

Wadkin Bursgreen

Instruction Manual For
T5 & T6
Planer and Thicknessers

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BOOK NO.856

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

T5 & T6

Planer and Thicknessers

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FOR REPLACEMENT PARTS, TOOL AND ACCESSORIES

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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.

Safety

CAREFULLY READ INSTRUCTION MANUAL WITH PARTICULAR REFERENCE TO THE FOLLOWING INSTRUCTIONS:-

1. SLINGING, i.e. SAFE LIFTING LIMITS FOR SLINGS ETC.
2. INSTALLATION AND FOUNDATION, i.e. SAFE WORKING AREA OF MACHINE AND BOLT POSITIONS, ETC.
3. WIRING DETAILS, i.e. WIRING DIAGRAM AND INSTRUCTIONS FOR SAFE WIRING OF MACHINE.
4. MACHINE CONTROLS AND OPERATING INSTRUCTIONS.
5. SELECT CORRECT SPEED FOR CUTTER EQUIPMENT AND ENSURE CUTTERS ARE SECURELY LOCKED IN POSITION.
6. SET GUARDS CORRECTLY TO COVER CUTTER EQUIPMENT AS MUCH AS POSSIBLE.
7. NOTE START/STOP CONTROL POSITION AND ISOLATOR SWITCH POSITION (IF FITTED) BEFORE OPERATING MACHINE.
8. USE FEEDING DEVICES WHERE POSSIBLE.
9. REFER TO HEALTH AND SAFETY AT WORK BOOKLET No.41 (IN U.K.) FOR SAFETY IN THE USE OF WOODWORKING MACHINERY.

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T500



T630



FIG. 1

MACHINE SPECIFICATION

| SPECIFICATION | T5 | T6 |
|---------------------------|-----------------|-----------------|
| Capacity of Machine | 508 x 250mm | 633 x 250mm |
| Feed Speed | 6-18m/min | 6-18m/min |
| HP of cutterblock motor | 3.7kw | 5.5kw |
| Speed of cutterblock | 4,500rpm | 4,500rpm |
| Speed of motor | 3,000rpm | 3,000rpm |
| Speed of motor | 3,600rpm | 3,600rpm |
| Dia. of cutting circle | 120mm | 120mm |
| Dia. of feed rollers | 85mm | 85mm |
| Minimum stock length | 280mm | 280mm |
| Maximum stock removal | 10mm | 10mm |
| HP of rise and fall motor | 0.25kw | 0.25kw |
| Length of table | 1000mm | 1000mm |
| Floor space | 1000 x 1030mm | 1000 x 1310mm |
| Approx. net weight | 580kg | 723kg |
| Approx. gross weight | 650kg | 750kg |
| Shipping dimensions | 1.17x1.12x1.41m | 1.42x1.12x1.41m |

BEARINGS

| | |
|--------------------|---------------------|
| 2 - off 62307-2RS | Cutterblock |
| 2 - off 6201 -2RS | Feed tension |
| 2 - off 6006 -2RS | Feed drive |
| 2 - off 6204 -2RS | Feed drive |
| 2 - off 6004 -2RS | Feed drive |
| | Jockey pulley |
| 2 - off 6304 -2RS | Under table rollers |
| 4 - off MRK 355202 | Rise & Fall Screws |
| 4 - off XWA 355201 | Rise & Fall Screws |
| 4 - off IW 811807 | Rise & Fall Screws |
| 1 - off UFL001 | Feed handle |

BELTS

| | |
|------------------|-------------|
| 2 - off SPZ 1600 | Cutterblock |
| 1 - off 28/1180 | Feed drive |
| 1 - off 480L075 | Feed drive |

SLINGING

ALWAYS USE A SLING WITHIN SAFE WORKING LOAD OF MACHINE WEIGHT.

Approx. net weight of machine 580 kg (T5) or 650 kg (T6)

Approx. gross weight of machine 723 kg (T5) or 750kg (T6)

To lift machine, proceed as follows:-

1. Position one 610mm (24") long batten of wood at infeed end of machine table and a similar batten at outfeed end as shown in FIG.2.

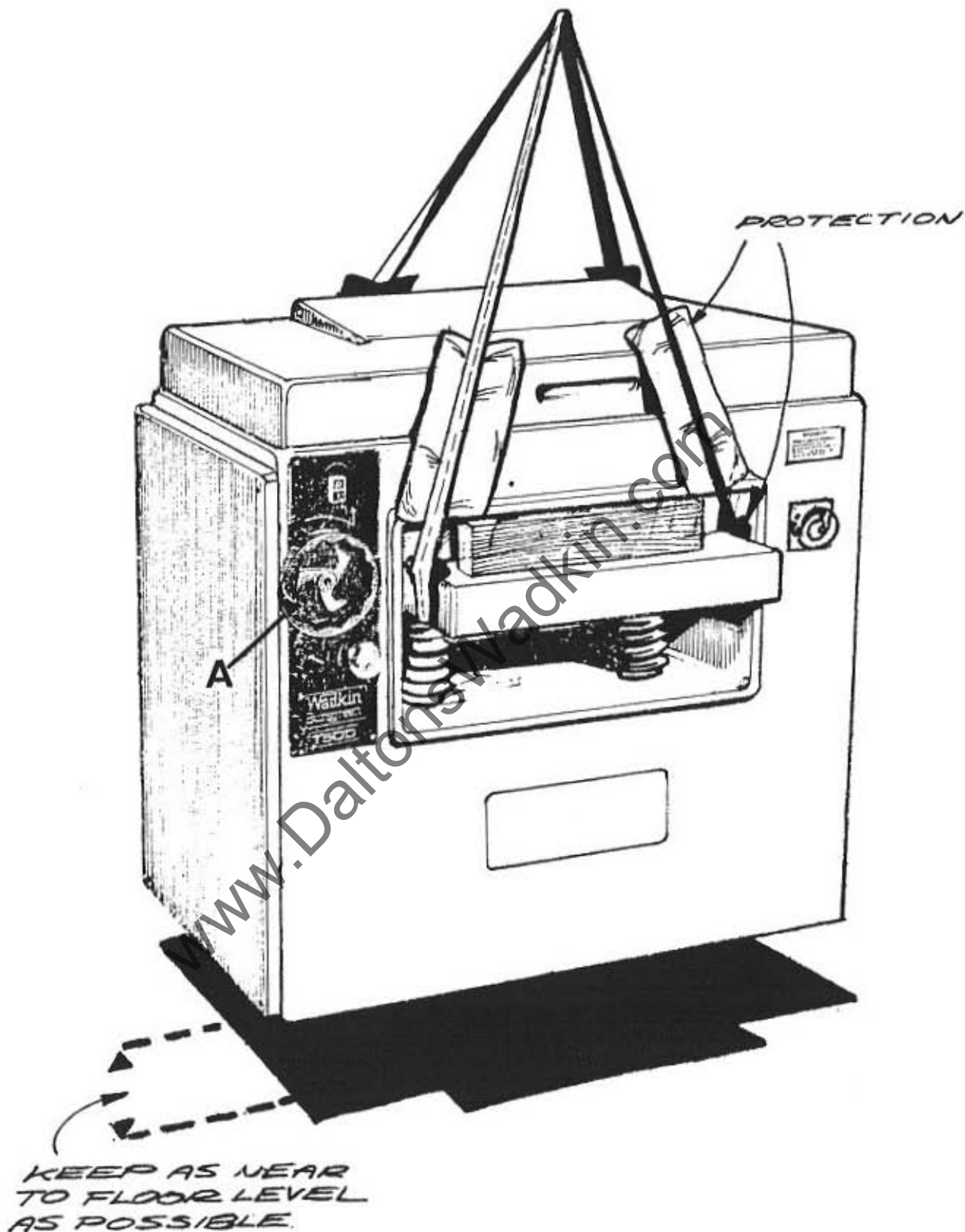
NOTE: The battens should be positioned just under lip of the machine frame.

2. Raise table by handwheel "A", FIG. 2, until battens are nipped between table and frame.
3. Carefully position sling under both sides of table as shown in FIG.2, ensuring damage will not be caused to machine or sling during slinging operation.
4. Slowly lift machine and ensure slings are not slipping and machine is not tilting.

IMPORTANT: DO NOT WALK OR STAND UNDER MACHINE DURING SLINGING OPERATION.

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**ALWAYS USE A SLING WITHIN SAFE WORKING
LOAD OF MACHINE WEIGHT**



**IMPORTANT
ENSURE DAMAGE WILL NOT BE CAUSED
TO MACHINE DURING SLINGING OPERATION**

FIG.2

CLEANING.

