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

PLEASE INSERT SERIAL NUMBER OF MACHINE

INSTRUCTION MANUAL FOR

DM

Hollow Chisel Mortiser

Specification

Largest chisel which can be used in softwood.		1"square 25.4mm
Largest chisel which can be used in hardwood.		¾"square 19mm
Timber capacity of machine with 4"(101.6mm) chisel.		10"deep 8"wide. 254mm x 203mm
Timber capacity of machine with 6½"(165mm) chisel.		7½"deep x 8"wide. 190.5mm x 203mm
Size of table.		22" x 6",558.8mm x 152.5mm
Longitudinal movement of table.		19" 482mm
Lateral movement of table.		4" 101.6mm
Speed of spindle.		3,000rpm (50 cycles) 3,600rpm (60 cycles)
Horsepower of motor.	3 phase.	2
	1 phase.	1
Approx. floor area.		2'-10"x5'2" 863.6mm x 1574.8mm
Height of work table.		27¾" 705mm
Approx. net weight.		672 lb. 303 kg.
Approx. gross weight.		840 lb. 380 kg.
Shipping dimensions.		44 cu.ft. 1.25cu.m.

For Replacement Parts, Tools & Accessories, Contact:–

BURSGREEN (DURHAM),
FENCE HOUSES, HOUGHTON-LE-SPRING,
TYNE & WEAR, ENGLAND DH4 5RQ
Telephone: Durham (0385) 852385
Telex: 53441 (BURDRM G)

SAFETY

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

HEALTH & SAFETY

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:

1. 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.

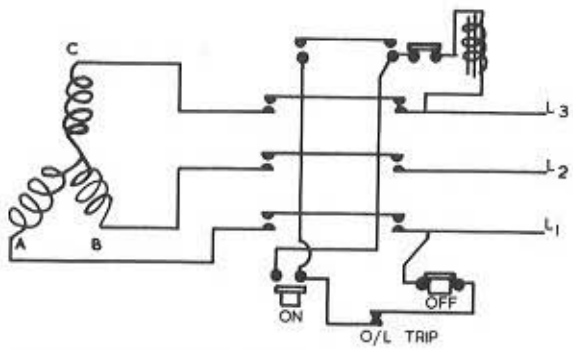
5. All tools and cutters must be securely fixed and the speed selected must be appropriate for the tooling.

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.

INSTALLATION

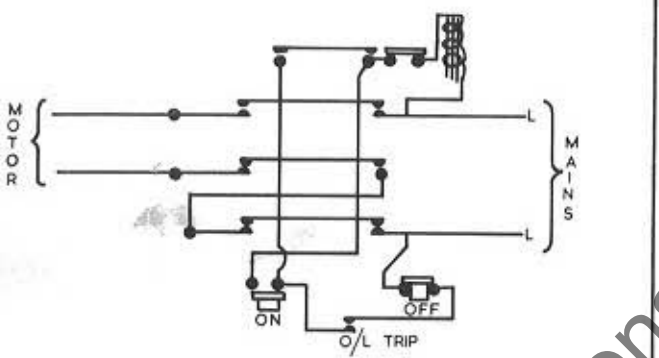
Remove protective coating from all bright parts by applying a cloth soaked in parrafin, turpentine or other solvent.

When the machine is cased for export the handwheels are removed and packed individually. Remove and re-assemble as shown in fig. 1.



WIRING DIAGRAM FOR 3 PHASE SUPPLY

FIG.2.



WIRING DIAGRAM FOR 1 PHASE SUPPLY

FIG.3.

WIRING DETAILS

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

Points to note when connecting to the power supply :-

1. Check that the voltage, phase and frequency correspond to those on the motor plate, also the correct coils and heaters are fitted to the starter.
2. 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.
3. Check the main line fuses are of the correct capacity. See list below.
4. Connect the line leads to the appropriate terminals. See fig. 2 for 3 phase supply and fig. 3 for 1 phase supply.
5. Check all connections are sound.
6. Check the rotation of the motor for the correct direction. If this is incorrect, reverse any two of the line lead connections for 3 phase supply.

VOLTAGE.	PHASE	HP	SWG TINNED COPPER WIRE	AMPS
220	3	2	22	24
380/420	3	2	25	15
550	3	2	25	15
200/250	1	1	19	38

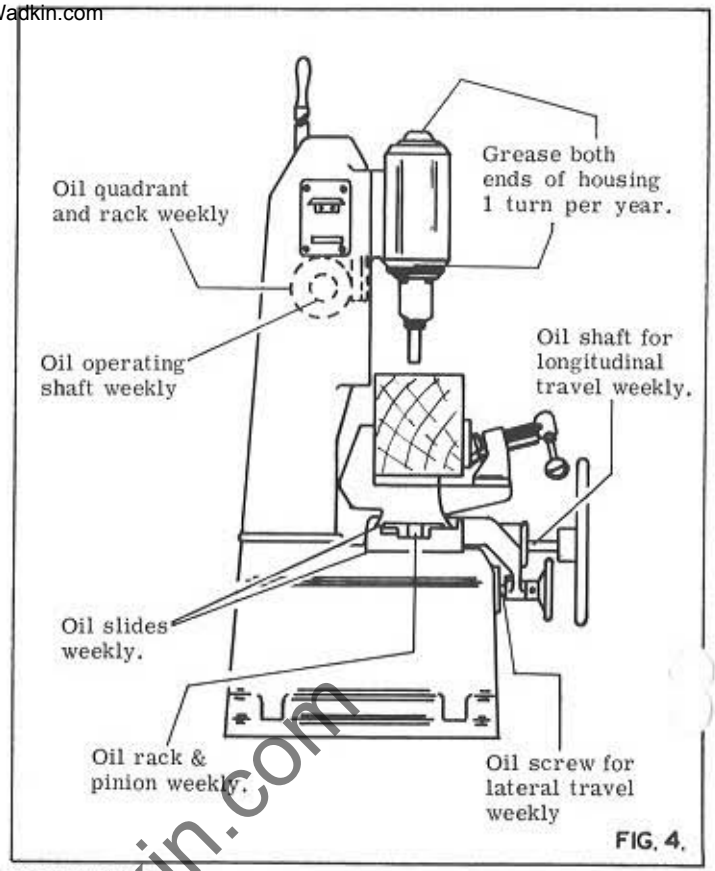


FIG. 4.

LUBRICATION

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

TYPE OF OIL RECOMMENDED POWER EM 125
TYPE OF GREASE RECOMMENDED SHELL ALVANIA 3.

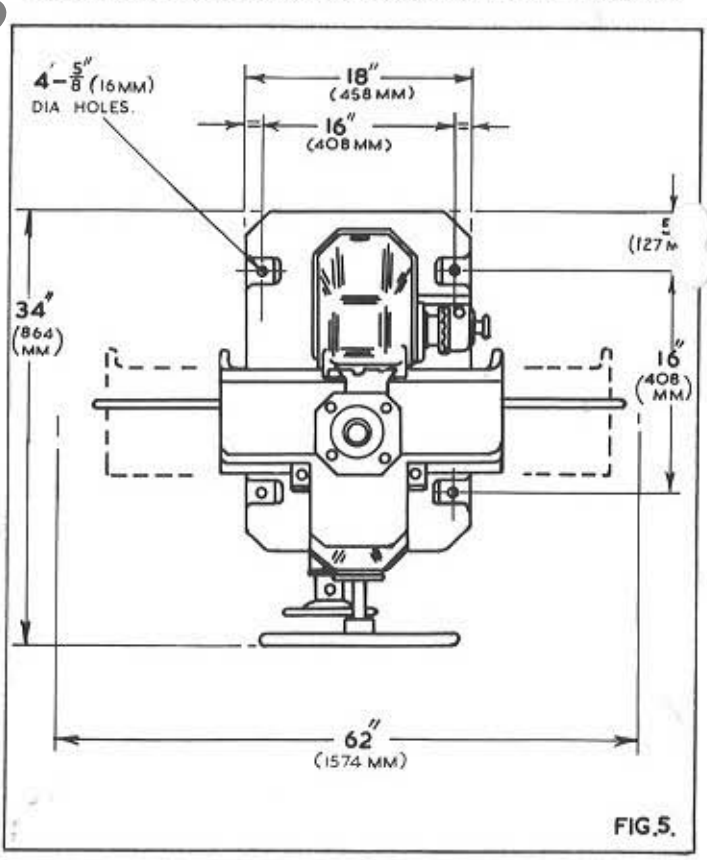


FIG.5.

FOUNDATION

See fig. 5 for bolt positions and clearances required. When installing the machine level the table by packing under the base

Foundation bolts are not supplied with the machine except by special order.

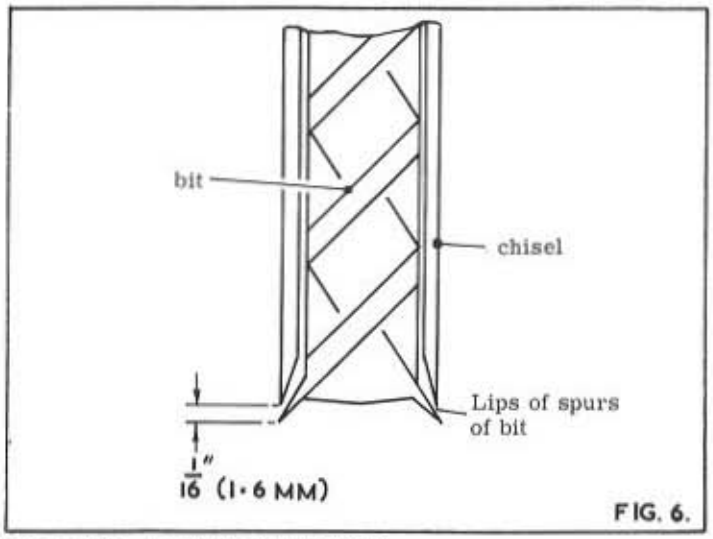


FIG. 6.

MORTISING, HOW TO SET CHISEL

The lips or spurs of the bit should not be allowed to touch the cutting edge of the chisel but should be set 1/16" (1.6 mm) below the chisel points, as shown in fig. 6, so that the bit cuts before the chisel.

