

Wadkin

Cross Cutting and Trenching Machines Types CC · CD

	CC1	CC2	CD1 For material 12½" x 5½" 18"	CD2 For material 21" x 5½" 18"	CD3 For material 16" x 7" 24"	CD4 For material 44½" x 5½" 18"	CD5 For material 40" x 7" 24"
Standard diameter of saw	18"	18"	12½" x 5½"	21" x 5½"	16" x 7"	44½" x 5½"	40" x 7"
Will cut off	21" x 5½" deep	27" x 5½" deep	12½" x 5½" deep	21" x 5½" deep	16" x 7" deep	44½" x 5½" deep	40" x 7" deep
Will cut off	23" x 5" deep	29" x 5" deep	14½" x 5" deep	22½" x 5" deep	19" x 6" deep	46½" x 5" deep	40½" x 6" deep
Will cut off	25" x 4" deep	31" x 4" deep	16½" x 4" deep	24½" x 4" deep	20½" x 5" deep	48½" x 4" deep	41½" x 5" deep
Will cut off	26" x 3" deep	32" x 3" deep	17½" x 3" deep	26" x 3" deep	21½" x 4" deep	49½" x 3" deep	42" x 4" deep
Will cut off	26½" x 2" deep	32½" x 2" deep	18½" x 2" deep	26½" x 2" deep	—	50½" x 2" deep	—
Will cut off	27½" x 1" deep	33" x 1" deep	18½" x 1" deep	27" x 1" deep	—	50½" x 1" deep	—
Will straight cut off when saw is canted 45° up to	22" x 1½" deep	27" x 1½" deep	—	—	13½" x 7" deep	—	30" x 7" deep
Will straight cut off when saw is canted 30° up to	22" x 4" deep	27" x 4" deep	9" x 5½" deep	15" x 5½" deep	14½" x 6" deep	31½" x 5½" deep	31½" x 6" deep
Will cut off when saw is swivelled 45° up to	12" x 5½" deep	16½" x 5½" deep	10½" x 5" deep	16½" x 5" deep	15½" x 5" deep	32½" x 5" deep	32½" x 5" deep
Will cut off when saw is swivelled 45° up to	13½" x 5" deep	17½" x 5" deep	11½" x 4" deep	17½" x 4" deep	16½" x 4" deep	34" x 4" deep	33½" x 4" deep
Will cut off when saw is swivelled 45° up to	15" x 4" deep	19½" x 4" deep	12½" x 3" deep	18½" x 3" deep	17½" x 3" deep	35" x 3" deep	34" x 3" deep
Will cut off when saw is swivelled 45° up to	15½" x 3" deep	20" x 3" deep	13" x 2" deep	19" x 2" deep	17½" x 2" deep	35½" x 2" deep	34½" x 2" deep
Will cut off when saw is swivelled 45° up to	16" x 2" deep	20½" x 2" deep	13½" x 1" deep	19½" x 1" deep	18½" x 1" deep	35½" x 1" deep	37½" x 1" deep
Will cut off when saw is swivelled 45° up to	16½" x 1" deep	20½" x 1" deep	—	—	—	—	—
Will straight groove up to 2½" deep in material up to	20" wide	25½" wide	10½" wide	20" wide	Not available	Not available	Not available
Will groove when carriage is swivelled to 45° up to 2½" deep in material	13½" wide	17½" wide	10½" wide	20" wide	Not available	Not available	Not available
Maximum rise and fall of saw	9½"	9½"	9½"	9½"	9½"	9½"	9½"
Speed of saw spindle in r.p.m. for 50 cycles electric supply	3,000	3,000	3,000	3,000	1,500	3,000	1,500
Diameter of saw spindle for saws	1½"	1½"	1½"	1½"	1½"	1½"	1½"
Horse-power of motor	5	5	5	5	6	5	6
Overall length of each section of all- metal table to cut off up to 8' 0" long using stop bar	8' 5"	8' 5"	8' 5"	8' 5"	8' 5"	8' 5"	8' 5"
Approximate nett weight of machine	1,150 lbs.	1,240 lbs.	980 lbs.	1,040 lbs.	1,060 lbs.	1,100 lbs.	1,100 lbs.

GENERAL VIEW OF CC MACHINE

LUBRICATION

POINTS 'A'

Give 4 to 6 depressions of grease gun every three to six months, using Wadkin ball bearing grease, grade L6.

POINTS 'B'

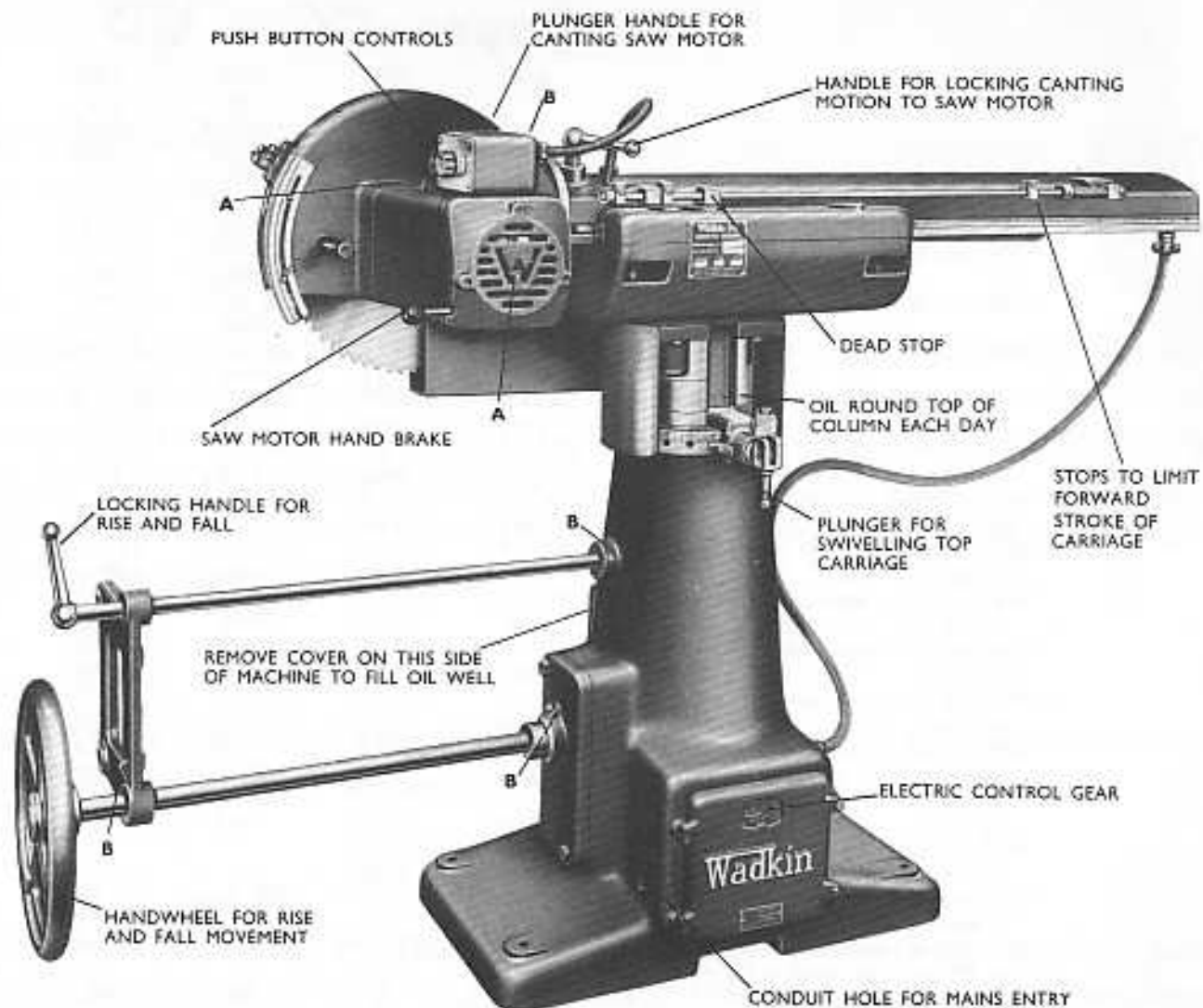
Oil once per day, using Wadkin grade L4 oil.