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

MARKING OUT.

1. Mark out floor and drill to suit 3 foundation bolts. These bolts can be supplied at an additional extra charge. (see 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 isolating switch. Points to note when connecting to power supply:

1. Check the voltage, phase, and frequency correspond to those on the motor plate, also the correct coils and heaters are fitted to the starter.
2. It is important that the correct cable is used to give the correct voltage to the starter as running on low voltage will damage the motor.
3. Check the main line fuses are of the correct capacity. See list inside starter cover.
4. Connect the line leads to the appropriate terminals.
5. Check all connections are sound.
6. Check the rotation of motor for the correct direction. If this is incorrect, reverse any two of the line lead connections. (See FIGS. 4 to 8 for wiring diagrams relevant to your machine).

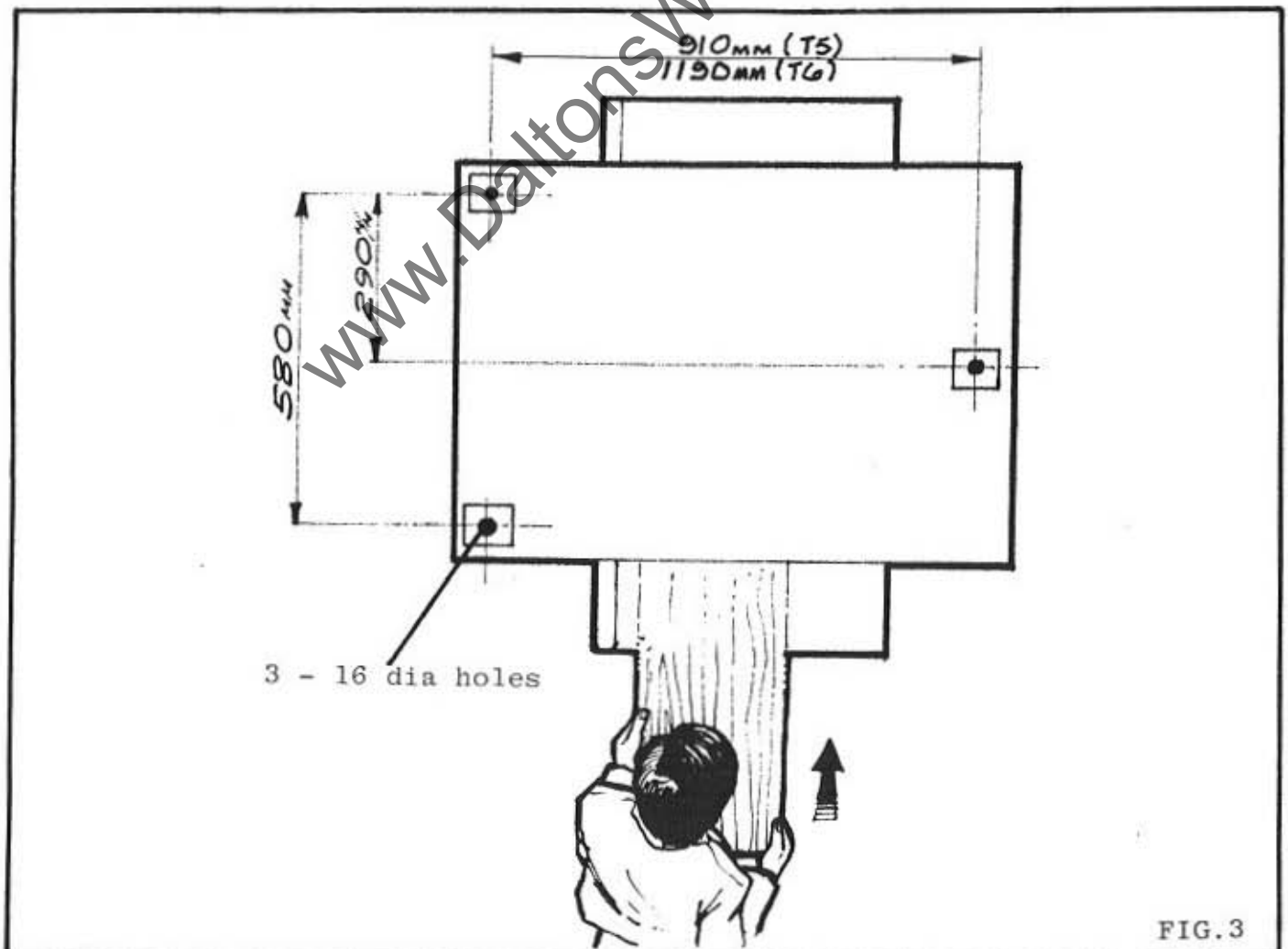


FIG.3

**WIRING DIAGRAM
FOR T5 STANDARD**

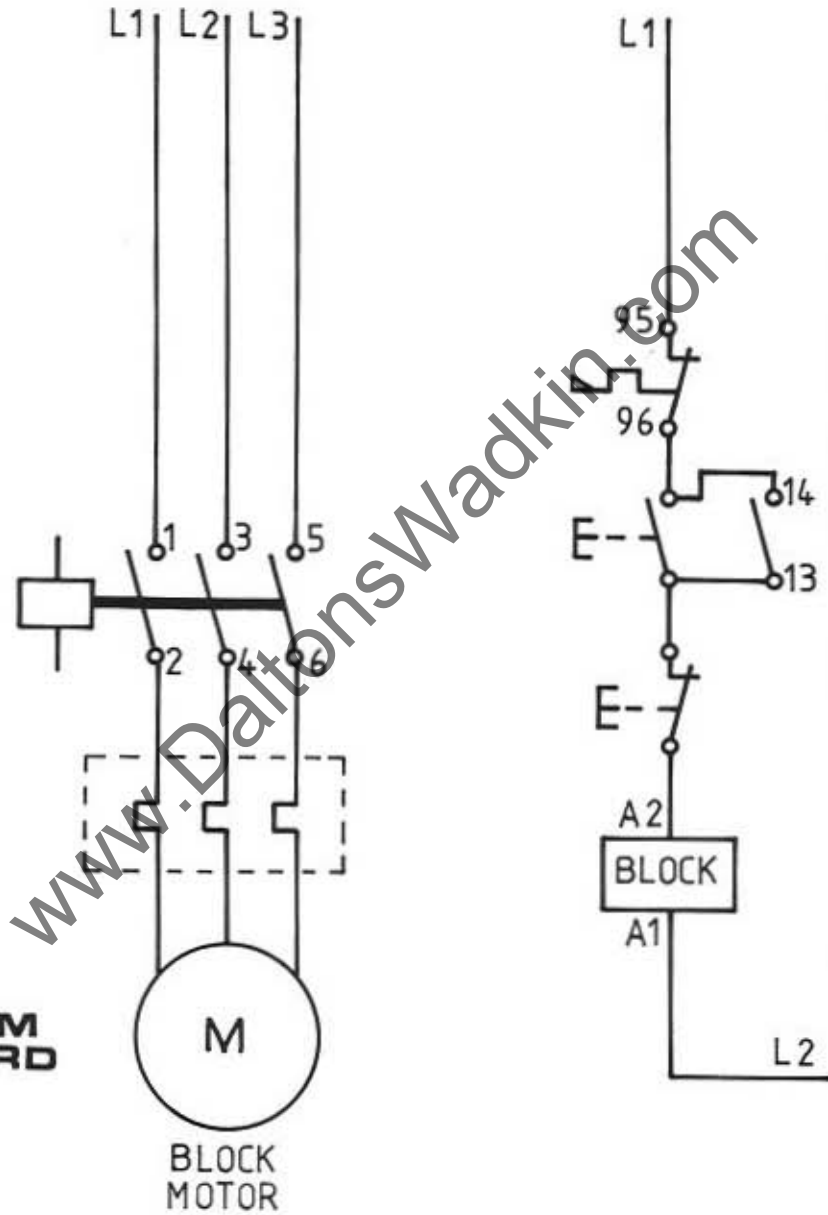
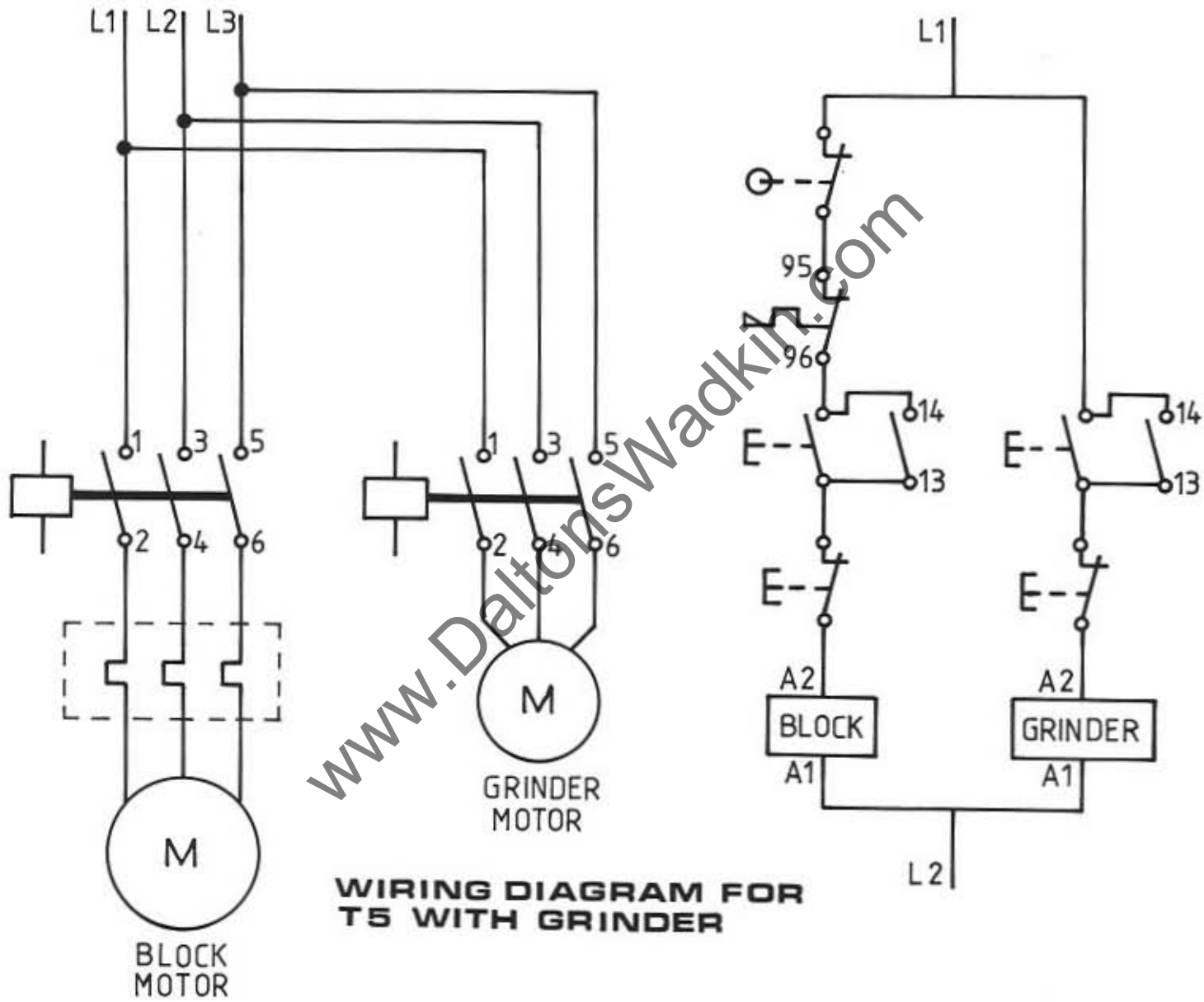
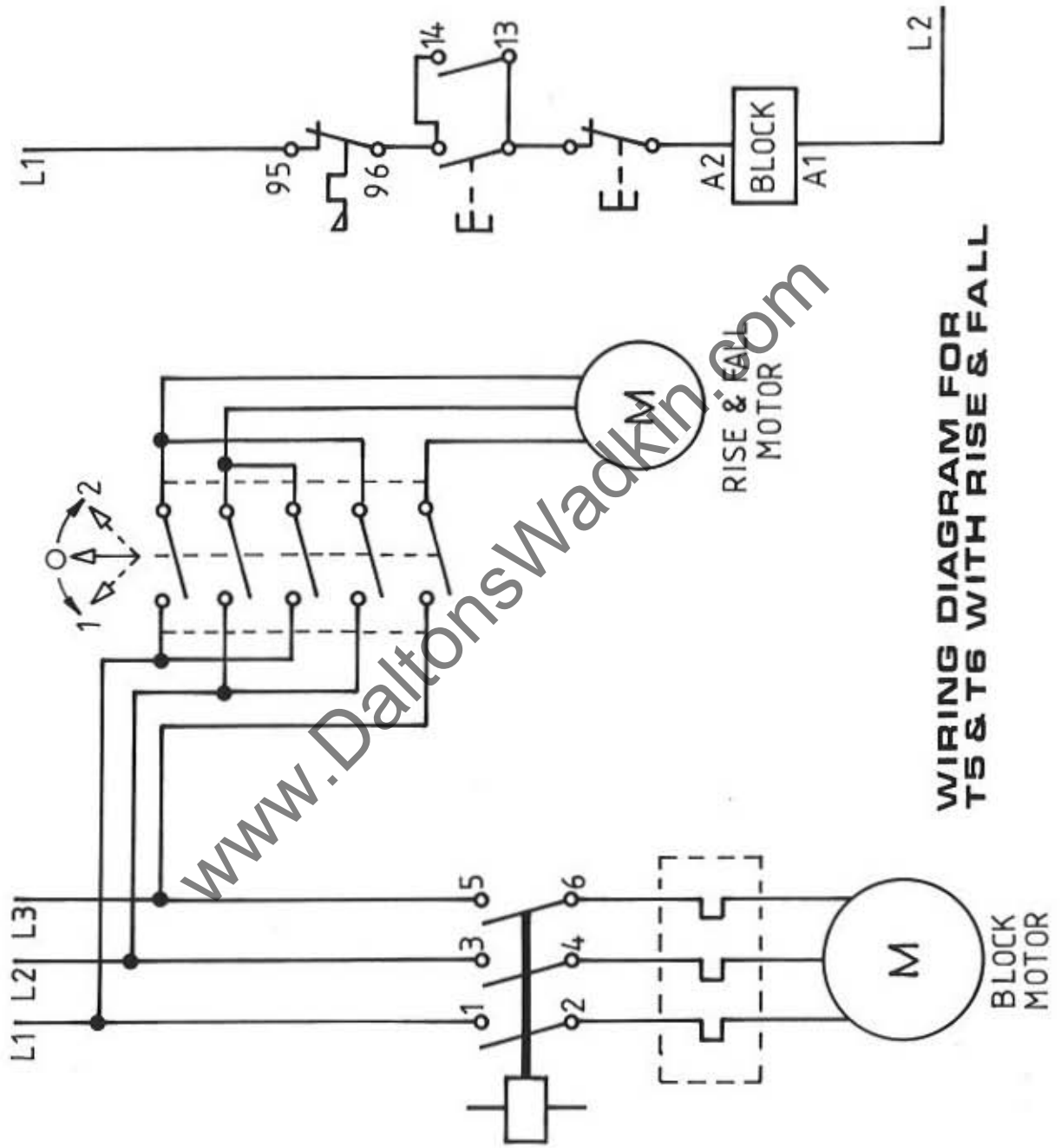


