



OPERATING INSTRUCTIONS MAINTENANCE AND PARTS LIST BOOK

4 1/2" X 3" PLANER AND MOULDER
TYPE BFO

INSTRUCTION BOOK No. B470

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IT IS DESIRABLE THAT THIS BOOK BE GIVEN TO THE OPERATOR OF THE MACHINE

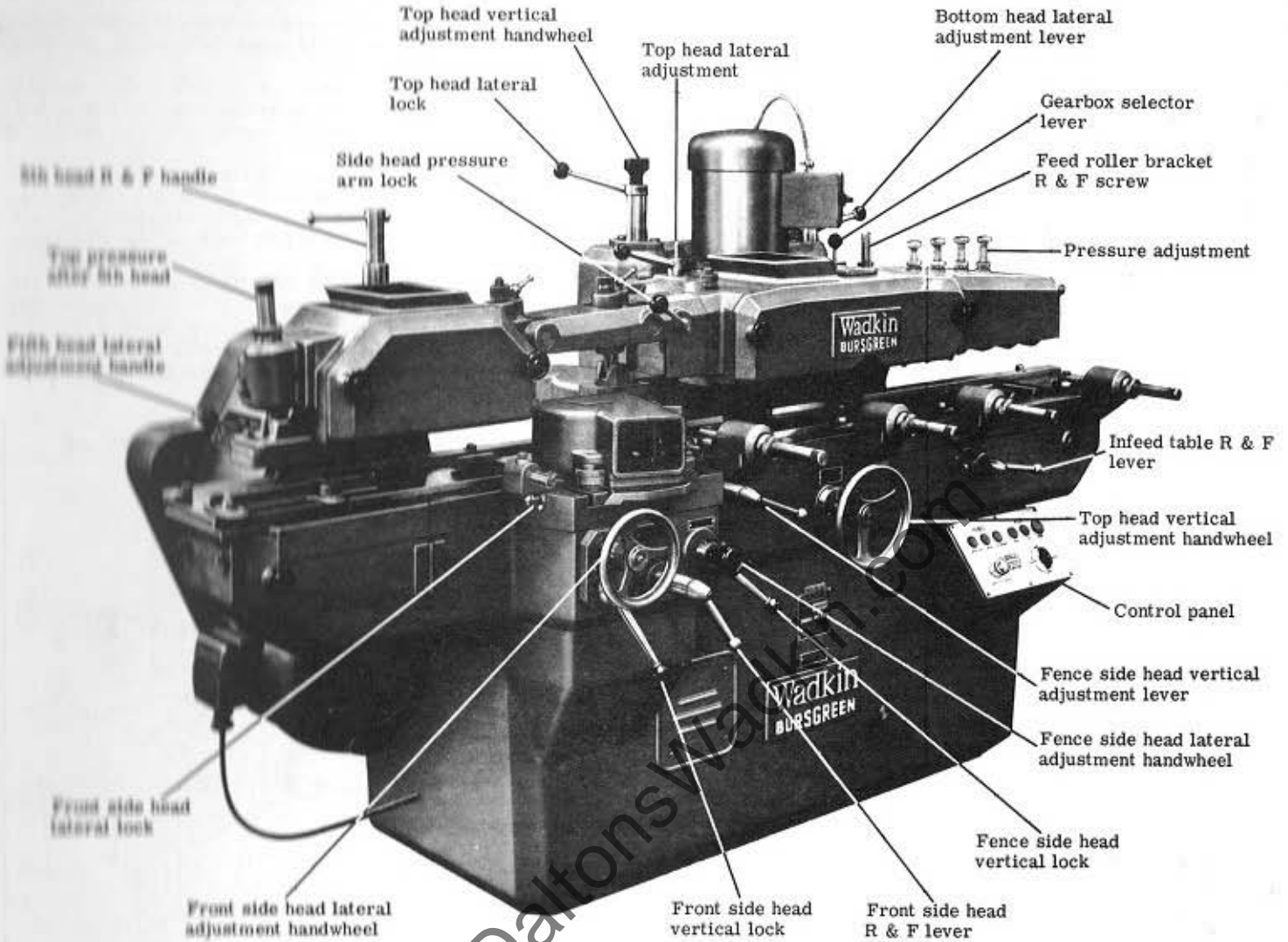
USER PLEASE INSERT SERIAL

NUMBER OF MACHINE

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

BB

4½ x 3" PLANER AND MOULDER BFO



BFO INSTRUCTIONS

SPECIFICATION

Maximum size of timber admitted	4¾" x 3¼"	120 x 90mm
Minimum length of timber	9"	220mm
Yield of feed rolls, pressures and chipbreakers, except on maximum size stock	3/8"	10mm
Length of cutterblocks for horizontal heads	4¾"	120mm
Length of Cutterblocks for side heads	3½"	90mm

Cutting circles :-

	Std. cutting	maximum moulding		
	Circle	Dia		
Bottom Head	5"	5¾"	127mm	146mm
Top Head	5"	7"	127mm	178mm
Fence side head	5"	6½"	127mm	159mm
Front side head	5"	6½"	127mm	159mm
5th head :- Top	5"	7"	127mm	178mm
Bottom	5"	7"	127mm	178mm

Note:- Top and front side head can be fitted with 4" (101mm) dia. cutterblocks. 9" (229mm) dia can be used on 5th head when in top position only.

Diameter of feed rolls	2, 7/8"	73mm
Feed speeds per min with single speed motor	20, 35 & 50ft	6, 10 & 15m
Feed speeds per min with two speed motor	10, 17½, 20, 25, 35 & 50ft	3, 5, 6, 7 5, 10 & 15m
Motor for first top and bottom heads		7½HP
Motor for side heads		5HP
Motor for 5th head		5HP
Feed motor, single speed		3HP
Spindle speeds, all heads		5,000 rpm
Spindle end diameter, all heads optional	1¼" 30mm	32mm

4 Head Machine

5 Head Machine

Floor space	72" x 36"	1, 630 x 890mm	84" x 35"	2, 130 x 890mm
Approx. net weight	2464lbs	1118kg	2688lbs	1219kg
Approx. gross weight	3102lbs	1448kg	3584lbs	1626kg
Machine dimensions	106cu ft	3m ³	130cu ft	3.68m ³

INSTALLATION

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

WIRING DETAILS

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

Points to note when connecting to power supply:-
Check that the voltage, phase and frequency correspond to those on the motor plate, also the correct coils and heaters are fitted to the starters.

It is important that the correct size of cable is used to give the correct voltage at the starter. Too light a cable will give a voltage drop at the starter and may damage the motor.

Check the main line fuses are of the correct capacity. See list below. When an isolator is fitted, the fuses are of the correct capacity as received.

Connect the line leads to the appropriate terminals. See fig. 5 or wiring diagram.

Check all connections are sound.
Check the rotation of all the motors for the correct direction, if this is incorrect reverse any two of the line lead connections.

Two Head Machine

Voltage	Phase	HP	SWG Tinned Copper Wire	Amps
400	3	7½/5/3	17	65
420, 440	3	7½/5/3	18	45
460	3	7½/5/3	19	38

Three Head Machine

Voltage	Phase	HP	SWG Tinned Copper Wire	Amps
400	3	7½/5/3/5	15	75
420, 440, 460	3	7½/5/3/5	18	45

FOUNDATION

See fig. 3 for foundation bolt positions and clearances required. Foundation bolts are not supplied with the machine but are available at a reasonable extra charge.

LUBRICATION

Lubrication should be carried out as shown in fig. 4.
It is advisable to keep all bright parts covered with a thin film of oil to prevent rusting.

DUST EXHAUST SYSTEM

The size of all dust outlets are shown in fig. 4.
We have developed with Messrs. Dallow Lambert of Leicester a special collector unit for this machine which represents a big advance on the usual practise of coupling each head independently to the main exhaust system. We shall be pleased to supply details and quotation by request.

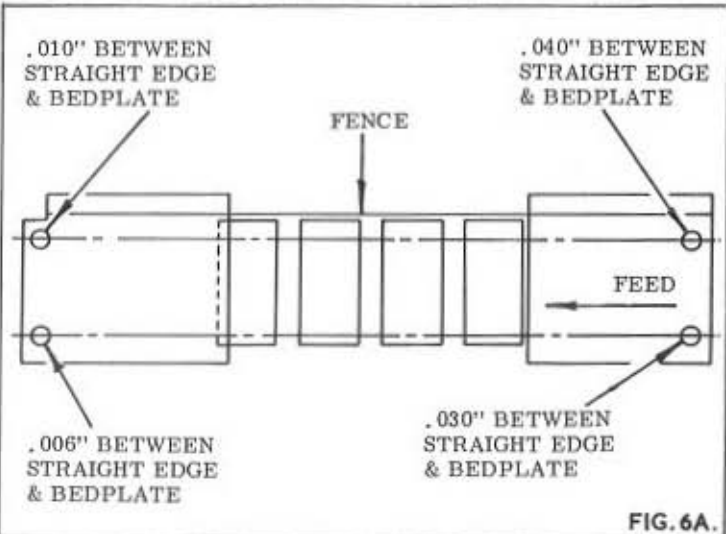
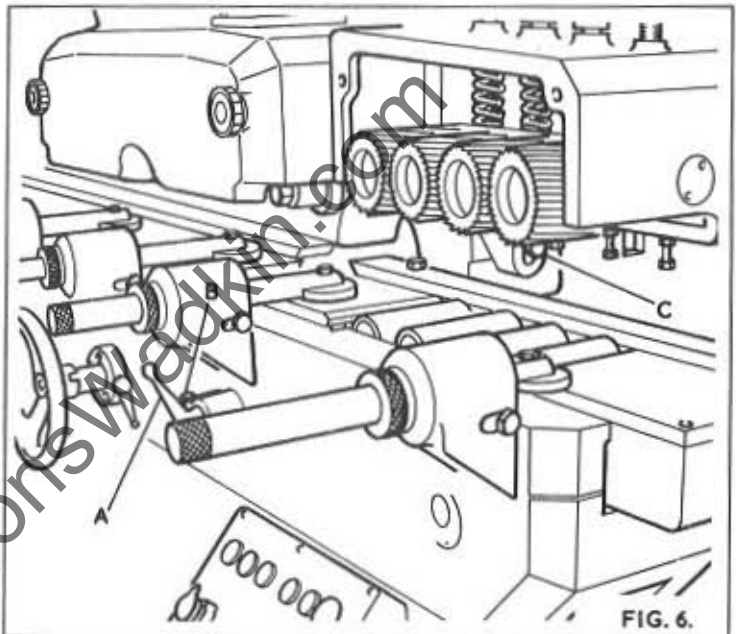
OPERATING INSTRUCTIONS FOR ELECTRICAL CONTROLS

All the electrical controls are conveniently placed at the in-feed end of the machine. The panel contains the following control buttons.

Controls for the feed:- In addition to the normal start and stop push buttons an inch button and reversing switch are provided. The inch button operates the feed in either direction for the period it is depressed only.

Controls for the heads:- One motor drives both side heads and a second motor drives both horizontal heads. These and the motor for the extra head when supplied are controlled by separate push buttons. One push button controls both heads as indicated as one motor drives 2 heads.

A master button is provided which when operated stops the whole machine. This button is fitted with a "lock-off" feature and can be pushed in and half turned to lock the button in the "off" position, thus rendering all the controls inoperative. It should be used when leaving the machine or when attending to the cutterblocks to prevent accidental starting.

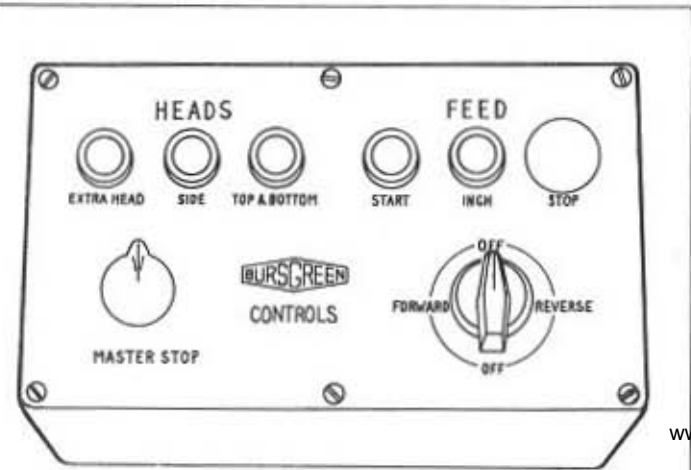


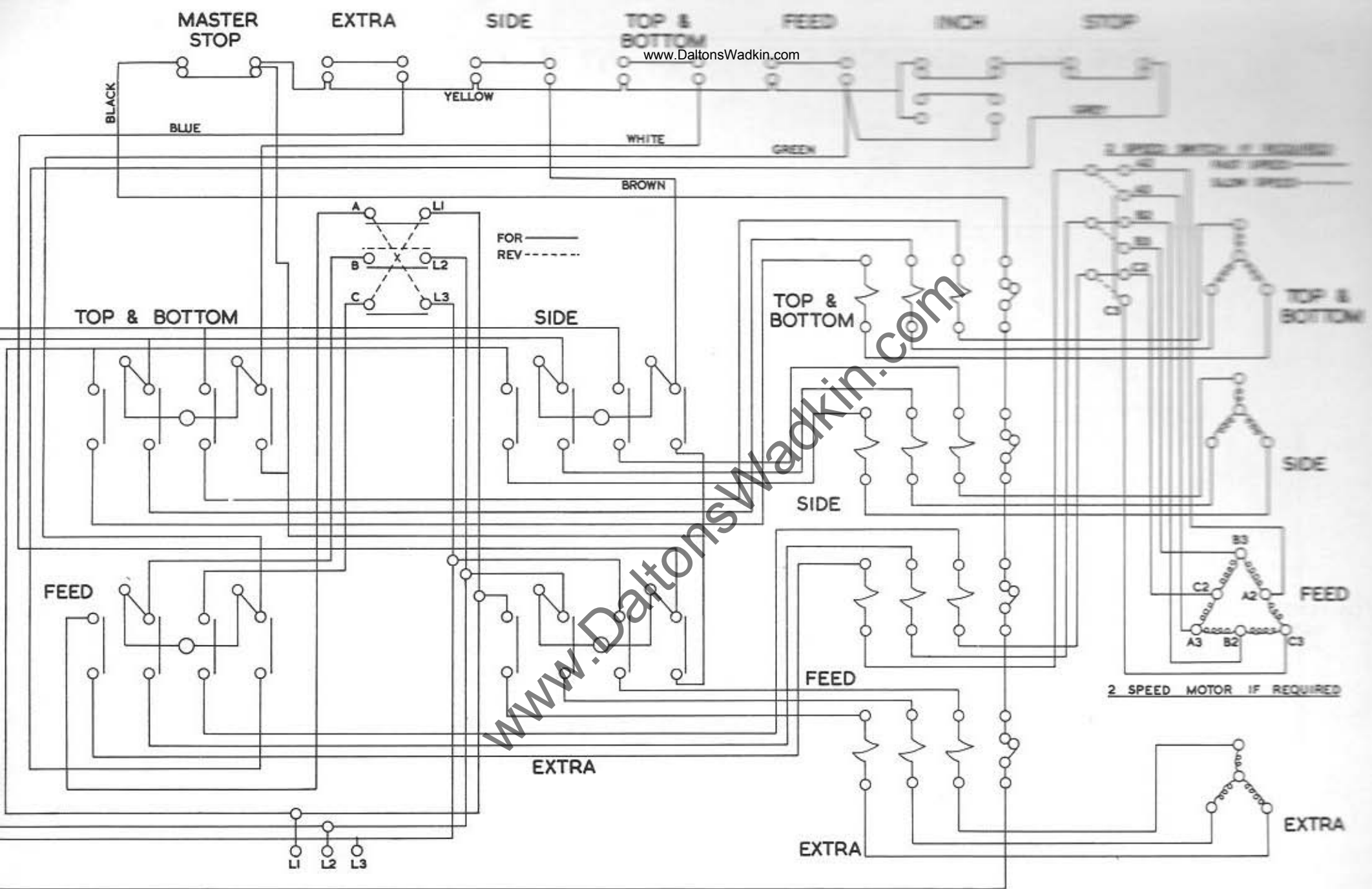
INFEEED TABLE.

The infeed table is fitted with renewable bedplates and four ball bearing mounted rollers. The table has a total movement of 5/16" (8mm) which is controlled by the lever "A", in fig. 6. The table should be set to give the amount of cut required on the bottom head and can be locked in any position by means of the hexagon head bolt "B".

The ball bearing mounted rollers are set directly below the power driven feed rollers to reduce the friction on the feed to a minimum.

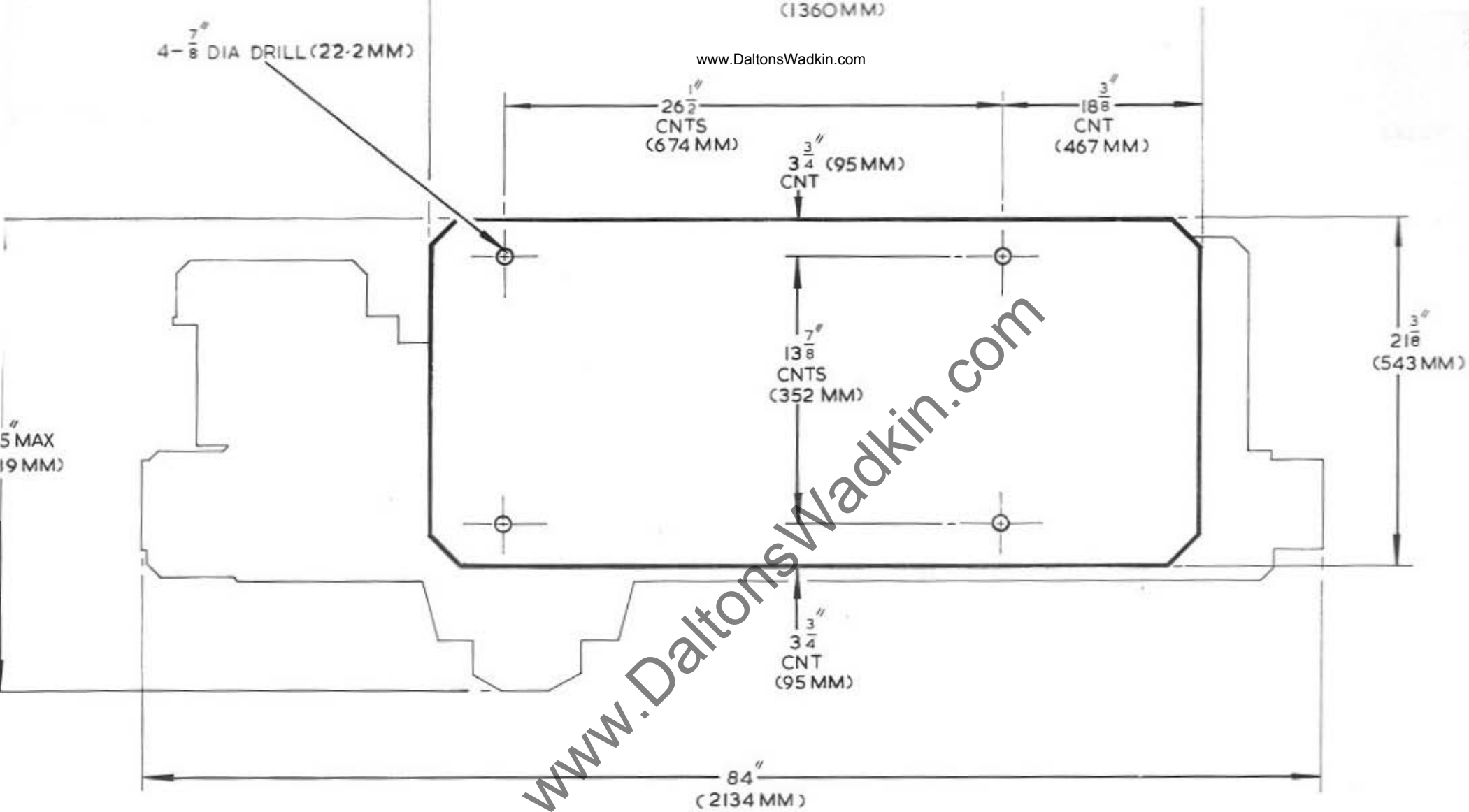
are set at works in accordance with dimensions shown in fig. 6(a). The rollers can be adjusted by means of the 6 grub screws in the side plates carrying these rollers. Care should be taken to ensure that the rollers are set to the





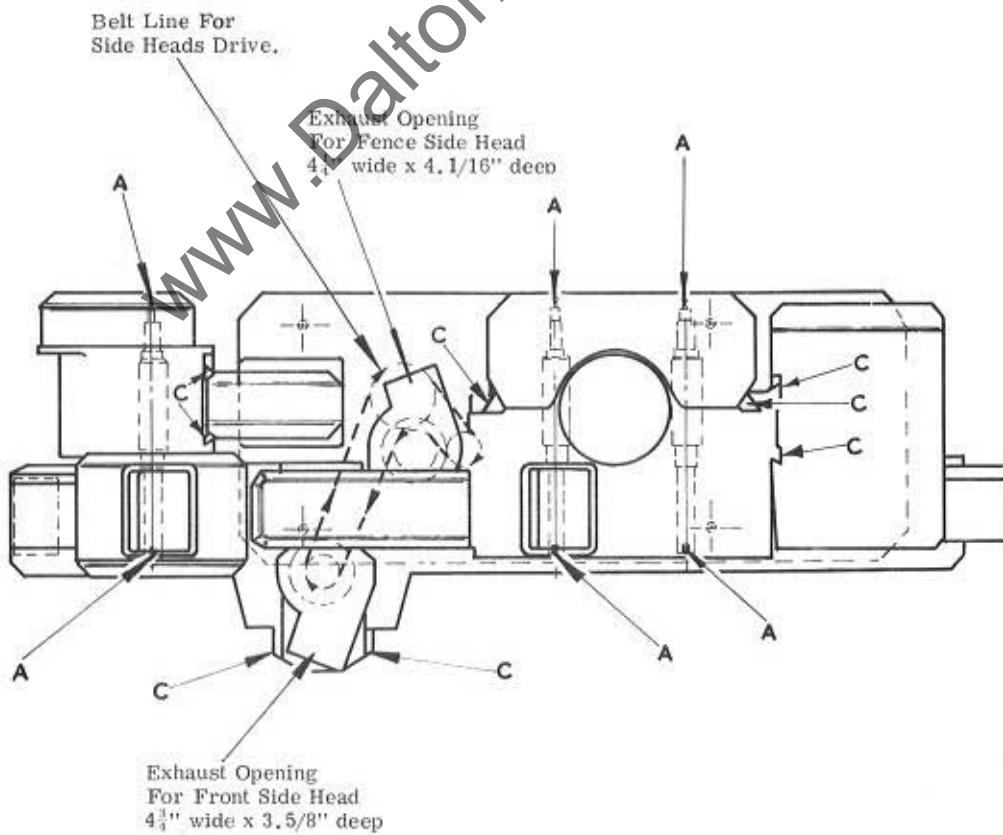
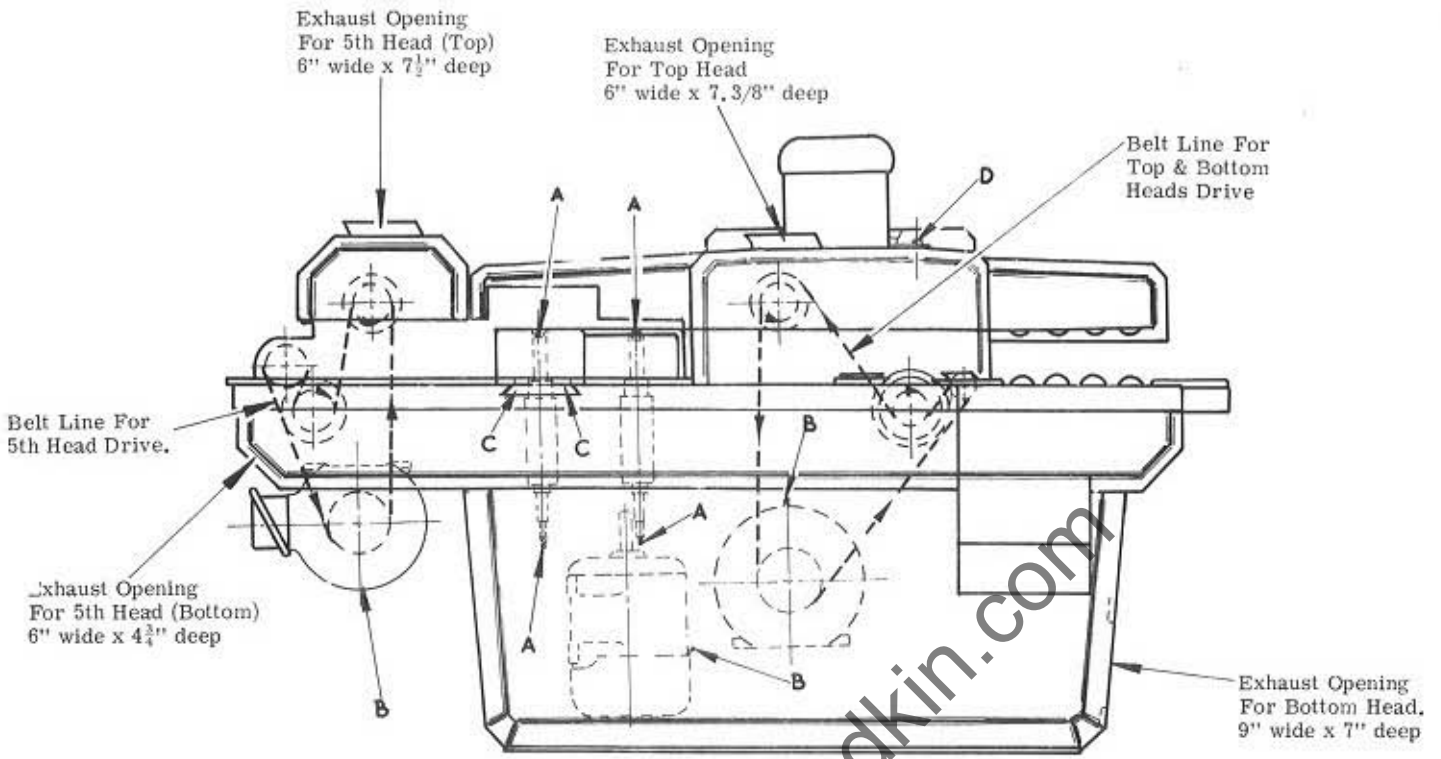
WIRING DIAGRAM 3 PHASE SUPPLY

FIG 2.