BALL BEARING LIST

Saw carriage rollers 4-off part No. FG 933.

ELEVATING SCREW THRUST WASHER

1-off. SKF-0-14.
 $1\frac{3}{4}$ " bore \times $2\frac{11}{16}$ " dia. \times $\frac{3}{4}$ "



INSTALLATION

The machines are despatched from the Works with all bright surfaces greased to prevent rusting. This must be removed by applying a cloth damped in paraffin or turpentine.

FOUNDATIONS

$\frac{3}{4}$ " diameter foundation bolts should be used to bolt the machine down to the floor. If the mill floor consists of 6" solid concrete, no special foundation is necessary. Rag type foundation bolts may be used in the position shown on the foundation plan. 6" to 8" square holes should be cut in the concrete and the machine carefully levelled. It is essential that the table be fixed absolutely parallel with the saw carriage. This should be tested in the full travel of the slide before finally bolting down the machine. Fences must be at right angles to the saw. Finally the machine should be grouted in with liquid cement.

DUST EXTRACTION EQUIPMENT

All machines are fitted with a $4\frac{1}{2}$ " outside diameter exhaust connection. On CC and CD machines it is necessary to provide for raising, lowering, and angular movement of the saw when attaching dust extraction piping.

WIRING

It is necessary to fit a triple pole isolating switch adjacent to the machine to enable the electrical gear to be readily isolated for inspection purposes. If desired, it can be obtained from Wadkin Ltd. to special order. The mains entry is shown in the general view of the machine and the three mains wires should be connected to the terminals L1, L2, L3, as shown on the wiring diagram, Page 15, and connect the machine to earth.

CC MACHINE SAW CARRIAGE

The saw carriage moves on four ball bearing rollers on circular steel tracks. These rollers are correctly positioned on assembly, but should any further adjustment be found necessary, it should be noted that only the two rollers on the right-hand side of the carriage are adjustable. Fig. 1 shows the roller eccentric screwed pins. Release the setscrew, slacken the nut and adjust the eccentric pin with the square shank. Firmly relock the nut and setscrew before putting the machine to use. The long tension spring fitted to assist the return stroke of the saw is adjusted by the hexagon nuts shown in Fig. 4.

The forward stroke of the carriage is controlled by a stop and cushion spring fitted on a rod which is situated on the carriage at the opposite end to the saw motor. By releasing the hexagon head screw in the stop it can be moved along the bar to the required position and clamped with the screw. To lock the saw motor and slide in a fixed position, the two stops are secured one either side of the stop bracket clearly illustrated on page 2.

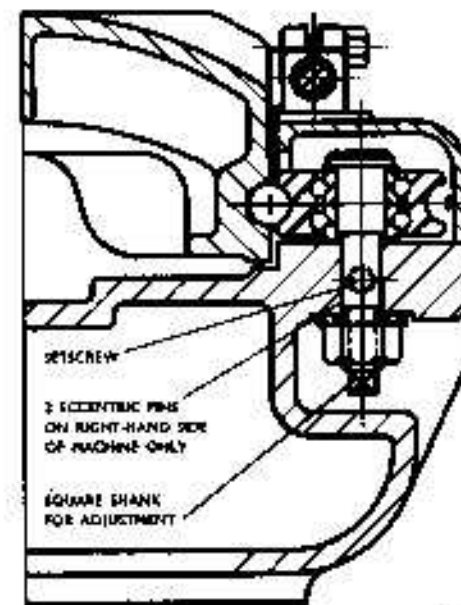


FIG. 1.

CARRIAGE ROLLER MOUNTING

PNEUMATIC BUMPER

This is shown at Fig. 2 and is accurately positioned on assembly. If any adjustment to the bumper stroke is found necessary, release the hexagon locknut and turn the hexagon head screw until the required stroke has been obtained.

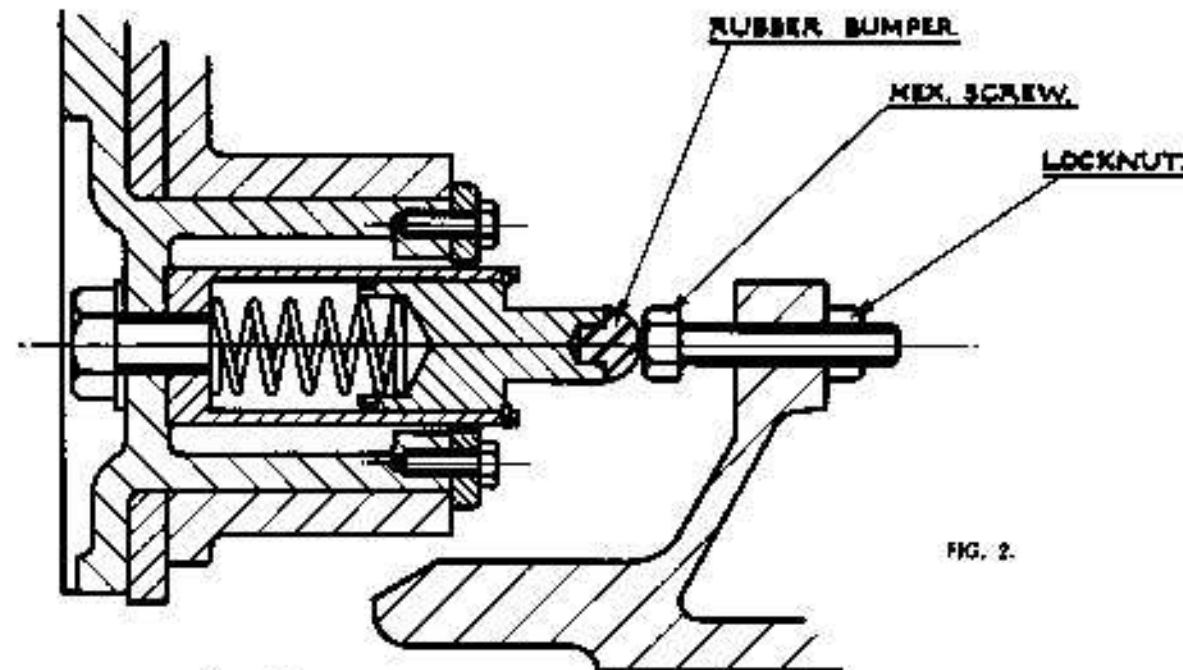


FIG. 2.

LUBRICATION (APPLICABLE TO ALL MACHINES)

POINTS A

on the general views of the machines are grease lubrication points to the saw motor, 4 to 6 depressions of the greasegun every 3 to 6 months is sufficient to keep the motor bearings well lubricated. Too much lubricant will cause the bearings to run hot. Use WADKIN Ball Bearing Grease, Grade L6.

POINTS B

on the general views of the machines are oil lubrication points. Oil all moving parts once per day using WADKIN Oil, Grade L4.

The oil well for the raising and lowering gears should be filled with oil before putting the machine to use, and the oil level checked each week.