FIG. 4

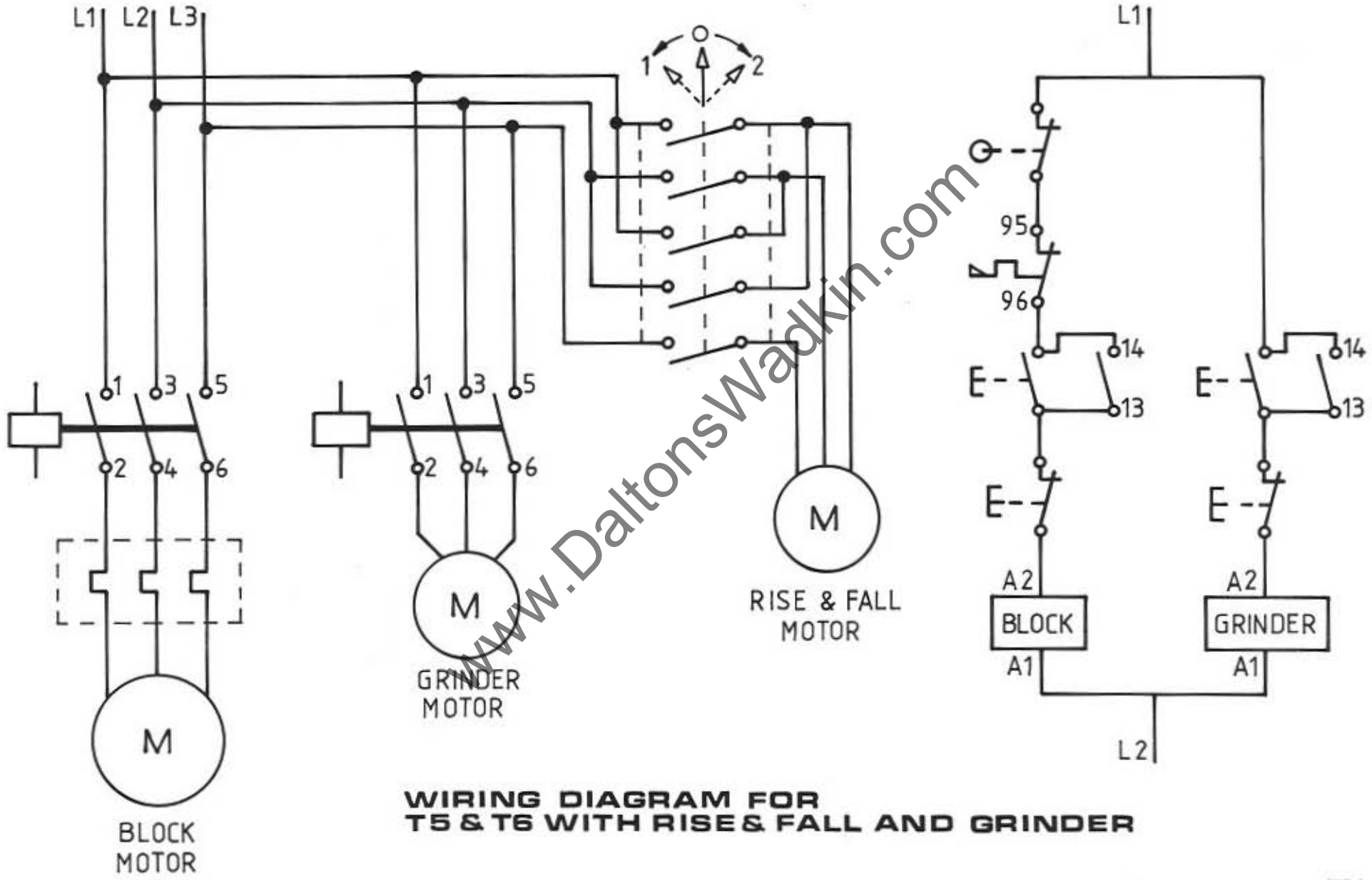


WIRING DIAGRAM FOR T5 WITH GRINDER



WIRING DIAGRAM FOR T5 & T6 WITH RISE & FALL

FIG. 6



**WIRING DIAGRAM FOR
T5 & T6 WITH RISE & FALL AND GRINDER**

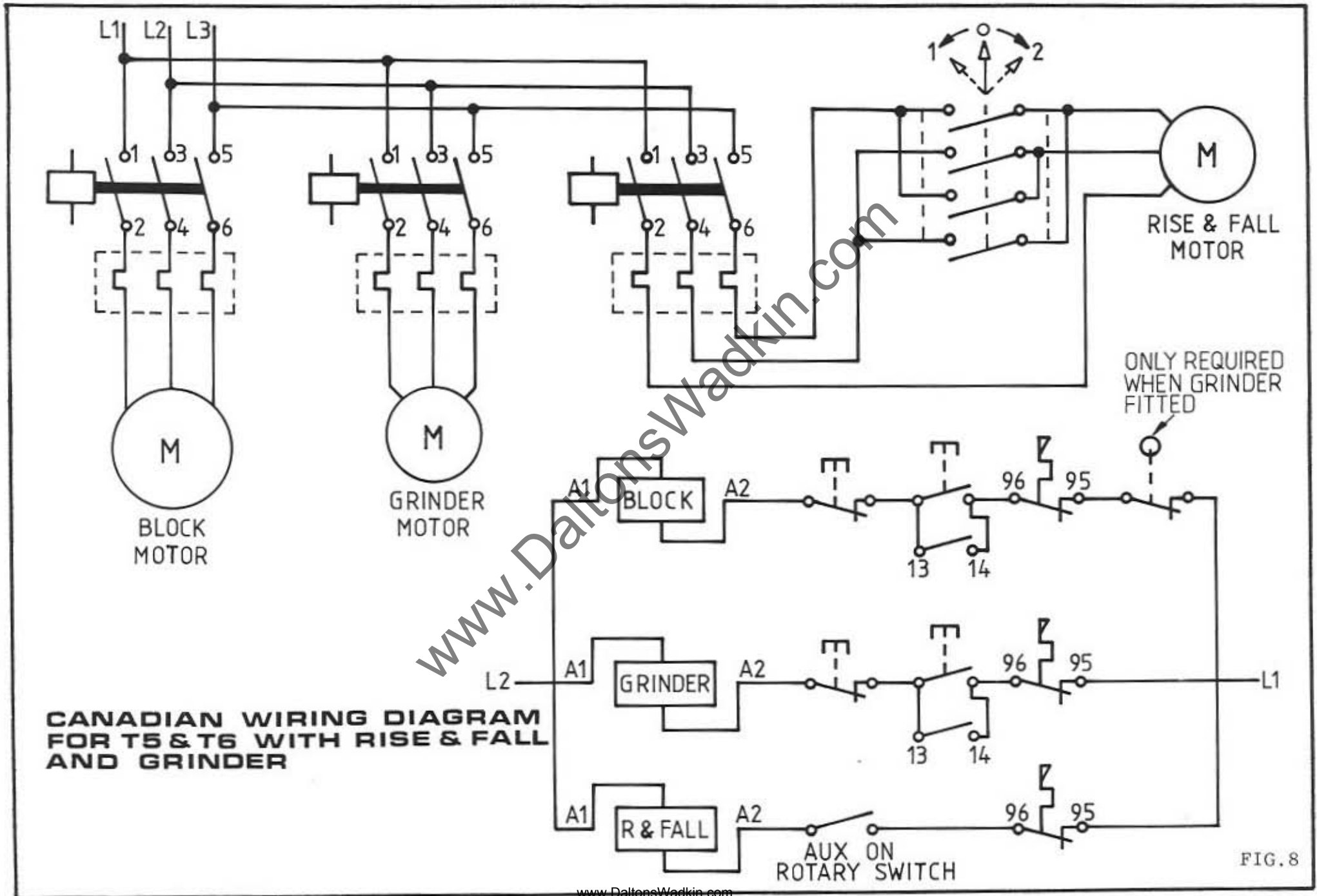


FIG. 8

LUBRICATION

The majority of machine working parts are designed to require no lubrication. All that is required is to periodically lightly oil the feed roller chain, situated inside the left base cover, and to loosen the shrouds and oil the four rise and fall screws.

START/STOP CONTROL

Before starting machine ensure cutter blades are locked in place and all guards are closed or in position.

When an isolator is fitted proceed as follows, (FIG.9) :-

To start turn isolator A to "1". Then on the left hand panel press the green button B to "1" to start cutter.

To stop press the red button "0" on control B.

To isolate machine, turn isolator A to "0" position.

Where no isolator is fitted control is simply via the panel start stop button.

VARIABLE FEED SPEED CONTROL

Feed roller drive is by infinitely variable pulley and belt from the machine motor. To alter feed speed proceed as follows :-

Turn variable feed speed handwheel C clockwise for slow speeds - anti clockwise to increase speed. (FIG.9)

1. WHEN ALTERING FEED SPEED MOTOR MUST BE RUNNING.
2. TO PREVENT UNDUE WEAR ON VARIABLE PULLEY, TURN HANDWHEEL THROUGH-OUT COMPLETE RANGE ONCE WEEKLY.

POWER RISE AND FALL (T6 STANDARD T5 EXTRA)

Power table rise or fall drive is transmitted from motor through feed chain clutch to table rise and fall screw. This power driven rise and fall screws is in turn connected by chain to the 3 remaining rise and fall screws and manual rise and fall handwheel.

To power raise or lower table, proceed as follows :-

1. Ensure top cover and side covers are secured in position.
2. Move power rise and fall lever D in direction required to either raise or lower table.
3. Check digital timber thickness counter E (FIG.9) to ensure correct table position for timber to be planed.

Note : For micro table adjustment turn handwheel F.

