



AGS400

TILTING ARBOR SAWBENCH

M/C No.

TEST No.

INSTRUCTION MANUAL

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 plc 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 users 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 BS.6854 Part 1, "Safeguarding Woodworking Machines" and subsequent parts for specific machines (obtainable from Her Majesty's Stationery Office) and as advised by Wadkin plc.
- 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 following.

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.

Wadkin Leicester

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2.2 SAFETY INSTRUCTIONS

Carefully read instruction manual with particular reference to the following instructions:-

- a) Slings, ie, safe lifting limits for slings, etc.
- b) Installation and foundation, ie, safe working area of machine, bolt positions, etc.
- c) Wiring details, ie, connection of machine to mains supply, fuse details, etc.
- d) Machine controls and operating instructions.

Ensure tooling is of the correct type for use with the machine and cutters are securely fixed in position.

Select correct spindle speed and feed rate relevant to the tooling being used.

Set all guards correctly and ensure they are securely fixed in accordance with the current regulations.

Use suitable jigs, fixtures and feeding devices etc., (push stick, etc.,) where appropriate.

Refer to BS.6854, Part 1, "Safeguarding Woodworking Machines" and subsequent parts for specific machines for safe working practices.

During Machining

Wear suitable protective equipment, where necessary, eg, goggles, ear defenders and dust mask.

Ensure all moving parts of the machine are stationary before setting, cleaning or making any adjustments.

Report immediately to a person in authority any machine malfunction or operator hazard. Do not attempt to repair the machine unless authorised to do so.

Ensure machine is electrically isolated before any maintenance/cleaning work commences.

NOISE LEVELS

This machine, under certain conditions, will emit noise levels in excess of 85dB(a).

Noise levels will be affected by the environment in which the machine operates, the timber being machined, tooling, machine setting and dust extraction.

Further information available from Wadkin

As a manufacturer it is Wadkin's policy to reduce the noise level as far as is practicable.

3.0 SPECIFICATION - AGS 400

Size of main table	1190 x 1100mm	47 x 39 in
Maximum distance saw to rip fence	914mm	36 in
Maximum dia of saw	400mm	16 in
Saw projection with 400mm saw	50-125mm	2-5 in
Saw projection with 300mm saw	0- 75mm	0-3 in
Power of motor	5.5kw	7.5 hp
	7.5kw	10 hp
Spindle speed	3000rpm	
Spindle dia	30mm	
Approximate floor space	1650 x 1250mm	65 x 49 in
Approximate net weight	440kg	968 lbs
Approximate gross weight - poly packed	450kg	990 lbs
Approximate gross weight - fully boxed	550kg	1100 lbs
Shipping dimensions - boxed	1.31 x 1.10 x 1.07m	49¼ x 41 x 35 in