NOTE:

The carriage rollers are packed with grease on assembly and no further lubrication is necessary.

Oil round the top of the raising and lowering column on CC and CD machines each day.

The circular steel carriage tracks and rollers must be thoroughly cleaned periodically free from corrosion with petrol or paraffin.

If it is desired to use lubricants other than WADKIN, the equivalents are listed below:

WADKIN BALL BEARING GREASE L6.

EQUIVALENT:

SHELL MEX AND B.P. LTD. ALYANIA GREASE NO. 3
MOBIL OIL CO. MOBILUX GREASE NO. 2
CASTROL. SPHEEROL 5.

WADKIN OIL, GRADE L4

EQUIVALENT:

SHELL MEX AND B.P. LTD. VITREA OIL 33
MOBIL OIL CO. VACTRA OIL (HEAVY MEDIUM)
CASTROL. PERFECTO NN.

GENERAL VIEW OF CD MACHINE

LUBRICATION

POINTS 'A'

Give 4 to 6 depressions of grease gun every 3 to 6 months; using Wadkin ball bearing grease, grade L6.

POINTS 'B'

Oil once per day, using Wadkin oil, grade L4.

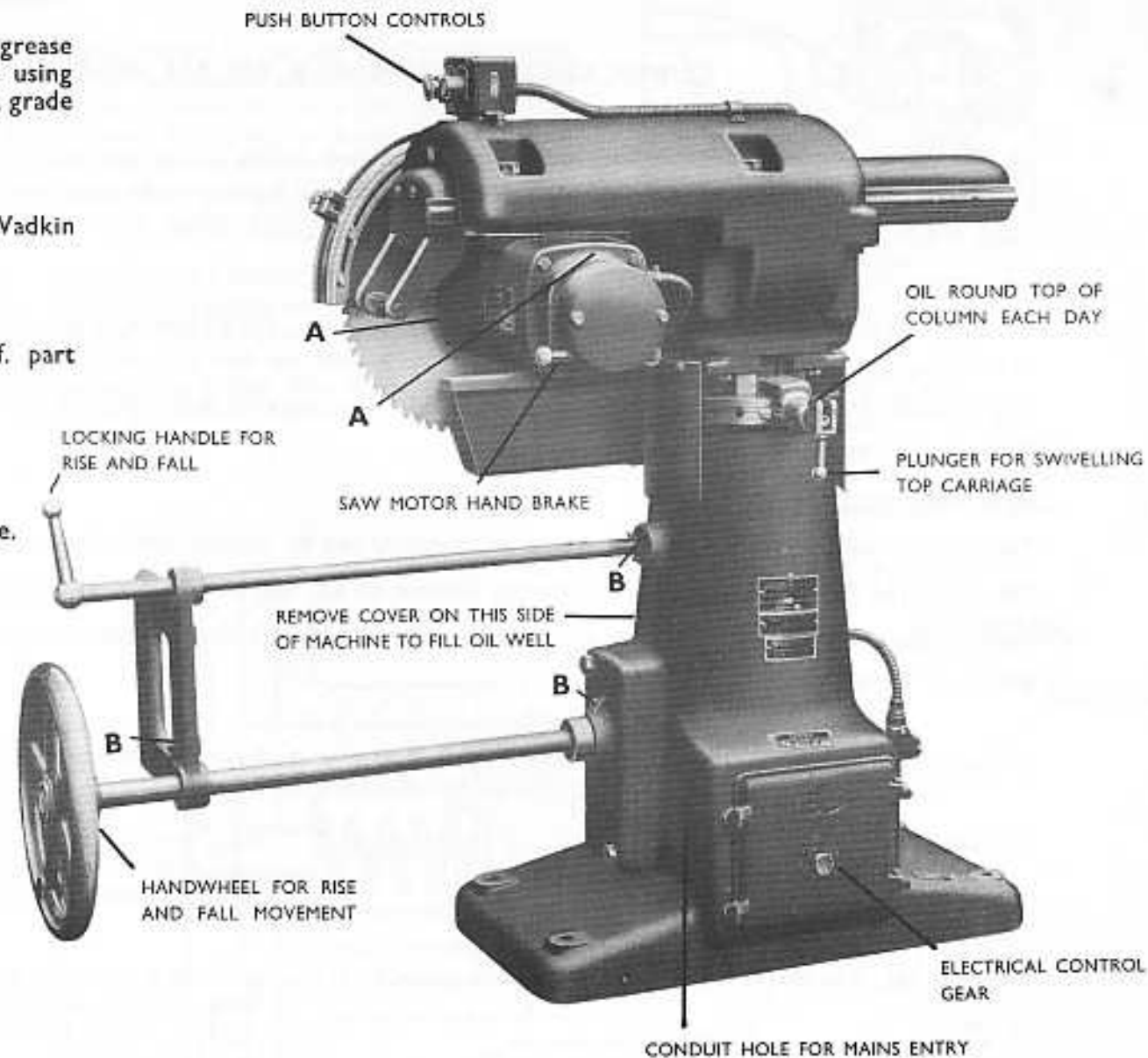
BALL BEARING LIST

Saw carriage rollers, 4-off. part No. FG 410 or FG 933.

ELEVATING SCREW THRUST WASHER

1-off. SKF-0-14.
 $1\frac{3}{4}$ " bore \times $2\frac{11}{16}$ " o/d \times $\frac{3}{4}$ " wide.

Saw Spindle Bearings,
See Page 9



CD MACHINE SAW CARRIAGE

The saw carriage moves on four ball bearing rollers on circular steel tracks. These rollers are correctly positioned on assembly, but should any further adjustment be necessary, it should be noted that only the two rollers on the saw guard side of the carriage are adjustable. Fig. 3 shows the roller eccentric screwed spindle. Release the grub screw, slacken the nut and adjust the eccentric screwed spindle with the square shank. Firmly relock the grub screw and hexagon nut before putting the machine into use. Long tension springs fitted to assist the return stroke of the saw are adjusted by the hexagon nuts.

The forward stroke of the carriage is controlled by a spring fitted on a stop rod. This rod is fitted along the top of the saw carriage arm at the opposite end to the saw motor. The spring is adjusted by a sliding stop fitted on the rod; by releasing the screw the stop can be moved along the bar to the required position and clamped with the screw.