The bit is held in the machine spindle by means of the allow set screw "A", in fig 7. The bore of the spindle is ½"(12.7 mm) and the machine is supplied with bushes so that all sizes of bits can be fit up to the maximum size required for 1" (25.4. mm) square chisel.

The chisel is held in a special bracket below the machine spindle and is locked in position by means of the hexagon nut "B", in fig 7. The bore of the bracket is 1 3/8" (35 mm) and a set of bushes is supplied so that all sizes of chisel can be used up to a maximum size of 1" (25.4 mm) square.

To set the chisel correctly, select the bush required and fit bush to chisel, push the chisel complete with bush into the chisel holder bracket until the shoulder comes into contact with the chisel bracket. The chisel should also be positioned square to the rear of the table. When correctly positioned lock securely in position by means of the hexagon nut "B".

Position the bit so that the lips protude 1/16" (1. 6 mm) below the chisel points and lock the bit tightly in position. Care should be taken to ensure that the bit is securely locked so that it cannot be forced against the cutting edge of the chisel resulting in a fractured tool.

Do not jerk the tool into the work but give steady pressure Withdraw the tool occasionally from the work to allow the to clear itself of chips.

The maximum chisel which can be used in soft wood is1" quare (25.4. mm) and ¾" (19 mm) square in hardwood.

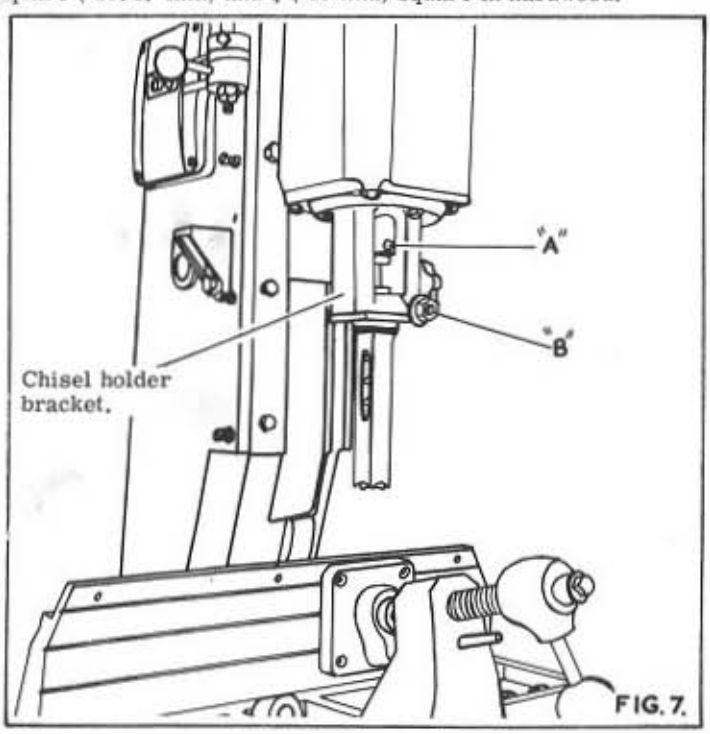


FIG. 7.

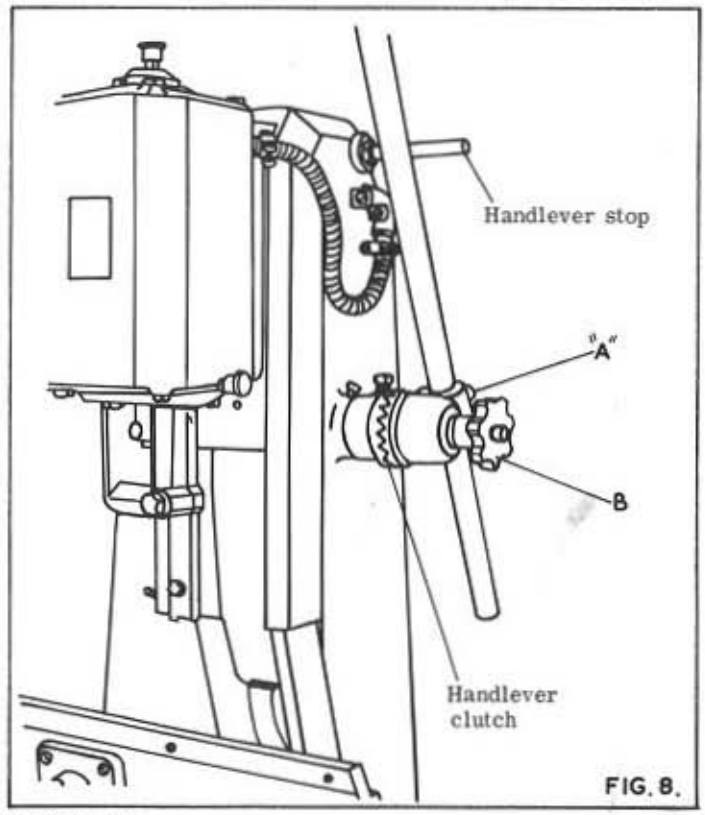


FIG. 8.

HANDLEVER

The handlever to the right of the machine is used to control the movement of the head. The handlever is provided with dual adjustment. Firstly to obtain the correct leverage the square head bolt "A" in fig 8, should be loosened and the lever adjusted through the boss until the correct leverage is obtained. When set relock bolt "A".

Secondly unnecessary movement of the head after the chisel has cleared the work can be eliminated by releasing the plastic handwheel "B" and adjusting the clutch to the required position. Finally secure the clutch by tightening handwheel "B".

A stop is provided to the handlever which allows the handlever to return to one position only. This in turn restricts the movement of the head depending on the positioning of the clutch.

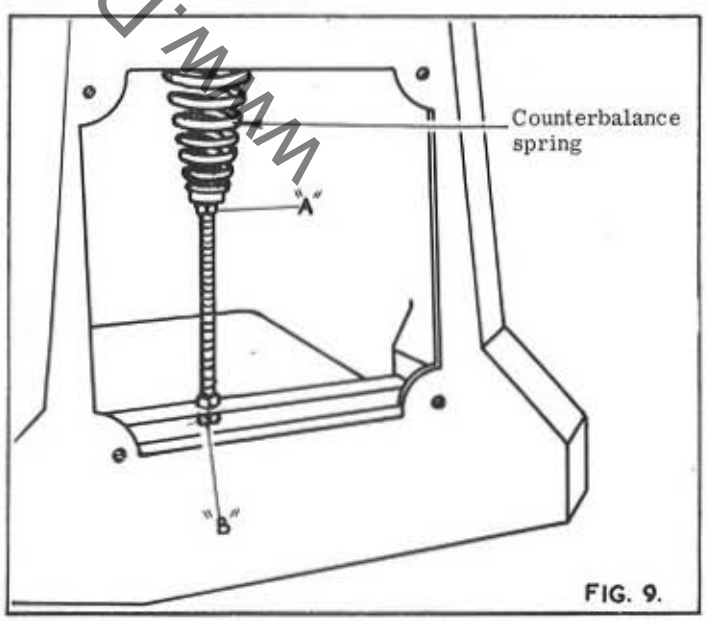


FIG. 9.

COUNTERBALANCE.

The mortising head is counterbalanced by means of a spring connected by a chain to a cam on the handlever shaft. The tension of this spring is set for normal counterbalancing at the works but may be reduced or increased by adjusting nut "B" shown in fig. 9. The lock nut "A" should be secured when desired tension has been given.

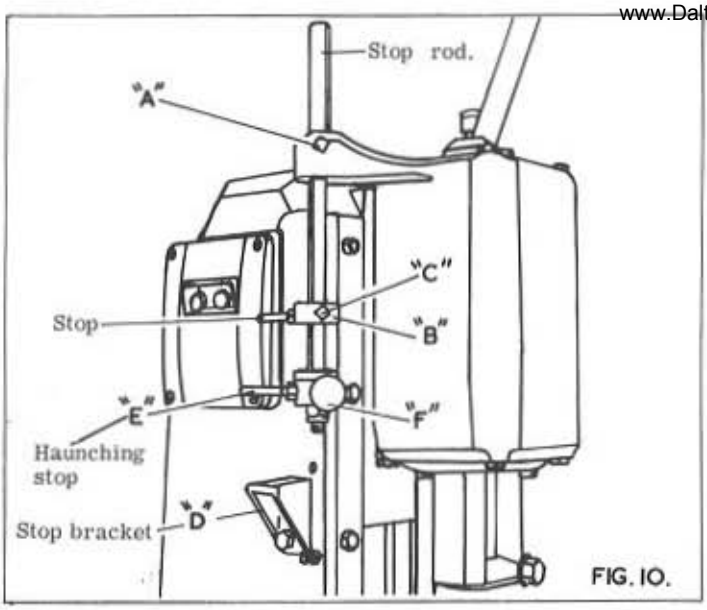


FIG. IO.

DEPTH STOP.

A stop to control the travel of the head is fitted to the left hand side of the head stock. Also incorporated on the stop bar is a haunching stop. The stop bar is locked in the headstock by means of the square head bolt "A" in fig 10. The sliding collar "B" is locked on the stop bar by the square head bolt "C". The stop on the collar hits against the stop bracket "D" This stop controls the depth of the mortise.

The swivelling stop "E" has two positions one where it strikes on the stop bracket "D" and one where it clears the stop bracket and allows the stop on the sliding collar to strike the stop bracket. The swivelling stop is adjusted by the handle "F". Thus the swivelling stop also controls the stroke of the head allowing haunched mortisers to be cut.

Stop rods are provided on the table to control the length of the mortise.