FOUNDATION PLAN FOR $4\frac{1}{2}$ " X 3" MOULDER TYPE BFO.

FIG 3.



LUBRICATION INSTRUCTIONS

- POINT "A" ONE SHCT CF GREASE PER WEEK.
- POINT "B" ONE TURN CF GREASE BOTH ENDS CF MCTOR PER MONTH.
- POINT "C" OIL SLIDES WEEKLY.
- POINT "D" TCP UP TO OIL LEVEL WEEKLY USING EP LUBRICANT.

TYPE OF GREASE RECOMMENDED:- SHELL ALVANIA 3.
TYPE OF OIL RECOMMENDED, POINT C:- CASTROL PERFECTO R, R.

WORKS

The feed rollers are chain driven from a 3 speed gearbox (feed speeds of 20, 35 and 50ft/min (6, 10 and 15m/min)) a single speed motor, and feeds speeds of 10, 17½, 20, 25, 35 0ft/min, from a two speed motor.

The gearbox is controlled by means of lever "A" in fig. 8 and two speed motor, when fitted, is controlled by a rotary switch which is mounted direct to the motor.

The feed chain can be tensioned by means of the adjustable roller, at rear of machine. Care should be taken when adjusting tension that the feed roller sprockets can move freely when timber is fed through the machine.

It should be noted that the feed rollers pivot from the rear of roller bracket and the correct feeding position for these rollers is when the rollers are parallel to the bed when timber is fed to the machine. This is shown in fig. 7 and, if not observed, will result in poor feeding. Pressure on the rollers can be increased or decreased by means of the knurled knob "A".

The whole feed roller assembly can be raised or lowered independently to the top head bracket by means of the adjusting screw "B", in fig. 8, to correspond to the cutting circle being used on the top head. Before adjusting the feed roller assembly a hexagon nut "C", in fig. 6 re-lock securely before feeding timber through the machine.

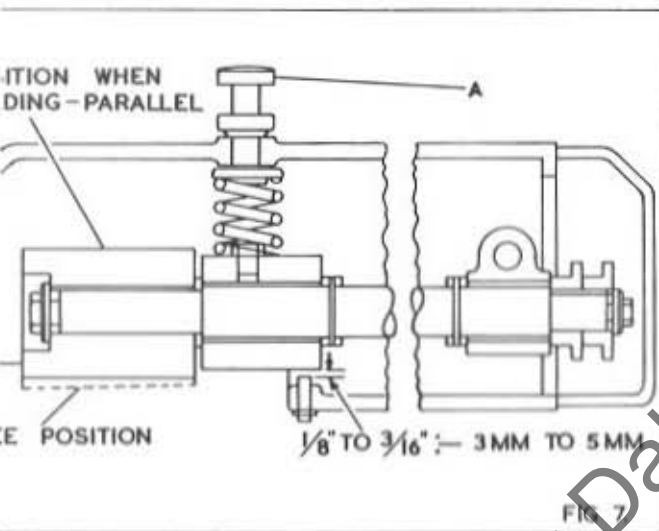


FIG 7

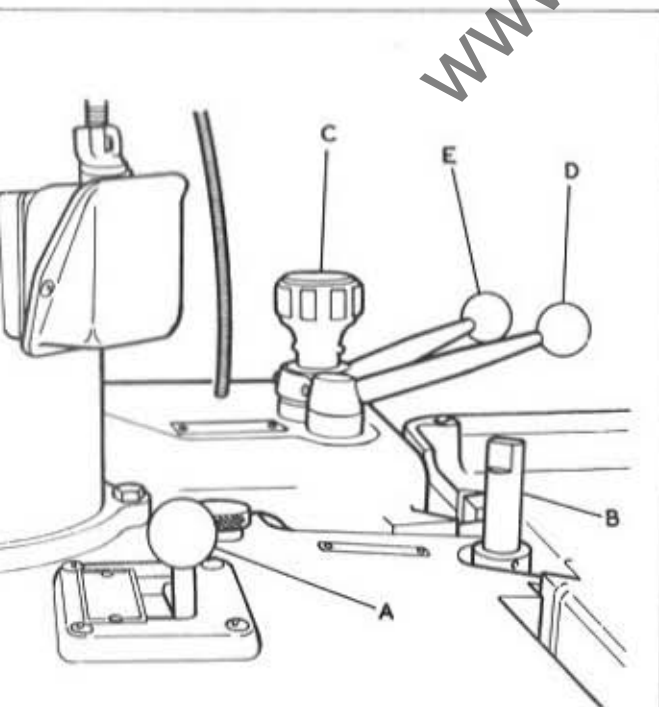


FIG 8.

BOTTOM HEAD

The drive to this head is by a flat belt from a 7½HP motor which also drives the top head. The spindle end is 1¼" (30mm) diameter with a 3/8" (10mm) wide keyway and runs at a speed of 5,000rpm.

There are two blocks fitted to this spindle one 3" (76mm) square x 4¼" (121mm) long and a thin circular cutterblock 6¼" (159mm) dia x 5/8" (16mm) thick which is fitted with tungsten carbide tipped cutters. The purpose of this block is to clean up the fence side of the stock on its passage through the machine, to the depth of the fence thus giving a register face to the stock. It is most important that this block is set to cut exactly in line with the fence directly after the bottom head. If the block is incorrectly set it will result in badly finished work and incorrect feeding.

The spindle is provided with fine vertical adjustment of 3/8" (10mm) by a worm and raked quadrant set into the spindle quill. The vertical adjustment is operated by handwheel "C", in fig. 8. Lateral adjustment of ½" (13mm) is also provided to the head by means of lever "D". Both movements are locked simultaneously by means of lever "E".

The standard cutting circle diameter of the main cutterblock is 5" (127mm) and a maximum moulding diameter of 5¾" (146mm) can be obtained.

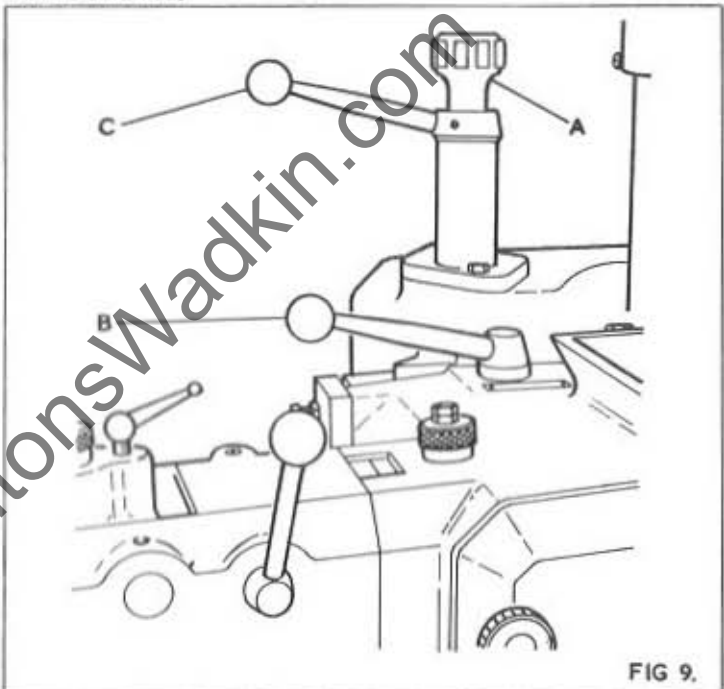


FIG 9.

TOP HEAD

The drive to this head is by a flat belt from the same 7½HP motor which drives the bottom head. The spindle end is 1¼" (30mm) diameter with a 3/8" (10mm) wide keyway and runs at a speed of 5,000 rpm.

The block fitted to the spindle is 3" (76mm) square x 4¼" (121mm) long.

The spindle is provided with fine vertical adjustment of 3/8" (10mm) by means of a worm and raked quadrant set into the spindle quill. The vertical adjustment is operated by handwheel "A" in fig. 9. Lateral adjustment of ½" (13mm) is also provided to the head by the lever "B". Both movements are locked simultaneously by means of lever "C".

The standard cutting circle of the cutterblock is 5" (127mm) and a maximum moulding diameter of 7" (178mm) can be obtained.

FENCE SIDE HEAD

The drive to this head is by a flat belt from a 5HP motor which also drives the front side head. The spindle end is 1¼" (30mm) diameter with a 3/8" (10mm) wide keyway and runs at a speed of 5,000rpm.

The block fitted to the spindle is 3" (76mm) square x 3¼" (83mm) long.

The spindle is provided with fine lateral adjustment of 3/8" (10mm) by means of a worm and raked quadrant set into the spindle quill. The lateral adjustment is operated by handwheel "A" in fig. 10. Vertical adjustment of ½" (13mm) is also provided to the head by the lever "B". Both movements are locked simultaneously by means of lever "C".

The standard cutting circle of the cutterblock is 5" (127mm) and a maximum moulding diameter of 6¼" (159mm) can be obtained.

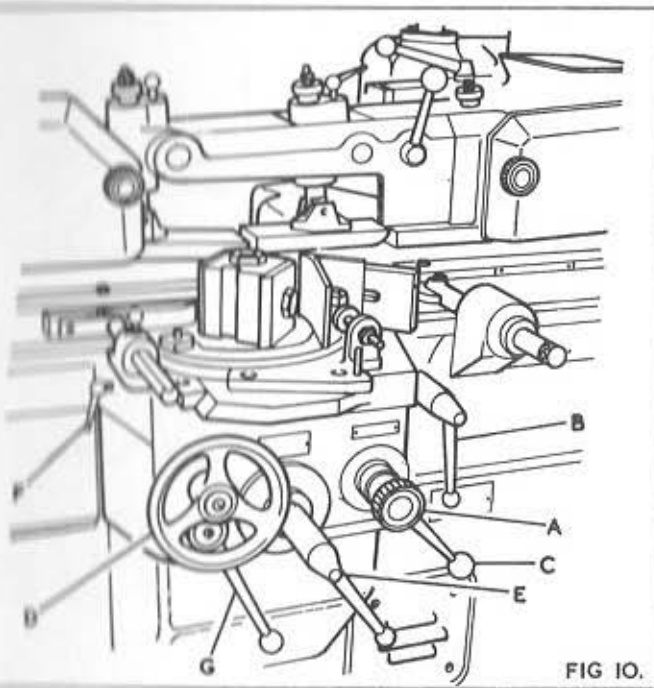


FIG 10.

FRONT SIDE HEAD

The drive to this head is by a flat belt from the same 5HP motor which drives the bottom head. The spindle end is $1\frac{1}{4}$ " (30mm) diameter with a $\frac{3}{8}$ " (10mm) wide keyway and runs at a speed of 5,000 rpm.

The block fitted to the spindle is 3" (76mm) square x $3\frac{1}{4}$ " (89mm) long.

The spindle is provided with lateral adjustment of $4\frac{3}{8}$ " (113mm) by means of a screw through handwheel "D" in fig. 10. Vertical adjustment of $\frac{1}{2}$ " (13mm) is also provided to the head by the lever "E". The lateral movement to this head is locked by means of two ball lever "F" and the vertical movement is locked by means of lever "G".

The standard cutting circle of the cutterblock is 5" (127mm) and a maximum moulding diameter of $6\frac{1}{4}$ " (159mm) can be obtained.

EXTRA HEAD

An extra head is available as an optional extra and can either be used as a top or bottom head.

The drive to the head is by means of a flat belt from a 5HP motor. The spindle end is $1\frac{1}{4}$ " (30mm) diameter with a $\frac{3}{8}$ " (10mm) wide keyway and runs at 5,000rpm.

The cutterblock fitted to the spindle is 3" (76mm) square x $4\frac{3}{4}$ " (121mm) long.

Vertical adjustment to the head is by the handle "A" in fig. 11 and lateral adjustment of $\frac{1}{2}$ " (13mm) by the lever "B". The vertical movement of the head is locked in any position throughout its travel by means of the two ball lever screw "A" in fig. 12 and the lateral movement is locked by the hexagon nuts "C" in fig. 11 depending whether the head is being used as a top or bottom head.

The belt drive to this head is as shown, in fig. 12 and tension is provided by the jockey pulley "B" depending on the position of the head.

When the head is being used in the top position the standard cutting circle of the cutterblock is 5" (127mm) and a maximum moulding diameter of 7" (178mm) can be obtained.

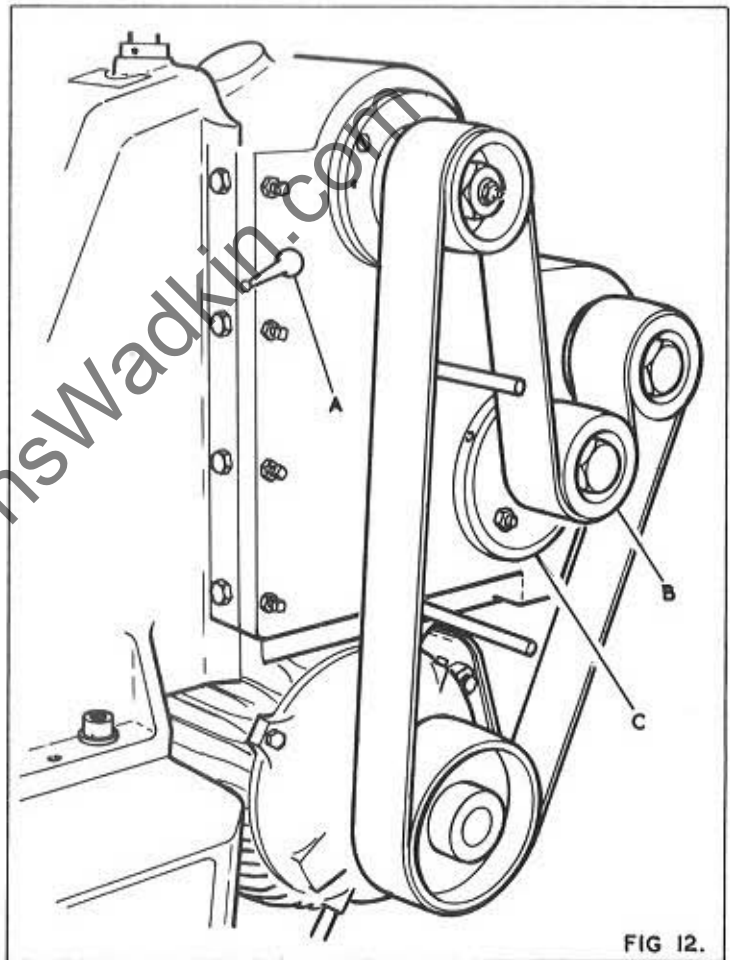


FIG 12.

INSTRUCTIONS FOR CHANGING POSITION OF HEAD

To reverse the position of the head the undermentioned procedure should be followed:-

1. Remove cutterblock, belt guard at rear of head assembly, and the belt. Unlock hexagon head bolts "C" in fig. 11.
2. Ensure handle "B" is in centre of the vertical slot and move away from the main spindle assembly. The main spindle can be withdrawn at the rear of the machine.
3. Move handle "B" in the opposite direction to that in operation 2 and withdraw the dummy quill "C" in fig. 12 which also carries a jockey pulley.
4. Replace the dummy quill "C" in the position which is not being used and push up to the stop. Make sure that handle "B" in fig. 11 is in the vertical slot and away from the position in which the dummy quill is being fit.
5. Replace spindle assembly in the required position again ensuring that handle "B" is away from the position in which the spindle assembly is being fit, also the location peg on the quill locates in the main casting.

position of the bed plate "D" depending on whether the head is being used in the top or bottom position.

7. Replace belt, as shown in fig. 12 and re-tension belt by the jockey pulley on the dummy quill "C" and then replace belt guard.

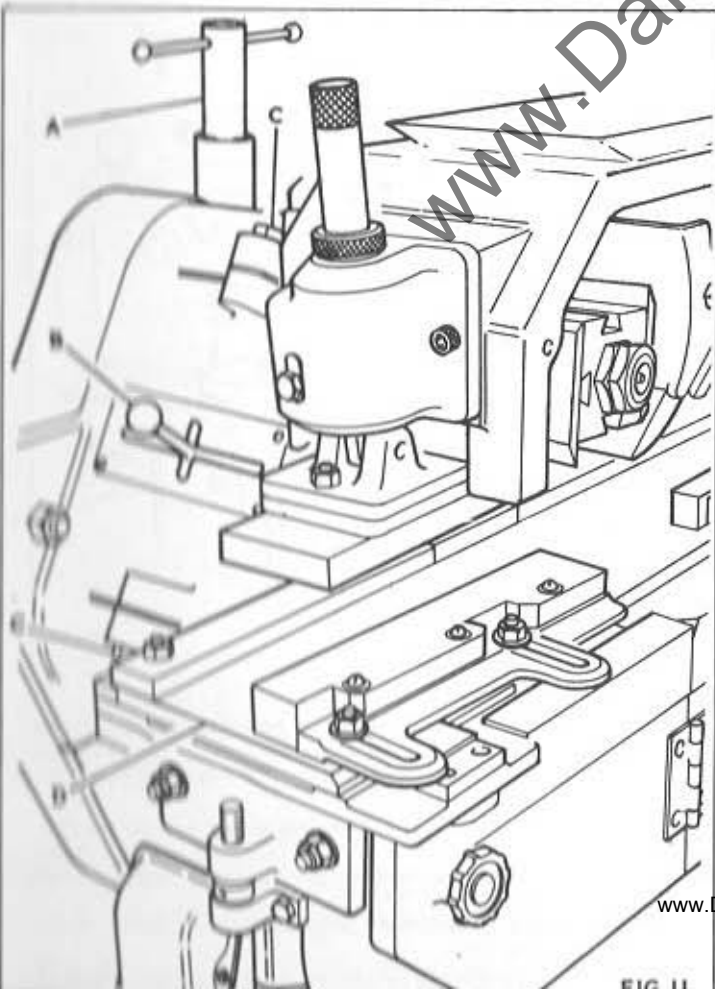


FIG 11.

B.

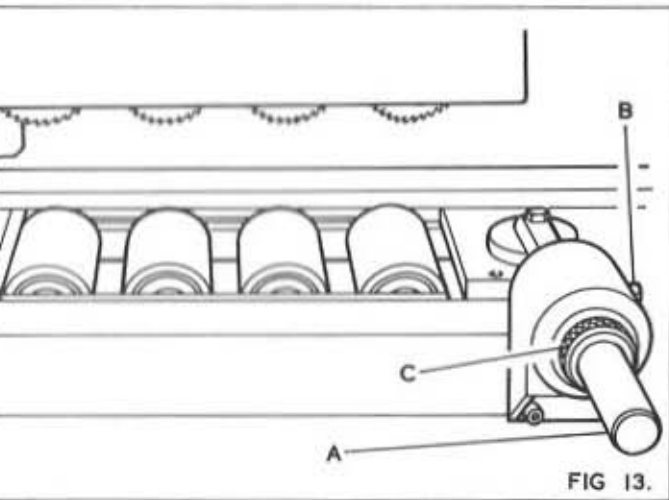


FIG 13.

PRESSURES

First side pressure

The first side pressure is mounted on in-feed table before feed works as shown in fig.13. The roller is mounted on the adjustment bar "A". To set roller loosen hexagon nut "B", and move forward until roller touches timber, remove timber and move roller forward a further 1/4" (6mm) and lock nut "B". This should give the necessary pressure required for a good finish, but should further tension be required this should be done by adjusting the knurled knob "C". The spring loaded roller when correctly set will allow for a maximum variation in timber of 3/8" (10mm) without altering the setting of the pressure unit, except on maximum size stock.

Second Side pressure before Bottomhead

The second side pressure is identical to the first side pressure and is adjustable in exactly the same manner.

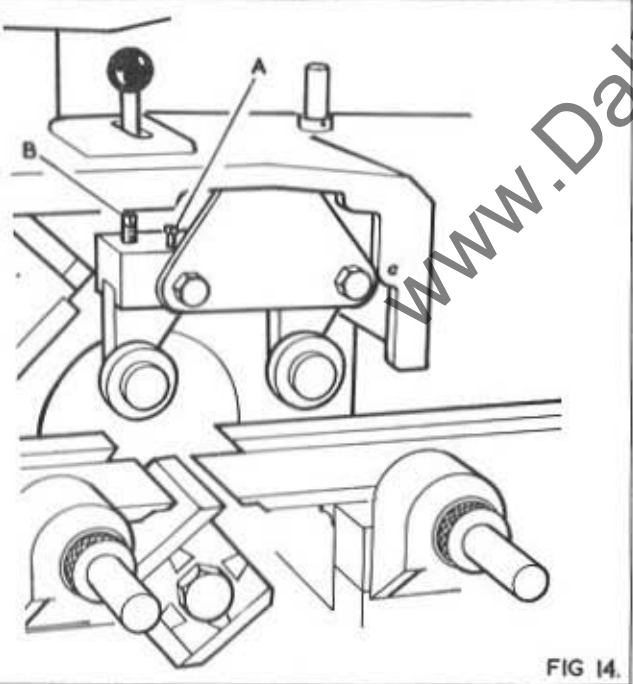


FIG 14.

PRESSURES OVER BOTTOM HEAD

Two spring loaded roller pressures straddle the bottom head. Pressures are mounted on circular bars secured to the main casting which enables the pressure unit to be moved in or out to varying widths of timber. To slide pressure unit, loosen the head bolt "A" in fig.14 and position where required and lock in position. The spring pressure can be increased or decreased on each by adjusting the square head fine thread screw "B". The rollers will yield for a maximum variation in timber of 10mm), except on maximum size stock.

PRESSURE BEFORE FIRST TOP HEAD

This side pressure is identical to the first side pressure and



FIG 15.

TOP PRESSURE AFTER TOP HEAD

The pressure is mounted to the main top head casting and moves up and down with the top spindle unit. To adjust the position of the pressure pad adjust the nuts "A" in fig.15. To increase the spring pressure adjust knurled knob "B".

The pressure shoe is fitted with an adjustable steel plate to which wood packing pieces to suit the shape of the stock can be fixed.

A steel pressure shoe is available as an optional extra, if required, to replace the wood pressure shoe supplied.