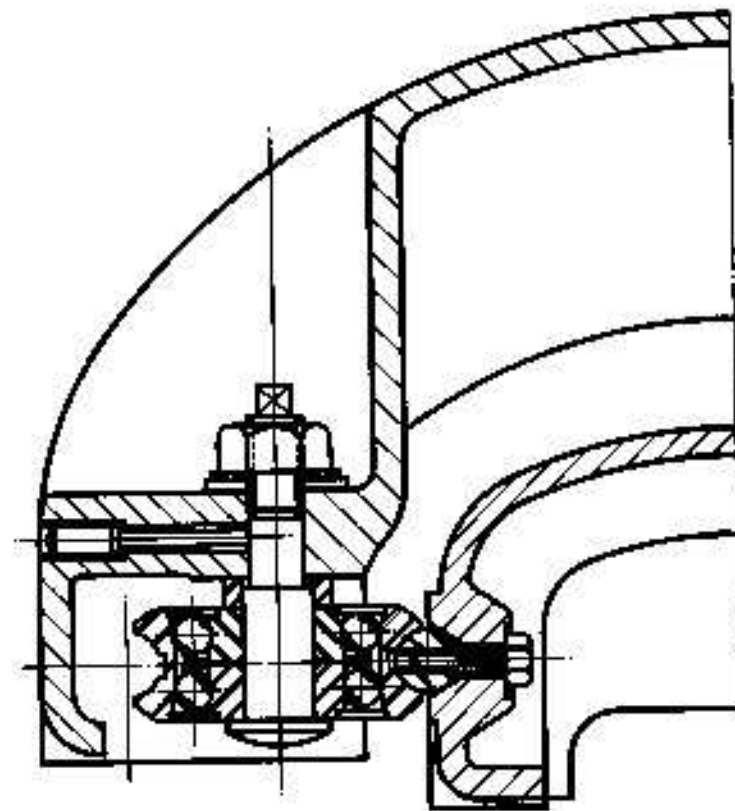
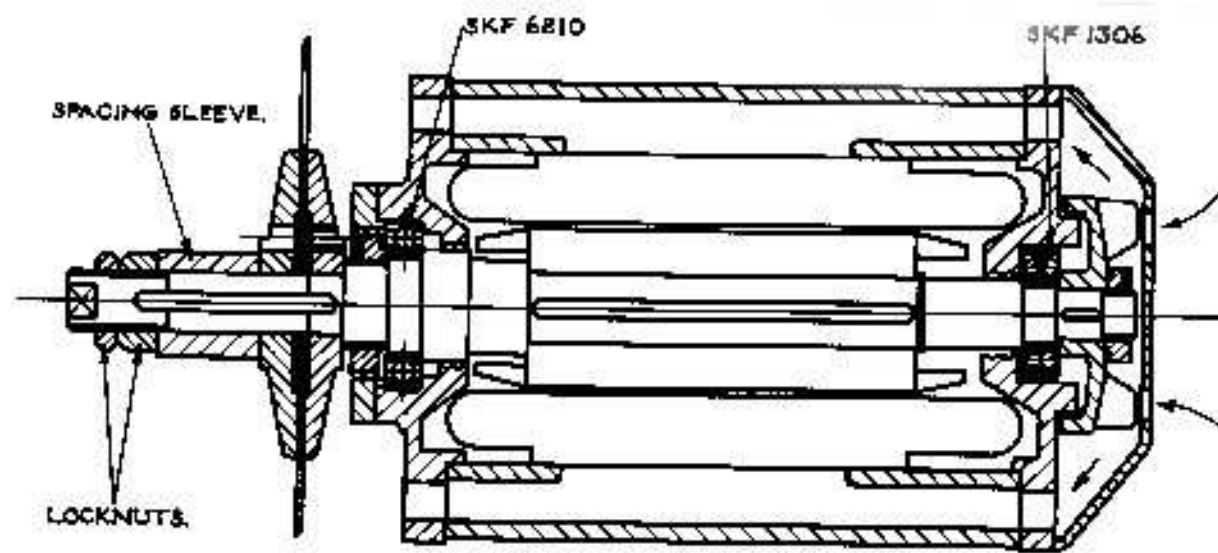


FIG. 3. DIAGRAM SHOWING CARRIAGE ROLLER MOUNTING.

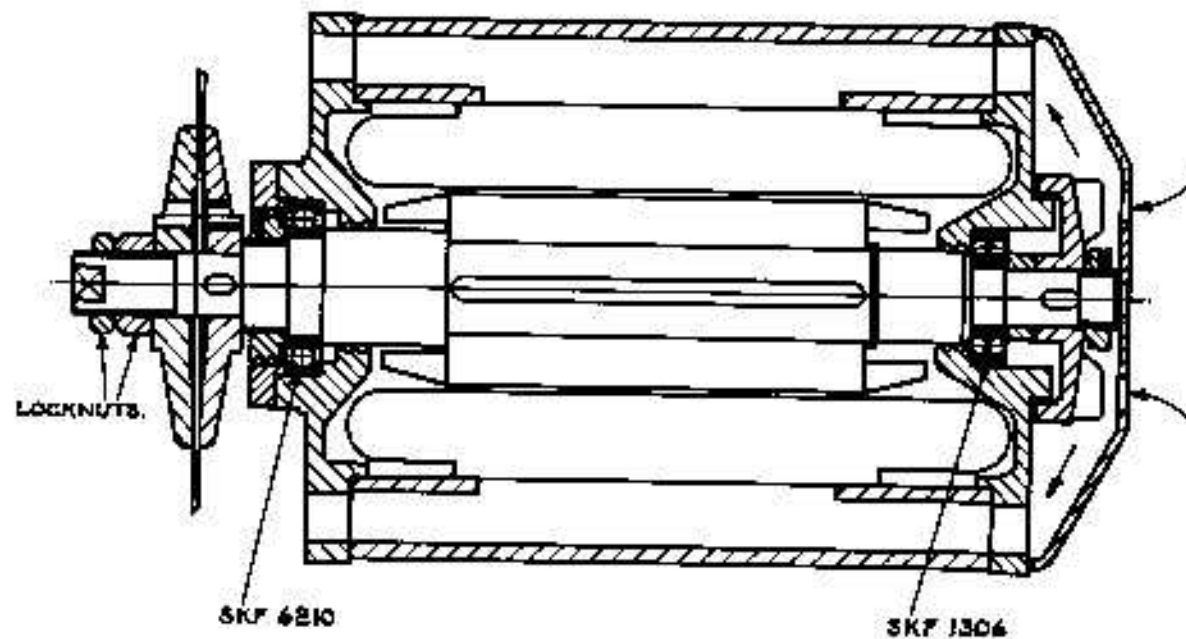
PNEUMATIC BUMPER

A similar type bumper to that described on Page 4 is fitted. Adjustment is by means of a large hexagon head screw, fitted with a locknut. It should be noted that the screw head must be adjusted sufficient only to engage with the bumper.

SAW
SPINDLE
MOTORS

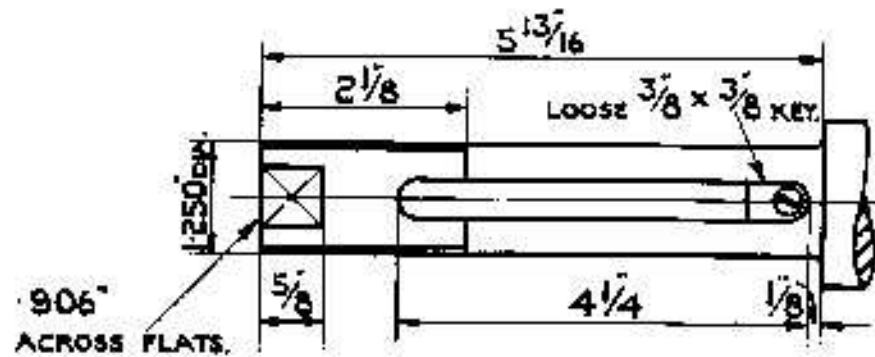


SECTION THROUGH TOTALLY ENCLOSED FAN COOLED 5 H.P. MOTOR, TYPE ZEM.
USED ON CC1, CC2, CD1, CD2, CD4.