ON T5 MODELS WITH HAND RISE AND FALL TURN HANDWHEEL G TO RAISE OR LOWER TABLE, DEPTH IS READ OFF ON SCALE AND POINTER ON PANEL FACIA.

Note : TO SPECIAL ORDER A RISE AND FALL LOCK IS FITTED (H) AS SHOWN. THIS SHOULD BE RELEASED PRIOR TO MOVING THE TABLE AND LOCKED AFTER ADJUSTING.

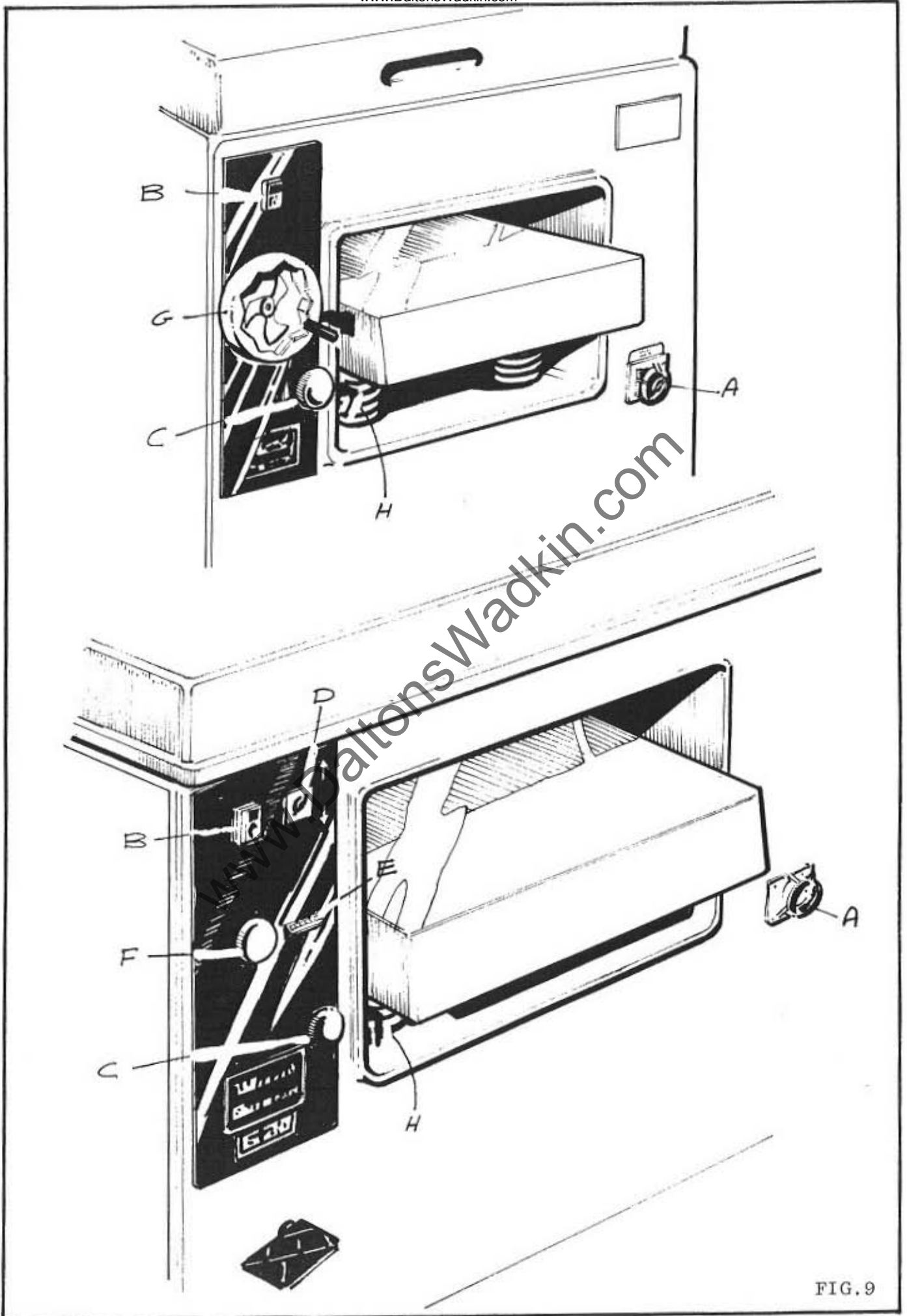


FIG. 9

TABLE FINE ADJUSTMENT (T6 ONLY & T5 WITH POWER RISE AND FALL)

Apart from the power rise and fall previously mentioned, the machine is equipped with a hand fine adjustment F. Used in conjunction with the power rise and fall lever D (FIG.9) the thickness dimension required can be quickly and precisely set. Conversely handwheel F may be used to rise and fall the table through its full travel, is so desired.

DIGITAL TIMBER THICKNESS INDICATOR

A digital timber thickness indicator E is conveniently situated on the panel face. This scale is operated by vertical movement of the table. (FIG.9)

This indicator is pre-set before despatch from our works, but should the setting be disturbed for any reason proceed as follows to re-set indicator.

1. Isolate machine electrically.
2. Ensure table rise and fall chain is correctly tensioned.
3. Start machine and take sample timber thickness cut then accurately measure timber thickness.
4. Isolate machine electrically then remove left side drive cover.
5. Loosen the two M4 socket head grubscrews J (FIG.11) and remove cable K, then turn shaft of indicator until indicator display corresponds to measured timber thickness.
6. When set correctly, refit cable K to indicator shaft and secure with the two M4 grubscrews J. Refit left side drive cover.

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MAINTENANCE

All adjustments and alignments following have been carefully set and checked and the complete machine thoroughly tested before despatch from the works.

During the first few weeks of operation and at regular intervals afterwards, certain items such as belt tension and chain tension should be checked carefully. When adjustments are necessary, proceed in accordance with the relative instructions given.

TABLE ROLLERS

The anti-friction rollers or bed rollers revolve on sealed for life bearings which require no lubrication. These rollers are pre-set in relation to the table surface.

It must be emphasised that a really good surface finish from a thickening machine is only possible when the face of the timber resting on the machine table is flat and has a reasonable finish. Wherever practicable this face should be pre-machined on a overhead jointer, or surfacer to remove twist and other irregularities.

FEED ROLLER AND PRESSURE BAR SETTINGS.

These are preset at the works and vertical adjustment relative to the cutterblock is neither possible nor necessary, provided the cutters are correctly set with the special setting gauge supplied with each machine. Should replacement feed rollers or pressure bars be fitted at any time, the settings should be very carefully checked with FIG.10.

Some slight advantage in finish or feeding may on occasions be obtained by increasing or decreasing the tension of the pressure bar or feed roller springs.

NOTE: The springs should never be compressed to a point where the feed rollers and pressure bars cannot lift sufficient to allow the maximum cut to be taken.