SIDE PRESSURE BEFORE FRONT SIDE HEAD

This side pressure is identical to the first side pressure and is adjustable in exactly the same manner.

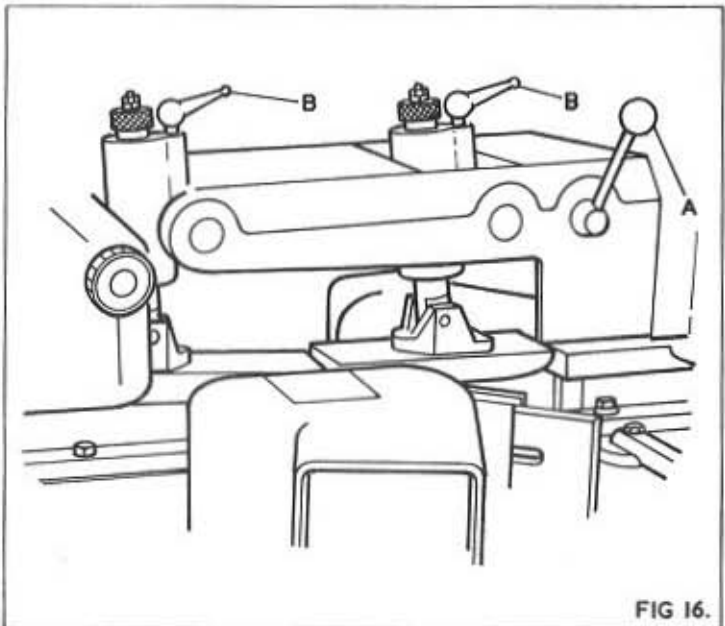


FIG 16.

PRESSURES BETWEEN SIDE HEADS

These pressures are mounted in a removable bracket, as shown in fig.16 for easy access to the side heads. To remove pressure bracket complete, loosen lever "A" and lift complete bracket clear.

The pressures can be positioned anywhere across the full width of the machine. To position where required loosen the ball lever screws "B" and slide pressures as necessary. Re-lock with ball lever screws "B".

These pressures adjustments are identical to those of the pressure after the top head.

Steel pressure shoes are available as an optional extra, if

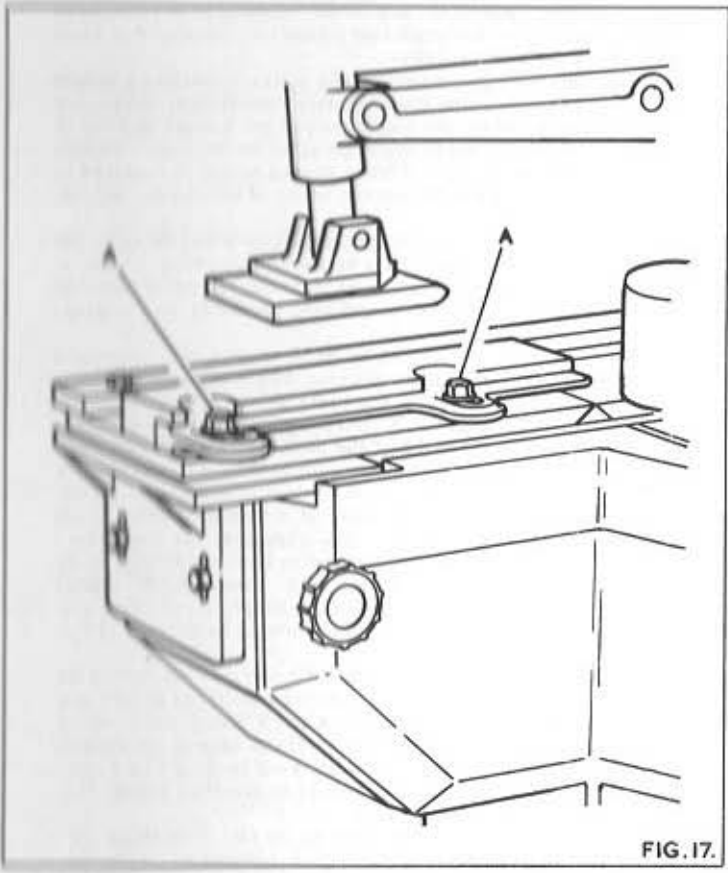


FIG. 17.

SIDE PRESSURE AFTER NEAR SIDE HEAD (4 Head Machine)

This pressure is of the solid type. The unit is slotted to give adjustment. To adjust the pressure loosen nuts "A", in Fig. 17 and position where required and relock nuts "A".

The front of this pressure plate is drilled to take a wood packing piece if required.

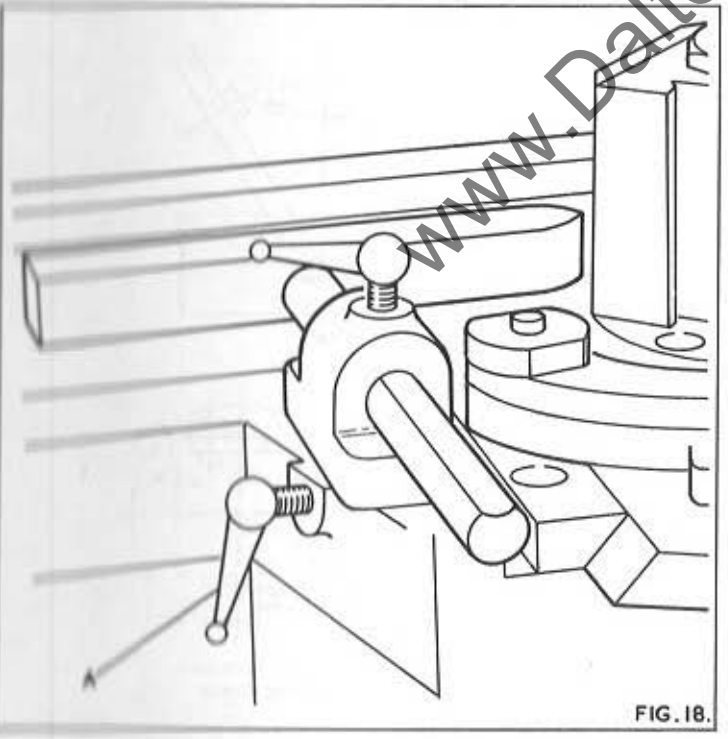


FIG. 18.

SIDE PRESSURE AFTER NEAR SIDE HEAD (5 Head Machine)

This pressure is the solid type. The unit slides on a bar and is locked in position by ball lever screw "A", in Fig. 18.

The front of this pressure plate is drilled to take a wood packing piece

SIDE PRESSURE AFTER EXTRA HEAD (5 Head Machine)

This is identical to the side pressure fitted after the near side head on a 4 head machine.

TOP PRESSURE AFTER EXTRA HEAD (5 Head Machine)

This pressure is identical to the side pressures before the side heads and is adjusted in exactly the same manner

The pad on this pressure is drilled to take a wood pressure pad.

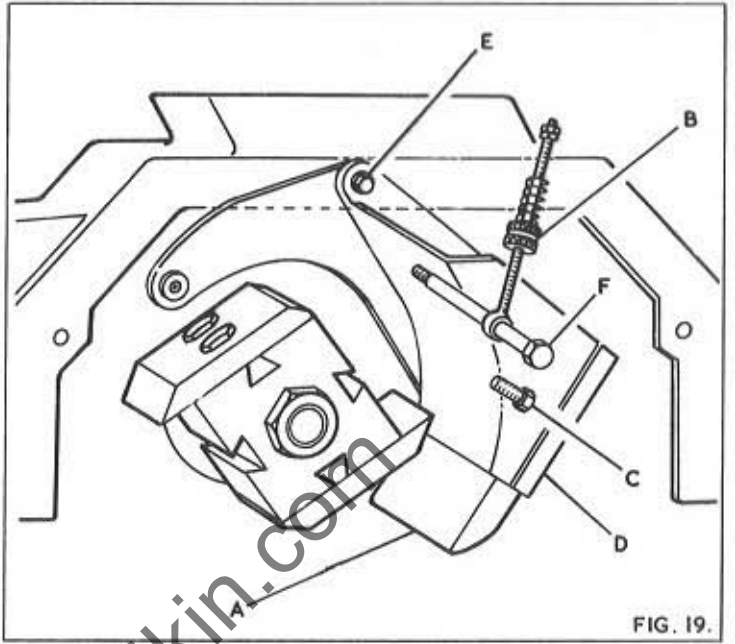


FIG. 19.

TOP HEAD CHIPBREAKERS

Chipbreakers are fitted to the top head of the machine also to the extra head for use when in the top position. A hardwood toe piece "E" in Fig. 19 is fitted which is easily renewed.

Spring pressure can be applied to the shoe of the chipbreaker by means of the knurled knobs "B". The hardwood toe piece is adjustable independent to the chipbreaker bracket by means of the nut "C" and trapping plate "D".

To adjust the hardwood toe accommodate cutting circles from 5" (127mm) to 7" (178mm) on the top head and up to 9" (229mm) on the extra head, loosen pivot bolt "E" and remove locking screw "F" position hardwood toe where required and relock in position.

A steel toe piece is available as an optional extra, if required, to replace the hardwood toe piece supplied.

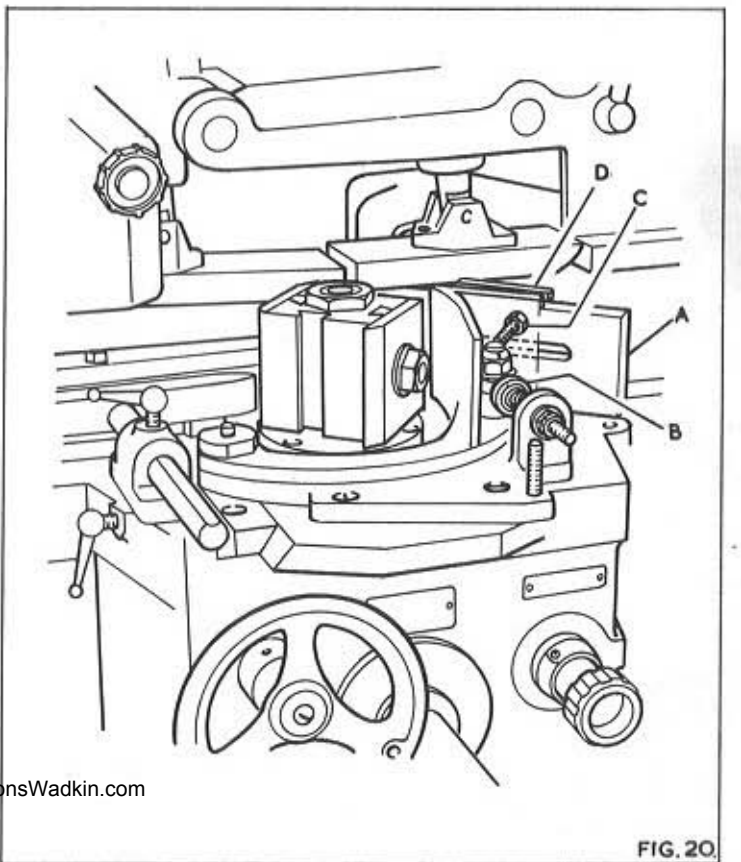


FIG. 20.

HEAD CHIPBREAKER

The chipbreaker fitted to the front side head is secured to the carrying the head and so moves with the whole head unit. A wood toe piece "A" in fig. 20 is fitted which can easily be set or renewed.

Working pressure can be applied to the shoe of the chipbreaker one of the knurled knobs "B". The hardwood toe piece is adjustable independently to the chipbreaker bracket by means "C" and trapping plate "D".

A steel toe piece is available as an optional extra, if required, faces the hardwood toe piece supplied.

INFEED FENCE

This fence is secured to the infeed table bracket and has a adjustment of $\frac{1}{4}$ " (19mm). This fence is to be set parallel to central fence and behind same by the required amount of cut to take on the rebate block fitted to the first bottom head.

REAR FENCE

This fence is fitted to the main table between the bottom head and rear side head. This is fixed and should not be moved. It is important that the rebate block cutters on the bottom head cut in line with this fence. If the block is not correctly adjusted will result in bad feeding and poor finish on the timber.

REAR FENCE

This fence is secured to main table after the rear side head has a total adjustment of $\frac{1}{4}$ " (6mm). This fence is to be parallel to the central fence and in front of same by the required amount of cut to be taken on the rear side head. It is important that the rear side head cutting circle is in line with this fence.

PLATES

Renewable steel bed-plates are fitted throughout the entire of the machine.

HEADS

These bed plates are adjustable in relation to the cutterblock lining on the cutting circle being used and to ensure support of timber as close to the cutting face as possible at all times.

INFEED TABLE

Bed plates are fitted to the in-feed table before and after the anti-friction rollers.

OUTFEED TABLE

This bed plate is directly under the first top head. A lead is fitted to this bedplate directly below the top head to prevent damage to the cutter should they inadvertently touch the timber.

OUTFEED TABLE

Machine :-

This bedplate goes from the front side head to the end of the infeed table.

Machine :-

The outfeed bedplate is split into 2 on this machine from the front side head to the extra head when used as a bottom head. The outfeed bedplate is adjustable to provide a gap in the bedplates to allow for the bottom head. To adjust bedplate loosen nut "A" and position bedplate where required and re-lock nut "B".

The outfeed bedplate is fitted to an adjustable table which can be set in line with the minimum cutting circle when this is used in the bottom position. To adjust the table loosen hexagon nuts "B" and adjust screw "C" to the required position and re-lock nuts "B".

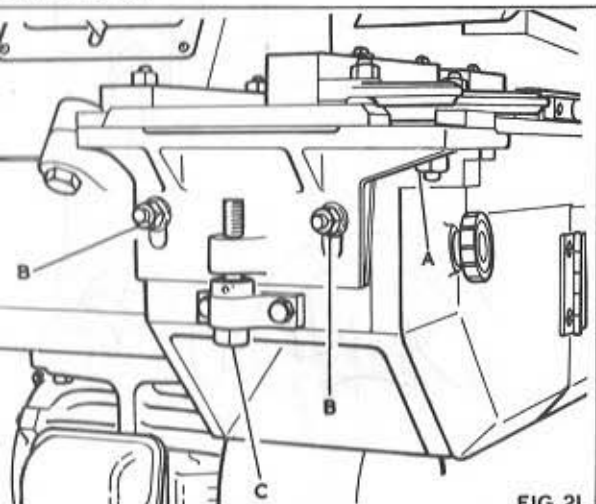


FIG 21.

Shaping Cutters

When shaping cutters for any mould on any type of cutterhead or slotted collars it is important that the correct allowance is made to the depth of form of the cutter.

Fig. 22 shows the projections of the cutter to produce a simple rebate. For example using the 3" square cutterblock, to produce a $\frac{1}{2}$ " (19mm) deep rebate the cutter must have a depth of form of $7/8$ " (22mm) this being due to the angle at which the cutter strikes the work on the line "A, A." When a shaped mould is required to be cut it is necessary to plot out the form of the cutter; this is shown in Fig. 23.

It is important when selecting blanks from which to make the cutter that they have the minimum necessary overhang. Also, a blank as near the shape and width as possible should be selected so that there will be less waste and less chance of overheating cutters when grinding.

The minimum cutting circle is fixed to give the necessary clearance for the bolt head when working with straight irons only.

The cutting angle which is normally 35° is shown at "B" in Fig. 22 and the cutting angle at "C" this angle varies with the size of the cutterblock and the depth of the mould.

To obtain the correct cutter form for a shaped mould without using the moulders rule, it is necessary to plot this out as shown.

First the square block and cutter at minimum cutting circle are drawn out at "Y" in Fig. 23. The radius of the minimum cutting circle is drawn around to the centre line and divided up by the lines A, B, C, D and E, into either 1/16" (2mm) or 1/8" (3mm) according to the size and intricacy of the shape, these lines are then struck round from the centre line radially to the face of the cutter.

At "X" the lines A1, B1, C1, D1 and E1 are carried across as shown, also at "W" the mould is produced exactly as at "Z" and divided up the same, the lines 1, 2, 3, 4 and 5 which are from the points where lines A, B, C, etc. intersect the edge of the mould, are then drawn across to "X" thus E1 is cut by 1, D1 by 2 etc. The points of intersection are joined as shown thus giving the correct projected form of the cutter.

This takes up considerable time to do for each shape of cutters required, and can be very much reduced by using the moulders rule as shown in Fig. 24. This is a graph on which the form can be plotted and automatically gives the necessary allowance on the depth of form.

When the mould is to be a standard a template should be made to the projected form to which the cutters can be shaped when the job repeats. This will ensure uniformity on all future runs.

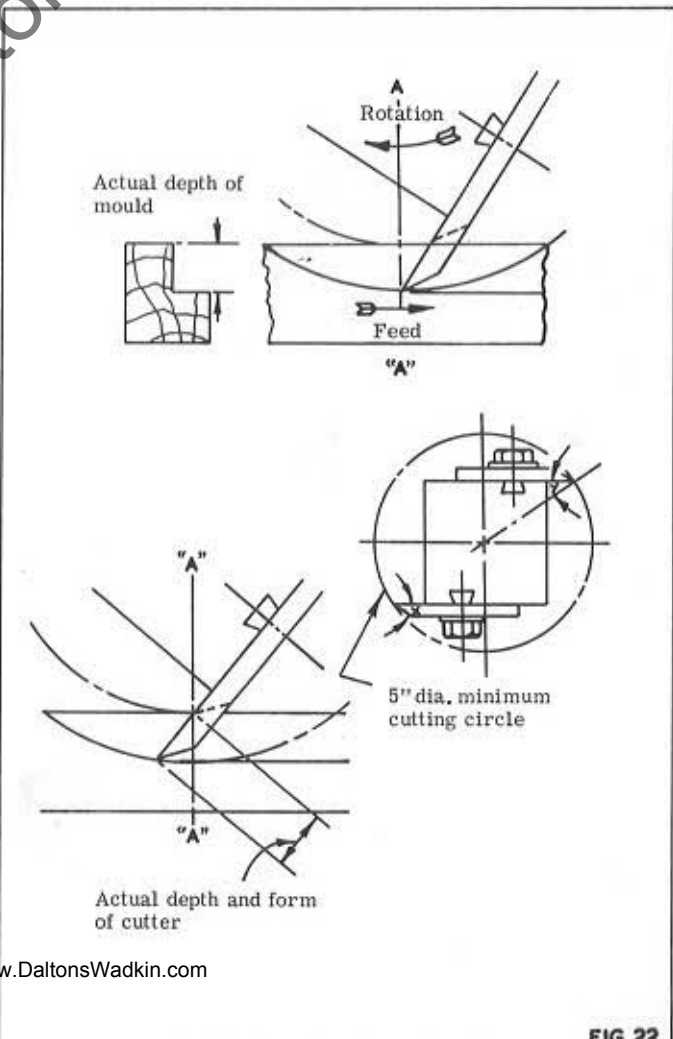


FIG 22.

Moulders Rule

A permanent moulders rule can be made by the customer in sheet brass and aluminium and will then be handy to use in the workshop.

To plot the form of a cutter by use of the moulder's rule it is necessary to draw the full size shape of the mould on tracing paper and rule 1/8" (3mm) squares as shown in Fig. 24. This is then placed alongside the moulders rule and projected across, this will give a series of dots which must be joined to give the form of the cutter. The cutter blank chosen must be wide enough to give at least 1/8" (3mm) overlap beyond the edge of the mould.

Cutter Grinding

Cutters should be ground carefully avoiding any overheating as this will crack or soften cutters so that they will not stand up to the work.

A solution of soluble oil and water should be handy and the cutters should be held in this occasionally to cool them. This solution will also prevent rusting. Cutters should never be allowed to become discoloured during grinding as this indicates overheating.

The correct cutting angle of 35° for most cutters should be maintained as this gives the correct strength of the cutting edge. When hollow grinding is carried out, the angle of the cutting edge, should be kept as near 35° as possible, see Fig. 25 (A) and (B).

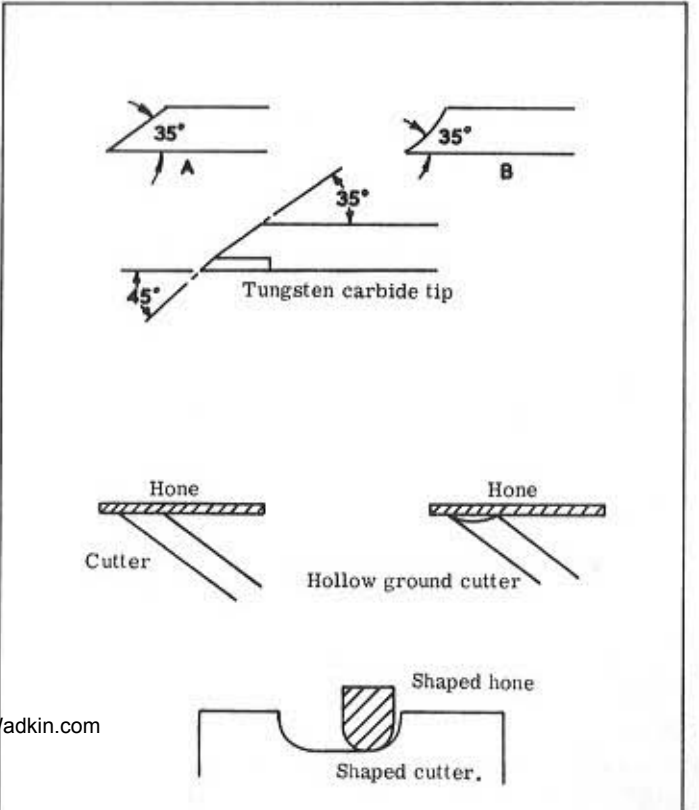
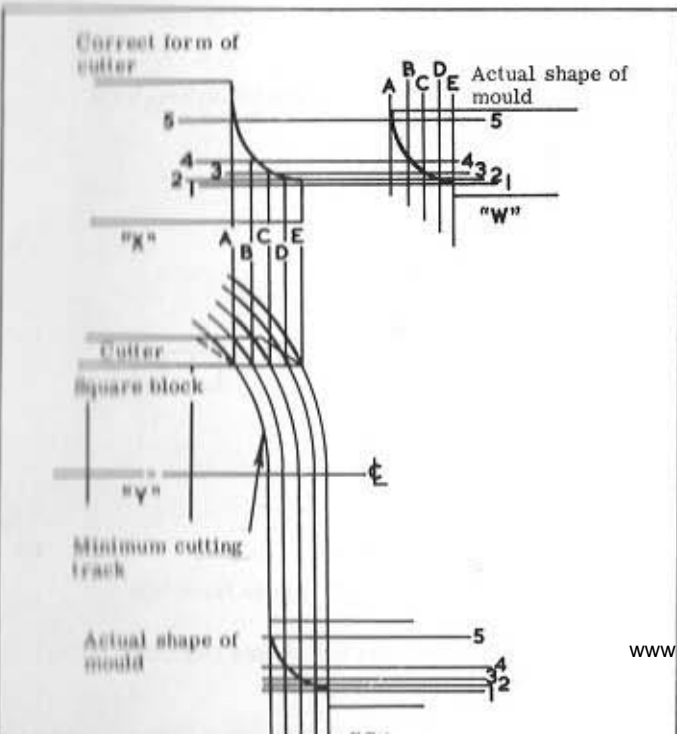
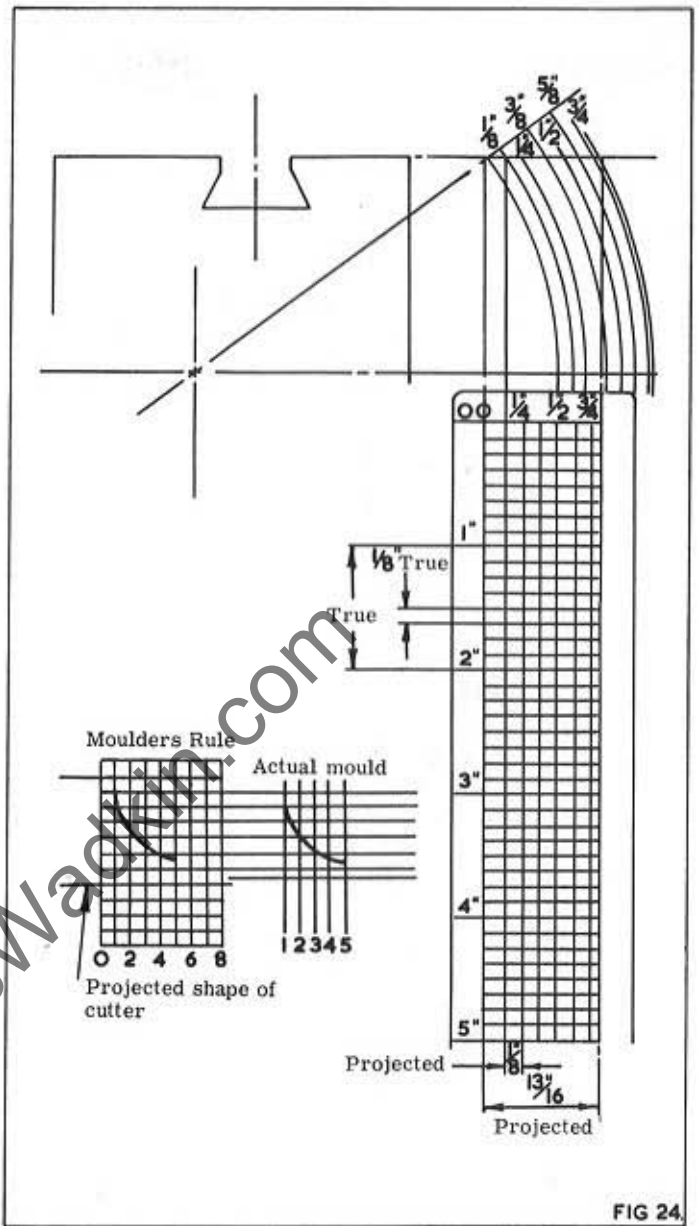
Hollow grinding is recommended whenever possible, as a keen cutting edge is more easily obtained when hand lapping. When lapping or stoning a flat ground cutter, a good edge is more difficult to obtain due to the tendency to rock the stone and leave a convex face.