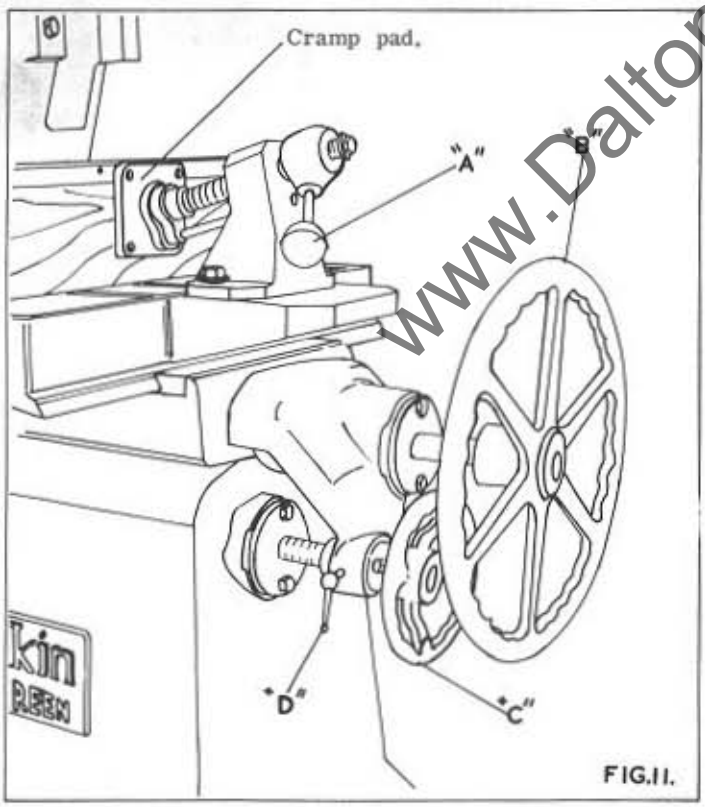


FIG.II.

WORK CRAMP.

The work cramp has 3 positions on the machine table allowing a maximum width of timber of 8" (203 mm) between the cramp face and the rear of the table.

The cramp is controlled by the lever "A" in fig. 11.

The cramp face is drilled to receive a wooden pad to prevent possible marking of the workpiece.

TABLE CONTROLS.

The table has both longitudinal and lateral movements. The longitudinal movement is controlled by means of handwheel "B" in fig. 11. and has a maximum movement of 19" (482 mm). The table has positive stops in the side which can be set to control the length of mortise to be cut.

The lateral movement is controlled by means of the handwheel "C" and has a maximum movement of 4" (101.6 mm) The table can be locked in position laterally by means of the ball lever screw "D".

BORING

There are two methods by which this machine can be used for boring. The maximum diameter of boring bit is 2"(50.8 mm) dia and the maximum diameter of all shanks is $\frac{1}{2}$".

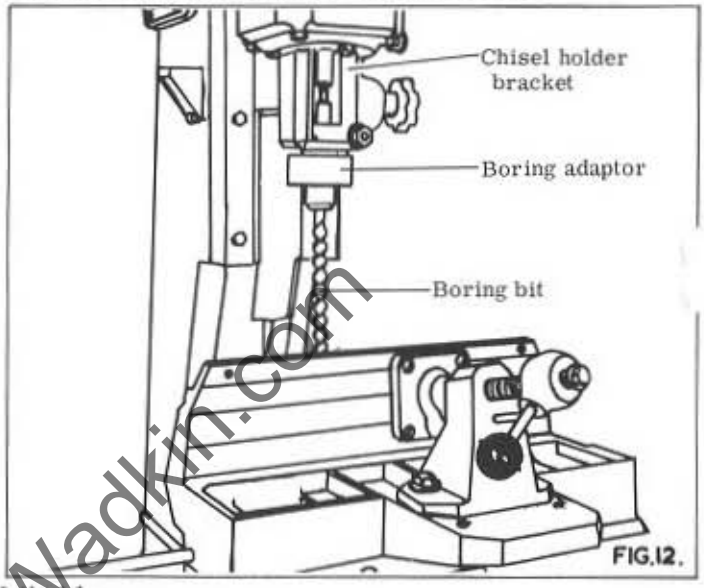


FIG.12.

Method 1.

This method is used for quick conversion. The adaptor consists of an inner spindle whose shank fits into the machine spindle. This spindle runs through a bearing in a housing and is secured in the chisel holder bracket. The adaptor is fitted to the machine in an identical manner to that of a chisel and is shown in position in fig 12. Care should be taken to ensure that the adaptor is securely in position, both in the chisel holder bracket and machine spindle before use.

The spindle of the adaptor is bored $\frac{1}{2}$" dia and accepts th standard chisel bushes as supplied with the machine.

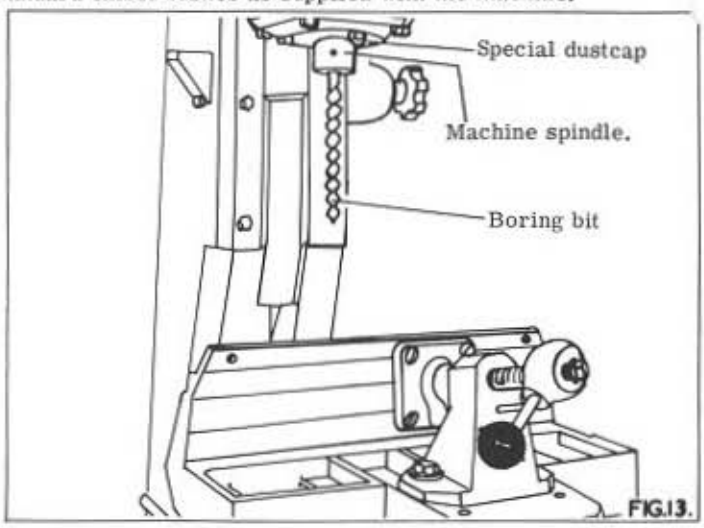


FIG.13.

Method. 2.

This method requires the removal of the chisel holder bracket and this is to be replaced by a special dustcap which is supplied to special order. Care should be taken when fitting special dustcap that dirt does not get into the bearing.

The boring bits now fit direct into the machine spindle.

A three jaw drill chuck of $\frac{1}{2}$" (12.7 mm) capacity with $\frac{1}{2}$" dia shank can be supplied to special order. This also can be used for boring.

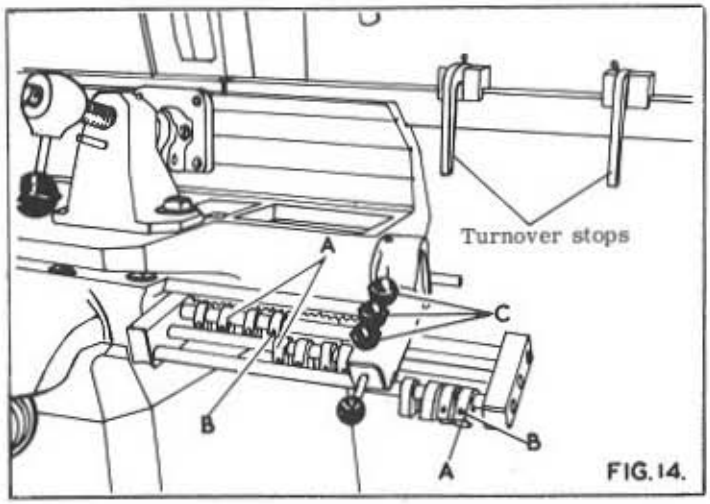


FIG. 14.

SETTING OUT ATTACHMENT & TURRET STOP (EXTRA)

The machine can be supplied with a setting out attachment and turret stop for rapid and accurate mortising or boring on short or long runs, as shown in Fig. 14.

The setting out attachment consists of steel angle stop bars ed to the rear of the mortiser table on either or both sides of the le. A number of adjustable turnover stops are fitted to these stop s and are adjustable throughout the full length by means of a ball lever screw.

The turret stop consists of short circular stop bars extended out to the right and are attached to the intermediate cross slide. Each of the three stop bars are fitted with four adjustable collars "A", which can be locked in any position, by means of the hexagon head bolt "B". The necessary spanner is provided. Three spring loaded stops "C" attached to the end of the table locate against the adjustable collars "A".

The turnover stops on either or both sides of the table are set o position the mortise in relation to the end of the timber while the spring loaded stop "C" and adjustable collars "A" control the ength of the mortise to be cut.

Thus the combination of these two sets of stop bars permits a wide choice of accurately dimentioned and located mortises to be cut and haunched without need for slow and laborious marking out.

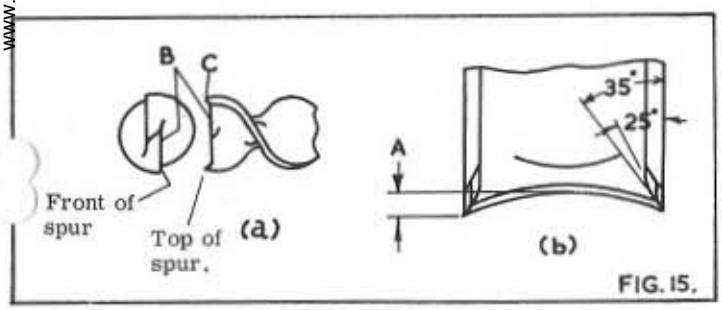


FIG. 15.

SHARPENING SQUARE CHISELS AND BITS

This chisel must be sharpened on the inside only and the cutting edges should be shaped to give a curve, as shown in fig. 15 (b) and maintained in shape as new. The bevels of the cutting edges must meet exactly at the corners. The depth "A" i.e. the distance from the corner point to the curve at the centre should be about one- eighth the diameter of the size of the chisel. The cutting edges must be as short as possible and fitted to an angle of about 35°, as shown in fig. 15 (b). The angle behind the cutting edge must then taper off at an angle of 25°. It is recommended that the special tool which can be supplied should be used to ensure the correct angle on all four cutting edges of the chisel.

It is most important that the outside of the chisel is never filed as this will reduce the size of the mortise and tend to bind in the timber.

The bit is sharpened by filing above the cutting edges "B", keeping the file at an angle of 15°. They must be kept in a straight line with the inside points extending past the centre as shown. Sharpen the spurs "C" on the top and front only never on the outside. Keep them in line with the cutting edges "B".

When a bit has been worn away by frequent resharpening replace it by a new one. Using a short bit may lead to the chisel being split at the cutting edges. Use a file of very fine grade for sharpening both chisels and bits.