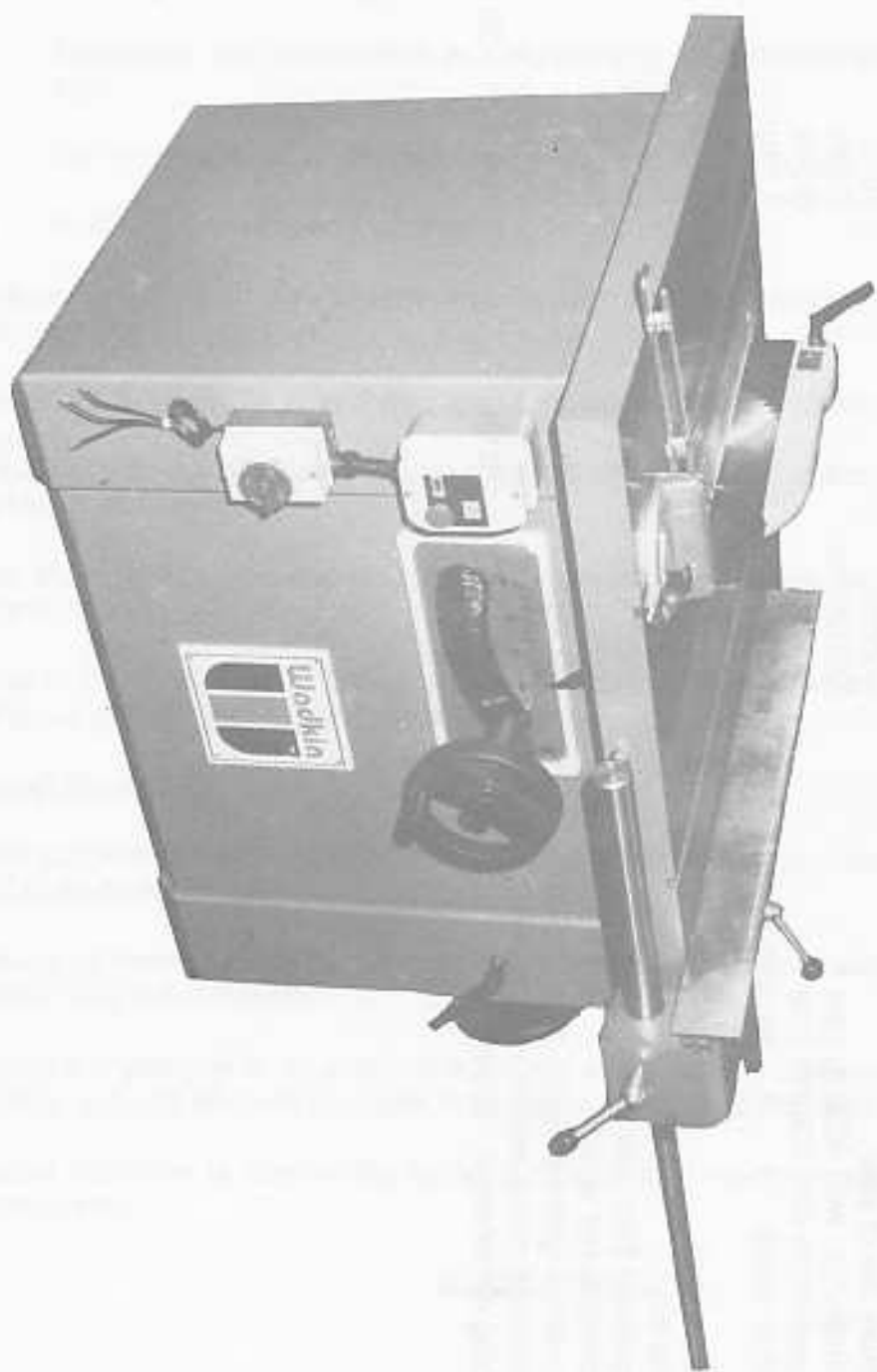


FIG. 1

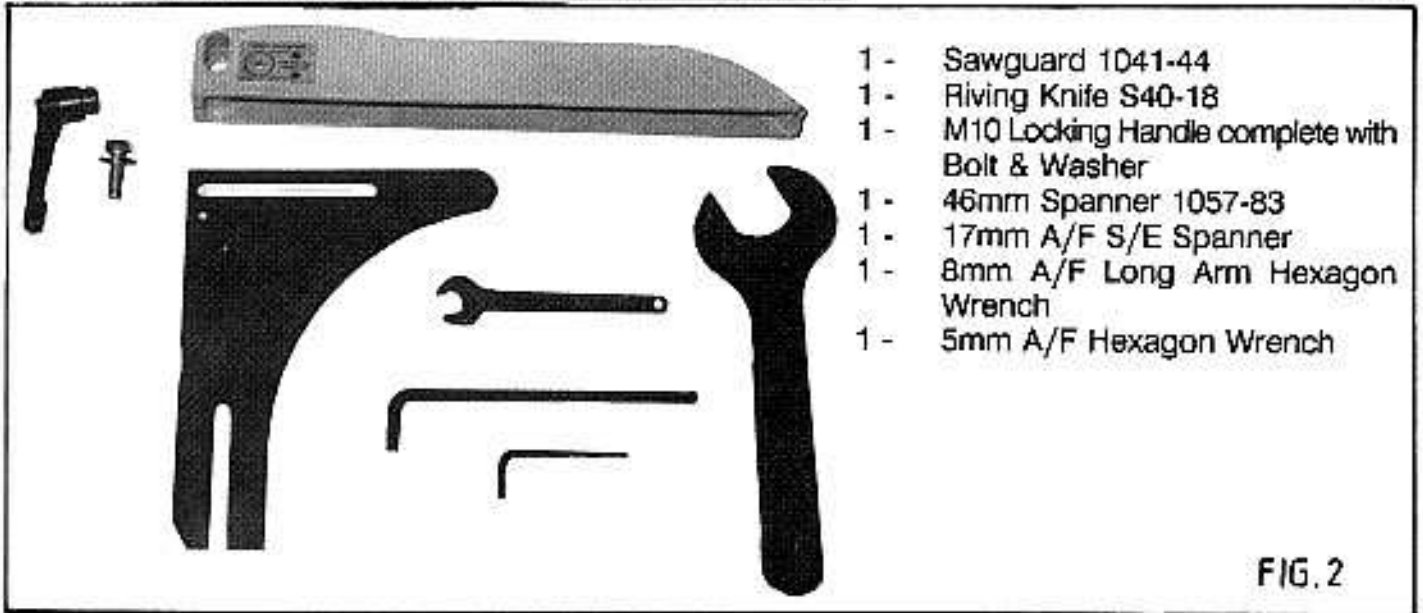


FIG. 2

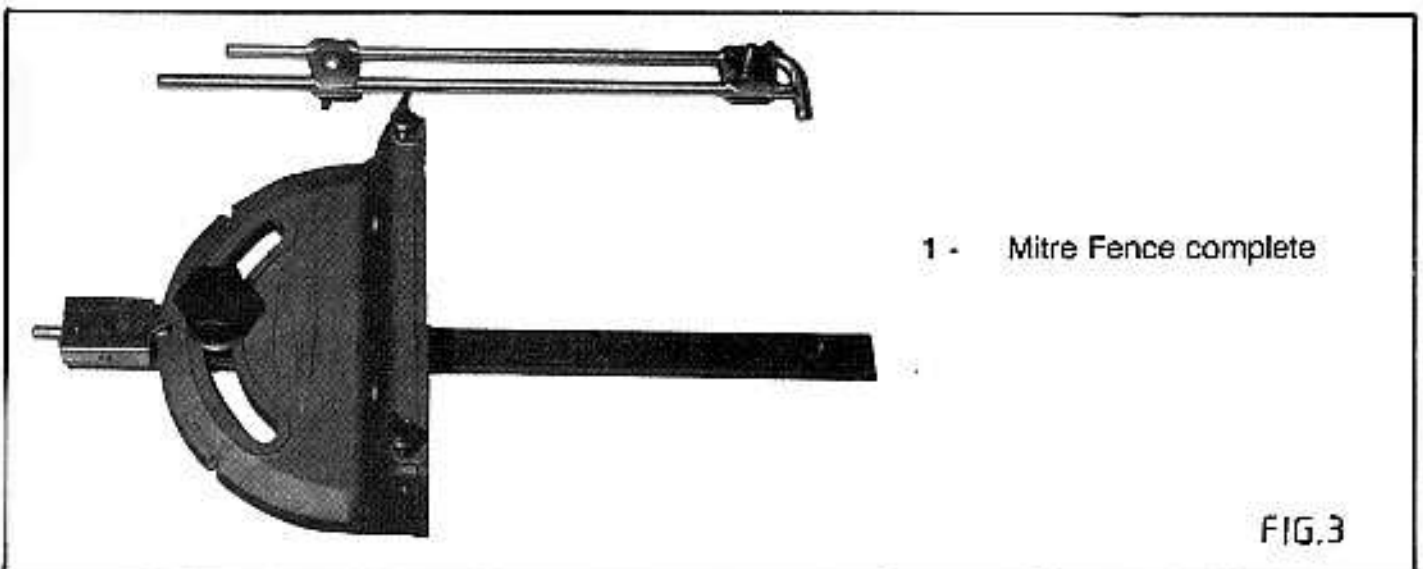