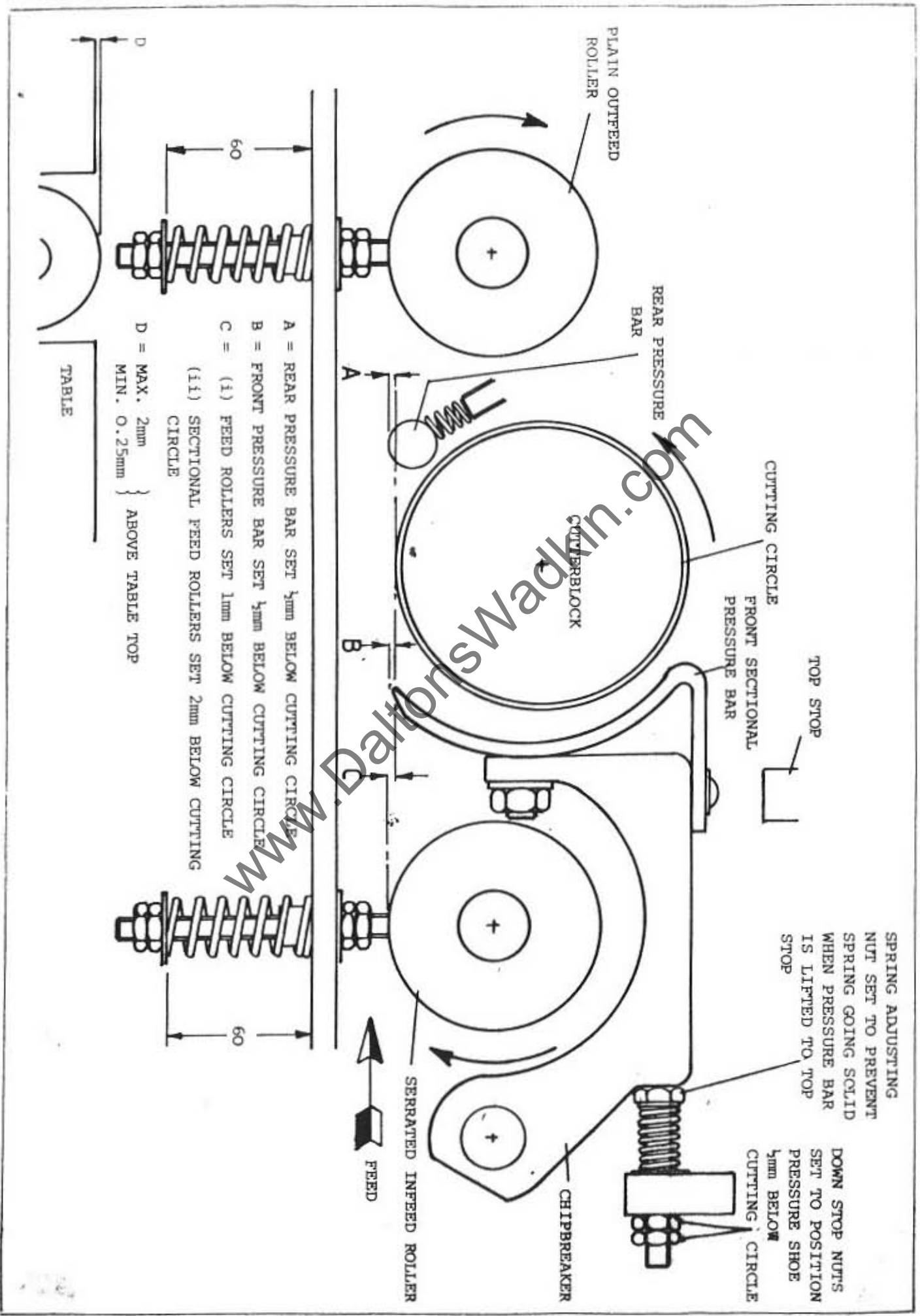
GENERAL HINTS.

1. When thickening long lengths of timber, always support after the machine table, otherwise a step will appear on either or both ends.
2. When a smooth finish is required, use the slow feed speed. For roughing when the finish is not important, use the fast feed speed.
3. For the best results always feed the timber to cut with the grain.
4. Should the timber stick when thickening the probable causes are as follows :
 - a. The spring pressure is too great on the rear pressure bar.
 - b. Not enough pressure on either front or rear feed rollers.

NOTE: See FEED ROLLER AND PRESSURE BAR SETTINGS.

- c. Machine table sticky due to timber resin. (Clean table)
- d. Wet timber being machined. (Use dry timber)

IMPORTANT: Always isolate machine electrically before adjustments, maintenance or cleaning.



CUTTERBLOCK BELT TENSION

The cutterblock is driven by 2 vee belts from the motor.

To tension belts proceed as follows :-

1. Isolate machine electrically.
2. Remove left side drive cover.
3. Loosen 4 - M12 hexagon bolts A (FIG.11),
4. Lower motor mounting plate B until weight of motor tensions belts.
5. Re-tighten bolts A, then replace drive cover.

FEED CHAIN REMOVAL

Feed roller drive is transmitted from main motor through a variable pulley and belt, to belt driven final drive chain D (FIG.11). Chain is automatically tensioned by chain tension sprocket E.

To change chain proceed as follows :-

1. Isolate machine electrically.
2. Remove left side drive cover.
3. Extract split link C and remove chain.
4. Reverse above procedure to re-fit chain.

VARIABLE DRIVE BELT REMOVAL

To change variable drive belt proceed as follows :-

1. Isolate machine electrically.
2. Remove left side drive cover.
3. Turn variable feed speed handwheel C (FIG.9) anti clockwise to maximum position.
4. Remove variable drive belt F (FIG.11).
5. Reverse above procedure to re-fit belt.

TABLE RISE AND FALL CHAIN TENSION

Should excessive free play be felt in the rise and fall chain this should be adjusted, and as such the following sequence adopted(FIG.11)

1. Isolate machine electrically.
2. Remove left side base cover.
3. Unlock capscrews G
4. Slide tensioner block H until correct tension is attained then re-lock.
5. Replace all covers.

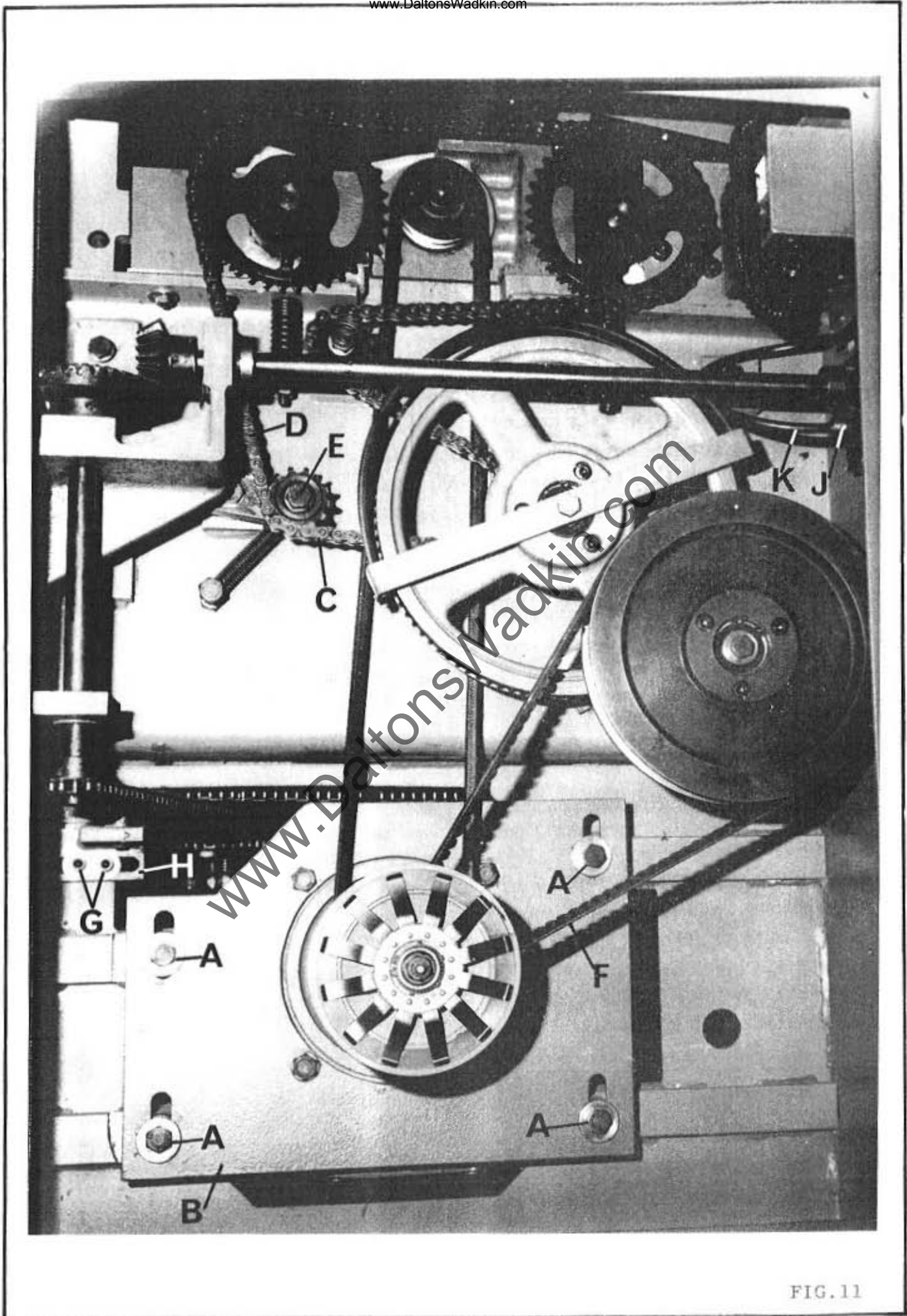


FIG. 11

POWER RISE AND FALL MAIN DRIVE TENSION AND CLUTCH

Further to the tension sequence previously given, tension can also be applied to the main motor drive chain.