Most open grain wheels should be used and should not be allowed to become glazed as this will cause excessive heat.

About 18" (304mm) diameter wheels used down to 10" (254mm) give the best radius for a hollow grind and an economic life 8" (204mm) wheels used down to 6" (153mm) leave the grind too hollow.

Tungsten carbide tipped cutters should be purchased to the shape required and re-ground only as necessary. In this case cutters should be relieved at 35° on the steel position and the tips finished with a diamond impregnated wheel at 45° as shown, using only very light cuts to prevent cracking. The diamond wheel should not be allowed to touch the steel backing as this clogs the wheel and causes excessive heat. Where available a copious flow of coolant should be used. They may be honed with a diamond hand lap, as the cutter becomes dull, until a regrind is necessary. A thin oil lubricant should be used on the hand lap.

All cutter blanks sent out by us are ground only, and, if used as chippers or rebate cutters, require honing with a 142 carborundum slip stone to produce a razor sharp edge before commencing to cut. This will ensure a good finish on the wood and an easy feed. Dull cutters give a poor, rough and plucked out finish, and make it difficult to feed the job past the cutters. Honing should be done by a reciprocating or rotary motion on the cutter, using a little paraffin to give "bite" to the stone. The honing stone is a much finer grit than the grinding wheel and leaves a sharp keen edge. A number of honing stones of different shapes, e.g. round sticks or square sticks will be found helpful in honing shaped cutters.



BELT DRIVE LAYOUT

EXTRA HEAD

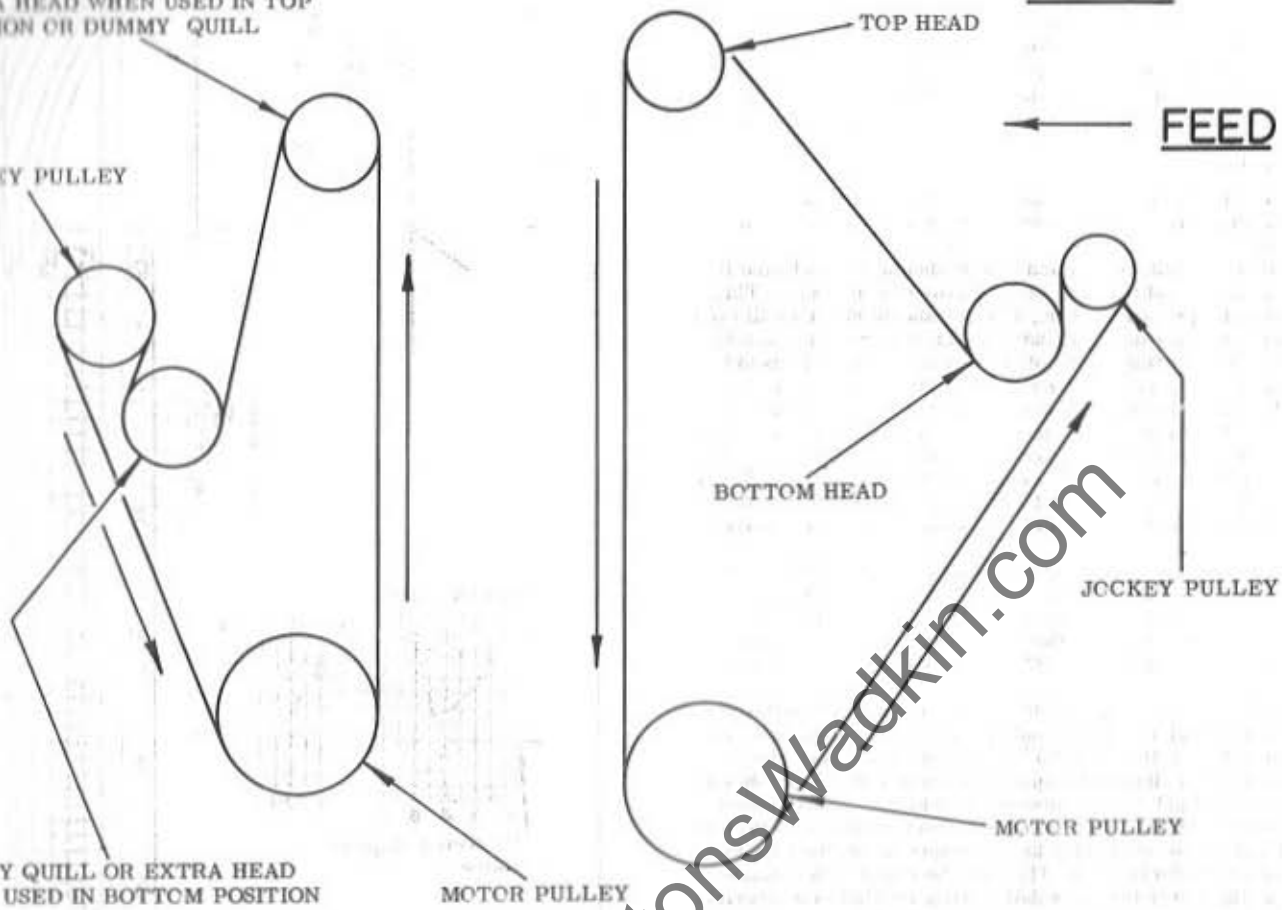
EXTRA HEAD WHEN USED IN TOP POSITION OR DUMMY QUILL

JOCKEY PULLEY

DUMMY QUILL OR EXTRA HEAD WHEN USED IN BOTTOM POSITION

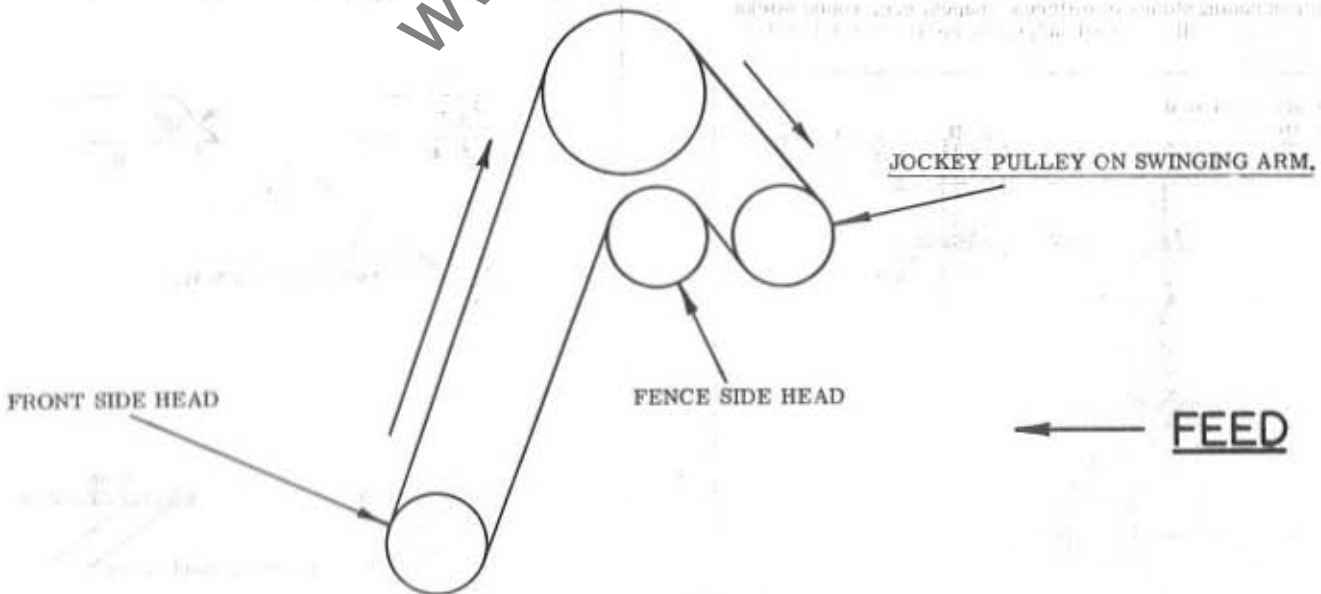
FRONT SIDE VIEW

TOP & BOTTOM HEADS



PLAN VIEW

FENCE SIDE & FRONT SIDE HEADS



HEADS

1' long x 2" wide meteor flat belt, double faced type S. (11 frequencies)

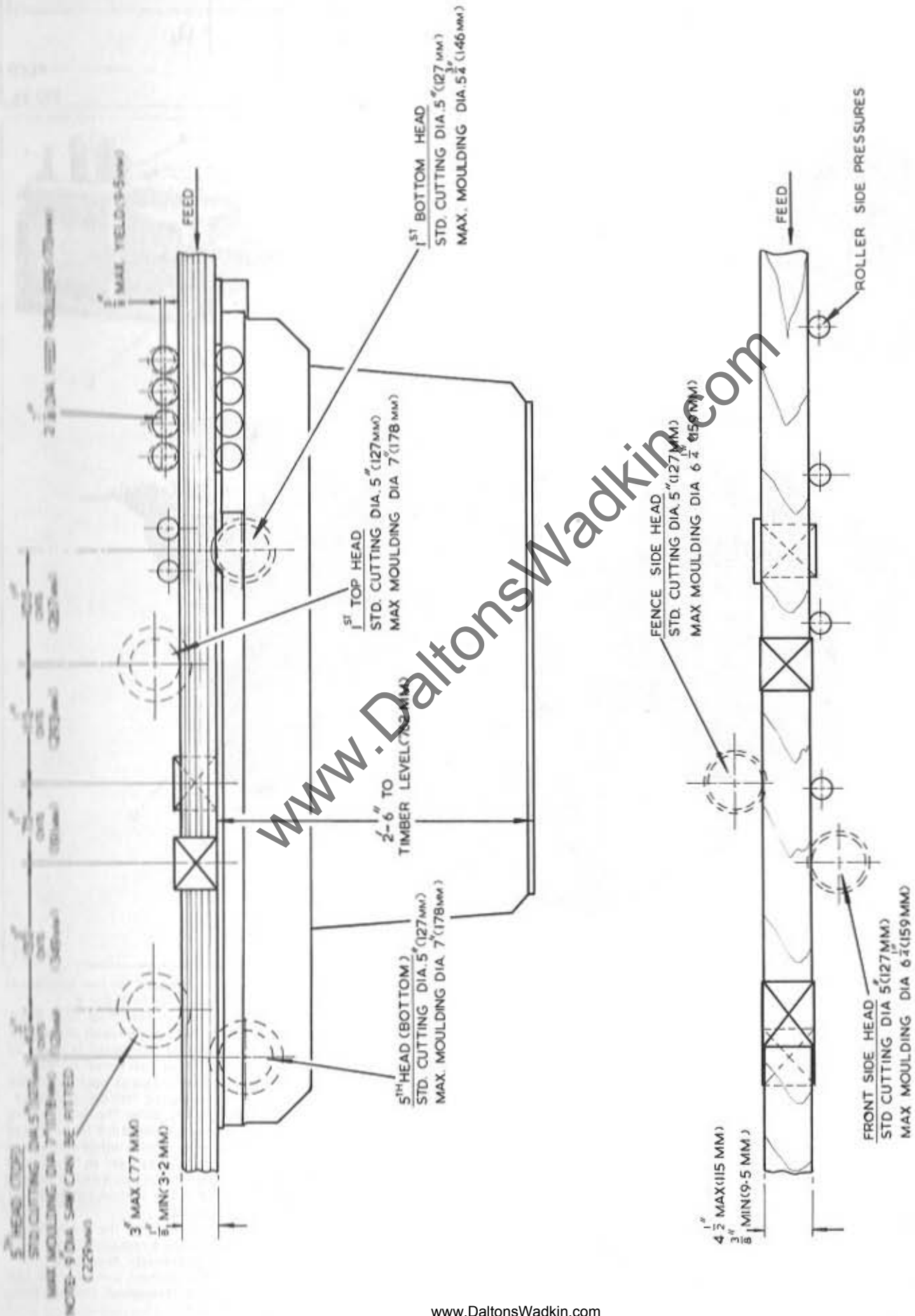
HEAD

5" long x 2" wide meteor flat belt double faced type S. (11 frequencies)

EXTRA HEAD

1 - 62" long x 2" wide meteor flat belt double faced type S. (50 cycle)

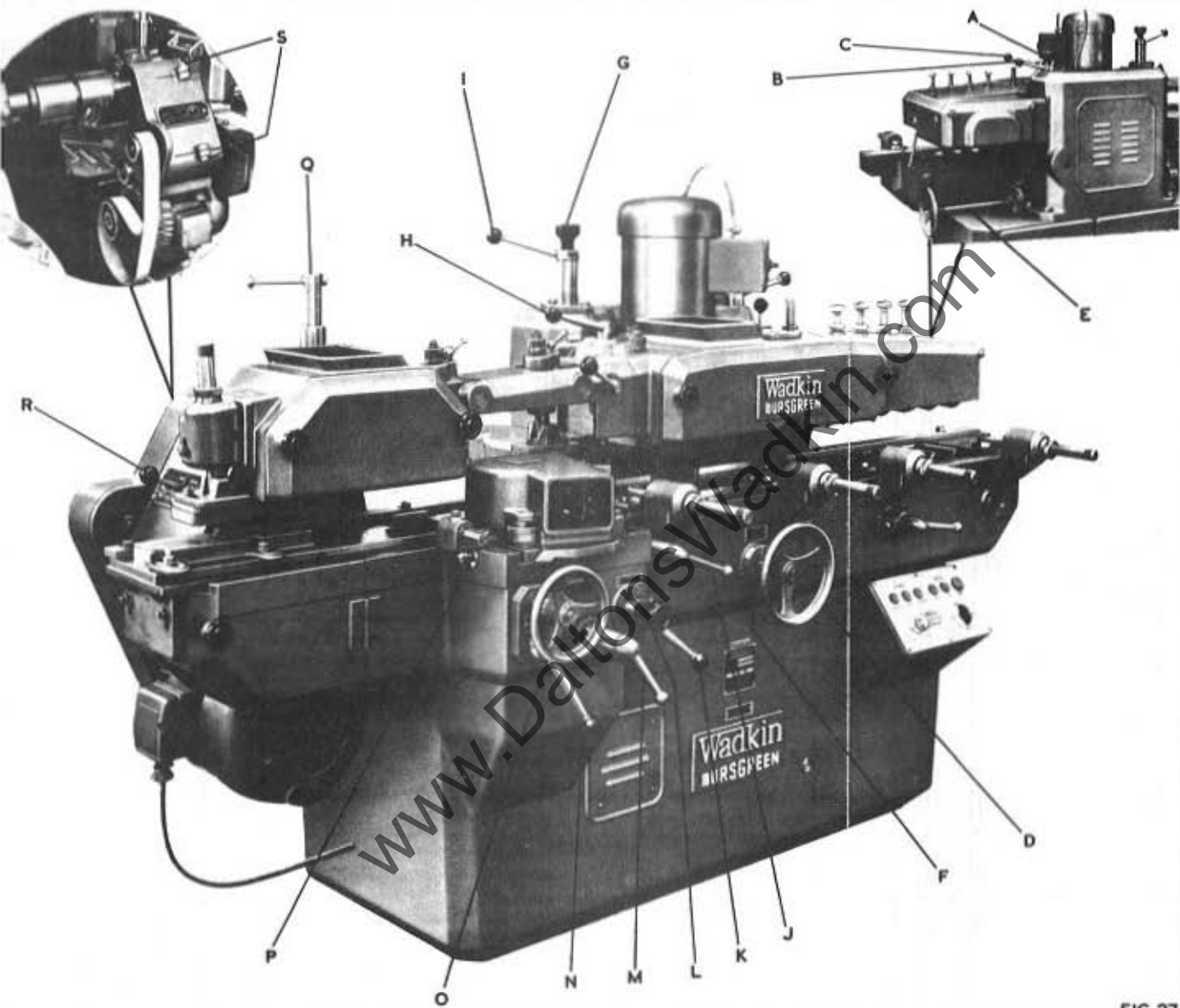
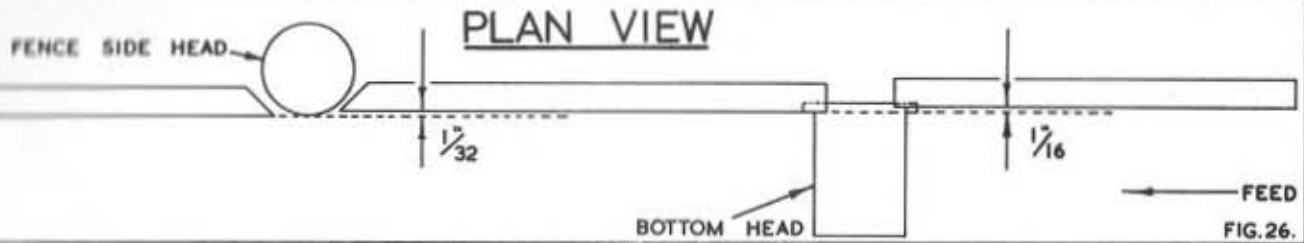
www.DaltonsWadkin.com 1 - 62" long x 2" wide meteor flat belt double faced type S. (60 cycle)



CAPACITY DIAGRAM FOR 4 1/2" X 3" MOULDER - TYPE BFO

INSTRUCTIONS TO SET UP MACHINE

14.



Upon leaving the works all machines have the infeed and outfeed rollers pre-set to the centre fence which is non adjustable as illustrated in Fig. 26. These fences, when altering, must be kept parallel to the centre fence which can be accomplished by the use of a straight edged bar fed along the fences.

To set the machine to the shape and size of the mould required, the following procedure should be followed. This should be carried out by working along the machine starting at the first bottom head, adjust the cutterblock vertically by means of the handwheel A in Fig. 27 until the minimum cutting circle is in line with the central plate. A rebate block is fitted to this head on the fence side to give a true feeding edge to the stock being worked. It is important that this block is in line to the centre fence so that good and regular cutting is obtained. Lateral movement is made to the head by the use of the handle C then both vertical and lateral adjustment can be made simultaneously by means of the handle B.

Having set the bottom head, adjustment is now carried out on the top head. Vertical adjustment to this head is either by handwheel E which is to the rear of the infeed table. Handwheel D can be adjusted by means of the ball lever screw F. The head is mounted on an eccentric quill for fine adjustment and must be in its lowest position when working $\frac{1}{16}$ " stock or less. This can be accomplished by the use of the fine adjustment handwheel G. Lateral movement is by lever H with all movements locked by the lever L.

is by means of the lever J and lateral adjustment by the handwheel L. Both movements are locked simultaneously by lever K.

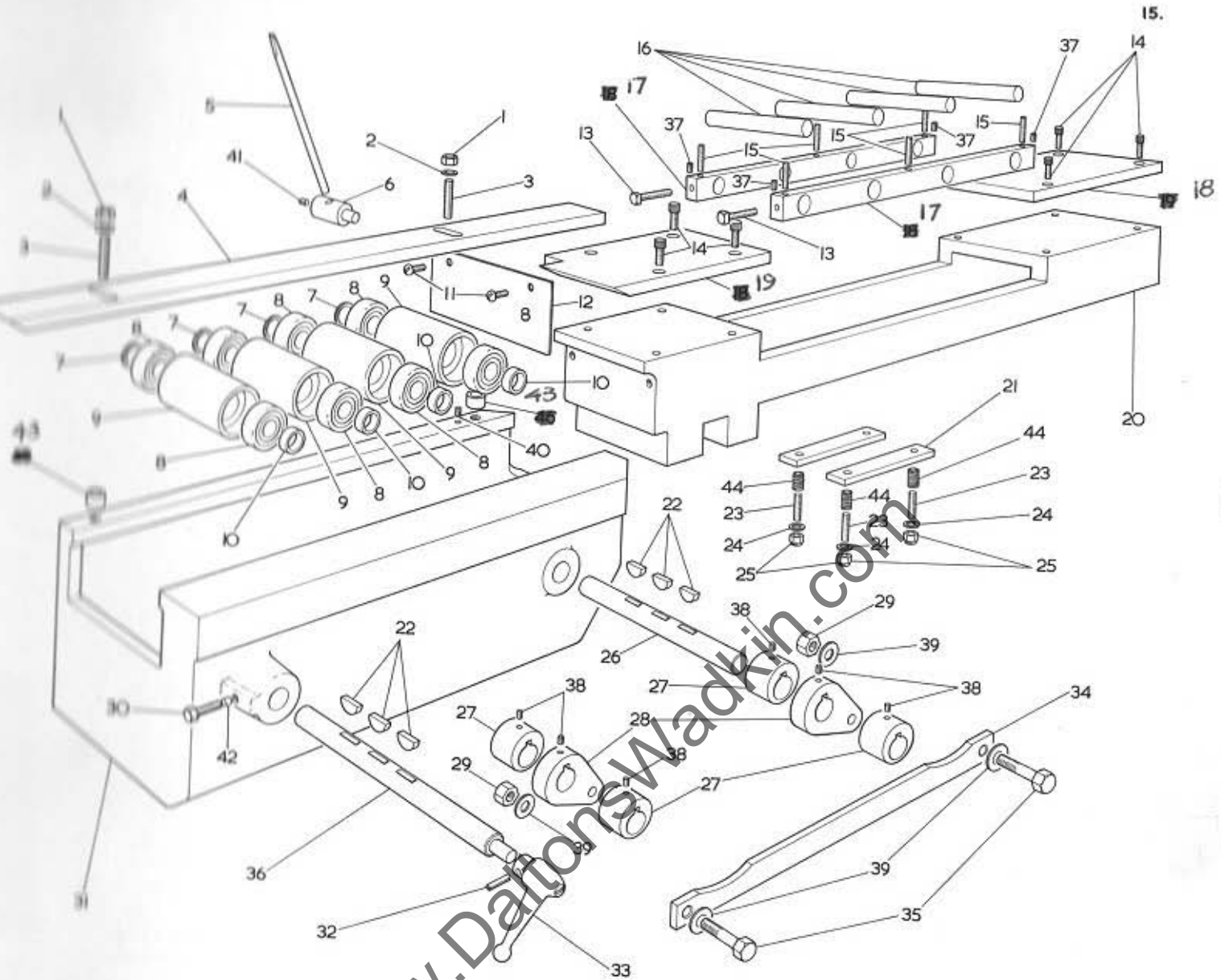
Similar procedure is then carried out on the front side head and this can now be set to the sample stock. Adjustment vertically is by lever M and locked by lever N. Lateral movement is made by the handwheel O which in turn is locked by the ball lever screw P.