FIG. 3

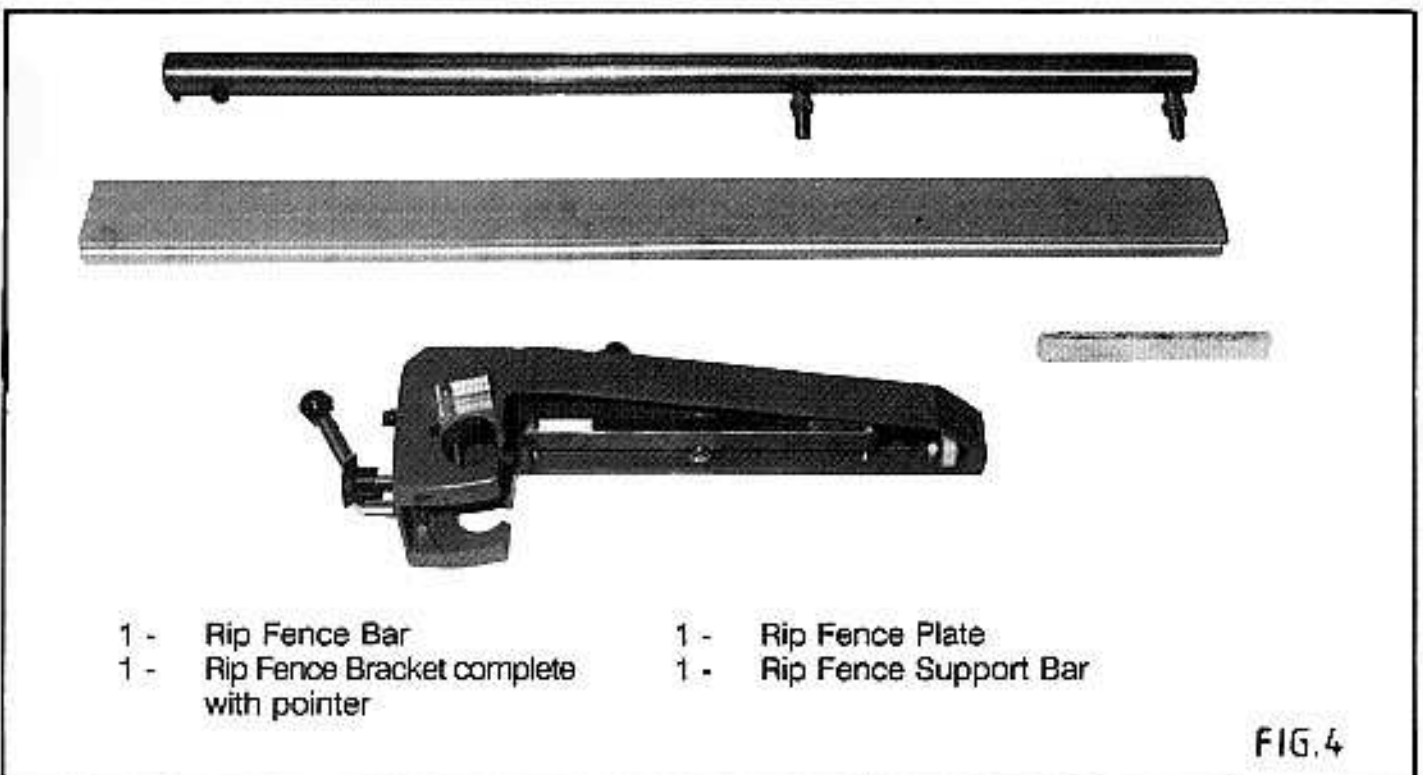


FIG. 4

FOUNDATION PLAN

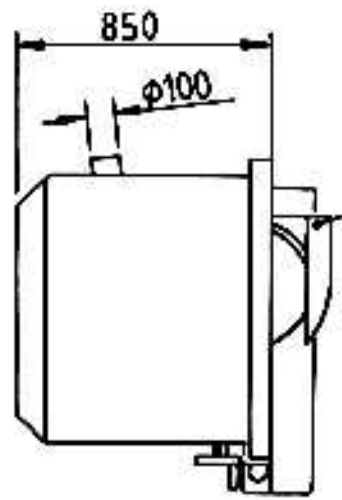