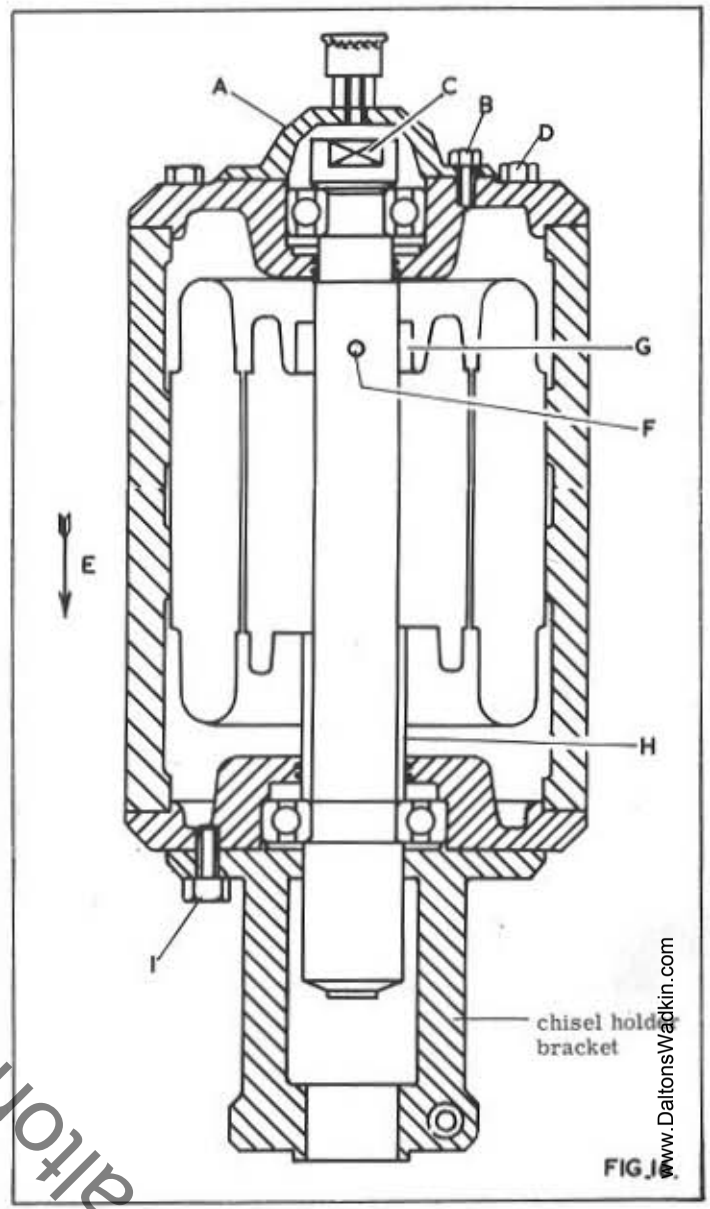


FIG. 16.

HOW TO CHANGE BEARINGS

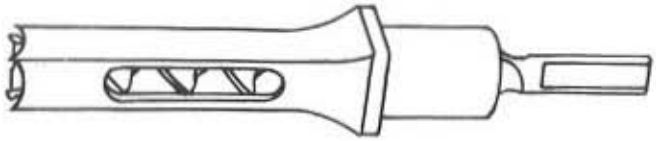
To remove the spindle from the machine, so that the bearings can be removed the undermentioned procedure should be followed:-

1. Isolate the machine electrically.
2. Remove the top dust cap "A" in fig. 16 by removing the two hexagon head bolts "B".
3. Remove locknut "C" (right hand thread) from the top of the machine spindle.
4. Remove the 4 hexagon head bolts "D", securing the top bearing housing to the motor carcase.
5. Remove the 4 hexagon head bolts, securing the bottom bearing housing to the motor carcase. Care should be taken to support the machine spindle when removing bolts. The complete spindle assembly can now be removed in the direction of arrow "E". Care should also be taken not to damage the threads on the spindle end.
6. The top bearing housing can now be removed from the motor carcase and the bearing removed and replaced by the new bearing.
7. The spindle assembly which has been removed can now be dismantled on a bench.
8. Remove the taper pin "F" securing the collar "G" to the spindle.
9. Remove the rotor from the spindle and the rotor key. Slide off the distance piece "H".
10. Remove the 3 hexagon head bolts "I" securing the chisel holder bracket to the bottom bearing housing.
11. Drive spindle from the bottom bearing housing in the direction of arrow "E". The bearing may come out with the spindle or remain in the bearing housing, but in either case can be readily removed.

To re-assemble the head unit reverse the above procedure taking care to ensure that no dirt or grit enters the bearings.

Before running the machine after the bearings have been renewed always ensure they have been greased.

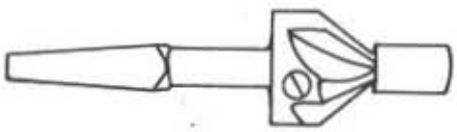
EXTRA EQUIPMENT



HOLLOW MORTISE CHISELS AND BITS

The standard sizes of tools which can be supplied to order are as listed below:-

To cut square	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Length of chisel blade.	4"	4"	4"	6 1/2"	6 1/2"	6 1/2"	6 1/2"
Dia of bit shank							
Dia of chisel shank							

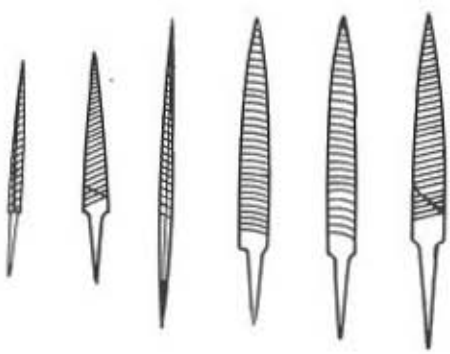


SHARPENERS FOR HOLLOW MORTISE CHISELS

The tool illustrated above, has been produced to enable mortise chisels to be kept correctly sharpened. It is for use in an ordinary Joiners brace and is mounted centrally with the axis of the chisel by means of a pilot which fits the bore of the chisel. This ensures that all four cutting edges are sharpened to the correct angle. The corners only require finishing off sharp with a file. The sharpeners are available in three sizes with interchangeable loose pilots for each size to suit different chisels.

No. 1 Set.	1/4" to 3/8" chisel with 3 pilots
No. 2. Set	3/8" to 11/16" chisel with 5 pilots.
No. 3. Set	3/4" to 1" chisel with 3 pilots.

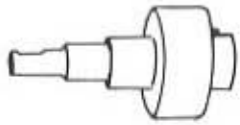
Also available are sharpeners as shown above but with fixed pilots, the range of these are 1/4" to 1" rising in increments of 1/16".



FILES FOR MORTISE CHISELS AND BITS

This set of special files are recommended for sharpening the square chisel and bits. They are of very fine grade and shaped to efficiently sharpen the corners of chisels after use of the sharpeners, illustrated above.

BORING EQUIPMENT

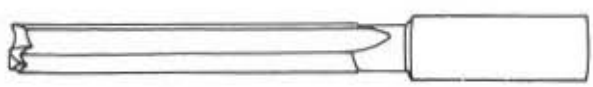


The adaptor illustrated above is to convert the machine quickly to accept boring bits up to 2" (50 mm) dia, with 1/2" dia shanks. This is desirable but not essential equipment for boring operations.

The special dustcap illustrated above can be supplied to convert the machine to accept boring bits up to 2" (50.8 mm) dia with 1/2" dia shanks. This dustcap replaces the chisel holder bracket. This is essential for boring operations when the special boring adaptor is not used.

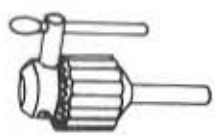
Jennings bits:- These are available in the sizes shown below they all have 1/2" dia shank, 2" (50 mm) long

1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16" 7/8", 15/16", 1", 1.1/8", 1 1/4", 1.3/8", 1 1/2", 1.5/8", 1 3/4", 1. 7/8", 2"

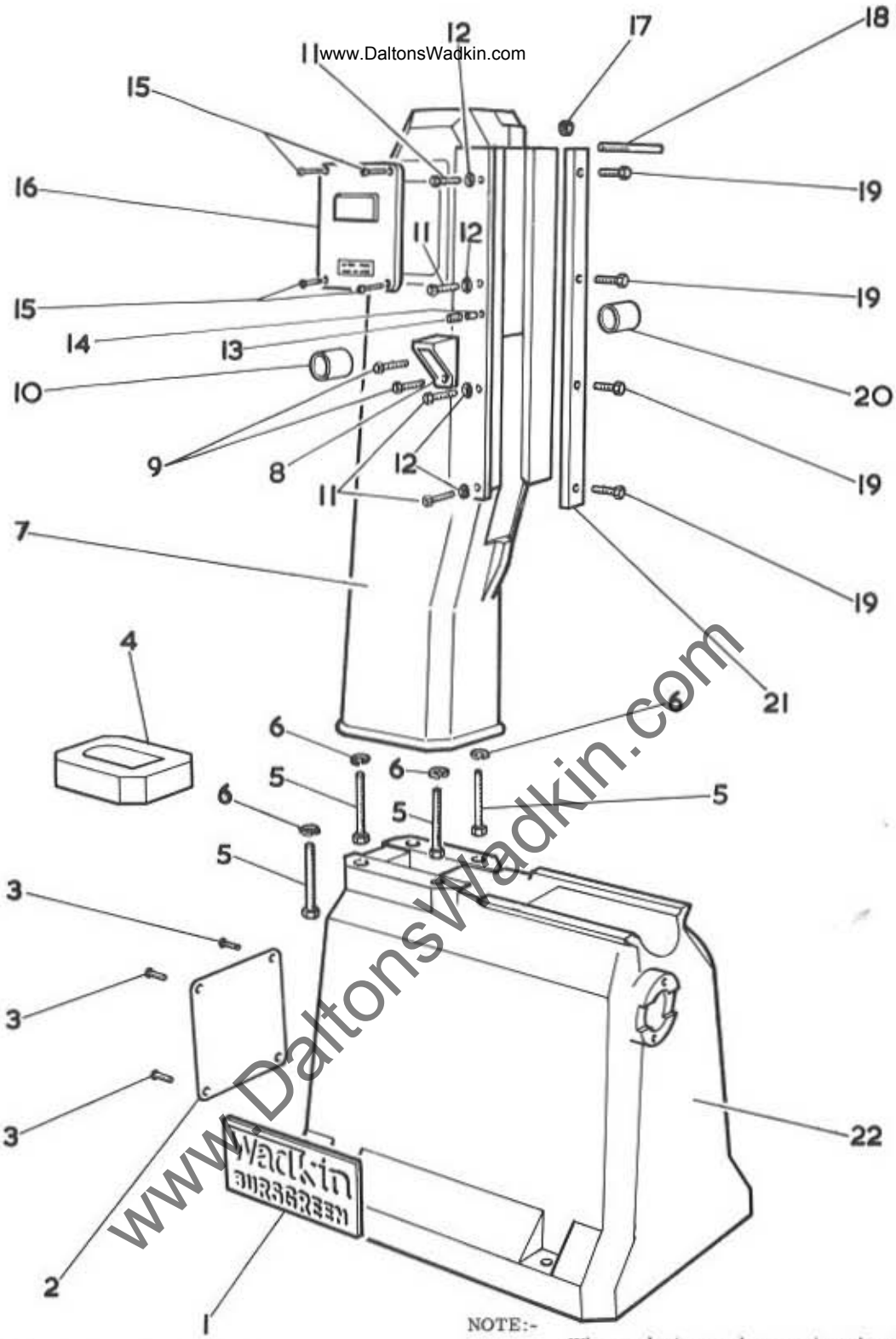


Three wing boring and slotting bits:- all bits have 1/2" dia shanks.