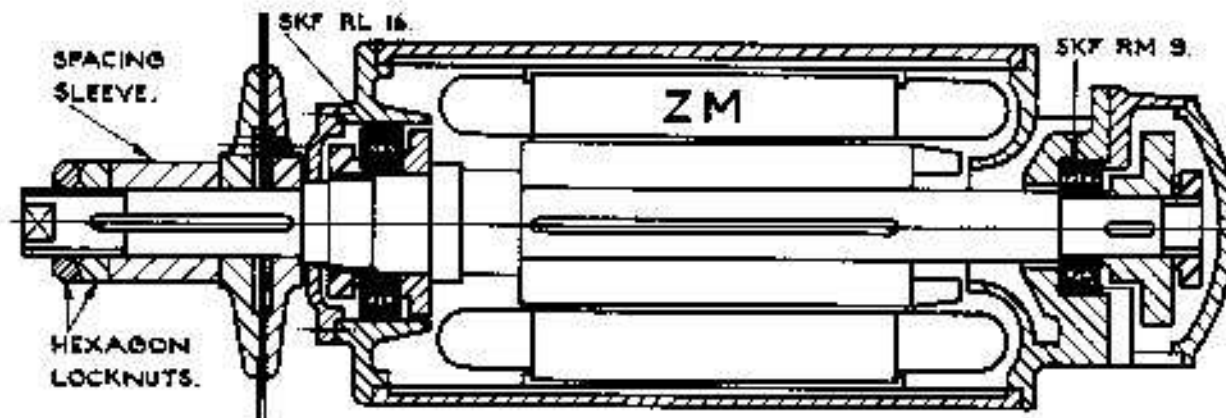


SECTION THROUGH TOTALLY ENCLOSED FAN COOLED 6 H.P. MOTOR, TYPE ZEQ.
USED ON CD 3 & CD 5.

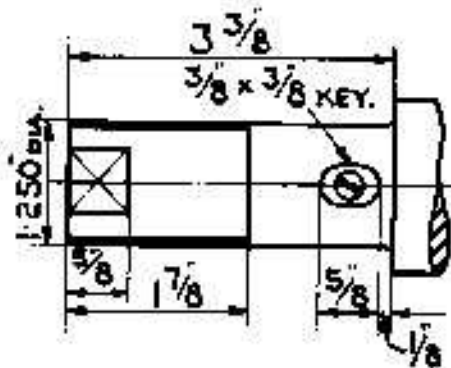
SAW SPINDLE MOTORS



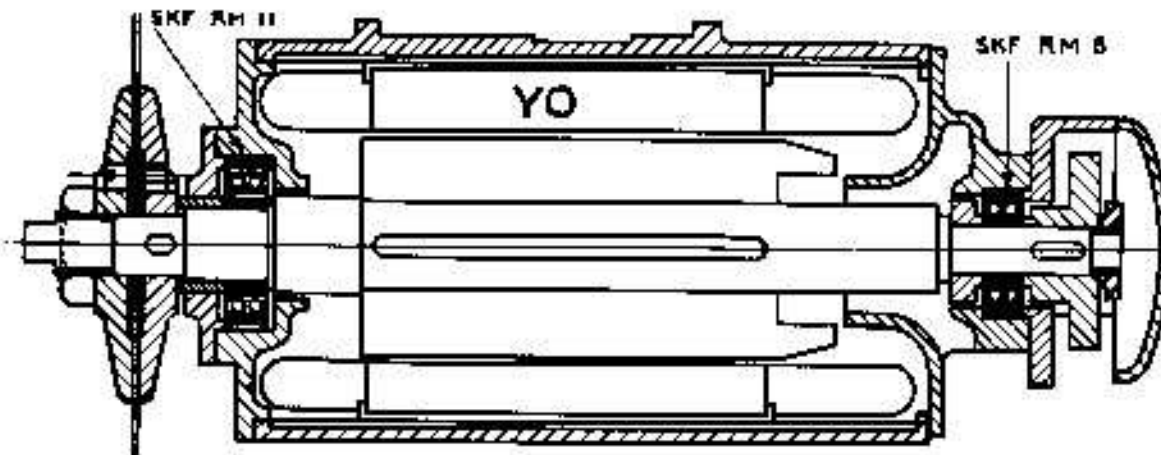
SPINDLE END, 5 H.P. MOTOR, USED ON CC1-CC2, CD1-CD2-CD4



SECTION THROUGH 5 H.P. MOTOR TYPE ZM USED ON CC1-CC2, CD1-CD2-CD4.



SPINDLE END, 6 H.P. MOTOR,
USED ON CD3-CD5.



SECTION THROUGH 6 H.P. SAW MOTOR TYPE YO USED ON CD3-CD5.

ACCESSORIES FOR CROSS CUTTING AND TRENCHING MACHINES

SAWS. The saws used on Wadkin Cross Cutting Machines run at a high peripheral speed, and it is therefore essential that they are correctly balanced and tensioned. The saws we recommend and supply are manufactured specially for these machines from a high grade alloy steel, are of the most suitable gauge for utility work, and correctly balanced and tensioned for high speed running. The special shape and pitch of teeth has been designed for high speed running. To obtain satisfactory sawing, it is necessary to retain the same angle on the teeth as when new. When sharpening, make all the gullets the same depth and uniform in shape, otherwise the saw will run out of balance, causing vibration.

For a general purpose saw, we recommend our 18" flat cross cut saw Q.S.11.

For work demanding high grade finish, we recommend our 18" hollow ground cross cut saw Q.S.12.

EXPANDING GROOVING HEADS J.P.468, 460, 464

The head illustrated is made up of two discs accurately balanced. It can be adjusted to cut grooves of any intermediate widths within its range and therefore a tight or loose joint can be made in the work. Each disc is held in position on the spindle by a key and setscrews.

To fit the head, remove the spindle locknuts, distance sleeve, and saw collar, and fit the loose key supplied on the keyway. Fit the head close up to the spindle shoulder and lock the square head screws on to the key after adjusting for width of groove. The spindle locknuts should be replaced on the spindle end to prevent the head from accidentally falling off when in use.

These nuts are not intended to hold the heads in position.

The heads are made in the following sizes:

J.P.468. 11" diameter cutting circle.

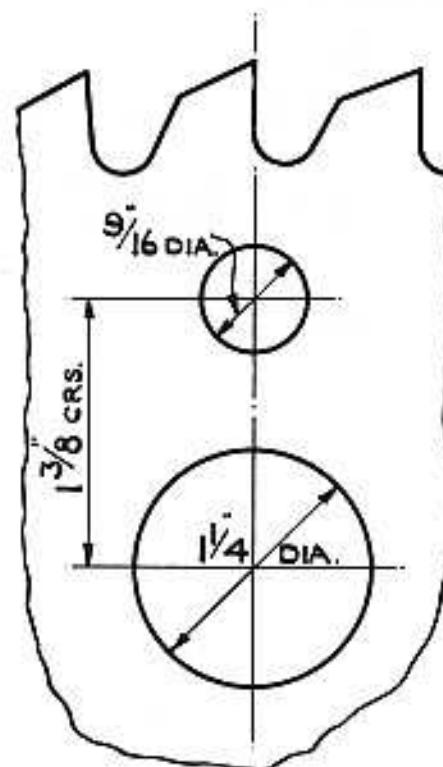
For grooves $\frac{3}{8}$ " to $\frac{11}{16}$ " wide up to $\frac{1}{16}$ " deep.

J.P.460. 11" diameter cutting circle.

For grooves $\frac{1}{4}$ " to $1\frac{7}{16}$ " wide up to $1\frac{5}{8}$ " deep.

J.P.464. 11" diameter cutting circle.

For grooves $1\frac{3}{8}$ " to $2\frac{1}{2}$ " wide up to $1\frac{5}{8}$ " deep.



TOOTH PROFILE OF QS11 AND QS12 SAWS WITH DIAGRAM OF SAW AND PEG HOLES.



J.P.468-460-464.



J.P.215.

GROOVING HEAD J.P.215

This Head is made up of two discs and is adjustable on a screwed bush to take cutters of varying widths. The cutting circle is 11" diameter and will cut grooves $\frac{1}{2}$ " to 2" wide by using varying width cutters. The Head will groove to a maximum depth of $1\frac{1}{4}$ ". Remove the spindle locknuts, distance sleeve, and saw collars, and fit the Head close up to the spindle shoulder. Replace the distance sleeve and lock up the whole assembly with the spindle locknuts.