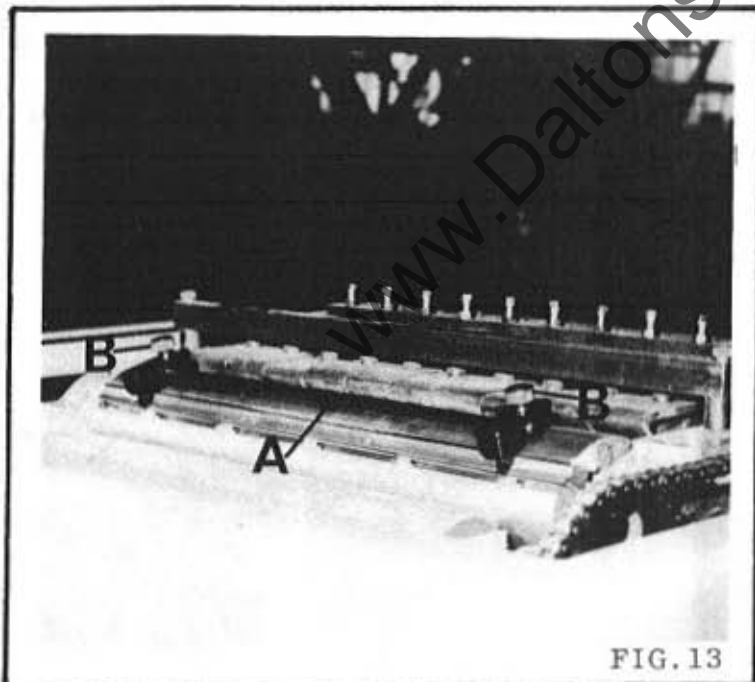
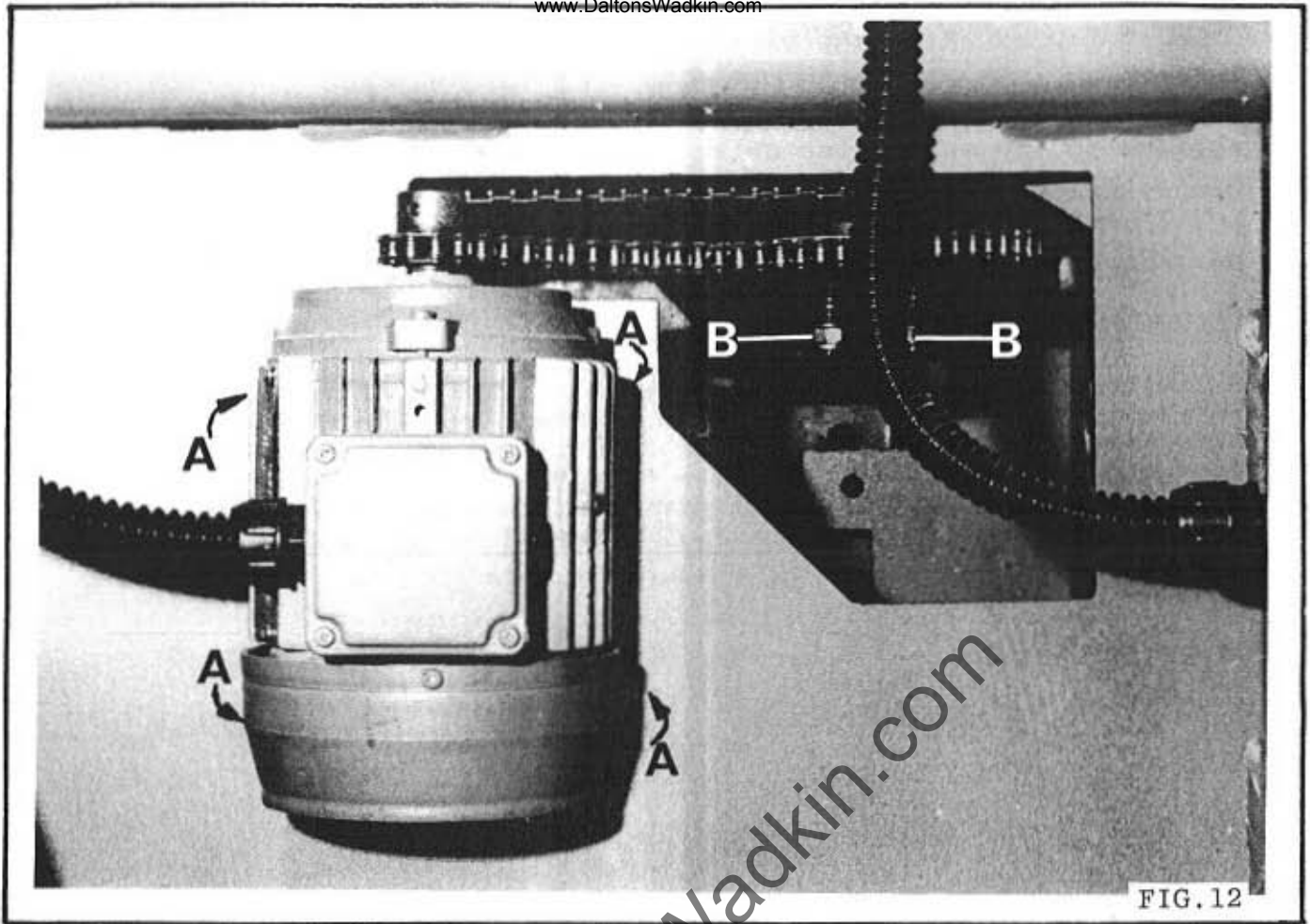
Simply unlock four motor mounting bolts A (FIG.12) and slide motor bodily over to attain correct tension.

Re-lock after adjusting.

CLUTCH (See FIG.12)

A clutch drive unit is fitted between the motor drive and the rise and fall screw. Periodically the pressure required to give positive drive may require attention. To adjust, screw up the 3 aero-tight nuts B on the clutch body half a turn then check rise and fall motion. Repeat procedure until clutch gives full drive. Check full top to bottom operation of rise and fall then replace all covers.

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T5 & T6 - 1B

CUTTER SETTING

The knife is held in the cutterblock by a wedge, into which is fitted spring loaded balls, these balls hold the knife finger tight whilst the 5-M12 (T5) or 6-M12 (T6) hexagon head screws are loose. This allows both hands to be free to adjust the blade and ensure that it will not slip back during setting or move whilst the wedge screws are being tightened up. Should any other method of cutter setting be employed the amount of cutter projection must correspond exactly with that given by the setting gauge supplied and failure to observe this instruction will result in bad feeding and poor finish.

To remove the knives and re-set with the "BURSGREEN" knife setting gauge, proceed as follows:-

- 1 Turn the cutterblock to approximately the position shown in FIG.14 and loosen the 5-M12 (T5) or 6-M12 (T6) hexagon head screws, carefully remove knife from cutterblock.

NOTE: When grinding it is most important that knives are ground dead straight and balanced in pairs or sets.

An efficient re-grinding service is available; charges are moderate and service prompt. To avail yourself with this service, return knives to BURSGREEN (DURHAM), FENCE HOUSES, TYNE & WEAR.
- 2 To re-set the knives the cutterblock should be in the approximate position shown in FIG.14. Place the knife in between wedge and cutterblock with the blade drawn forward slightly.
- 3 Carefully secure the knife setting device 'A' FIG.13 or 14 (which when not in use is normally secured to the rear of the machine table), to the cutterblock with the two knurled locking screws 'B' as shown in FIG.13 or 14.
- 4 Whilst turning these locking screws 'B' FIG.13 or 14, knife will be lowered to correct setting which is reached when knurled screws are locked in position and knife just touches knife setting device.
- 5 When the knife is correctly set, tighten the 5-M12 (T5) or 6-M12 (T6) hexagon head screws, remove knife setting device then securely lock the 5-M12 (T5) or 6-M12 (T6) hexagon head screws.
- 6 Rotate cutterblock until the next knife is in position and repeat the procedure until all the knives have been set.
- 7 When changing knives it is advisable to check that all the locking screws are adequately lubricated and quite free. Periodically examine for damage or cracks. Any doubtful screws should be replaced and all screws well lubricated with "Molyslip" or similar oil, before replacing.

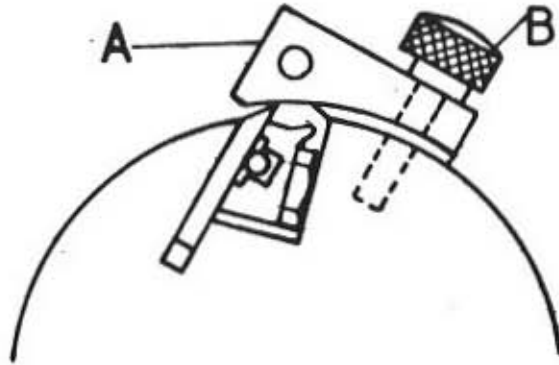


FIG. 14.