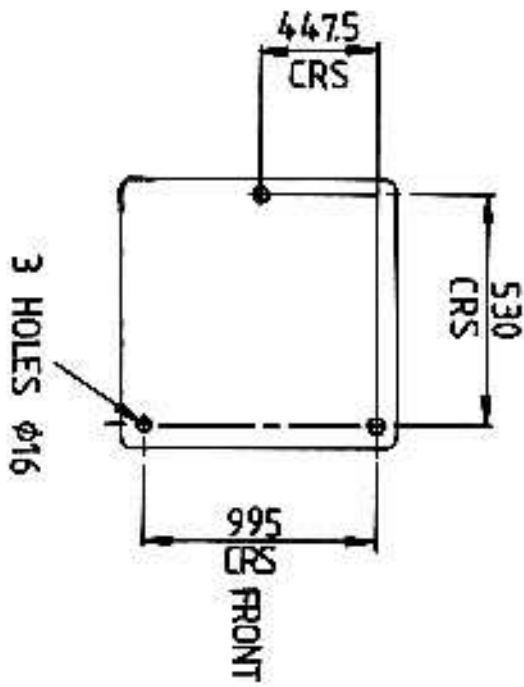
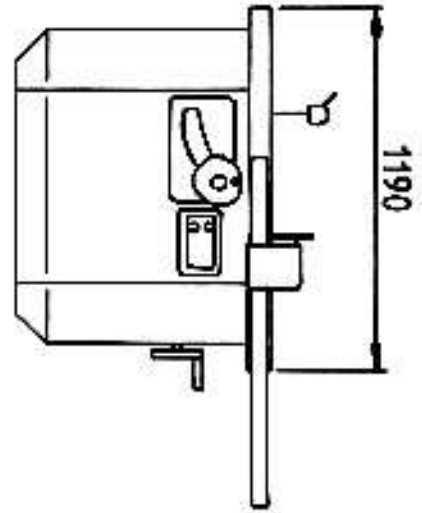
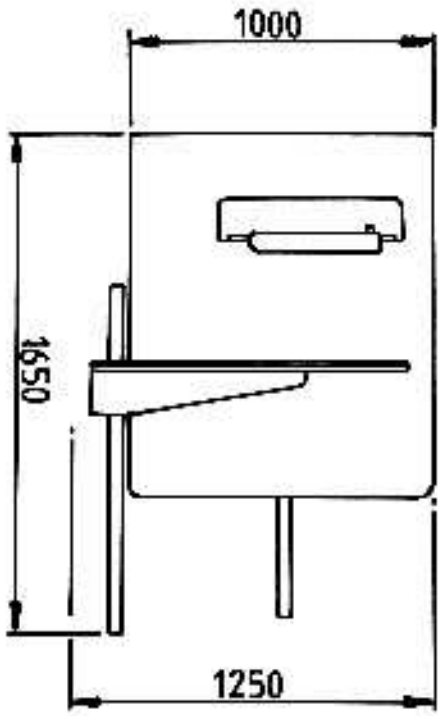