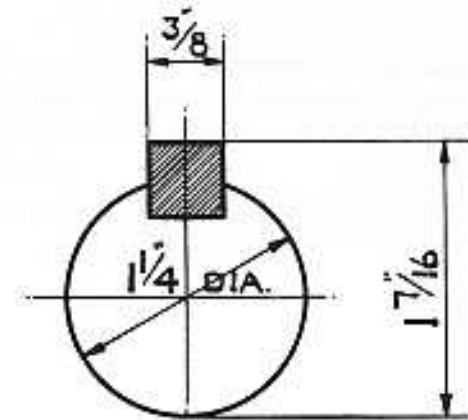
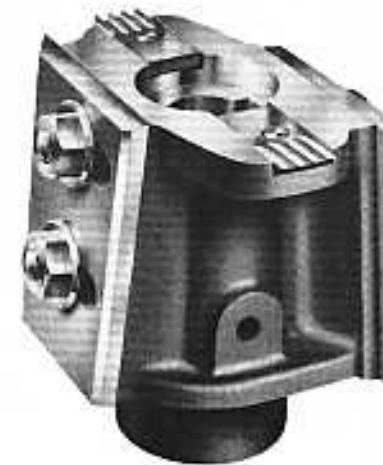


DIAGRAM OF SPINDLE END FOR GROOVING HEADS.

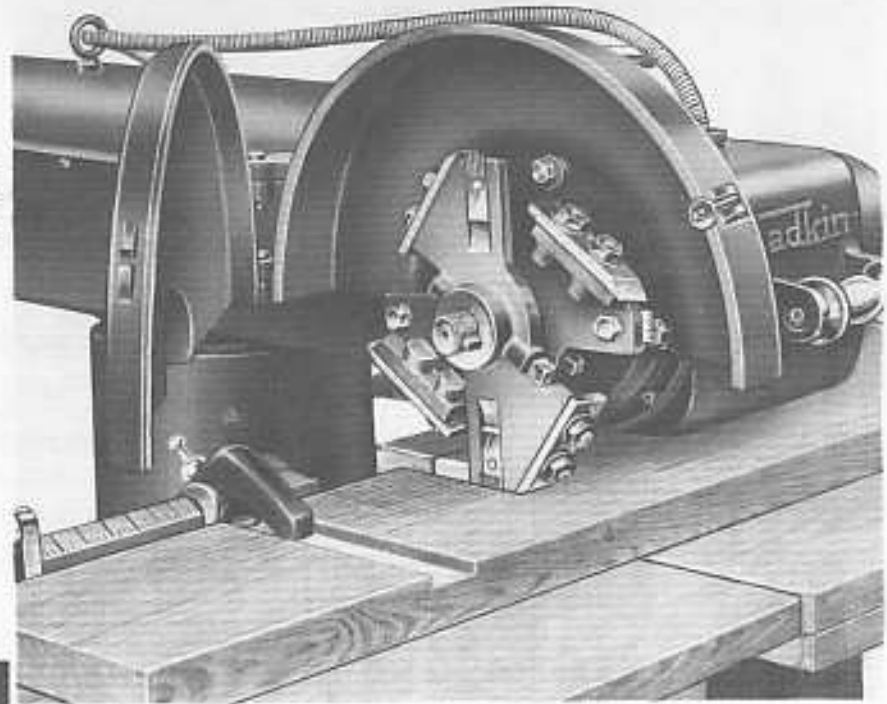
HALF LAPPING AND BEVELLING HEAD J.P.502

This Head is supplied for use where a wide cut is required at the end of the timber as in half lapping. It can also be used for heavy birdsmouthing. The Head has a cutting circle of $6\frac{1}{2}$ " diameter and the cutters have a maximum width of $4\frac{1}{2}$ ". Note a special saw guard is necessary for machines using this type of head. Remove the spindle locknuts, distance sleeve, and saw collars, and fit the loose key supplied in the keyway. Fit the Head up to the spindle shoulder and lock in position with the hexagon locknut which fits inside the recess in the Head. A special box spanner is supplied for this locknut.



J.P.502.

Saw can be taken off and this expanding grooving head substituted in two or three minutes. Head is quickly set to cut any required width within its capacity.



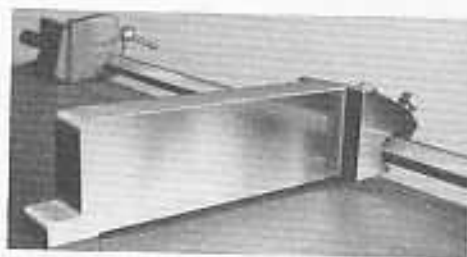
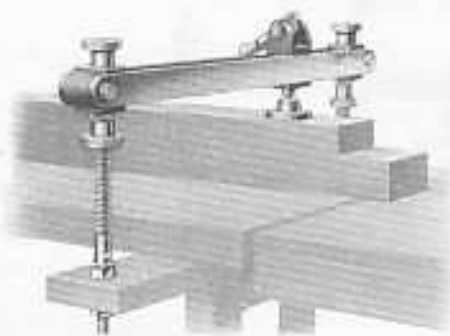
Saw canted for angular cutting. Angles on canting motion are also positively located by plunger. This canting movement in conjunction with the swivelling carriage gives compound angular cutting.

As an alternative to the all metal table type XT, we can supply drawings to enable the customer to build his own wood table, using legs supplied by WADKIN Ltd. A view of such a table is shown on this page.

Drawing No. CC31 gives particulars of construction for a wood table suitable for machines CC1-CD1-CD2-CD3. Drawing No. CC31/A gives particulars of construction for a wood table suitable for machining type CC2.

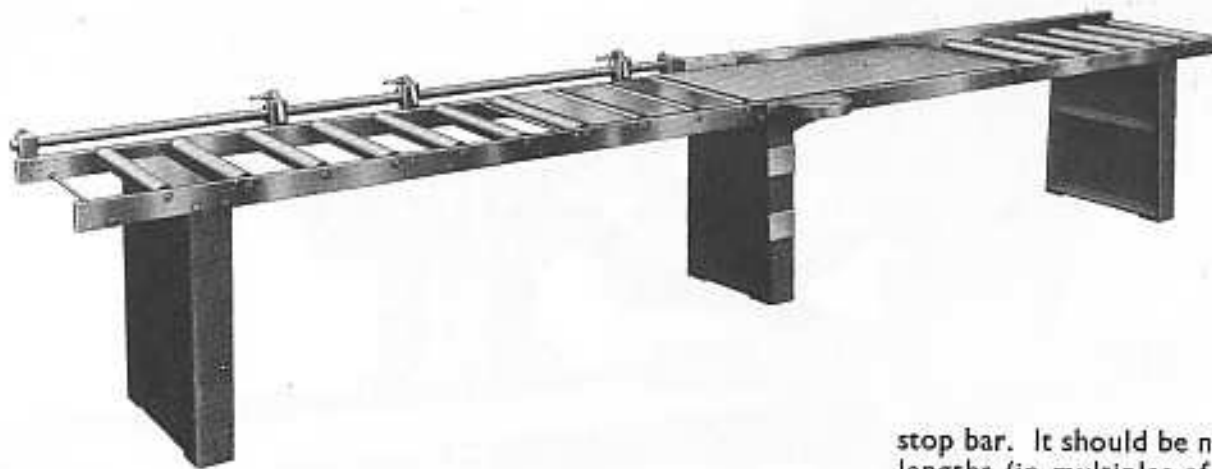


LEVER CRAMP SUITABLE FOR MOUNTING ON WOOD TABLE.