On all machines an extra head can be fitted as an optional extra and, if fitted, can be used either in the top or bottom positions according to the stock to be worked. When using the head in the top position it can be set vertically to the sample stock by means of the handle Q and laterally by the handle R. Both adjustments are locked by the hexagon head nuts S. If the head is used in the bottom position the outfeed table must be adjusted to be in line with the cutting edge of the cutters. To adjust the head in the bottom position the same movements as in the top position apply.

Pressures are used along the machine to keep the stock being worked well up against either the fence or the bedplate. They must be set to suit the stock being worked as previously described.

Feed rollers should be adjusted to the correct pressure on the stock so as to give a smooth feeding action throughout the machine. See previously described.

Before commencing to start the machine check carefully to ensure that all the cutters are tight and secure in their respective cutterblocks. Inch stock through the feed rollers checking that

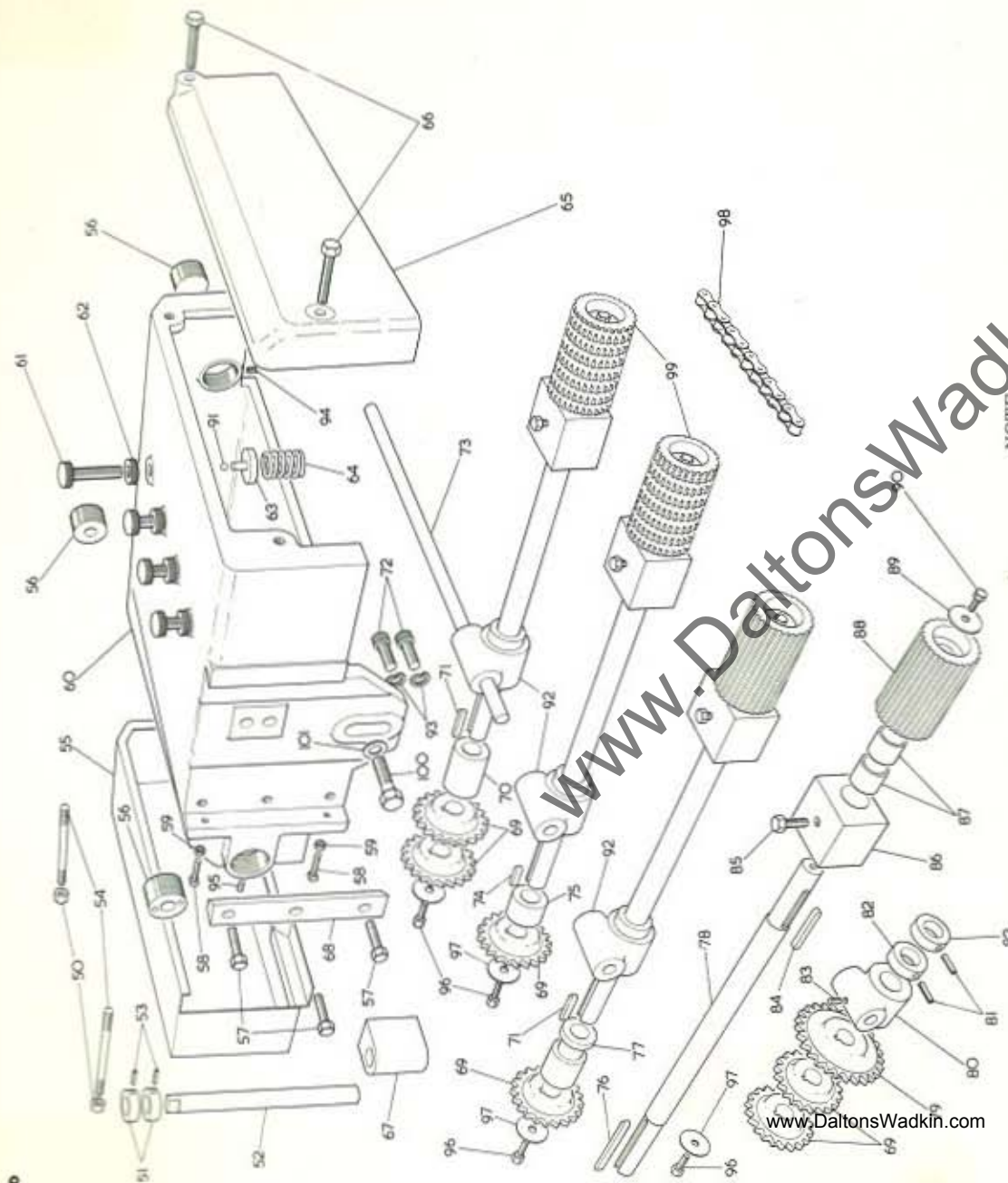


INFEED TABLE ASSY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

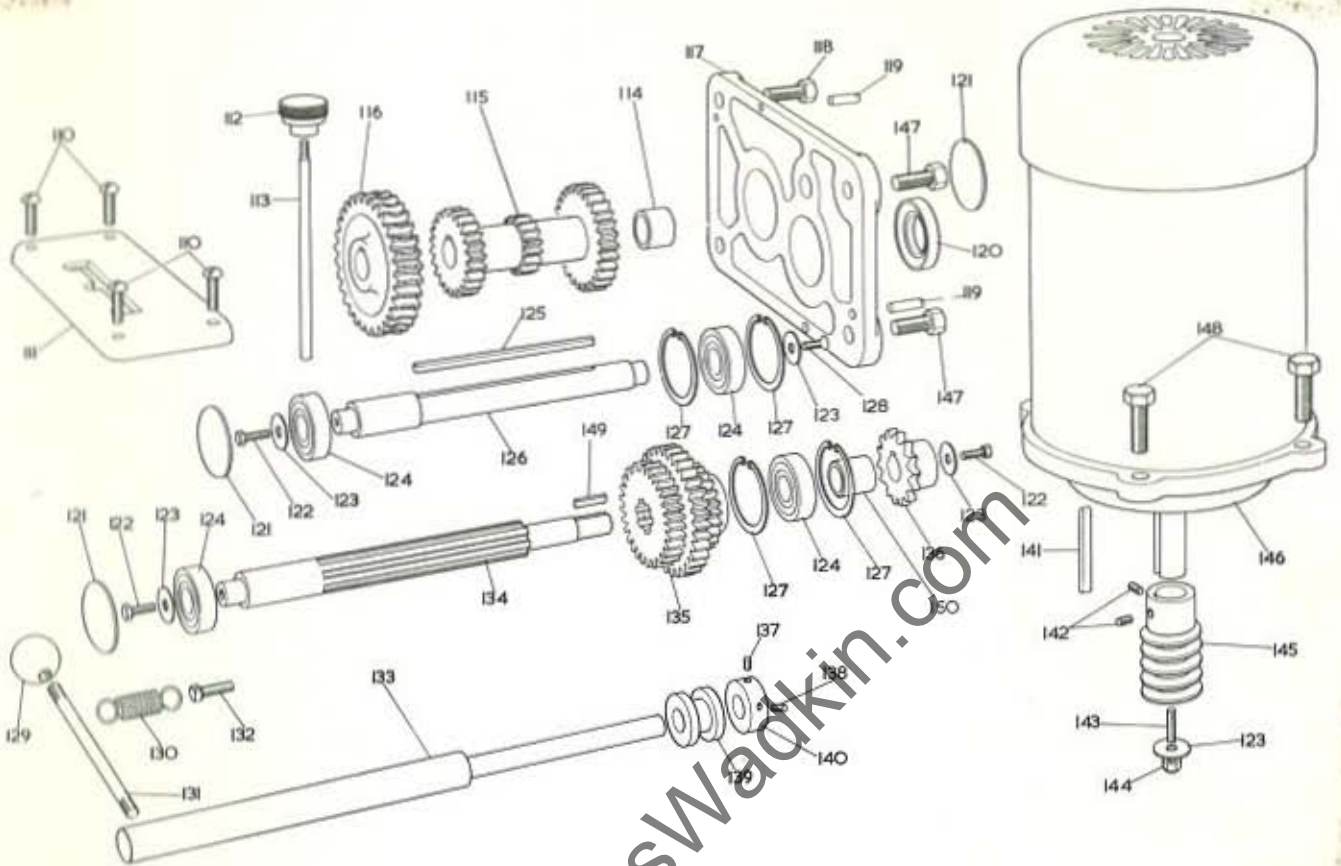
Sl. No	Part No.	No. Off	Description	Ref. No	Part No.	No. Off	Description
1		2	3/8" whit nut	24		4	5/16" washer
2		2	3/8" B. S. F. washer	25		4	5/16" whit areotight nut
3		2	3/8" whit x 1 1/4" long stud	26	B-1033/40	1	Under table cam shaft (without spigot)
4	B-1033/170	1	Infeed fence				
5	A-1033/330	1	Pointer	27	A-1033/36	4	Under table cams
6	A-1033/329	1	Pointer holder	28	A-1033/38	2	Under table link for cams
7	A-1033/43	4	Under table roller distance piece (1/16" thick)	29		2	3/8" whit areotight nut
8	8H8075	8	Fischer bearings	30		1	3/8" whit x 3/4" long hexagon head bolt
9	B-1033/34	4	Under table roller	31	D-1033/17	1	Front table bracket
10	A-1033/43	4	Under table roller distance piece (3/8" thick)	32		1	3/16" x 1" long groverlock spring dowel
11		2	1/4" whit x 1/2" long round head screw	33		1	Kipp handle No. 4, 5/8" whit (female)
12	A-1033/340	1	Infeed table chip deflector	34	A-1033/39	1	Under table link
13		4	1/4" whit x 1" long square head bolt	35	A-1033/42	2	Under table links pivot pin
14		8	5/16" whit x 1 1/2" long socket head cap screw	36	B-1033/40	1	Under table cam shaft (with spigot)
15		6	1/4" whit x 1" long socket head grubscrew	37		4	1/4" whit x 1/4" long socket head grubscrew
16		4	Under table roller shafts	38		6	1/4" whit x 3/8" long socket head grubscrew
17	B-1033/35	2	Under table roller blocks	39		4	3/8" washer
18	B-1033/165	1	Front bed plate for infeed table	40		1	1/4" whit x 1/2" long socket head grubscrew
19	B-1033/166	1	Back bed plate for infeed table	41		1	1/4" whit x 1/4" long socket head grubscrew
20	D-1033/18	1	Front table	42		1	5/16" o/d x 3/8" long brass bot
21	A-1033/37	2	Under table retaining strips				



FEED WORKS ASSY

NOTE: When ordering replacement parts quote part no. and serial number of the machine.

Part No.	No. Off	Description	Ref.No.	Part No.	No. Off	Description
A-1033/259	2	3/8" whit nut	79	A-1033/235	1	Feed roller sprocket (large)
A-1033/110	2	Collars for feed roller bracket R & F screw	80	B-1033/65	1	Feed roller pivot block (with 5/16" tapped hole)
C-1033/5	1	Feed roller bracket R & F screw	81		8	3/16" whit x 1 1/2" long groverlock spring dowel
A-1033/107	2	3/16" x 1 1/4" groverlock spring	82	A-1033/261	8	Collar for feed roller
	2	dowel	83		1	5/16" whit x 1/2" long socket head grub screw
	1	Chain cover	84		4	1/4" x 2" long feather key
	3	Feed roller pivot thrust screw	85		4	3/8" whit x 1/2" long hexagon head bolts
	3	3/8" whit x 1 1/4" long hexagon head bolt	86	B-1033/80	4	Feed roller pressure block
	2	1/4" whit x 1 1/4" long square head bolt	87	B-1033/101	16	1" 1/4 x 1 1/4" 9/d x 1" long oillite bush
	2	1/4" whit locknut	88	A-1002/40	2 Off	Feed roller spiral fluted only
D-1033/21	1	Feed roller bracket	89		4	1 1/4" dia feed roller retaining washer
A-1810/81	4	Feed roller pressure spring adjusting screw	90		4	3/8" whit x 1" long hexagon head bolts
A-1810/112	4	Feed roller pressure spring adjusting lock nut	91	B-1033/65	4	3/8" dia steel ball
A-1033/9	4	Seatings for feed roller springs	92		3	Feed roller pivot block
A-1033/300	4	Feed roller springs	93		2	1/2" spring washer
C-1033/206	1	Door for feed roller bracket	94		2	5/16" whit x 3/8" long socket head grub screw
	2	3/8" whit x 2" long hexagon head bolts	95		1	5/16" whit x 5/16" long socket head grub screw
A-1033/105	1	Feed roller bracket R & F nut	96		4	1" whit x 3/4" long hexagon head bolt
B-1033/102	1	Feed roller bracket vee strip	97	A-1033/280	4	1, 1/8" dia feed roller retaining washer
B-1033/294	6	Feed roller sprocket (19tooth)	98		2 Off	Renolds chain:- 39 links + cranked link + 2 split pins
B-1033/293	1	Feed roller distance piece (7/8" long)			1 Off	Renolds chain :- 51 links + cranked link + 2 split pins
	2	1/4" x 1/4" long feather key			1 Off	Renolds chain :- 63 links + split pin
	2	1/2" whit x 1 1/4" long socket head cap screw			2 Off	Feed roller spiral fluted and grooved
A-1033/108	1	Feed roller pivot bar	99	B-1033/101	1	1 1/2" long hexagon head bolt
B-1033/293	1	1" x 1 1/4" long feather key	100		1	
	1	Feed roller distance piece (1 1/4" long)				
	1	1/4" x 2 1/2" long feather key				
	1	Feed roller distance piece (2, 5/8" long)				

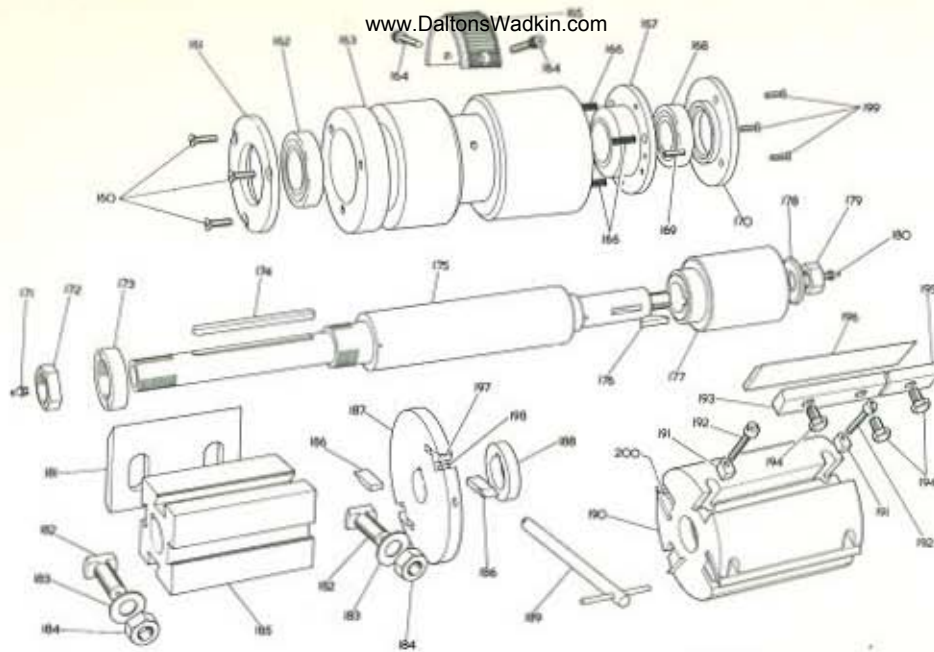


GEARBOX ASSY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

Ref.No	Part No.	No. Off	Description	Ref.No	Part No.	No. Off	Description
110		4	1/4" whit x 1" long round head screw	135	B-1033/23	1	Output gear train
111	B-1033/27	1	Faceplate for gear change	136	A- " /232	1	Gearbox sprocket
112	A- " /185	1	Handle for gearbox oil lever dip stick	137		1	1/4" whit x 3/8" long socket head grub screw
113	A- " /185	1	Gear oil lever dip stick	138		1	1/4" whit x 1/2" socket head grub screw
114	A- " /28	1	Input shaft distance piece	139	A-1033/30	1	Gear change bush
115	B- " /22	1	Input gear chain	140	A-1033/31	1	Gear change collar
116	B- " /73	1	Wormwheel for 3 phase motor	141		1	3/16" x 2" long feather key
117	C- " /8	1	Gearbox Cover	142		2	1/4" whit x 1/4" long socket head grub screw
118		2	3/8" whit x 1 1/4" long hexagon head Bolt	143		1	1/4" whit x 1 1/4" long stud
119		2	1/4" dia x 1" long fluted dowel	144		1	1/4" whit areotight nut
120	W18510239R4	1	Weston Oil Seal	145	B-1033/73	1	Worm for 3 phase motor
121		3	2" dia welsh washer	146		1	Brook motor, 3HP, 3000 rpm
122		3	1/4" whit x 1" long hexagon head bolt				T. E. F. C. Frame M, 66B, with four lug endshield (50 cycles, 1 speed)
123	A-1033/280	4	Washer for gearbox shaft			1	Brook motor, 3HP, 3600 rpm
124		4	Hoffman 120 bearing				T. E. F. C. Frame M66B, with four lug endshield (60 cycle, 1 speed)
125	A-1033/274	1	Key for gearbox input shaft			1	Brook motor, 2HP/1HP, 3000/1500 rpm T. E. F. C. Frame M66B with four lug endshield (50 cycle 2 speed)
126	B- " /24	1	Input shaft			1	Brook motor, 3HP, 3600/1800 rpm
127		4	47mm internal circlip				T. E. F. C. Frame M66B, with four lug endshield (60 cycle, 2 speed)
128		1	1/4" whit x 1" long socket head counter sunk screw	147		2	3/8" whit x 1 1/4" long hexagon head bolt
129		1	1 1/4" dia Plastic Ball, 3/8" whit without insert			4	1/4" whit x 1" long hexagon head bolt
130	A-1020/67	1	Gearchange lever spring				
131	A-1002/90A	1	Gearchange lever handle				
132	A-1020/68	1	Gearchange lever spring holder bolt				
133	B-1033/26	1	Gear Lever				
134	B-1033/25	1	Output shaft				

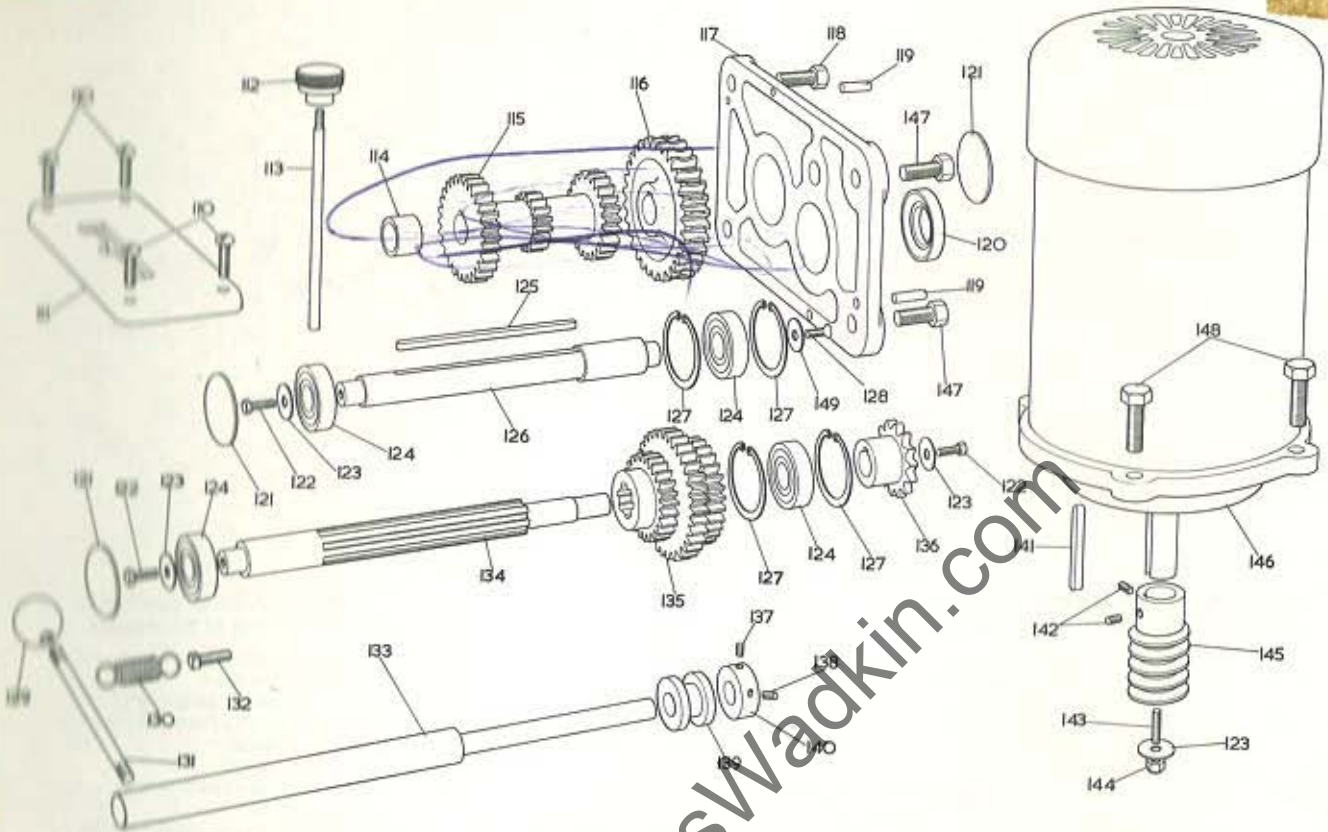


SPINDLE ASSEMBLY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

160	12	5/16" whit x 1" long CSK head screw	2	Whit L, H, nut (1 per fence side head, 1 per top head)
161	3	Extra head "ditto"	2	Whit L, H, nut (Extra head)
161	4	Thrust end dust cap	1	1/8" gas straight grease nipple (horizontal heads)
162	1	Extra head "ditto"	1	Extra head "ditto"
162	4	Hoffman 145 bearing	2	1/8" gas angled grease nipple (vertical heads)
163	1	Extra head "ditto"	181	B-S-165 2 pair Standard knives for square blocks (horizontal heads 4 1/2" long)
163	4	Bearing housing (state head required for)	1	Extra head "ditto"
164	1	Extra head "ditto"	2	Standard knives for square blocks (vertical heads, 3 1/2" long)
164	6	3/8" whit x 3/4" long socket head allenscrew	16	Square cutterblock bolt
165	3	Racked quadrant for bearing housing (state head required for)	4	Extra head "ditto"
166	12	Springs for spindle end float	16	Square cutterblock washer
167	3	Extra head "ditto"	4	Extra head "ditto"
167	4	Float end inside dust cap	16	Square cutterblock nut
168	1	Extra head "ditto"	4	Extra head "ditto"
168	4	Hoffman 135 bearing	184	A-1033/225 16 Standard vertical cutterblock
169	1	Extra head "ditto"	2	Standard horizontal cutterblock
169	4	3/16" x 1 1/4" groverlock dowel	2	Standard vertical cutterblock
170	1	Extra head "ditto"	186	A-1033/222 2 Rebate block cutter
170	4	Float end outside dust cap	187	A-1033/216 1 Rebate cutterblock for bottom head
171	1	Extra head "ditto"	188	A-1033/76 1 Bottom head spindle distance piece 5/8" long
171	4	1/8" gas straight grease nipple	1	Top head "ditto" 1 1/4" long
172	1	Extra head "ditto"	1	Extra head "ditto" 1 1/4" long
172	1	Top head cutterblock locknut (R, H, thread)	A-1033/228	1 Bottom head spindle distance piece (metric spindle machine)
A-1033/262	1	Metric top head cutterblock locknut (R, H, thread)	A-1033/278	2 Side head spindle distance piece 1 1/4" long
A-1033/186	1	Bottom head cutterblock locknut (L, H, thread)	189	1 Adjusting spanner for circular cutterblock cutters (special)
A-1033/262	1	Metric bottom head cutterblock locknut (L, H, thread)	190	C-1033/214 2 Horizontal circular cutterblock (special)
A-1033/187	1	Front side head cutterblock locknut (R, H, thread)	C-1033/215	1 Extra head "ditto"
A-1033/263	1	Metric front side head cutterblock locknut (R, H, thread)	2	Vertical circular cutterblock (special)
A-1033/187	1	Fence side head cutterblock locknut (L, H, thread)	16	No. 2 adjusting nuts (special)
A-1033/263	1	Metric fence side head cutterblock locknut (L, H, thread)	4	Extra head "ditto"
A-1033/244	2 per extra head	Cutterblock locknut (R, H, thread) (state spindle dia)	16	No. 2 adjusting screws (special)
173	A-1033/45	2 Spindle locknut (L, H, thread) (1 per front side head, 1 per bottom head)	4	Extra head "ditto"
A-1033/45	2	Spindle locknut (R, H, thread) (1 per fence side head, 1 per top head)	4	3 1/4" long horizontal head circular cutterblock wedges (special)
A-1033/45	1	Spindle locknut (R, H, thread) (1 per extra head)	8	Vertical head "ditto"
174	A-1033/284	2 Key for horizontal heads	2	Extra head "ditto"
A-1033/279	1	Extra head "ditto"	4	3 1/2" long knives for vertical heads circular cutterblock (special)
A-1033/279	2	Key for vertical heads	2	Extra head "ditto"
175	C-1033/87	4 Cutterhead spindle (state spindle end dia and head required for)	4	3 1/2" long knives for vertical heads circular cutterblock (special)
176	1	Extra head "ditto"	2	Wedge for rebate block
176	4	5/16" woodruff key	2	5/16" BSF wedge screws
177	B-1033/13	1 Extra head "ditto"	12	1/4" whit x 5/8" long CSK head screw
177	4	Spindle pulley	3	Extra head "ditto"
178	A-1033/58	1 Extra head "ditto"	4	4 1/2" long horizontal circular cutterblock wedges (special)
178	4	Spindle washer	2	Extra head "ditto"
179	1	Extra head "ditto"		
179	2	3/4" whit R, H, nut (1 per front side head, 1 per bottom head)		