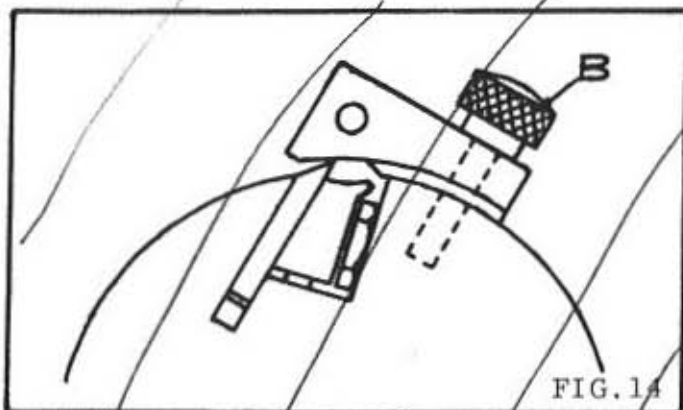
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CUTTER SETTING.

The cutters are held in the cutterblock by a steel clamping bar secured with 6 - M12 (T6) or 5 - M12 (T5) hexagon head screws. As the amount of cutter projection is vital to the correct operation of the machine it is most important that the actual setting gauge supplied with the machine should be used. Should any other method of cutter setting be employed the amount of cutter projection must correspond exactly with that given by the setting gauge supplied and failure to observe this instruction will result in bad feeding and poor finish.

To remove the cutters and re-set with the "BURSGREEN" cutter setting gauge, proceed as follows:

1. Isolate machine electrically.
2. Turn the cutterblock to approximately the position shown in FIG.14 and loosen the 6 - M12 knife locking screws (T6) or 5 - M12 knife locking screws (T5) until knife is just free of cutterblock.
The knives can now be removed for grinding or replacing. When grinding it is most important that knives are ground dead straight and balanced in pairs or sets.
3. To re-set the knives, the cutterblock should be in approximately the position as shown in FIG.14. Place the knife in the slot ensuring that all faces are clean and the clamping bar free from burrs.
4. Secure the knife setting device "A" FIG.13 (which when not in use normally secured to the rear of the machine table) to the cutterblock by the two knurled locking screws "B" as shown in FIG.14. With knife setting device in this position, knife is set.
5. When the knife is correctly set, securely lock the 6 - M12 (T6) or 5 - M12 (T5) knife locking screws and remove knife setting device.
6. Rotate cutterblock until the next knife is in position and repeat the procedure until all the knives have been set.



MOTORISED KNIFE GRINDER - FIG.15

To operate open top hood. By doing so the cutter block motor is isolated and the power is transferred to the grinder motor. Before commencing grinding operation locate the indexing plunger by lever A into one of the peg holes in the indexing device. Slide grinder to bring grinding wheel into position over knife blade and ensure grinding wheel is clear of knife blade before starting. Start grinder and screw down onto blade by knurled adjuster B until a light cut is made. Take firm hold of slide bracket C and push slide across traversing rapidly fully over length of blade and back to starting point, repeat until cut is finished and return grinder to starting point. Pull back lever A and index round to next peg hole on indexing device and relocate, repeat grinding operation and above sequence on all four knives.

NOTE:- Each cut adjustment should be made on all blades. DO NOT treat each blade individually as this will result in variable amounts of removal causing balance problems. Before starting each grinding stroke return grinder to position shown in diagram.

After treating all blades stop grinder motor and pull lever A back into free position.

NOTE:- If hand lever A is not in free position hood will not close. Replace hood before operating machine.

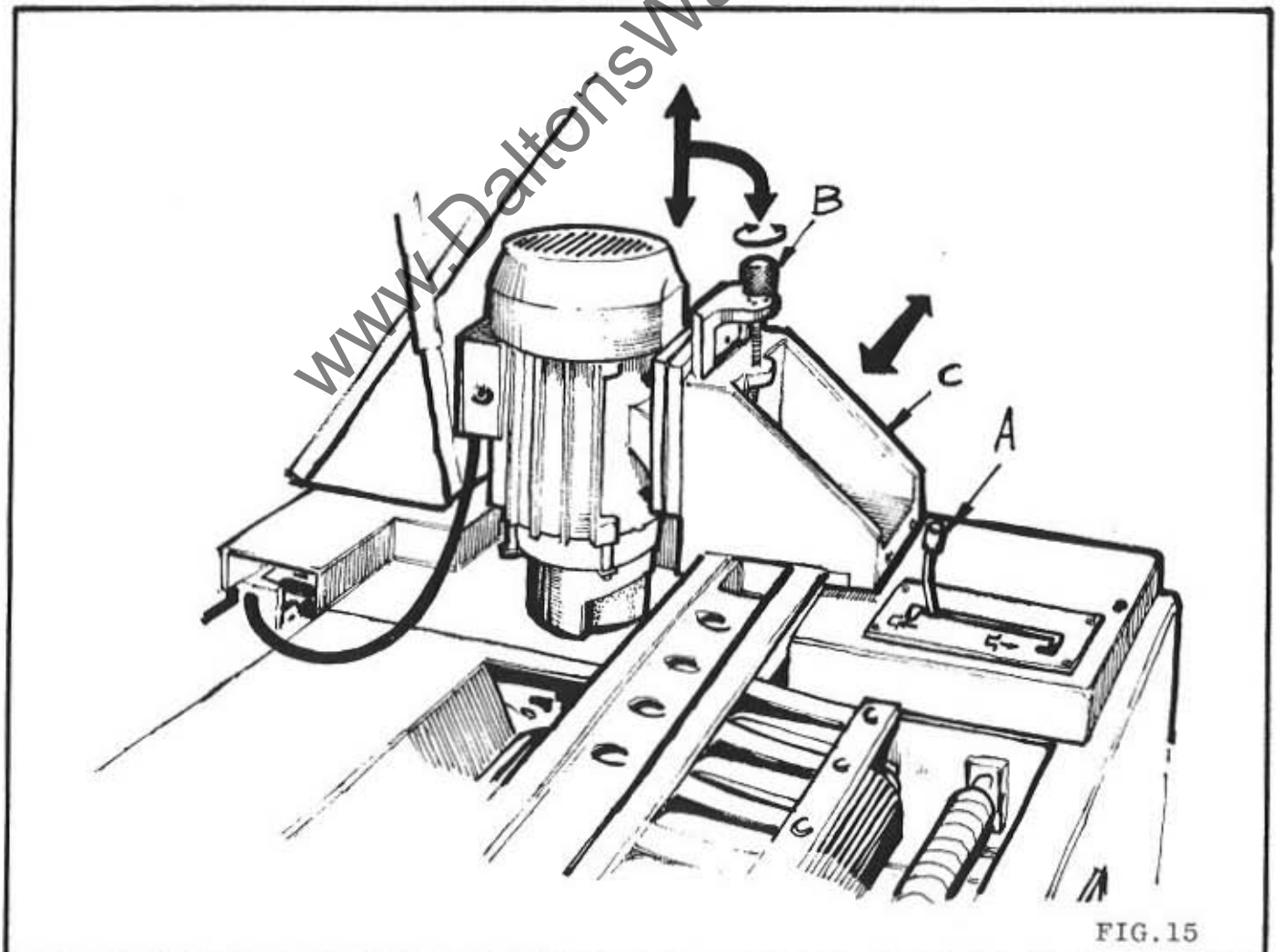


FIG.15

| Application | Approved Lubricant | | | | | |
|--------------------------|-----------------------|---------------------|--------------|----------------------------------|-------------------|--------|
| | Castrol | B. P. | Shell | Esso | Texaco/ Caltex | Wadkin |
| Worm Boxes | Alpha 617 | Energol CS425 | Vitrea 75 | Pen-O-Led E. P.3 | Regal Oil J | L. 2. |
| General Lubrication | Magna ED | Energol HP. 20 | Vitrea 33 | Esstic 50 | Ursa Oil P. 20 | L. 4. |
| Pneumatic Lubricators | Hyspin AWS 32 | Energol HL 65 | Tellus 27 | Nuto H 44 | Rando Oil HDA | |
| Grease | Spheerol AP. 3 | Energrease LS. 3 | Alvania 3 | Beacon 3 Starfak Premium-3 | Regal | L. 6. |
| Brake Cables | Brake cable grease | Energrease L21M | Alvania 3 | Multi-purpose grease H | | |

NOTES

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