ADJUSTABLE FENCE FOR MULTIPLE CUTTING.
SUITABLE FOR MOUNTING ON WOOD TABLE.

ACCESSORIES FOR CROSS CUTTING AND TRENCHING MACHINES



ALL METAL TABLE TYPE XT

This table, incorporating ball bearing rollers is strongly recommended as it enables the timber to be more easily and quickly moved into position. It is made in two sizes $14\frac{1}{2}$ " and $22\frac{1}{2}$ " wide and in any multiple lengths of 4' 0", right or left hand, complete with support legs and graduated stop bar. It should be noted that any combination of table lengths (in multiples of 4' 0") can be arranged as all table components are interchangeable, ready drilled, and easily erected.

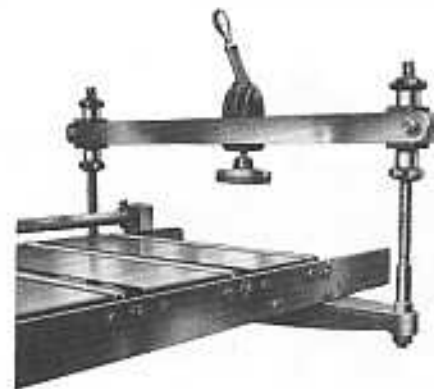


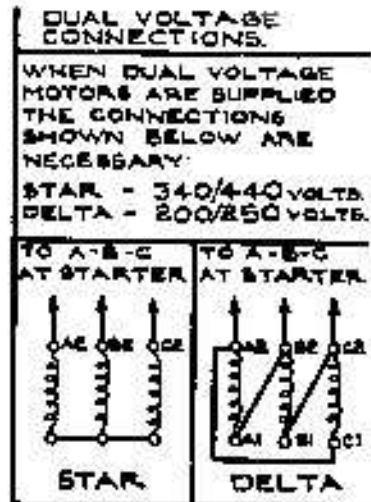
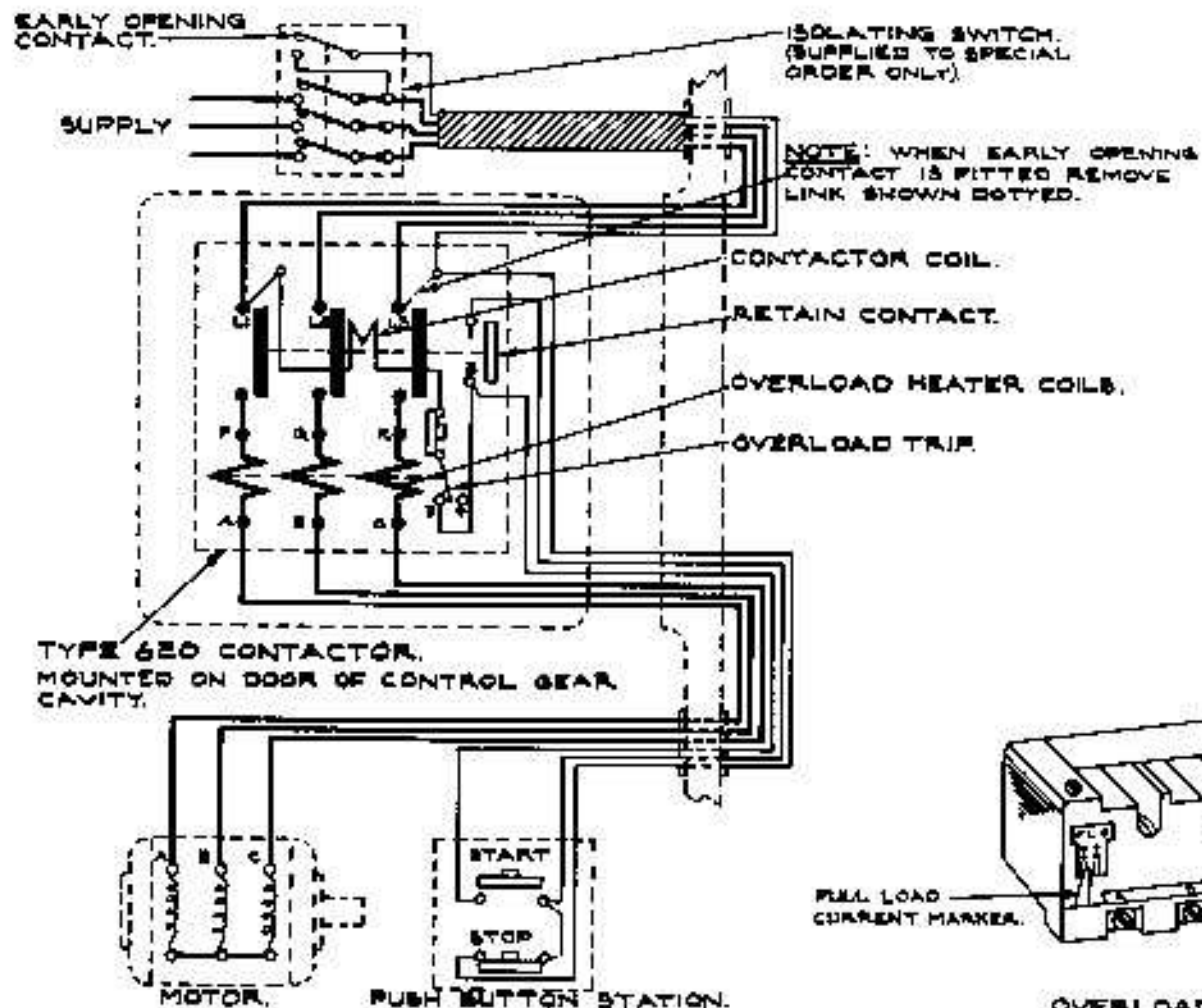
ADJUSTABLE FENCE FOR MULTIPLE CUTTING

This fence is designed to drop on to the graduated stop bar of the metal table, and is for use when several pieces of timber are to be cut at one operation. It is quickly set to give any required size and is attached or detached in a few seconds. A locking handle is fitted for clamping on the front table bearer.

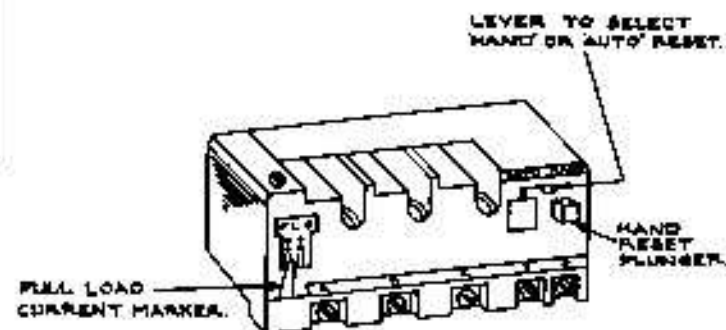
LEVER CRAMPS

This quick acting lever cramp is very useful when taking heavy cuts such as half lapping and birdsmouthing. It is quickly adjustable to suit material up to 8" thickness. The eccentric lever is moveable along the bars to suit varying widths of timber. Illustration shows the cramp in position on XT table.





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OVERLOAD PROTECTION.

INSTALLATION INSTRUCTIONS.