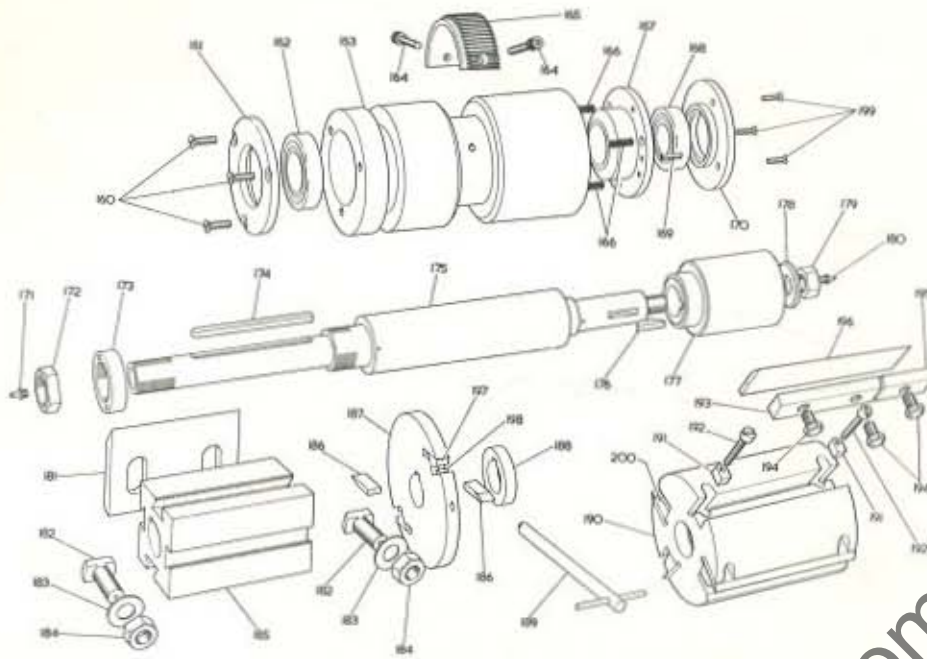


GEARBOX ASSY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

Ref.No	Part No.	No. Off	Description	Ref.No	Part No.	No. Off	Description
110		4	1/4" whit x 1" long round head screw	135	B-1033/23	1	Output gear train
111	B-1033/27	1	Faceplate for gear change	136	A- " /232	1	Gearbox sprocket
112	A- " /185	1	Handle for gearbox oil lever dip stick	137		1	1/4" whit x 3/8" long socket head grubscrew
113	A- " /185	1	Gear oil lever dip stick	138		1	1/4" whit x 1/2" socket head grubscrew
114	A- " /28	1	Input shaft distance piece	139	A-1033/30	1	Gear change bush
115	B- " /22	1	Input gear chain	140	A-1033/31	1	Gear change collar
116	B- " /73	1	Wormwheel for 3 phase motor	141		1	3/16" x 2" long feather key
117	C- " /8	1	Gearbox Cover	142		2	1/4" whit x 1/4" long socket head grubscrew
118		2	3/8" whit x 1 1/4" long hexagon head Bolt	143		1	1/4" whit x 1 1/4" long stud
119		2	1/2" dia x 1" long fluted dowel	144		1	1/4" whit areotight nut
120	W18510239R4	1	Weston Oil Seal	145	B-1033/73	1	Worm for 3 phase motor
121		3	2" dia welsh washer	146		1	Brook motor, 3HP, 3000 rpm
122		3	1/4" whit x 1" long hexagon head bolt				T. E. F. C. Frame M. 66B, with four lug endshield (50 cycles, 1 speed)
123	A-1033/280	4	Washer for gearbox shaft			1	Brook motor, 3HP, 3600 rpm
124		4	Hoffman 120 bearing				T. E. F. C. Frame M66B, with four lug endshield (60 cycle, 1 speed)
125	A-1033/274	1	Key for gearbox input shaft			1	Brook motor, 2HP/IHP, 3000/1500 rpm T. E. F. C. Frame M66B with four lug endshield (50 cycle 2 speed)
126	B- " /24	1	Input shaft			1	Brook motor, 3HP, 3600/1800 rpm T. E. F. C. Frame M66B, with four lug endshield (60 cycle, 2 speed)
127		4	47mm internal circlip			2	3/8" whit x 1 1/4" long hexagon head bolt
128		1	1/4" whit x 1" long socket head counter sunk screw			4	1/4" whit x 1" long hexagon head bolt
129		1	1 1/4" dia Plastic Ball, 3/8" whit without insert				
130	A-1029/67	1	Gearchange lever spring				
131	A-1002/90A	1	Gearchange lever handle				
132	A-1029/68	1	Gearchange lever spring holder bolt	147			
133	B-1033/26	1	Gear Lever	148			
134	B-1033/25	1	Output shaft				

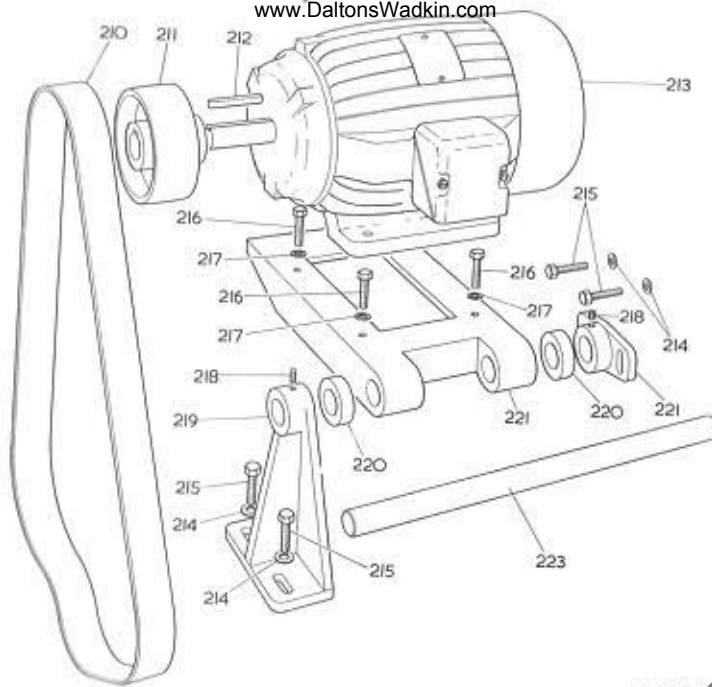


SPINDLE ASSEMBLY

	12	5/16" whit x 1" long CSK head screw				
B-1033/11	3	Extra head "ditto"				
	4	Thrust end dust cap				
	1	Extra head "ditto"				
	4	Hoffman 145 bearing	180		2	1/8" gas straight grease nipple (horizontal heads)
C-1033/10	1	Extra head "ditto"			1	Extra head "ditto"
	4	Bearing housing (state head required for)			2	1/8" gas angled grease nipple (vertical heads)
	1	Extra head "ditto"	181	B-1033/165	2 pair	Standard knives for square blocks (horizontal heads 4 1/4" long)
	6	3/8" whit x 3/4" long socket head allenscrew			1 pair	Extra head "ditto"
B-1033/15	3	Racked quadrant for bearing housing (state head required for)		B-S-166	2 pair	Standard knives for square blocks (vertical heads, 3 1/4" long)
A-1033/59	12	Springs for spindle end float	182	A-1033/224	16	Square cutterblock bolt
	3	Extra head "ditto"			4	Extra head "ditto"
B-1033/12	4	Float end inside dust cap	183	A-1033/226	16	Square cutterblock washer
	1	Extra head "ditto"			4	Extra head "ditto"
	4	Hoffman 135 bearing	184	A-1033/225	16	Square cutterblock nut
	1	Extra head "ditto"			4	Extra head "ditto"
	4	3/16" x 1 1/4" groverlock down	185	B-1033/207	2	Standard horizontal cutterblock
	1	Extra head "ditto"			2	Standard vertical cutterblock
B-1033/13	4	Float end outside dust cap	186	A-1033/222	2	Rebate block cutter
	1	Extra head "ditto"	187	A-1033/216	1	Rebate cutterblock for bottom head
	4	1/8" gas straight grease nipple	188	A-1033/76	1	Bottom head spindle distance piece 5/8" long
	1	Extra head "ditto"			1	Top head "ditto" 1 1/4" long
A-1033/186	1	Top head cutterblock locknut (R, H, thread)			1	Extra head "ditto" 1 1/4" long
A-1033/262	1	Metric top head cutterblock locknut (R, H, thread)		A-1033/228	1	Bottom head spindle distance piece (metric spindle machine)
A-1033/186	1	Bottom head cutterblock locknut (L, H, thread)			2	Side head spindle distance piece 1 1/4" long
A-1033/262	1	Metric Bottom head cutterblock locknut (L, H, thread)	189	A-1033/278	1	Adjusting spanner for circular cutterblock cutters (special)
A-1033/187	1	Front side head cutterblock locknut (R, H, thread)	190	C-1033/214	2	Horizontal circular cutterblock (special)
A-1033/263	1	Metric front side head cutterblock locknut (R, H, thread)			1	Extra head "ditto"
A-1033/187	1	Fence side head cutterblock locknut (L, H, thread)			2	Vertical circular cutterblock (special)
A-1033/263	1	Metric fence side head cutterblock locknut (L, H, thread)	191	C-1033/215	16	No. 2 adjusting nuts (special)
A-1033/244	2 per extra head (state spindle dia)	Cutterblock locknut (R, H, thread)	192		4	Extra head "ditto"
A-1033/45	2	Spindle locknut (L, H, thread) (1 per front side head, 1 per bottom head)	193	A-1033/217	16	No. 2 adjusting screws (special)
A-1033/45	2	Spindle locknut (R, H, thread) (1 per fence side head, 1 per top head)			4	Extra head "ditto"
A-1033/46	1	Spindle locknut (R, H, thread) (1 per extra head)	194	A-1033/221	36	3/4" long horizontal head circular cutterblock wedges (special)
A-1033/284	2	Key for horizontal heads			8	Vertical head "ditto"
A-1033/279	1	Extra head "ditto"	195	A-1033/218	2	Extra head "ditto"
A-1033/279	2	Key for vertical heads			10	1 1/2" whit circular cutterblock wedge screw (special)
C-1033/67	4	Cutterhead spindle (state spindle end dia and head required for)	196	A-S-104	4	1 1/2" long circular cutterblock wedges (special)
	1	Extra head "ditto"			2	Extra head "ditto"
	4	5/16" woodruff key			4	4 1/4" long knives for horizontal heads circular cutterblock (special)
	1	Extra head "ditto"			2	Extra head "ditto"
	4	Spindle pulley	197	A-1033/219	4	3 1/4" long knives for vertical heads circular cutterblock (special)
			198	A-1033/220	2	Wedge for rebate block
			199		2	5/16" BSF wedge screws
B-1033/14	4				12	1/4" whit x 5/8" long CSK head screw

NOTE :-

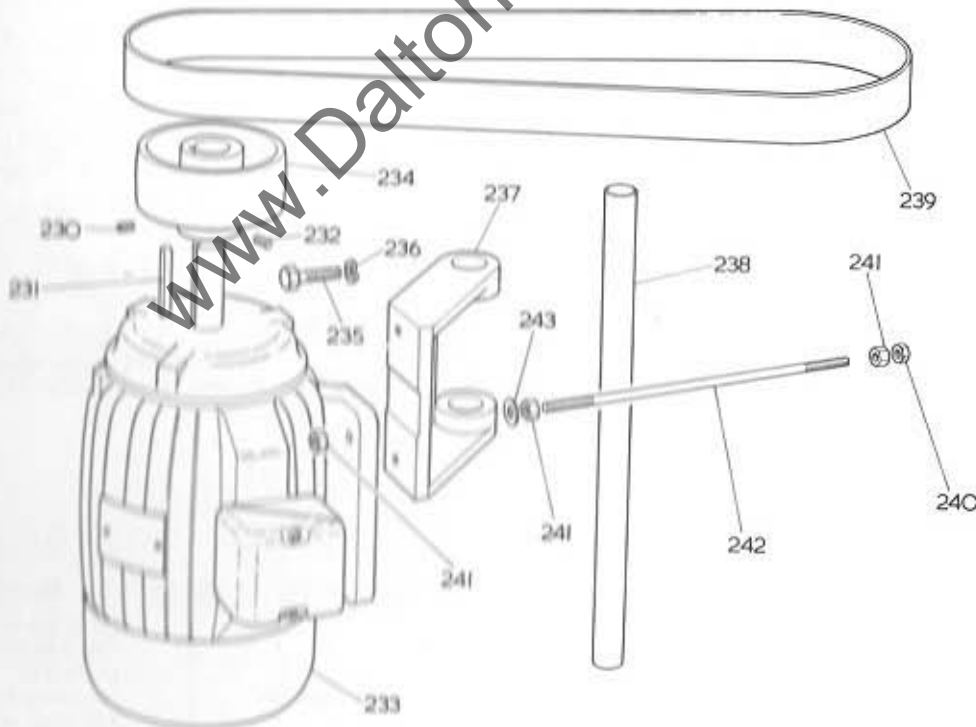
When ordering replacement parts quote part no. and serial number of the machine.



TOP HEAD MOTOR MOUNTING ASSEMBLY

NOTE :-
When ordering replacement parts quote part no. and serial number of the machine.

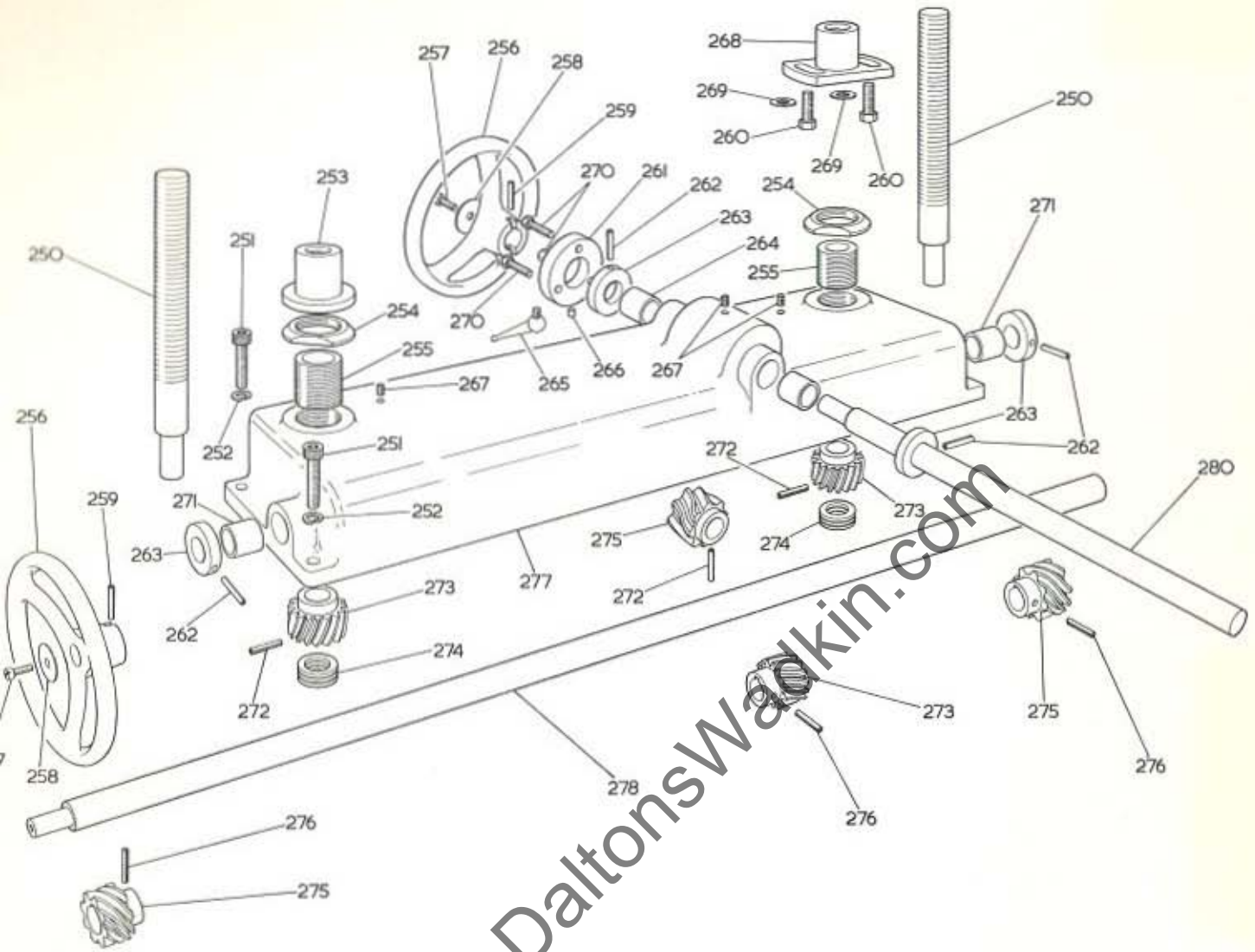
Ref. No	Part No.	No. Off	Description	Ref No.	Part No.	No. Off	Description
210		1	75" long x 2" wide Meteor flat belt double faced, type S	214		4	3/8" washer
211	B-1033/16	1	50 cycle motor pulley	215		4	3/8" whit x 1" long hexagon head bolt
212	B- " /205	1	60 cycle motor pulley	216		4	3/8" whit x 1 1/4" long hexagon head bolt
213		1	3/8" wide x 4" long Feather key	217		4	3/8" spring washer
214		1	Brook motor, frame D. 213, 7 1/2 HP T. E. F. C., 3000rpm, foot mounted 3phase 50 cycles	218		2	5/16" whit x 5/8" long socket head grubscrew
		1	Brook "Kompact" motor, Frame L213T, 7 1/2 HP T. E. F. C. 3600rpm foot mounted, 3 phase 60cycles	219	A-1033/272	1	Back horizontal motor pivot bracket
				220	A- " /202	2	Motor pivot bar collar
				221	C- " /82	1	Top and bottom heads motor bracket
				222	B- " /271	1	Front horizontal motor pivot bracket
				223	A- " /174	1	Motor Pivot bar



SIDE HEAD MOTOR MOUNTING ASSEMBLY

NOTE :-
When ordering replacement parts quote part no. and serial number of the machine.

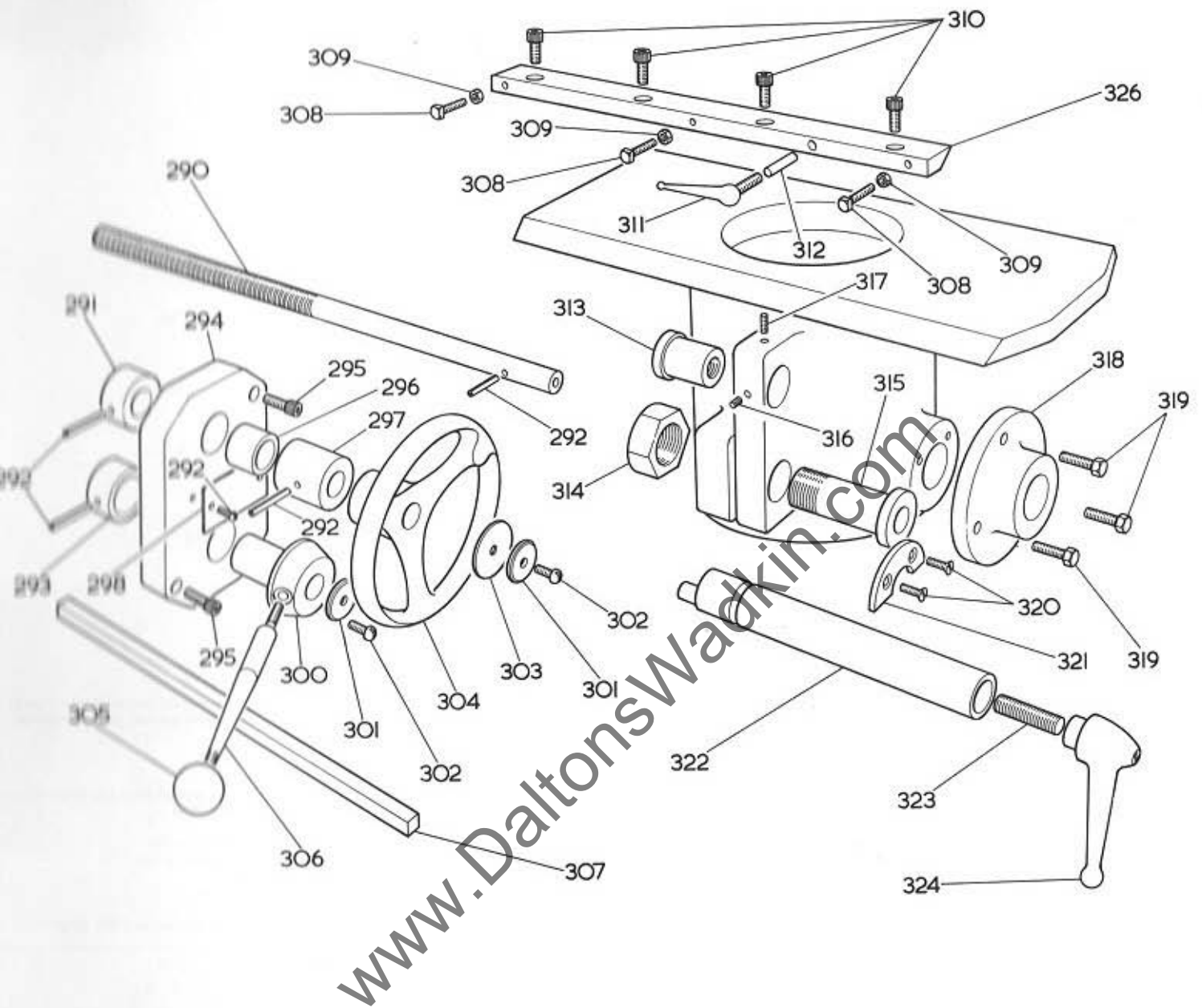
Ref. No	Part No.	No. Off	Description	Ref. No.	Part No.	No. Off	Description
230		1	1/8" gas x 3/8" long socket head grubscrew	235		2	3/8" whit x 1 1/4" long hexagon headbolt
231		1	5/16" whit x 3" long Feather key	236		2	3/8" dia washer
232		1	1/8" gas x 1/2" long socket head grubscrew	237	B-1033/81	1	Side head motor bracket
233		1	Brook motor Frame D. 184, 5HP 3,000rpm T. E. F. C., foot mounted 3 phase, 50 cycle	238	A-1033/174	1	Motor pivot bar
		1	Brook "Kompact" motor Frame L213T, 5HP 3,600rpm T. E. F. C.	239		1	54" long x 2" wide Meteor flat belt, double faced, type S
				240		1	3/8" whit locknut
				241		3	3/8" whit nut
				242	A-1033/175	1	Side heads motor locking stud
				243	A-1002/40	1	Washer



**RISE & FALL
ASSEMBLY**

NOTE :-
When ordering replacement parts quote part no. and serial number of the machine.