FIG. 5

4.0 ASSEMBLY INSTRUCTIONS

4.1 Standard Items Despatched with Machine

A set of operational spanners and mitre fence are despatched with the machine, see FIGS.2 & 3 for details. In addition certain parts are removed, see FIG.4 for details.

4.2 Slinging

Always use a sling within safe working load of machine weight.

Approximate net weight of machine	-	440 KG
Approximate gross weight of machine - poly packed	-	450 KG
Approximate gross weight of machine - fully boxed	-	550 KG

Attached slings to machine as shown in FIG.6, ensuring damage will not be caused to machine during slinging operations.

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

4.3 Foundation

The machine should be so placed that the traffic of men and materials to and from it fits smoothly into the general scheme of traffic. It should also not be necessary for the operator to stand in or near an aisle so as to cause a hazard. The minimum clearance on each working side of the machine should be at least 1 metre greater than the largest material worked on the machine.

Ensure floor is level, then mark to suit 3 - M12 rawlbolts, refer to foundation plan FIG.5. Drill floor to suit rawlbolts. These bolts are not supplied with the machine, but can be supplied at an additional charge.

4.4 Cleaning & Re-assembly

4.4.1 Cleaning

Remove protective coating from bright parts by applying a cloth soaked in paraffin or other solvents.

4.4.2 Re-assembly of Rip Fence - Export Only

- a) Locate stud "A" FIG.7 into holes in front of main table. Set fence bar parallel to table top and lock in position with nuts provided.

NOTE: Do not disturb locknuts as these are set in factory to give correct fence alignment.

- b) Assemble fence and lock stop screw in end of fence bar. Fit fence support "B" to table edge and ensure support is set level to table top.