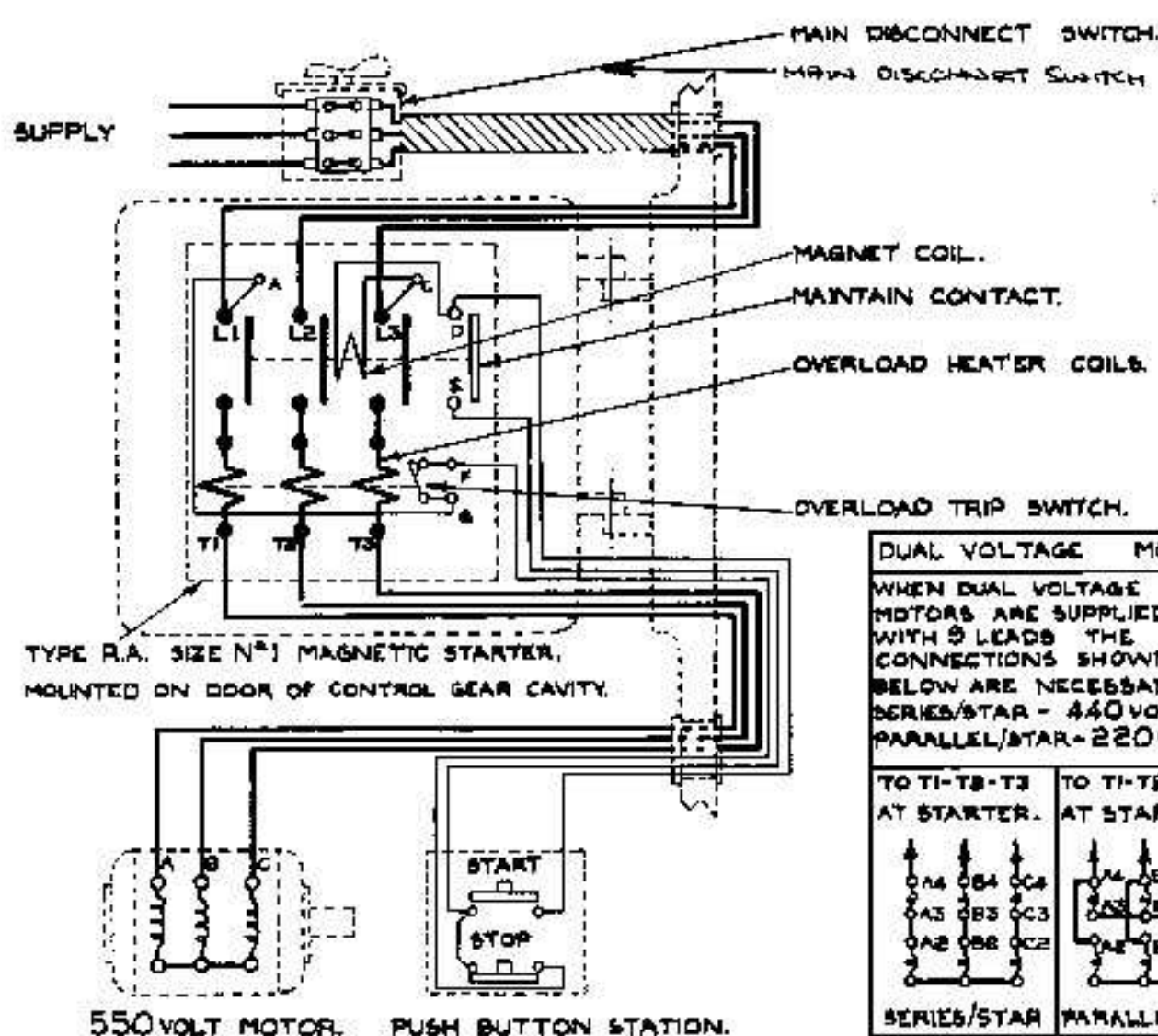
FIT ISOLATING SWITCH NEAR MACHINE SO THAT THE ELECTRICAL GEAR MAY READILY BE ISOLATED FOR INSPECTION PURPOSES. BRING SUPPLY CABLES TO ISOLATING SWITCH AND TO L1-L2-L3 AT CONTACTOR THROUGH CONDUIT WHICH SHOULD BE SCREWED INTO THE MACHINE AND SECURED BY MEANS OF LOCKNUTS ENSURE THAT THE DIRECTION OF ROTATION IS CORRECT BEFORE PUTTING THE MACHINE INTO SERVICE. TO REVERSE ROTATION INTERCHANGE L1 AND L3 AT CONTACTOR.

OPERATING INSTRUCTIONS.

TO START MACHINE: CLOSE ISOLATING SWITCH AND PRESS 'START' BUTTON TO STOP MACHINE. PRESS 'STOP' BUTTON. TO LOCK OFF MACHINE: PRESS AND TURN 'STOP' BUTTON, THIS MUST BE RELEASED BEFORE A START CAN BE MADE.

OVERLOAD.

SHOULD THE MACHINE STOP DUE TO OVERLOAD, WAIT FOR A SHORT TIME TO ALLOW THE HEATER COILS TO COOL THEN START IN THE USUAL MANNER. THE OVERLOADS ARE SET AT THESE WORKS AT 'AUTO' FOR AUTOMATIC RESET AFTER TRIPPING. IF SET AT 'HAND' THE PLUNGER ON THE OVERLOAD ASSEMBLY SHOULD BE DEPRESSED TO RESET.



DUAL VOLTAGE MOTOR CONNECTIONS.			
WHEN DUAL VOLTAGE MOTORS ARE SUPPLIED WITH 9 LEADS THE CONNECTIONS SHOWN BELOW ARE NECESSARY. SERIES/STAR - 440 VOLTS. PARALLEL/STAR - 220 VOLTS.		WHEN DUAL VOLTAGE MOTORS ARE SUPPLIED WITH 6 LEADS THE CONNECTIONS SHOWN BELOW ARE NECESSARY. STAR - 340/440 VOLTS. DELTA - 200/250 VOLTS.	
TO T1-T2-T3 AT STARTER.	TO T1-T2-T3 AT STARTER.	TO T1-T2-T3 AT STARTER.	TO T1-T2-T3 AT STARTER.
SERIES/STAR	PARALLEL/STAR	STAR	DELTA
9 LEAD MOTORS.		6 LEAD MOTORS.	

INSTALLATION INSTRUCTIONS.

FIT MAIN DISCONNECT SWITCH NEAR MACHINE SO THAT THE ELECTRICAL GEAR MAY READILY BE ISOLATED FOR INSPECTION PURPOSES. BRING SUPPLY CABLES TO DISCONNECT SWITCH AND TO L1-L2-L3 AT MAGNETIC STARTER THROUGH CONDUIT WHICH SHOULD BE SCREWED INTO THE MACHINE FRAME AND SECURED BY MEANS OF LOCKNUTS. ENSURE THAT THE DIRECTION OF ROTATION OF THE MOTOR IS CORRECT BEFORE PUTTING THE MACHINE INTO SERVICE. TO REVERSE ROTATION INTERCHANGE L1 AND L3 AT MAGNETIC STARTER.

OPERATING INSTRUCTIONS.

TO START MACHINE: CLOSE MAIN DISCONNECT SWITCH AND PRESS 'START' BUTTON. TO STOP MACHINE: PRESS 'STOP' BUTTON. TO LOCK OFF MACHINE: PRESS AND TURN 'STOP' BUTTON, THIS MUST BE RELEASED BEFORE A START CAN BE MADE.

OVERLOAD.

SHOULD THE MACHINE STOP DUE TO OVERLOAD, THE OVERLOAD TRIP SWITCH SHOULD BE RESET BY DEPRESSING THE PLUNGER ON THE OVERLOAD ASSEMBLY, THEN START IN THE USUAL MANNER.