No.	Part No.	No. Off.	Description	Ref No.	Part No.	No. Off.	Description.
	B-1033/52	2	Top head R & F screw	266		1	5/16" x 3/8" long brass bot
		4	1/2" whit x 1 1/2" long socket head cap screw	267		3	1/8" gas x 3/8" long socket head grubscrew
		4	1/2" whit spring washer	268	B-1033/20	1	Main bracket R & F nut (flanged)
	B-1033/19	1	Main bracket R & F nut (plain)	269		2	3/8" whit washer
	A-1033/53	2	Locknut for R & F screw adjuster	270		3	5/16" whit x 1" long hexagon head bolts
	A-1033/164	2	Top head R & F adjusting screw	271		4	1 1/4" o/d x 1" i/d x 1 1/2" long oilite bush
	C-1030/14	2	7 1/2" dia, Dished handwheel (for R & F)	272		3	1/4" x 1 1/4" long groverlok dowel
		2	5/16" whit x 3/4" long cheese head screw	273	A-1033/205	3	Spiral gear for main R & F
	A-1031/70	2	Washer	274	W. 1. B.	2	Hoffmann thrust race
		2	3/16" x 1 1/2" long groverlok dowel	275	A-1033/204	3	Spiral pinion for main R & F
		2	3/8" whit x 1" long hexagon head bolts	276		3	1/2" x 1 1/2" long groverlok dowel
	A-1033/93	1	Outer bearing for top head R & F shaft	277	D-1033/1	1	R & F bracket
		4	3/16" x 1 1/2" long groverlok dowel	278	B-1033/50	1	Top head R & F shaft
	A-1033/258	4	Collar for R & F handwheel shaft	279		1	1 1/4" o/d x 1" i/d x 1" long oilite bush
		1	1 1/4" o/d x 1" i/d x 2" long oilite bush	280	B-1033/51	1	Top head R & F handwheel shaft
		1	3/8" whit short thread ball lever screw				

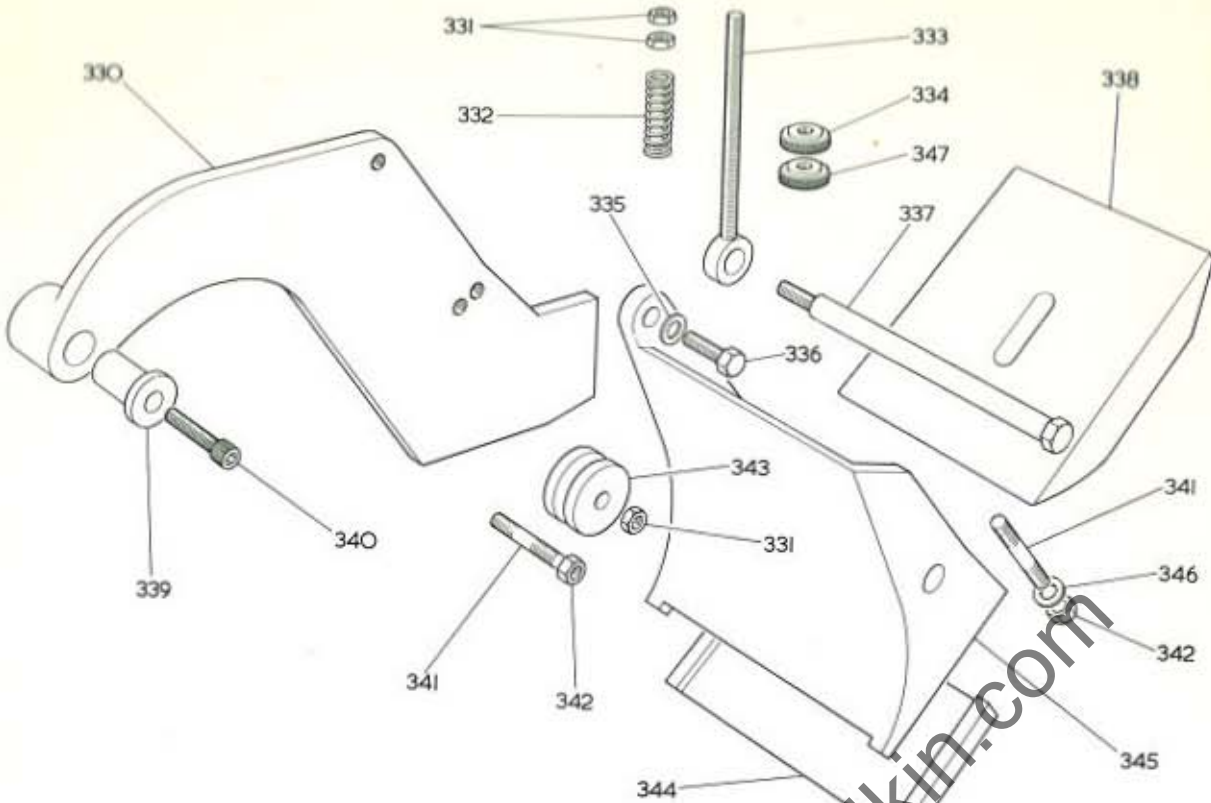


FRONT SIDE HEAD ASSEMBLY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

Ref. No.	Part No.	No. Off	Description	Ref. No.	Part No.	No. Off	Description
290	B-1033/98	1	Front side head adjusting screw	309		3	1/4" whit locknuts
291	A-1033/259	1	Collar for side head adjustment screw	310		4	3/8" whit x 3/4" long socket head cap screw
292		4	3/16" x 1 1/4" long groverlok spring dowel	311	B-S-1-B	1	3/8" whit ball lever screw
293	A-1033/201	1	Collar for front side head lock	312		1	5/16" dia x 2 1/2" long brass bot
294	B-1033/56	1	Front side head cover plate	313	A-1031/58	1	Nut for front side head
295		2	5/16" whit x 1" long socket head cap screw	314	A-1033/106	1	Front side head eccentric nut
296		1	1/2" 1/dia x 1" o/dia x 3/4" long oilite bush	315	B-1033/98	1	Front side head locking screw
297	A-1033/96	1	Spacing collar for front head adjustment	316		1	1/4" whit x 1/4" long socket head grubscrew
298	C-8K-528/D	1	Instruction plate for front side head	317		1	1/4" whit x 1/2" long socket head grubscrew
299	24	2	1/4" self tapping screw	318	B-1033/79	1	Bearing for front side head R & F eccentric
300	B-1033/99	1	Front side head locking collar	319		3	5/16" whit x 1" long hexagon head bolts
301	A-1033/200	2	Washer for front side head lock	320		2	1/4" whit x 1/2" long CSK head screw
302		2	1/4" whit x 1/2" long round head screw	321	A-1033/109	1	Front side head eccentric pin keepplate
303	C-8K-528/M	1	Instruction plate for front side head handwheel	322	A-1033/103	1	Front side head R & F eccentric
304	B-1033/92	1	Dished handwheel for front side head	323	A-1033/268	1	Stud for front side head eccentric
305		1	1 1/4" dia plastic ball, 3/8" whit	324		1	No.4 kipp handle, 5/8" whit female
306	B-1037/46	1	Locking handle (5" long)	325	D-1033/6	1	Front side head housing
307	A-1033/96	1	Front side head locking bar	326	A-1033/184	1	Front side head gib strip.

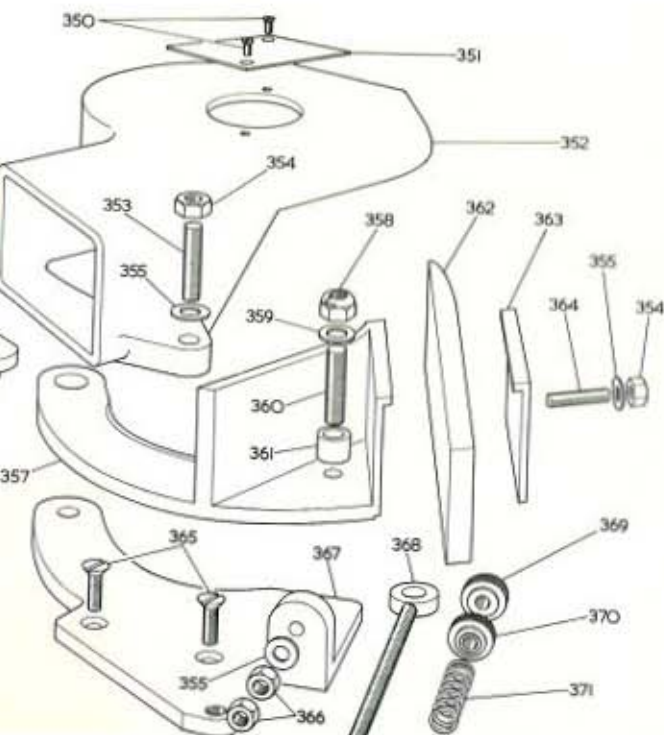


TOP & EXTRA HEAD CHIPBREAKER ASSEMBLY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

No.	Part No.	No. Off	Description	Ref. No.	Part No.	No. Off	Description
C-1033/251		1	Top head chip breaker plate	339	A-1033/301	1	Chip breaker pivot bush
C-1033/250		1	Extra head "ditto"	340		1	3/8" whit x 1 1/2" long socket head cap head screw
A-1033/195		3	3/8" whit locknut	341		2	3/8" whit x 2 1/4" long stud
A-1033/111		1	Spring for top head chip breaker	342		1	3/8" whit nut
A-1033/239		1	Chip breaker stop screw	343	A-1033/253	1	Chip breaker trapping collar
		1	Knurled knob for chip breaker	344	B-1033/115	1	Wood pressure trapping plate
		1	3/8" B. S. F. washer (thick)	345	B-1033/252	1	Extra head "ditto"
		1	3/8" whit x 1" long hexagon head screw	346	C-1033/72	1	Chip breaker bracket
A-1033/198		1	Pivot pin for chip breaker screw	347		1	3/8" whit washer
		1	Wood chip breaker shoe		A-1033/239	1	Knurled knob for chip breaker (with spigot)

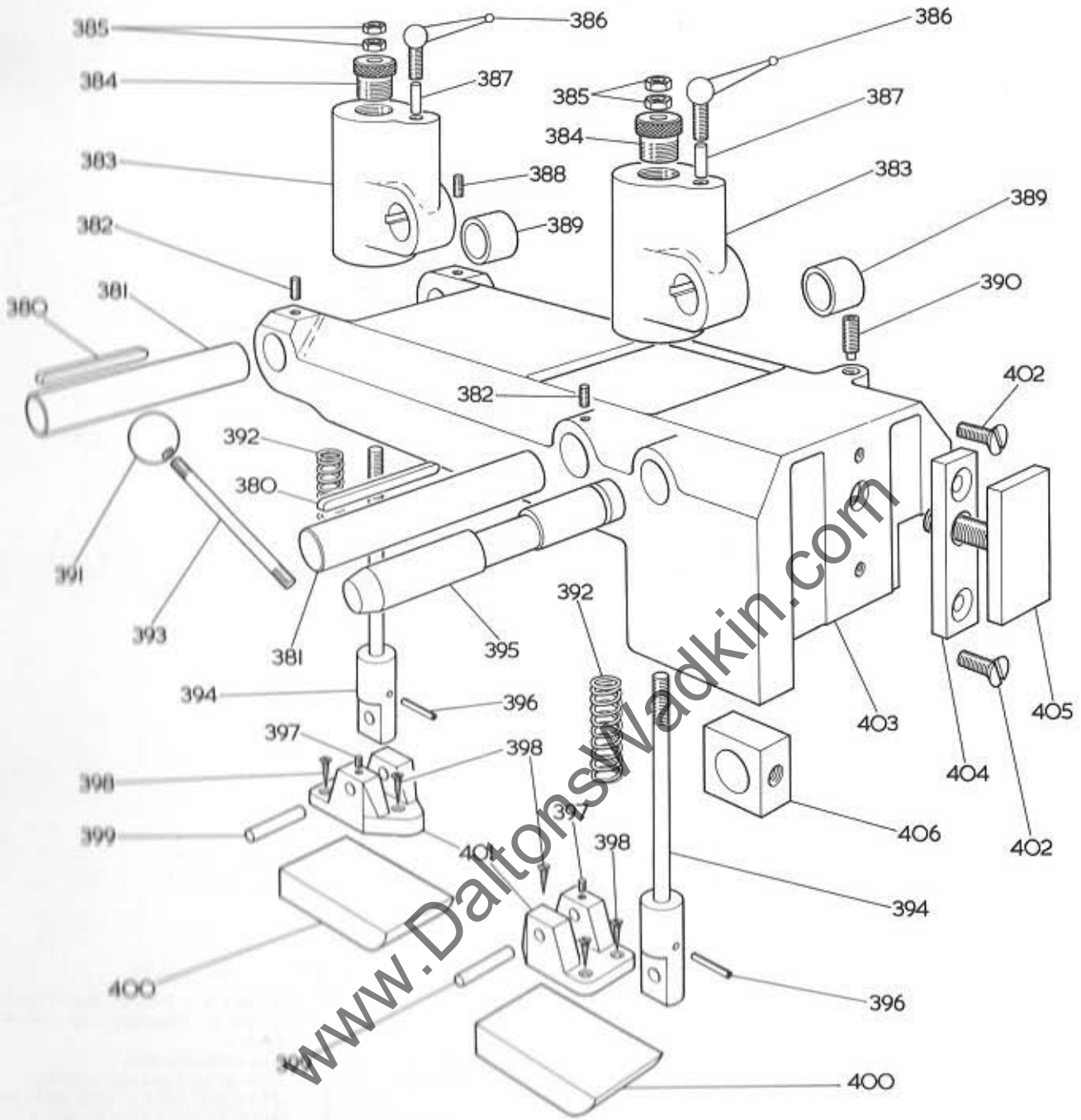


SIDE HEAD CHIPBREAKER ASSEMBLY

Ref No.	Part No.	No. Off	Description
350		2	3/16" whit x 3/8" long C. S. K. head screw
351	A-1033/193	1	Sheet steel cover for side head
352	C-1033/70	1	Front side head hood
353		1	3/8" whit x 1 1/2" long stud
354		2	3/8" whit nut
355		3	3/8" whit washer
356	A-1033/181	1	Side head chip breaker pivot
357	C-1033/60	1	Side chip breaker
358		1	1/2" whit aerotight nut
359		1	1/2" whit washer
360		1	1/2" whit x 2 1/2" long stud
361	A-1033/285	1	Distance piece for side head chip breaker
362		1	Wood pressure pad
363	A-1033/113	1	Front side head wood pressure trapping plate
364		1	3/8" whit x 2" long stud
365		2	3/8" whit x 1" long C. S. K. head screw
366		2	3/8" whit locknut
367	C-1033/68	1	Side chip breaker pivot plate
368	A-1033/111	1	Chip breaker stop screw
369	A-1033/239	1	Knurled knob for chip breaker
370	A-1033/239	1	Knurled knob for chip breaker (with spigot)
371	A-1033/196	1	Pressure spring for side head chip breaker

NOTE :-

When ordering replacement parts quote

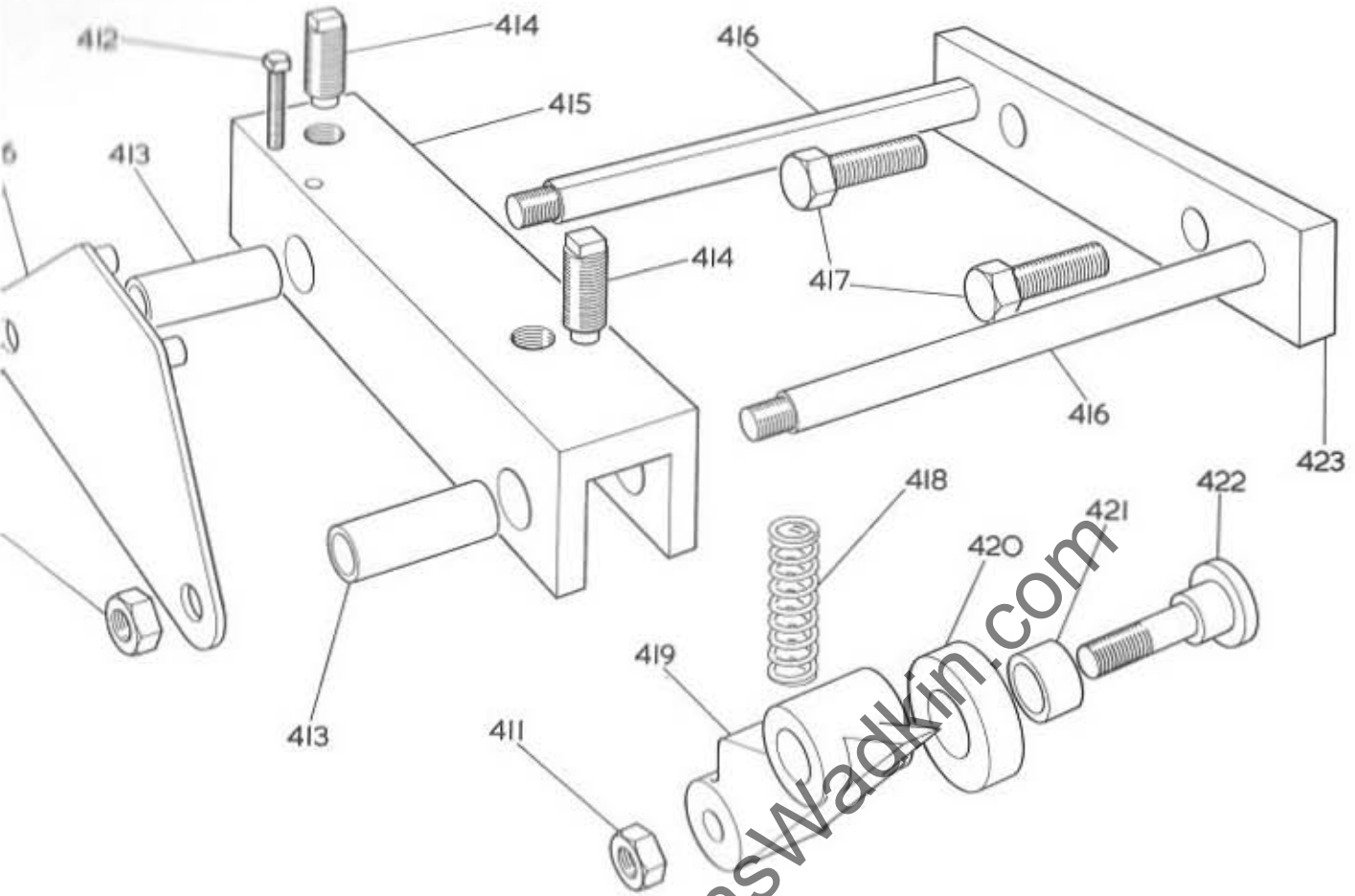


PRESSURES OVER SIDE HEAD ASSEMBLY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

Ref. No	Part No.	No. Off	Description	Ref. No.	Part No.	No. Off	Description
380		2	1/4" wide x 3" long feather key	394	B-1033/152	2	Top pressure rod
381	A-1033/87	2	Top pressure slide bar for side head	395	A-1033/114	1	Pressure arm bracket locking eccentric
382		2	5/16" whit x 3/4" long socket head grubscrew	396		2	1/4" x 1 1/2" long groverlok spring dowel
383	B-1033/57	2	Top pressure bracket	397		2	1/4" whit x 1/4" long socket head grubscrew
384	A-1033/94	2	Pressure adjusting nut	398		6	No. 8 countersunk head woodscrew 3/4" long
385		4	3/8" whit locknut	399	A-1033/200	2	Pivot pin for top pressure pad
386	B-8-1-B	2	3/8" whit ball lever screw	400		2	Wood pressure pad
387		2	5/16" dia x 1" long brass bot	401	B-1033/89	2	Top pressure pad for side heads
388		2	5/16" whit x 1/2" long socket head grubscrew	402		2	3/8" whit x 1" long countersunk head screw
389	A-1033/88	2	Top pressure slide bar plug for side heads	403	C-1033/49	1	Pressure arm bracket
390		1	3/8" whit x 1" long dogpoint socket head grubscrew	404	A-1033/119	1	Pressure arm bracket key
391		1	1 1/4" dia plastic ball, 3/8" whit	405	A-1033/118	1	Pressure arm bracket clamp
392	A-1033/195	2	Top pressure spring	406	A-1033/116	1	Pressure arm bracket eccentric
393	A-1033/90A	1	Handle for locking eccentric				

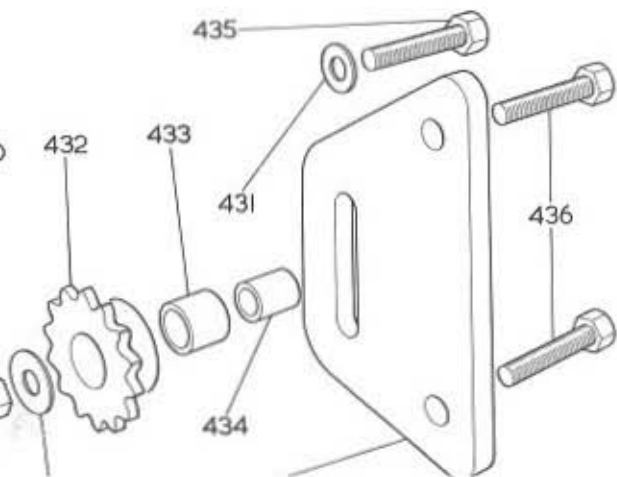


ROLLER PRESSURES OVER BOTTOM HEAD

Part No.	No. Off	Description	Ref No.	Part No.	No. Off	Description
B-1033/150	1	Bottom head pressure support plate	417		2	1/2" whit x 1" long hexagon head bolt
	4	1/2" whit nut	418	A-1033/256	2	Spring for pressure over bottom head
	1	1/4" whit x 1" long square head bolt	419	B-1033/62	2	Top pressure arm
A-1033/86	2	Pivot bush for bottom head pressure	420	A-1033/91	2	Bottom head pressure rollers
A-1033/117	2	Bottom head pressure adjusting screw	421		2	1/2" 1/4 x 1" o/d x 1/4" long oilite bush
B-1033/153	1	Bottom head pressure bracket	422	A-1033/90	2	Pin for bottom head pressure rollers
A-1033/85	2	Pivot pin for bottom head pressures	423	B-1033/151	1	Bottom head pressure back plate

NOTE :-

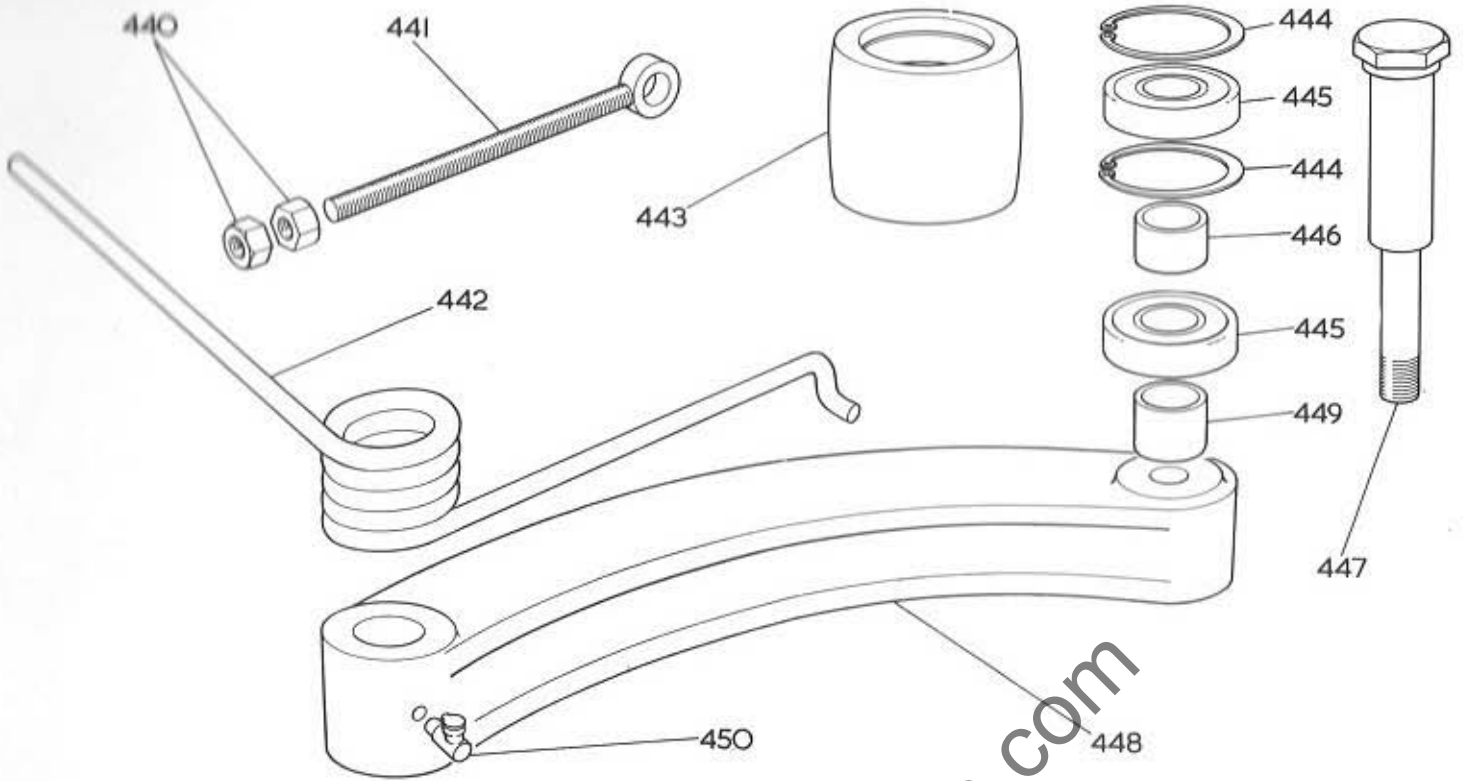
When ordering replacement parts quote part no. and serial number of the machine.