1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16" 3/4", 13/16", 7/8", 15/16", 1".



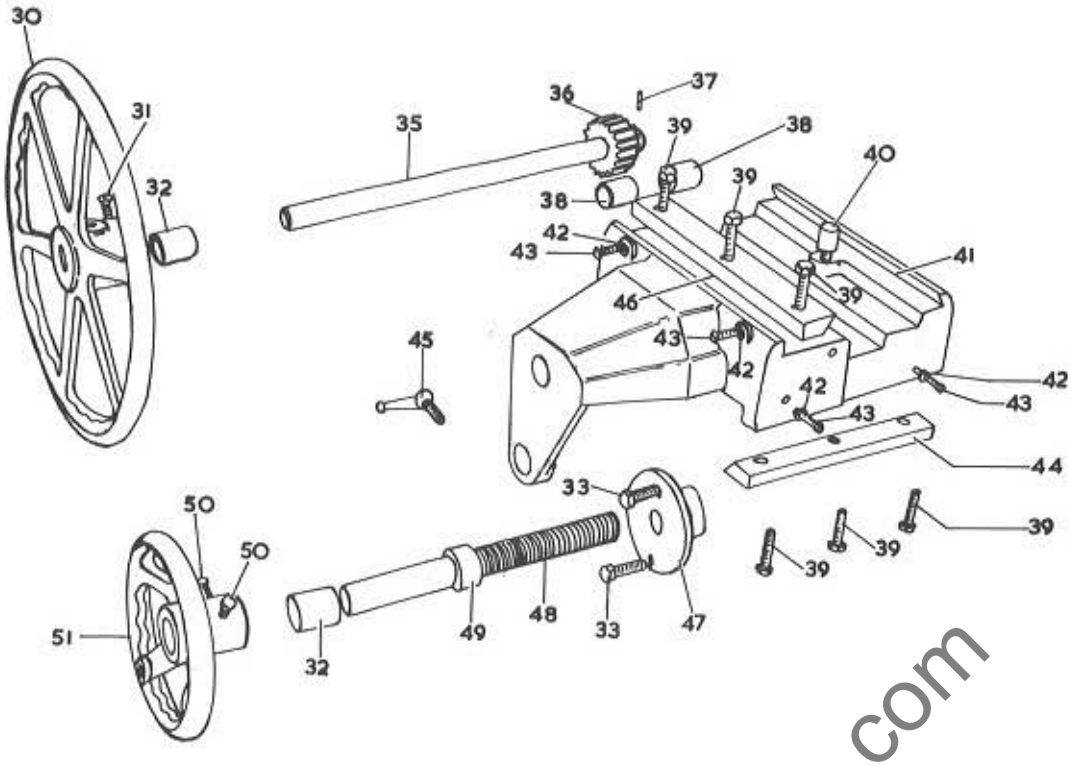
A three jaw drill chuck of 1/2" (12.7 mm) capacity as illustarted above, can be supplied for use with this machine.
A special dustcap for boring has to be used in conjunction with the chuck unless the special boring adaptor is fitted.



TRUNK ASSEMBLY

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

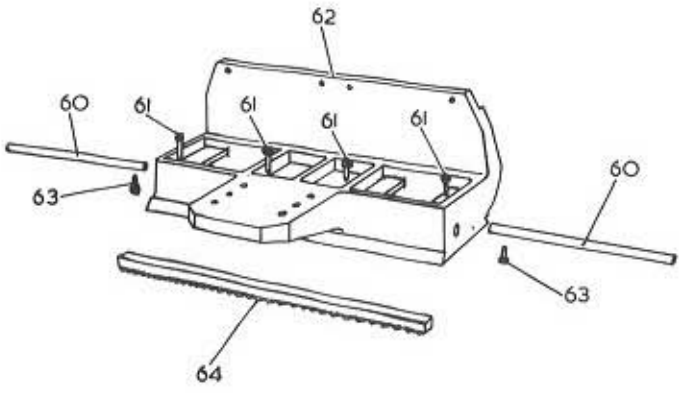
Ref. No.	Part No.	No. Off	Description
1	B-SK-1096	1	Nameplate
2	B-1014/87	1	Backplate for base
3		4	M8 x 10 long round head screw
4	B-1014/86	1	Trunk packing piece (Special)
5		4	M16 x 50 long hexagon head bolt
		4	M16 x 100 long hexagon head bolt (Special when packing piece is fitted)
6		4	16 spring washer
7	D-1014M/2	1	Trunk
8	A-1014/101	1	Stop bracket
9		2	M10 x 25 long hexagon head bolt
10		1	1" i/d x 1¼" o/d x 1½" long oilite bush
11		4	M10 x 30 long hex head bolt
12		4	M10 Nut
13		1	M10 x 12 long socket set screw
14	A-1014/82	1	Brass bot for head
15		4	M6 x 20 long cheese head screw
16	44ADS/FO	1	M.E.M. Starter (3 phase, 50 cycles)
	A.T.3	1	Brook Starter (3 phase, and 1 phase, 60 cycles)
	82ADS/FO	1	MEM starter (1 phase, 50 cycles)
17		1	M16 nut
18	A-1014M/28	1	Handlever stop
19		4	M10 x 40 long hexagon head bolt
20		1	1½" i/d x 1¾" o/d x 2" long oilite
21	B-1014/31	1	Adjusting strip for trunk
22	E-1014/1	1	Base



INTERMEDIATE SLIDE ASSEMBLY

Ref. No.	Part No.	No. Off	Description
30	B-1014M/18	1	15" dia handwheel
31		2	M10 x 20 long dog point screw
32		2	1" i/d x 1¼" o/d x 1½" long oilite bush
33		2	M10 x 25 long hexagon head bolt
35	A-1014/24	1	Shaft for longitudinal travel
36	A-1014/41	1	Pinion for longitudinal travel
37		1	No. 3 taper pin
38		2	1" i/d x 1¼" o/d x ¾" long oilite bush
39		6	M10 x 30 long hexagon head bolt
40	A-1014M/39	1	Table stop peg
41	C-1014M/200	1	Intermediate slide for table
42		4	M6 locknut
43		4	M6 x 30 long hex head bolt
44	A-1014/37A	1	Vee strip for lateral slide
45	B-S-1-B	1	3/8" whit ball lever screw
46	A-1014/37B	1	Vee strip for longitudinal slide
47	A-1014/13	1	Nut for cross travel
48	A-1014/25	1	Shaft for lateral travel
49	A-1014/40	1	Collar for lateral shaft
50		2	M10 x 20 long dog point screw
51	B-1014M/17	1	7" dia dished handwheel

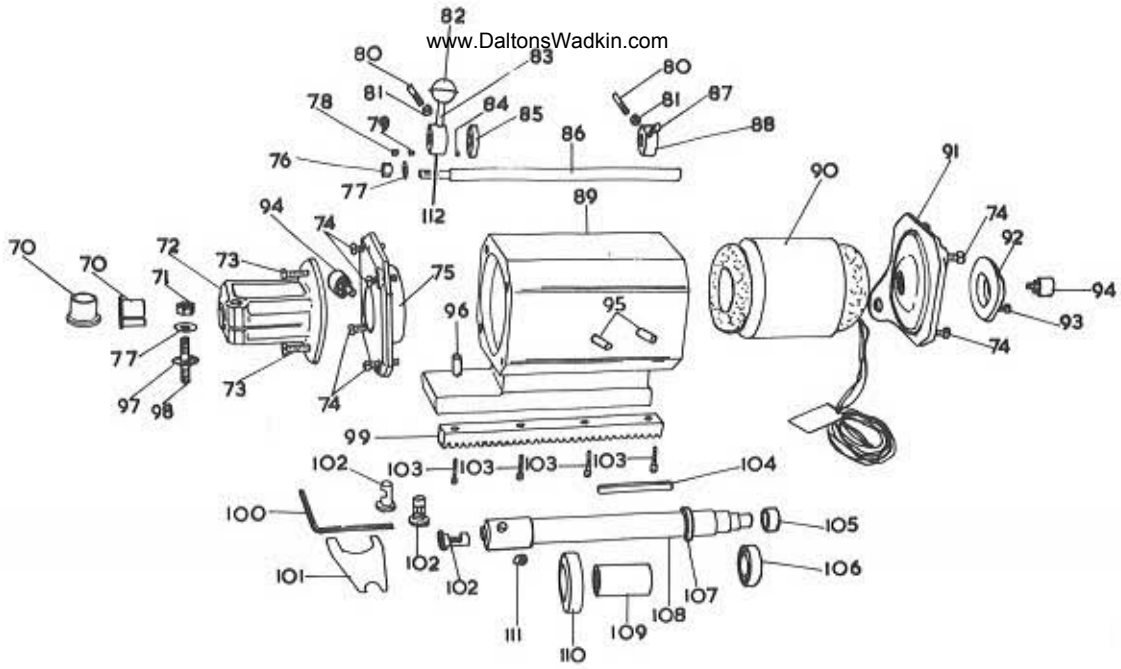
TABLE ASSEMBLY



Ref. No.	Part No.	No. Off	Description
60	A-1014/38	2	Longitudinal stop rod
61		4	M10 x 50 long hexagon head bolt
62	D-1014M/4	1	Sliding Table
63		2	M10 x 20 long hexagon head bolt
64	B-1014M/33	1	Rack for table

