1026M/5	2	Extension table.
2		16	10 washer.	20	A-1026/51	4	Fence slide bar distance
3		15	M10 x 20 long hexagon		•		piece.
			head bolt.	21		4	M5 locknut.
4		6	Fillets for base.	22		4	M5 x 12 long nicked
5	D-1026/11	1	Base.				grubscrew.
6	44 ADS	1	MEM Starter (2HP, 50	23	C-1030M/9	1	Finger plate.
			cycles).	24	B-1026/326	1	Fence front slide bar(Std)
	84 ADS	1	MEM Starter (CHP, 50		B-1026/328	1	Fence front slide bar(50"
			cvcles).				capacity) (EXTRA).
	ZT3	1	Brook Starter (1 phase.	25	B-1026M/58	1	Saw guard.
			under 220 volts.)	26		1	M10 x 12 long hexagon head
	AT3	1.	Brook Starter (1 phase.				bolt.
			over 220 volts).	27	A-1026M/60	1	Riving knife distance niece.
	AT3	1	Brook Starter (2 & 3HP.	28		ī	M10 x 30 long stud.
			60 cycles).	29	B-1026/222	ī	Riving knife
7		2	Special fillet for base.	30	Patt No 32	î	li" dia light plastic
8		6	N8 x 20 long hexagon		1400100	•	handwheel MIG blind
•		5	head holt.	31		í	10" dia x 40 long
9	C-1026/7	2	Trunnion tranning plate	01		•	groverlok spring dowel
10	, .	4	M10 x 45 long hollow	32	A-1030/31	1	Saw guard nivot
			capscrew.	33	D = 1026M/207	î	Main table
11		2	M3 x 10 long round head	34	$C = 1026 \frac{1}{2} \frac{1}{10}$	î	Finger plate for 6" dia
	*		SCrew.	•••	0 100000,5110	•	dado set
12	B-1026/17	1	Angle indicator rule.	35	C-1026#/211A	1	Fingernlate for 6" dia
13		2	M10 nut.		,	-	wobble saw
14		2	M10 x 40 long nicked	36	C-1026M/211A	1	Fingerplate for 4.7/8"dia
			grubscrew.		,		cutterblock
15		4	M10 nut.	37	D-10261/1M	1	Main frame.
ែថ		10	10 washer.	38		2	1" hore x 7/8"o/d x 1"
17	1	4	M10 x 35 long stud.			-	long oilite hush.
18		6	M10 x 30 long beyagon				tong office outline
		-	head bolt				





(



							• .	
<u>Ref.No</u> .	Part No.	<u>No.Off</u> .	Description.	<u>ilef.No</u> .	Part No.	<u>No.0ff</u> .	Description	
170	D-1026/325	1	Extension table.	177		6	3/8" BSF x 3/8" long	
171		2	M10 x 40mm long socket				socket set screw.	
			head capscrew.	178	A-1026/84	2	Extension table support	leg.
172	A-1026/80	4	Extension table adjuster plates.	179	·	4	M10 x 20mm long hexagon head bolt.	
173	A-1026/332	2	Extension table tie bar.	180	A-1026M/85	2	Extension table support	
174	•	1	M10 x 25mm long hexagon				feet.	
			head bolt.	181		8	M6 nut.	
175	A-1026/331	1	Extension table end support	182		16	6mm washer.	2
	,		bar.	183		8	M6 x 12mm long hexagon	
176	A-1026M/99	3	Tee filboe for extension table.				head bolt.	

MITRE FENCE ASSEMBLY.

Description

(





WOBBLE



211

218

224

223

215

213

213

212

216

213

211

210

Ref. No.	Part No.	No. Off	Description
230	A-1026/89	1	Wobble saw adaptor
231		1	3 dia x 12 long dowel
232	A-1026/292	2	Small wobble saw collar
233	•	1	6 dia x 10 long fluted dowel
234	A-1026/291	1	Large plain wobble saw collar
235	B-S-71B	1	6" dia. wobble saw
236	A-1026/290	1	Large spigotted wobble saw collar
237	A-1026/293	1	Wobble saw locknut
238	A-1026/294	2	Wobble saw toggle bar

XTRA)

SAW ASSEMBLY.

NOTE:-When ordering replacement parts quote Part No. and Serial No. of Machine.



(

(

SLIDING TABLE FITTED TO THE LEFT OF SAW CONVERTS MACHINE TO AN INEXPENSIVE PANEL SAW. MAXIMUM WIDTH OF PANEL WHICH CAN BE CUT 33" \times 1" (838MM \times 25MM). WHEN NOT REQUIRED TABLE FOLDS OUT OF THE WAY OF THE OPERATOR.

THE ILLUSTRATED JOINTS CAN BE COREADILY DONE ON THIS MACHINE, SOME MAY REQUIRE SIMPLE JIGS.