FIG. 6

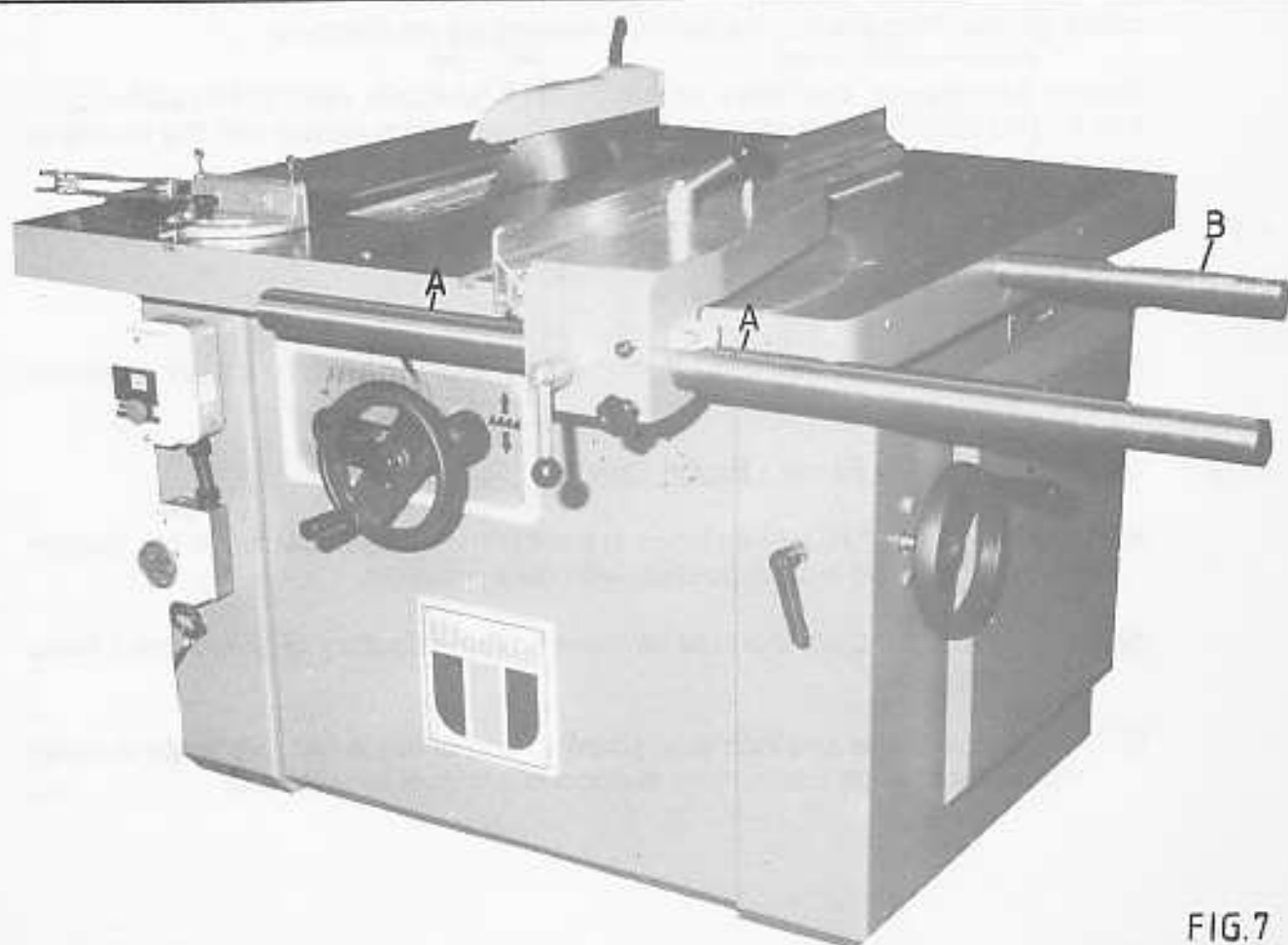


FIG. 7

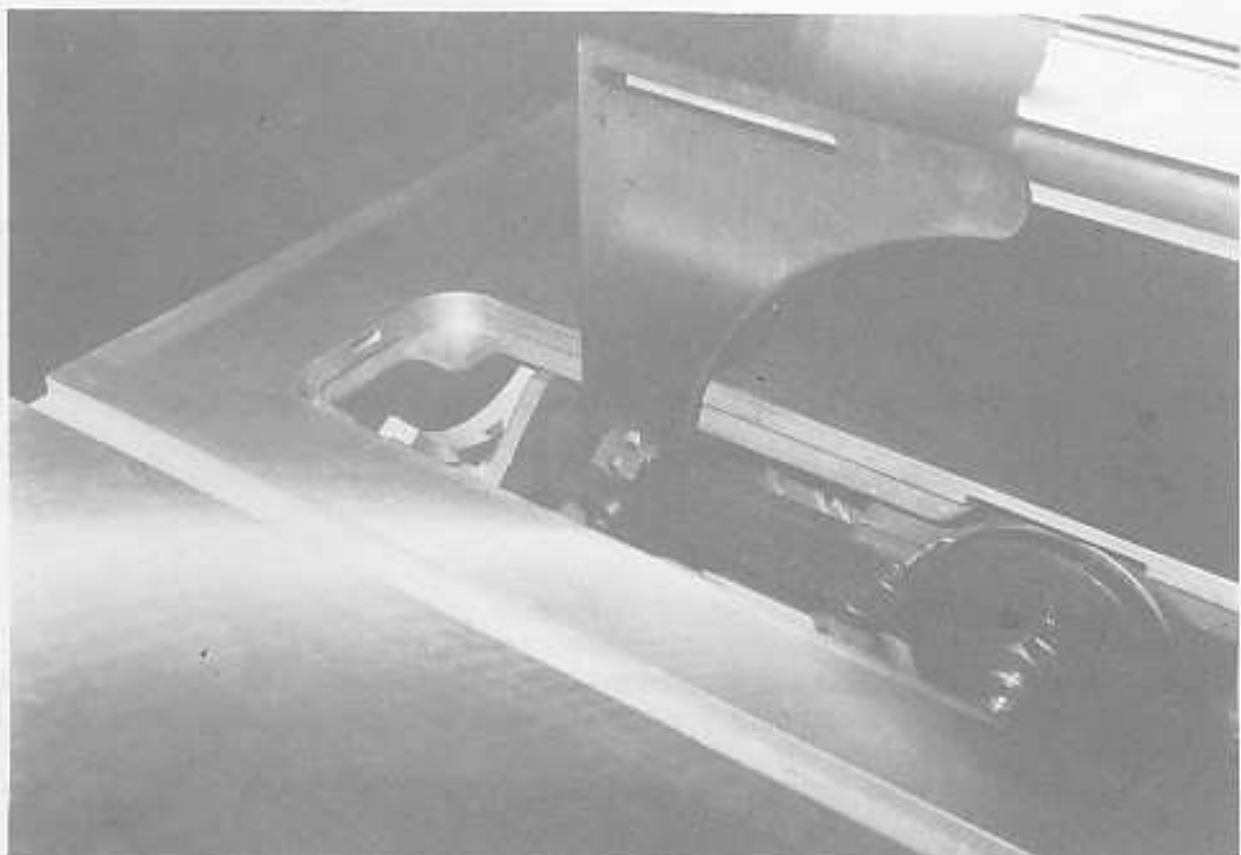


FIG 8

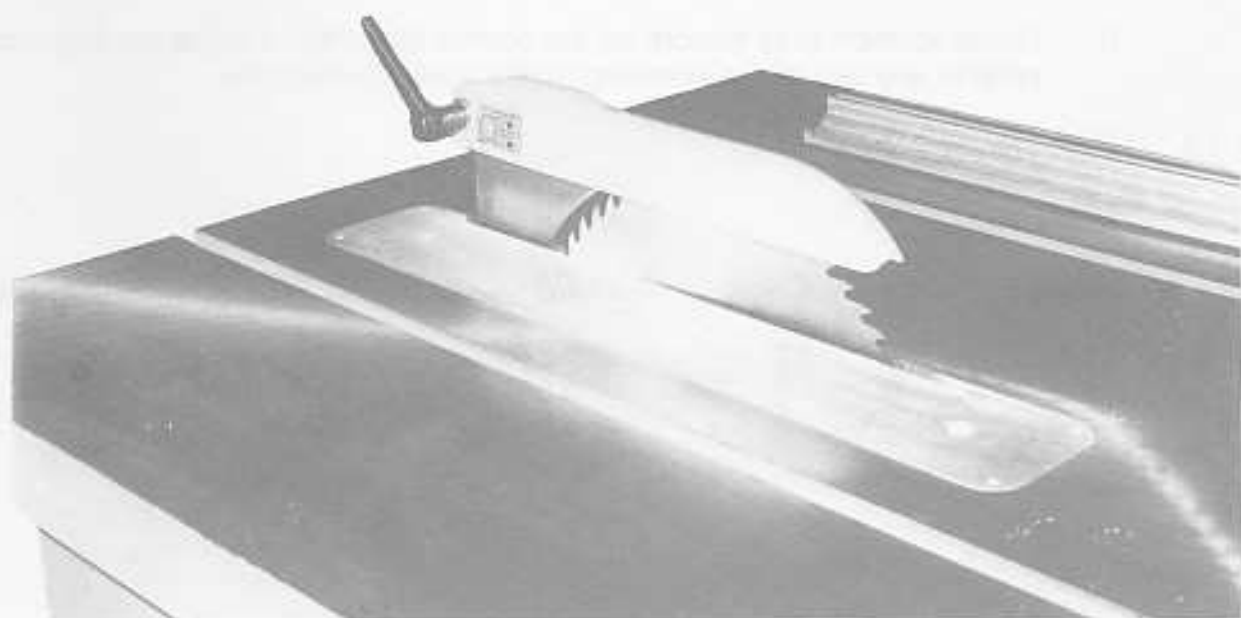


FIG 9

4.4.3 Re-assembly of Riving Knife and Sawguard

- a) Remove table insert.
- b) Loosen M16 locking screw and position riving knife between pressure plate and guide plate FIG.8.
- c) Tighten securely M16 locking screw.
- d) Replace table insert.
- e) Fit sawguard as shown in FIG.9.

4.5 Electrical

4.5.1 Wiring Connections

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 isolating switch when fitted.

Points to note when connecting power supply:-

- a) Check the voltage, phase and frequency correspond to those on the motor plate.
- b) It is important that the correct cable is used to give the correct voltage to the starters, as running on low voltage will damage the motors.
- c) Check the main line fuses are of the correct capacity. See fuse list. (Refer to 4.5.2)
- d) Connect the line leads to the appropriate terminals. See wiring diagrams. (Refer to 4.5.3).
- e) Check all connections are sound.
- f) Check rotation of all motors for the correct direction. If these are incorrect, reverse any two of the incoming mains leads connections.

4.5.2 Fuse List

Direct on Line

<u>Voltage</u>	<u>Phase</u>	<u>KW</u>	<u>SWG Tinned Copper Wire</u>	<u>Amps per Phase</u>
220	3	5.5	13	120
380	3	5.5	15	70
415	3	5.5	18	47

Star Delta

<u>Voltage</u>	<u>Phase</u>	<u>KW</u>	<u>SWG Tinned Copper Wire</u>	<u>Amps per Phase</u>
380	3	5.5	21	29
415	3	5.5	23	18

4.5.3 Wiring Diagrams

See wiring diagrams in rear of instruction manual.

4.6 Dust Extraction Details**4.6.1 Main Extraction**

The extraction outlet is situated at the rear of the machine. The outlet size is 100mm dia and should be connected to a flexible extraction hose from the main plant. The volume of air to be extracted is 206 LPS (436 CFM) with a velocity of 26 MPS (5,000 ft per min).