NOTE:-

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



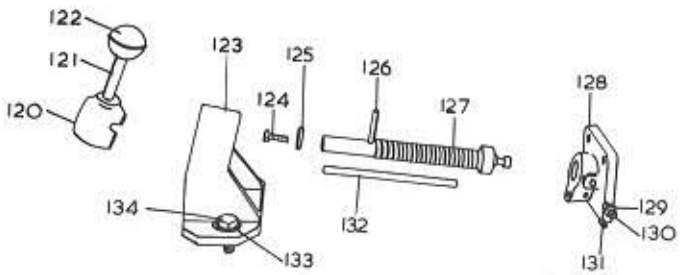
HEAD ASSEMBLY

Ref. No.	Part No.	No. Off	Description
70	A-1014/42	2	Bush for chisel holder (1-13/16" bore 1 - 1.13/16" bore) (Special for Canadian machines 1-5/8" bore. 1 - ¾" bore, 1 - 1.1/8" bore)
71		1	M12 nut
72	C-1014M/6	1	Chisel Holder
73		3	M10 x 25 long hexagon head bolt
74		8	M10 x 30 long hexagon head bolt
75	B-1014M/7	1	Bottom endplate
76		1	M12 aerotight nut
77		2	12 washer
78		1	M10 x 10 long hollow set screw
79	A-1014/97	1	Haunch stop location spring
80	A-1014M/170	2	Stop pin
81		2	M10 locknut
82		1	1" dia plastic ball M10
83	A-1014M/103	1	Handle for haunch stop collar
84		1	S.K.F. 5/16" dia steel ball
85	A-1014M/98	1	Haunch stop location collar
86	A-1014M/102	1	Column for stops
87		2	M10 x 20 long hex head bolt
	A-1014M/99	1	Adjustable stop collar
	C-1014M/5	1	Motor carcass
		1	Brook rotor and stator unit, frame 22/18, 2H. P., 3,000 r.p.m. (3 phase, 50 cycles)
		1	Brook rotor and stator unit, frame 22/18 2H. P. 3,600 r.p.m. (3 phase, 60 cycles)
		1	Brook rotor and stator unit, frame 22/18 1 H. P. 3000 r.p.m. (1 phase 50 cycles)
		1	Brook rotor and stator unit, frame 22/18, 1 H. P. 3,600 r.p.m. (1 phase 60 cycles)

Ref. No.	Part No.	No. Off	Description
91	C-1014M/95	1	Top endplate and stop carrier
92	A-1014/9	1	Dust cap
93		2	M6 x 20 long hexagon head bolt
94		2	1/8"gas kingfisher grease stauffer
95	A-1014/83	2	Stator retaining pip screw
96		1	8 x 30 long fluted dowel
97		1	½" B.S.F. Washer
98		1	M12 x 60 long stud
99	B-1014/32	1	Rack for motor
100		1	¼" A/F equal arm hexagon wrench
101	A-1014/57	1	Key for Bushes
102	A-1014M/181	3	Adaptor bushes for augers (1-3/16" bore, 1 - ¼" bore, 1-3/8"bore) Special for Canadian machines 1-3/16"bore, 1 - ¼" bore, 1-19/64"bore)
103		4	M6 x 30 long socket cap screw
104		1	5/16" wide x 4½" long key
105	A-1014/62	1	Nut for spindle
106	L.S.9	1	Hoffmann bearing
107	A-1014/30	1	Rotor locking collar
108	B-1014/23	1	Spindle
109	A-1014/64	1	Distance piece for spindle
110	L.S.12	1	Hoffman bearing
111		1	¼" gas x ½" long hollow set screw
112	A-1014M/104	1	Haunch stop collar

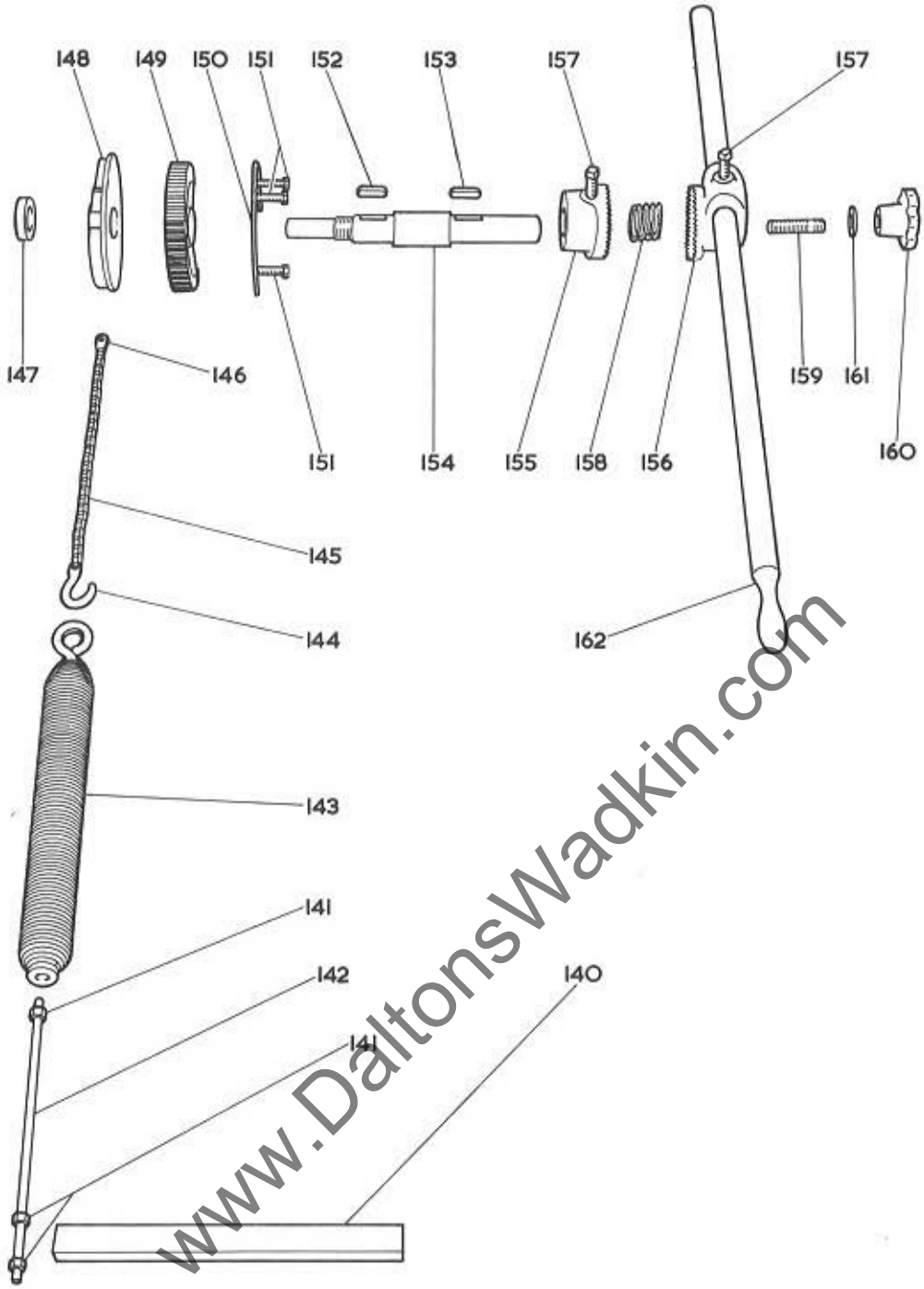
NOTE:-
When ordering replacement parts quote part no . and serial number of the machine.

CLAMP ASSEMBLY



Ref. No.	Part No.	No. Off	Description
120	A-1014M/19	1	Boss for clamp screw lever
121	A-1014M/36	1	Lever for clamp
122	Patt No. 28	1	1¾" dia plastic ball M12
123	B-1014/10	1	Clamping screw bracket
124		1	M10 x 20 long hexagon head bolt
125	A-1014/72	1	Limit washer for clamp screw
126		1	5/16" dia x 2" long fluted dowel(Flutes central)
127	A-1014M/34	1	Clamp screw
128	B-1014M/11	1	Clamp plate
129		1	M10 nut
130	A-1014M/65	1	Dogpoint screw for clamp
131		1	M10 x 20 long hollow set screw
132	A-1014/35	1	Clamp guide rod
133		2	12 washer
134		2	M12 x 30 long hexagon head bolt