JOCKEY SPROCKET ASSEMBLY

Ref No.	Part No.	No. Off	Description
430		1	3/8" whit aerotight nut
431		2	
432	A-1033/233	1	Jockey sprocket
433		1	5/8" 1/4 x 7/8" o/d x 1.1/8" long oilite bush
434	A-1033/212	1	Jockey sprocket bush
435		1	3/8" whit x 2" long hexagon head bolt
436		2	3/8" whit x 1 1/4" long hexagon head bolt
		1	Jockey sprocket holder

NOTE :-



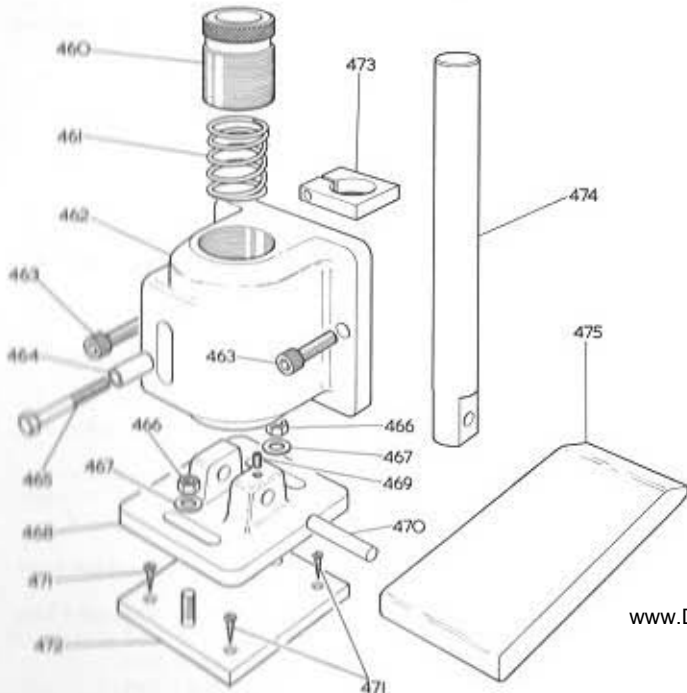
SIDE HEAD JOCKEY ARM ASSEMBLY

Ref. No	Part No.	No. Off	Description	Ref. No	Part No.	No. Off	Description
440		2	3/8" whit nut	446	A-1033/177	1	Jockey pulley distance piece (3/4" long)
441	A-1033/111	1	Belt tension spring adjusting screw	447	B-1033/154	1	Side head jockey pulley bearing pin
442	B-1033/288	1	Spring for side heads belt tension	448	C-1033/46	1	Side head jockey pulley arm
443	B-1033/78	1	Jockey pulley	449	A-1033/177	1	Jockey pulley distance piece (1, 3/16" long)
444	5000-206	2	52mm internal circlip	450	Oilers L2511	1	Angled Oiler
445	DN 205	2	Fischer "sealed for life" bearing				

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

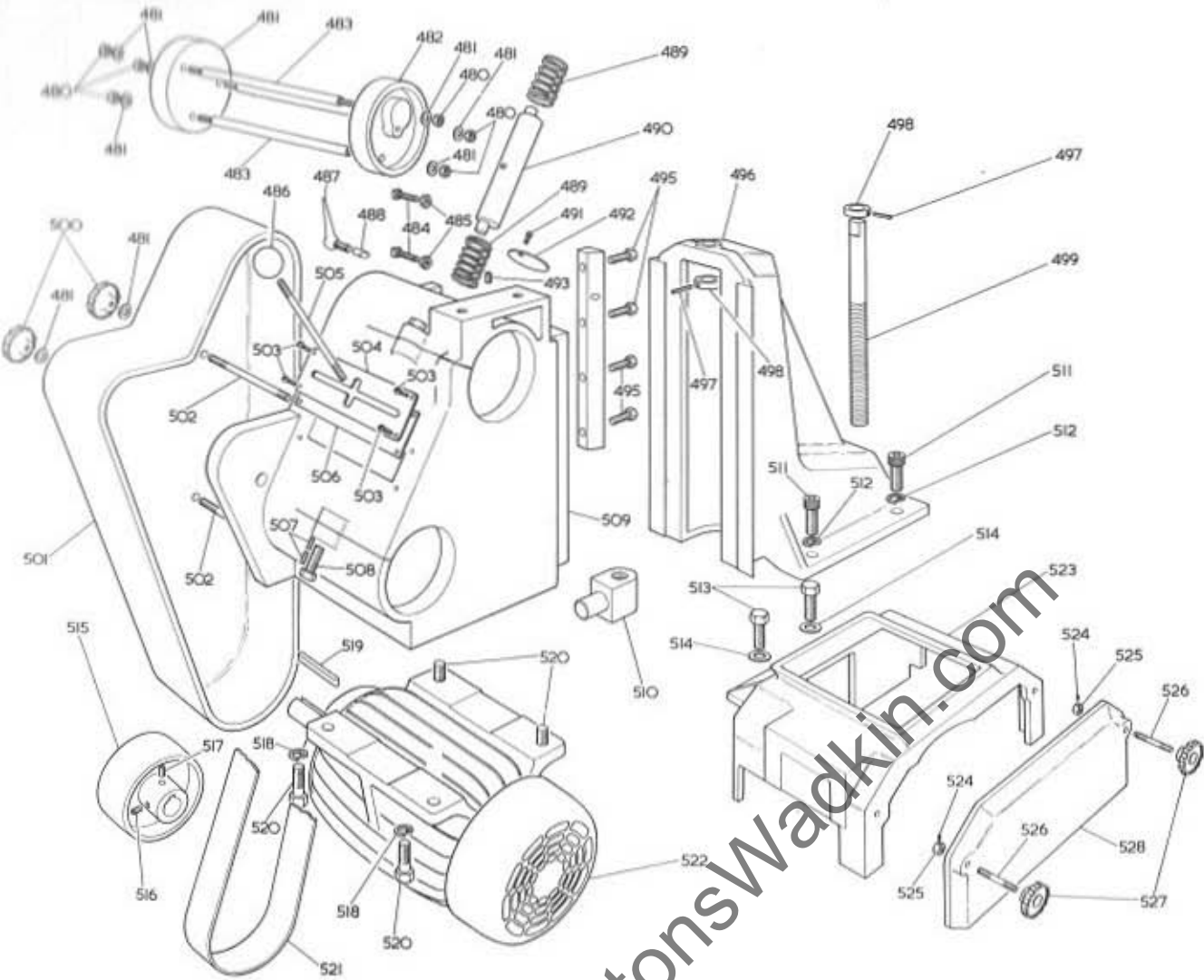
PRESSURE AFTER EXTRA HEAD ASSEMBLY



Ref. No	Part No.	No. Off	Description
460	A-1033/94	1	Pressure adjusting nut
461	A-1033/195	1	Top pressure spring
462	C-1033/131	1	Top pressure bracket for extra head
463		2	3/8" whit x 1" long socket head allen screw
464	A-1033/201	1	Front pressure locking distance piece
465		1	3/8" whit x 2 1/2" long hexagon head bolt
466		2	3/8" whit nut
467		2	3/8" whit washer
468	B-1033/71	1	Top head pressure pad
469		1	1/4" whit x 1/4" long allen head grubscrew
470	A-1033/200	1	Pivot pin for top head pressure
471		4	3/4" No. 8 woodscrew
472	B-1033/190	1	Adjusting plate for pressure pad
473	A-1033/84	1	Locking collar for pressure pad
474	A-1033/140	1	Back pressure rod
475		1	Wood pressure pad

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

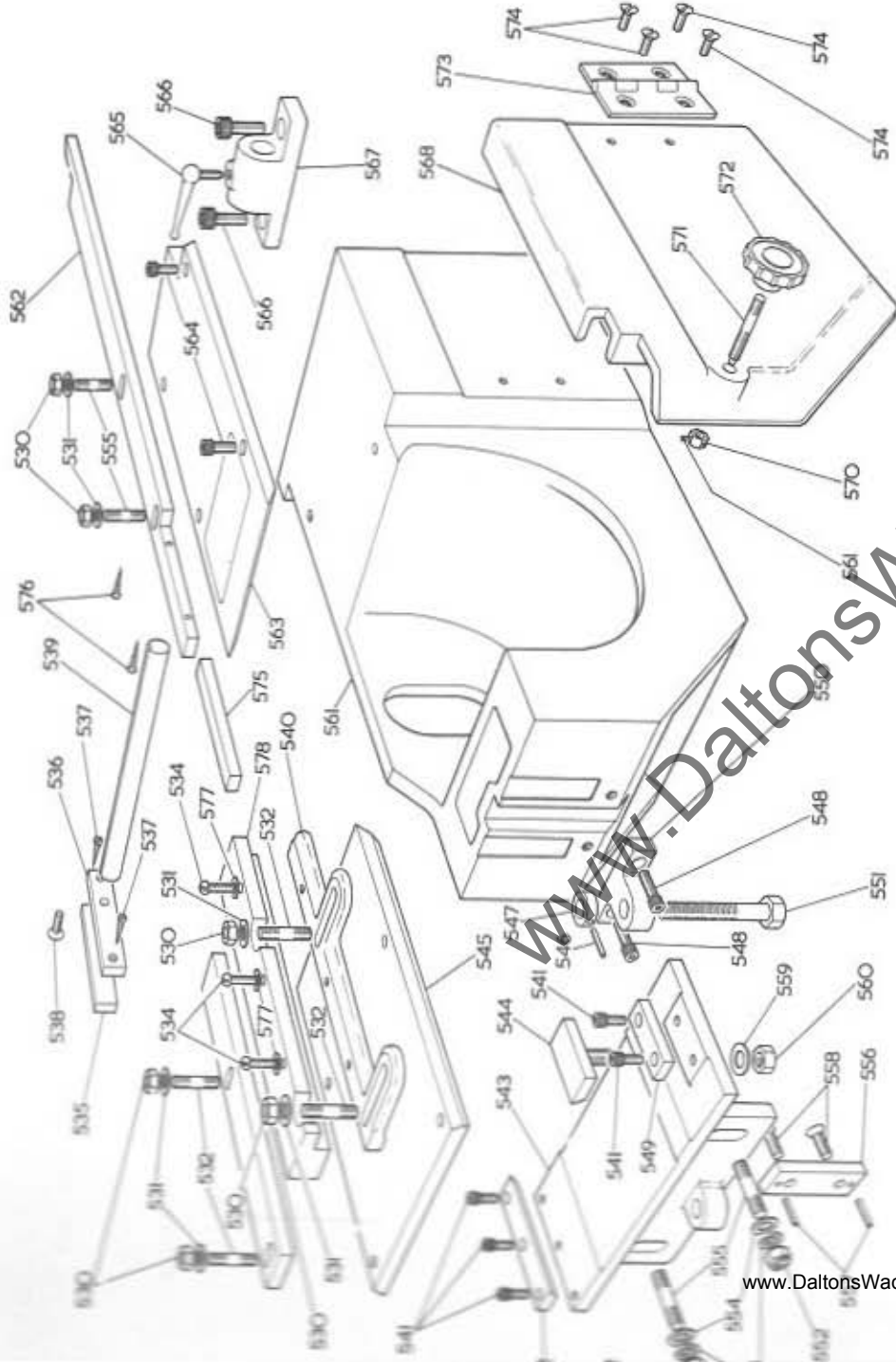


EXTRA HEAD SLIDE ASSEMBLY

NOTE :-

When ordering replacement parts quote part no. and serial number of the machine.

No	Part No.	No. Off	Description	Ref. No	Part No.	No. Off	Description
		6	3/8" whit nut	509	E-1033/120	1	Housing bracket for fifth head
		8	3/8" whit washer	510	A-1033/129	1	R & F nut for extra head
	B-1033/128	2	Jockey pulley holder	511		4	1/2" whit x 1 1/2" long socket head cap screw
	A-1033/139	3	Jockey pulley holder tie bars			4	1/2" whit x 1 1/2" long square head bolt
		4	1/2" whit x 1 1/4" long square head bolt	512		4	1/2" whit nut
		4	1/2" whit nut	513		2	1/2" whit x 1 1/4" long hexagon head bolt
		1	1 1/2" dia plastic ball 3/8" whit bore	514		2	1/2" whit washer
		1	3/8" whit ball lever screw	515	B-1033/16	1	50 cycle motor pulley
	A-1033/142	1	5/16" dia x 1 1/4" long brass bot	516	B-1033/265	1	60 cycle motor pulley
	A-1033/137	2	Adjustment spring			1	1/8" gas x 1/2" long socket head grubscrew
		1	Lateral adjustment eccentric pin	517		1	1/8" gas x 3/8" long socket head grubscrew
		1	3/16" whit x 3/8" long round head screw			4	3/8" spring washer
	B-1033/287	1	Cover plate for extra head adjustment	518		1	5/16" wide x 2 1/4" long feather key
		1	3/8" whit x 5/8" long socket head grubscrew	519		4	3/8" whit x 1 1/2" long hexagon head bolt
	A-1033/136	1	Gib strip for extra head	520		1	62" long x 2" wide meteor flat belt double faced type S (50cycle)
		4	3/8" whit x 1" long hexagon head bolt	521		1	60 1/2" long x 2" wide meteor flat belt double faced, type S (60cycle)
	D-1033/121	1	Slide bracket for extra head			1	Brook motor, Frame D184, 5HP, T. E. F. C., 3000rpm foot mounted, 3phase, 50cycles
		2	3/16" x 1 1/4" long groverlok spring dowel	522		1	Brook 'Kompact' motor, Frame LS184T, 5HP, T. E. F. C. 3, 600rpm, foot mounted, 3phase, 60cycles
	A-1033/260	2	Collar for extra head R&F screw			1	Cover for extra head
	A-1033/135	1	R & F screw for extra head			2	3/16" whit x 3/16" long socket head grubscrew
		2	1 1/4" dia plastic handwheel 3/8" whit	523	C-1033/124	1	3/8" whit nut with 3/16" tapped hole
	D-1033/125	1	Belt guard for extra head	524		2	3/8" whit x 2 1/4" long stud with spigot
	A-1033/269	2	Belt guard stud			2	1 3/4" dia plastic handwheel
		4	3/16" whit x 3/4" long round head screw	527		2	1 3/4" whit x 2" long hexagon head bolt
	C-SK-528/Q	1	Instruction plate for extra head	528	B-1033/126	1	Door for fifth head cover.
	A-1031/103	1	Lateral adjusting handle for extra head				
	A-1033/241	1	Extra head cover plate				
		4	1/4" whit x 3/8" long socket head grubscrew				



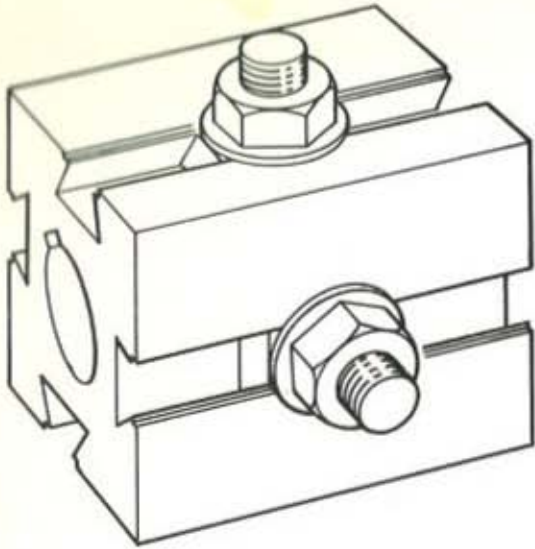
EXTRA HEAD TABLE

ASSEMBLY

When ordering replacement parts quote part no. and serial number of the machine.

I. No.	Part No.	No. Off	Description	Ref. No.	Part No.	No. Off	Description
30		6	3/8" whit nut	556	A-1033/138	1	Key for adjustable table
31		6	3/8" B. S. F. washer	557		2	3/16" x 1/2" long groverlok spring dowel
32	B-1033/144	4	3/8" whit x 1, 3/8" long stud,	558		2	1/4" whit x 3/4" long socket head countersunk screw
33		1	Rear fence	559		1	1/2" washer
34		3	1/4" whit x 1" long round head screw	560		1	1/2" whit nut
35		1	Wood pad	561	D-1033/122	1	Fixed table for extra head
36	A-1033/213	1	Extra head side pressure	562	B-1033/134	1	Front fence
37		2	1/4" long No. 8 countersunk head woodscrew,	563	B-1033/132	1	Bed plate
38		1	5/16" whit x 3/4" long socket head countersunk screw,	564		2	5/16" whit x 1/2" long socket head capscrew
39	B-1033/292	1	Arm for front pressure	565		1	3/8" whit ball lever screw
40	B-1033/173	1	Rear extension table guide casting	566		2	3/8" whit x 1/2" long socket head capscrew
41		5	1/4" whit x 1" long socket head capscrew	567	B-1033/209	1	Extra head side guide bracket
42	A-1033/266	1	Vee strip for adjustable table	568	B-1033/127	1	Door for bottom extra head
43	C-1033/123	1	Adjustable table for extra head	569		1	3/16" whit x 3/16" long socket head grubscrew
44	A-1033/247	1	Adjustable table bedplate clamp	570		1	3/8" whit nut with 3/16" tapped hole
45	B-1033/133	1	Bedplate for adjustable table	571		1	3/8" whit x 2" long stud with spigot
46		1	3/16" x 1" long groverlok spring dowel	572		1	1 1/2" dia plastic handwheel(3/8"whit)
47	A-1033/248	1	Adjustable table R & F screw	573		1	3" steel bingie
48		2	5/16" whit x 1" long socket head capscrew	574		4	1/4" whit x 1/2" long countersunk head screw
49	A-1033/267	1	Stop strip for adjustable table	575		1	Wood insert
50	B-1033/245	1	Adjustable table R & F bracket	576		2	1 1/2" long No. 8 countersunk head woodscrew
51	A-1033/249	1	Adjustable table R & F screw	577		3	1/4" washer
52		2	3/8" whit areotight nut	578		1	Wood facing for front fence
53		2	3/8" spring washer				
54		2	3/8" washer				
55		4	3/8" whit x 1 1/2" long stud				

EXTRA EQUIPMENT



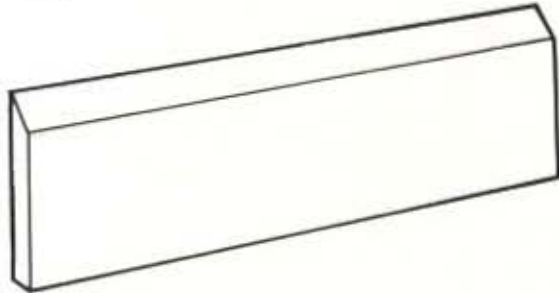
CUTTERS FOR SQUARE CUTTERBLOCKS

FOR TOP AND BOTTOM HEADS

1 pair 4 3/4" (120mm) long x 3 1/2" (89mm) x 3/8" (9.5mm) HSS straight cutters BS. 165

FOR SIDE HEADS

1 pair 3 1/4" (82mm) x 3 1/2" (89mm) x 3/8" (9.5mm) HSS straight cutters BS. 166



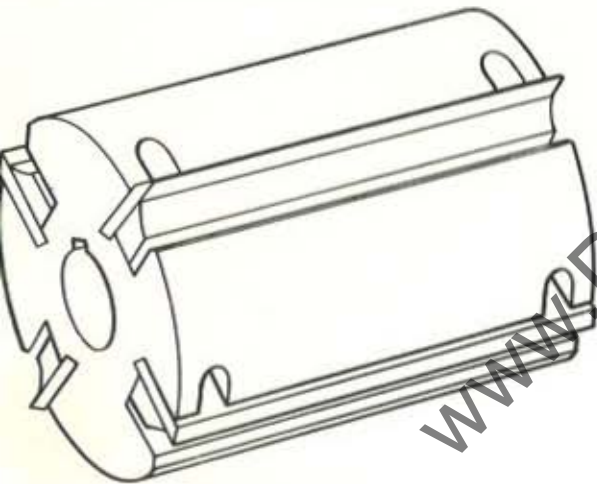
SQUARE CUTTERBLOCKS

FOR TOP & BOTTOM HEADS

1 set 4 3/4" (120mm) long x 3" (76mm) square cutterblock 1 1/4" (31.75mm) dia C-1033/107 with bolts, nut and washers

FOR SIDE HEADS

1 set 3 1/4" (82mm) long x 3" (76mm) square cutterblock 1 1/4" (31.75mm) dia C-1033/210 with bolts, nuts and washers



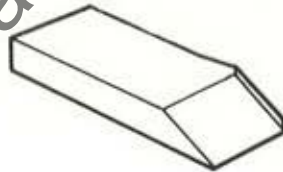
CUTTERS FOR CIRCULAR CUTTERBLOCK

FOR TOP AND BOTTOM HEADS

1 set straight cutters for circular cutterblock 4 3/4" (120mm) long A-S-164/4 3/4"

FOR SIDE HEADS

1 set straight cutters for circular cutterblock 3 1/4" (82mm) long A-S-164/3 1/4"



T.C.T. CUTTERS FOR REBATE BLOCK ON BOTTOM HEAD

1 pair Tungsten carbide tipped cutters 1033/222

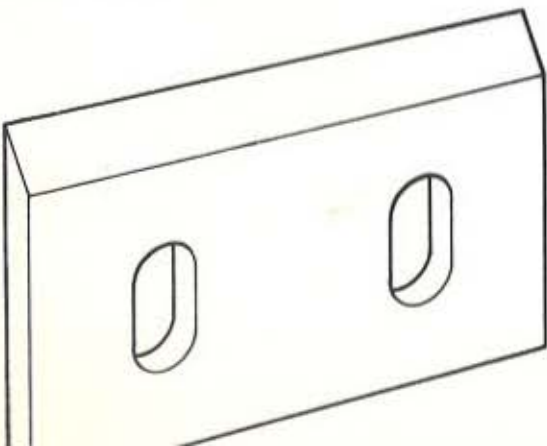
CIRCULAR CUTTERBLOCKS

FOR TOP AND BOTTOM HEADS

1 set 4 3/4" (120mm) long x 5" (127mm) dia circular cutterblock with carbide tipped cutting circle C-1033/214

FOR SIDE HEADS

1 set 3 1/4" (82mm) x 5" (127mm) dia circular cutterblock with carbide tipped cutting circle C-1033/215



SLITTING SAW FOR FIFTH HEAD

1 - 9" dia alloy steel slitting saw
1 set saw flanges for above
1 set spacing collars for above

SALES & SERVICE

Wadkin Ltd.

Green Lane Works - LEICESTER

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