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

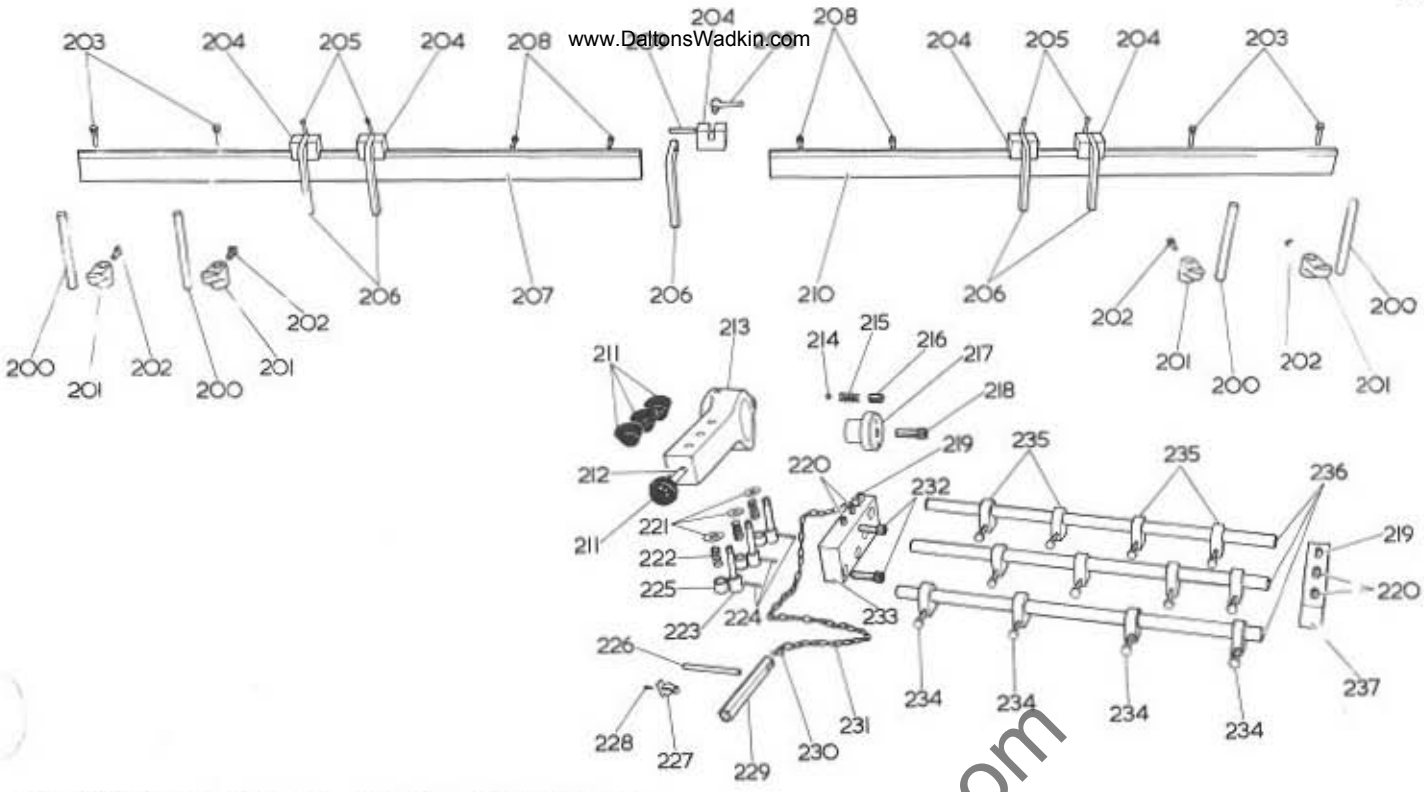


HANDLEVER SHAFT ASSEMBLY

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

Ref. No.	Part No.	No. off	Description
140	B-1014/58	1	Suspension bar
141		3	M10 whit nut
142	A-1014M/92	1	Suspension adjustment rod
143	B-1014M/46	1	Balance Spring
144	A-1014/45	1	Hook for chain
145		26 rivets	110044 chain
146	A-1014M/44	1	Link screw for chain
147	A-1024/44	1	Spindle locknut
148	C-1014M/15	1	Cam for counterbalance chain
149	B-1014M/14	1	Quadrant for head
150	B-1014/16	1	Quadrant plate
151		3	M8 x 12 long hexagon head bolts

Ref No.	Part No.	No. Off	Description
152		1	3/8" wide x 1½" long key
153		1	3/8" wide x 1¾" long key
154	B-1014M/26	1	Handlever shaft
155	B-1014M/21	1	Inside clutch
156	B-1014M/22	1	Outside clutch
157		2	M12 x 30 long hexagon head bolt
158	A-1014/47	1	Spring for clutch
159		1	M16 x 90 long stud
160	Patt. no. 14	1	3"dia. plastic handwheel, M16T. R. T.
161		1	16 washer
162	B-1061/66	1	Handlever

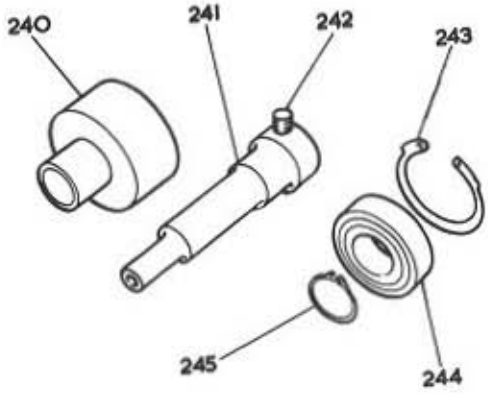


SETTING OUT ATTACHMENT & TURRET STOP EXTRA

NOTE:-
When ordering replacement parts quote part number and serial number of the machine.

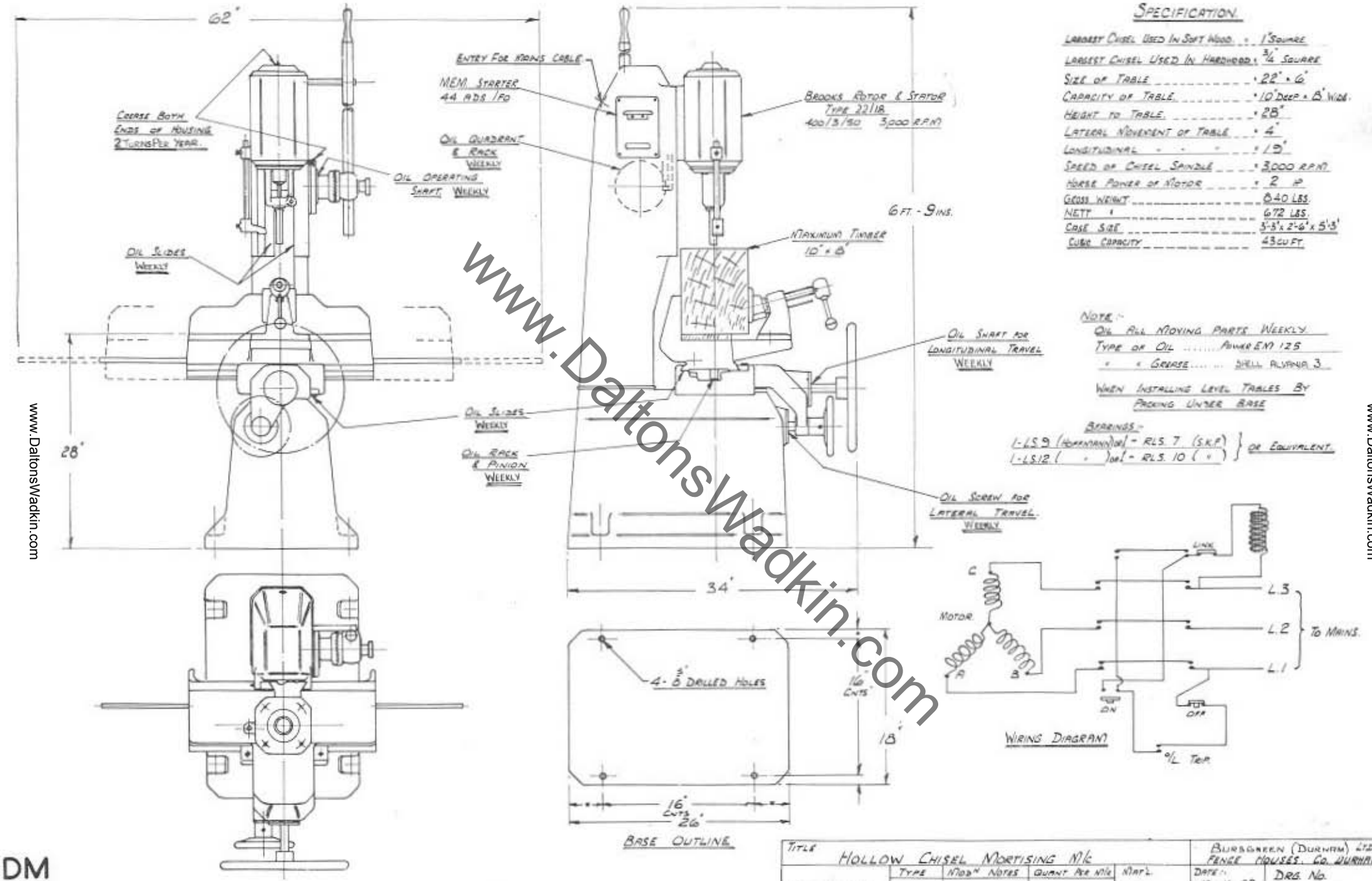
REF. NO.	Part No.	No. Off	Description
200	A-1014M/117	4	Support Bar bracket
201	B-1014M/20	4	Support brackets
202		4	M10 x 20 long square headbolt
203		4	M10 x 20 long socket cap screw
204	A-1027/83	6	Turn over stop holder
205	B-S-1B	6	3/8"whit ball lever screw
206	B-1014M/106	6	Turn over stop
207	B-1014/107	1	Left hand stop bar for setting out attachment
208		4	M8 x 25 long socket cap screw
209		6	8 dia. x 50 long hardened ground dowel
210	B-1014/107	1	Right hand stop bar for setting out attachment
211		4	1" dia. xM10 spherical plastic knob
212	A-1014M/103	1	Handle for stop bracket
213	B-1014M/96	1	Plunger stop bracket
214		1	SKF 3/8" dia. steel ball
215	A-1810/74	1	Location spring for plunger stop bracket
216		1	M12 x 12 long hollow set screw
217	A-1014M/109	1	Pivot pin for stop bracket
218		1	M16 whit x 35 long socket cap screw
219		1	M8 x 12 long hollow set screw
220		4	M8 x 20 long hollow set screw
221		3	10 washer
222	A-1014/118	3	Spring for table stop plunger
223	A-1014M/108	3	Plungers for stop
224		3	3 dia. x 20 long groverlok spring dowel
225		3	10 I/D x 16 O/D x 20 long oilite bush
226	A-1014/114	1	Handle for box spanner
227		1	Terry's clip size No. 80/0
228		1	1/8" fluted dowel
229	A-1014/115	1	Box spanner for stops
230	A-1014/116	1	Pin for box spanner chain
231			18"long Oval link chain
232		2	M10 x 30 long socket cap screw
233	B-1014M/105	1	Stop bar and plate
234		12	M6 x 25 long hexagon head bolt
235	A-1014M/111	12	Stopblock
236	A-1014/110	3	Stop bar
237	A-1014M/112	1	Stop bar tie plate

QUICK CHANGE BORING ADAPTOR (EXTRA)



Ref No.	Part No.	No. Off	Description
240	A-1014/89	1	Boring attachment steel bearing housing
241	A-1014/88	1	Boring attachment extension spindle
242		1	1/4"gas x 1/2" long hollow set screw
243		1	62mm internal circlip
244	88506	1	SKF "Sealed for life" bearing
245		1	30mm external circlip

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



SPECIFICATION

LARGEST CHISEL USED IN SOFT WOOD	1" SQUARE
LARGEST CHISEL USED IN HARDWOOD	3/4" SQUARE
SIZE OF TABLE	22" x 6"
CAPACITY OF TABLE	10" DEEP x 8" WIDE
HEIGHT TO TABLE	28"
LATERAL MOVEMENT OF TABLE	4"
LONGITUDINAL " "	15"
SPEED OF CHISEL SPINDLE	3,000 R.P.M.
HORSE POWER OF MOTOR	2 H.P.
GROSS WEIGHT	840 LBS.
NETT "	672 LBS.
CASE SIZE	5'-5" x 2'-6" x 5'-5"
CUBE CAPACITY	43 CU FT.

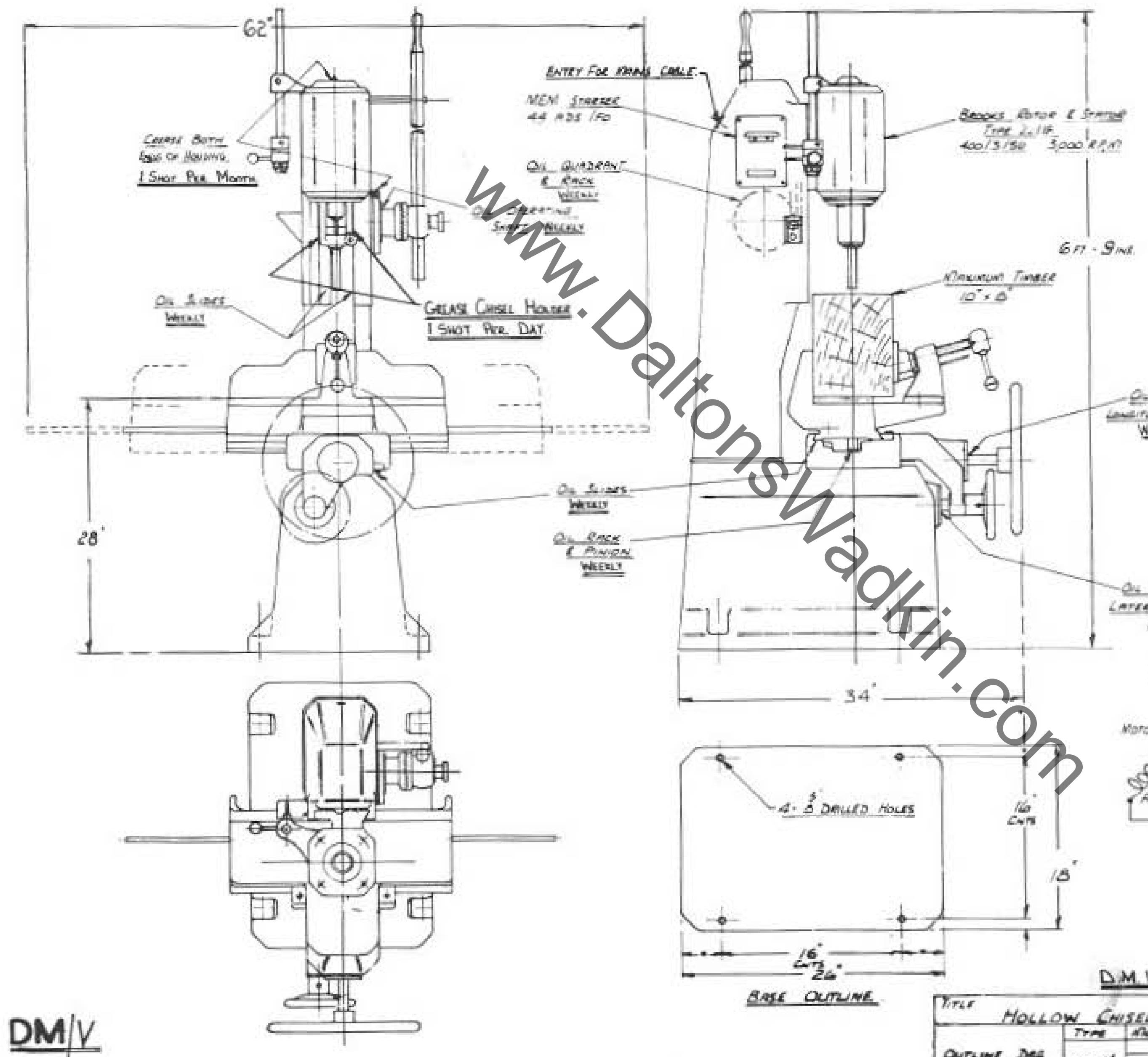
NOTE:-
OIL ALL MOVING PARTS WEEKLY
TYPE OF OIL ..... POWER EM 125
" " GREASE ..... SHELL ALVANIA 3

WHEN INSTALLING LEVEL TABLES BY PACKING UNDER BASE

BEARINGS:-
1-LS 9 (HOFFMANN) OR - RLS 7 (S.K.F.)
1-LS 12 (") OR - RLS 10 (") } OR EQUIVALENT.

TITLE: HOLLOW CHISEL MORTISING M/C					BURGGREEN (DURHAM) LTD., FENCE HOUSES, CO. DURHAM.	
OUTLINE DRG	TYPE: DM	MACH'N NOTES	QUANT. PER M/C	MAT'L	DATE: 10-11-52	DRG. NO. C-1014/FD.
			ORDER NO.	SCALE: 1:8	DRAWN BY: J.H.R.	

DM



Specification

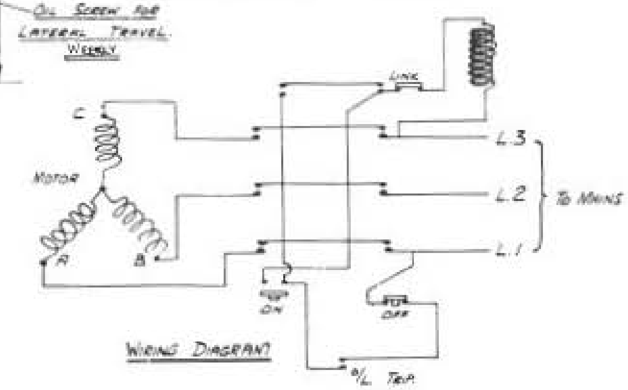
Largest Chisel Used in Soft Wood	1" Square
Largest Chisel Used in Hardwood	3/4" Square
Size of Table	22" x 6"
Capacity of Table	10" Deep x 8" Wide
Height to Table	28"
Lateral Movement of Table	4"
Longitudinal " " "	19"
Speed of Chisel Spindle	3000 R.P.M.
Horse Power of Motor	2 "
Gross Weight	840 LBS
Nett "	672 LBS
Case Size	5'3" x 2'6" x 5'3"
Cube Capacity	43 CU FT

Note

Oil all Moving Parts Weekly
Type of Oil ...... Powerfilm 125
" " Grease ...... Shell Alvania 3
When Installing Level Tables by Packing Under Base

Bearings:

1 - SKF Taper Roller Bearings 30205
1 - SKF Taper Roller Bearings 30307
1 - FBC Ball Bearing 6205 FF



Wiring Diagram

DM/V

D.M. Vibro

Title: Hollow Chisel Mortising M/C					Bursgreen (Durham) Ltd. Fence Houses, Co. Durham	
Outline Drg	Type	Mod" Notes	Quant Per M/C	Mat'l	Date:- 10-4-52	Drg No.
	DM/V		Order No.	Scale:- 1:8	Drawn By:- J.K.R.	C-1014/V/FD

Sharpening Square Chisels.

Chisels to be sharpened should be secured in vice and sharpened as follows:-

A sharpening tool FIG - A - has been produced to enable mortise chisels to be kept correctly sharpened. It is for use in an ordinary joiners brace and is maintained central with the axis of the chisel by means of a pilot which fits the bore of the chisel. This ensures that all four cutting edges are sharpened to the correct angle.

After using sharpening tool the shaded sections of the chisel as shown in FIG - B - may be filed back to ensure better penetration of the wood. NOTE:- It is most important that the outside of the chisel is never filed as this will reduce the mortise size and tend to bind in the timber.

Sharpeners are available in three sizes with interchangeable loose pilots for each size, to suit different chisels as follows:-

No. 1 SET	$\frac{1}{4}$" to 3/8" chisel with 3 pilots.
No. 2 SET	3/8" to 11/16" chisel with 5 pilots.
No. 3 SET	$\frac{3}{4}$" to 1" chisel with 3 pilots.

Also available are sharpeners as shown above but with fixed pilots, the range of these are $\frac{1}{4}$" to 1" rising in increments of 1/16".

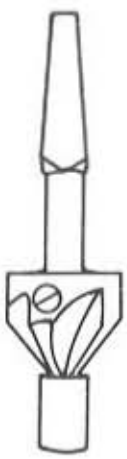


FIG.A

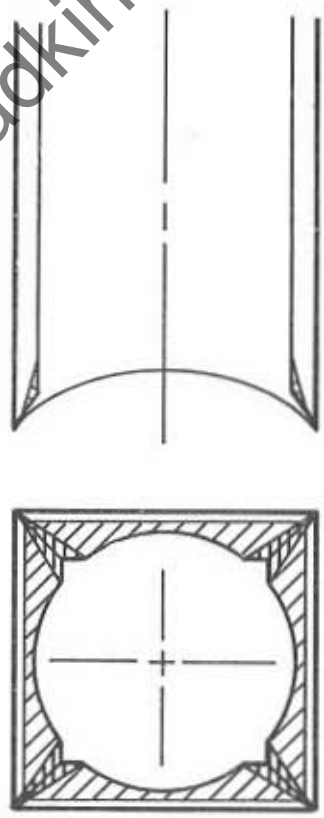


FIG.B

Application	APPROVED LUBRICANTS					
	Castrol	B.P.	Shell	Esso	Texaco/Caltex	Wadkin
Worm Boxes	ZN220	Energol CS320	Vitrea 320	Spartan EP220	Regal Oil 320	L2
General Lubrication	Magna 68	Energol HP68	Vitrea 68	Nuray	Ursa Oil P68	L4
Pneumatic Lubricators	Hyspin AWS32	Energol HL32	Tellus 37	Nuto H32	Rando Oil HD32	
Grease	Spheerol AP3	Energrease L53	Alvania R3	Beacon 3	Regal Starfak Premium 3	L6
Brake Cables	Brake Cable grease	Energrease L21M	Alvania R3	Esso Multi-purpose grease		