4.6.2 Crown Guard Extraction (Extra)

The extraction outlet on crown guard 100mm dia and should be connected to a flexible extraction hose from the main plant. The volume of air to be extracted is 206LPS (436CFM) with a velocity of 26 MPS (5,000 ft per min).

5.0 CONTROLS

5.1 Rise & Fall

- a) Release locking handle "A" FIG.10 and raise or lower the saw arbor by the handwheel "B" FIG.10 to the required position, then relock locking handle "A".

5.2 Canting

The saw cants 45° to the right with positive stops at 90° and 45°.

- a) Release locking handle "C" FIG.10 and turn handwheel "D" working in conjunction with the canting scale indicated by the pointer "E" to required saw position. Relock locking handle "C".

5.3 Sawguard and Riving Knife Adjustment

The riving knife and sawguard rise and fall with the saw. The riving knife should be adjusted to the closest practicable distance from the saw.

- a) Isolate machine electrically.
- b) Remove table insert.
- c) Loosen M16 locking screw "F" FIG.11 and move riving knife "G" to correct position.
- d) Tighten securely locking screw "F".
- e) Replace table insert.

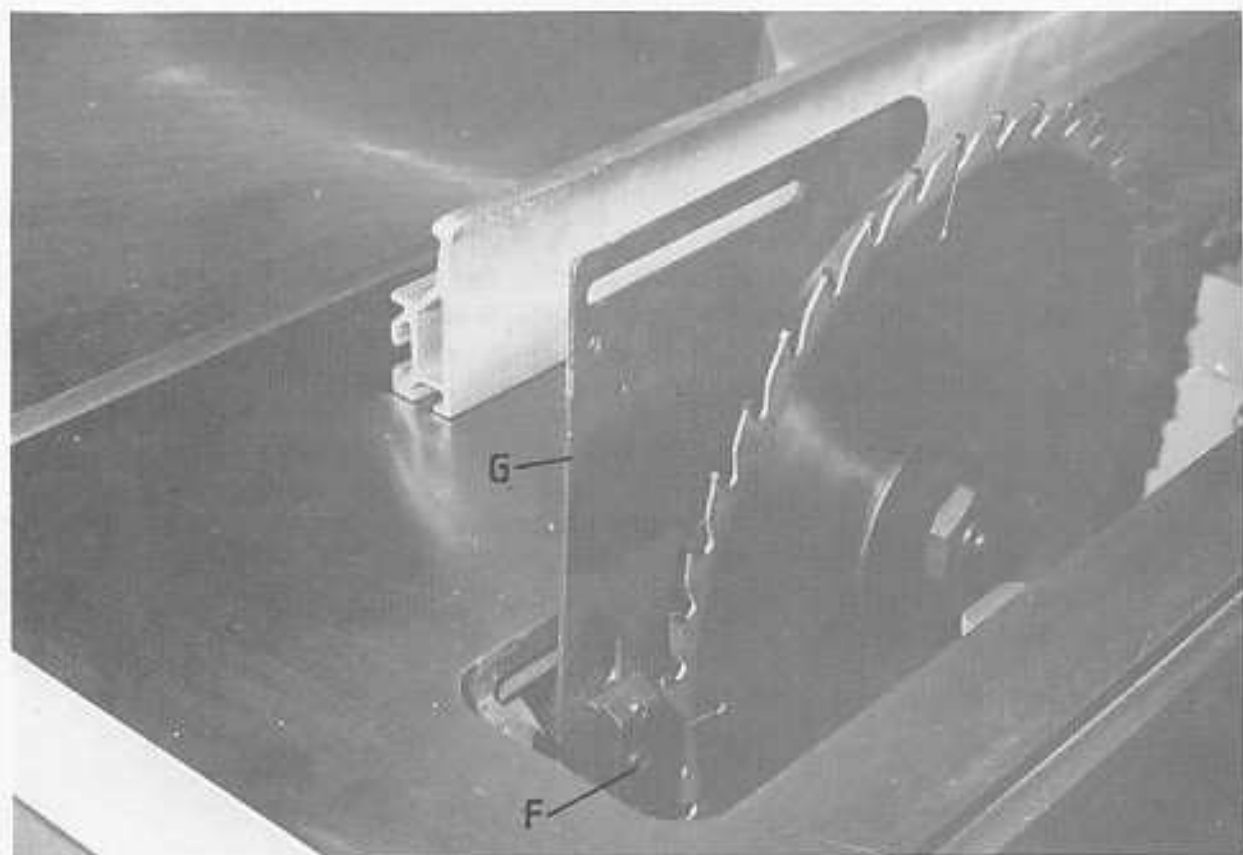
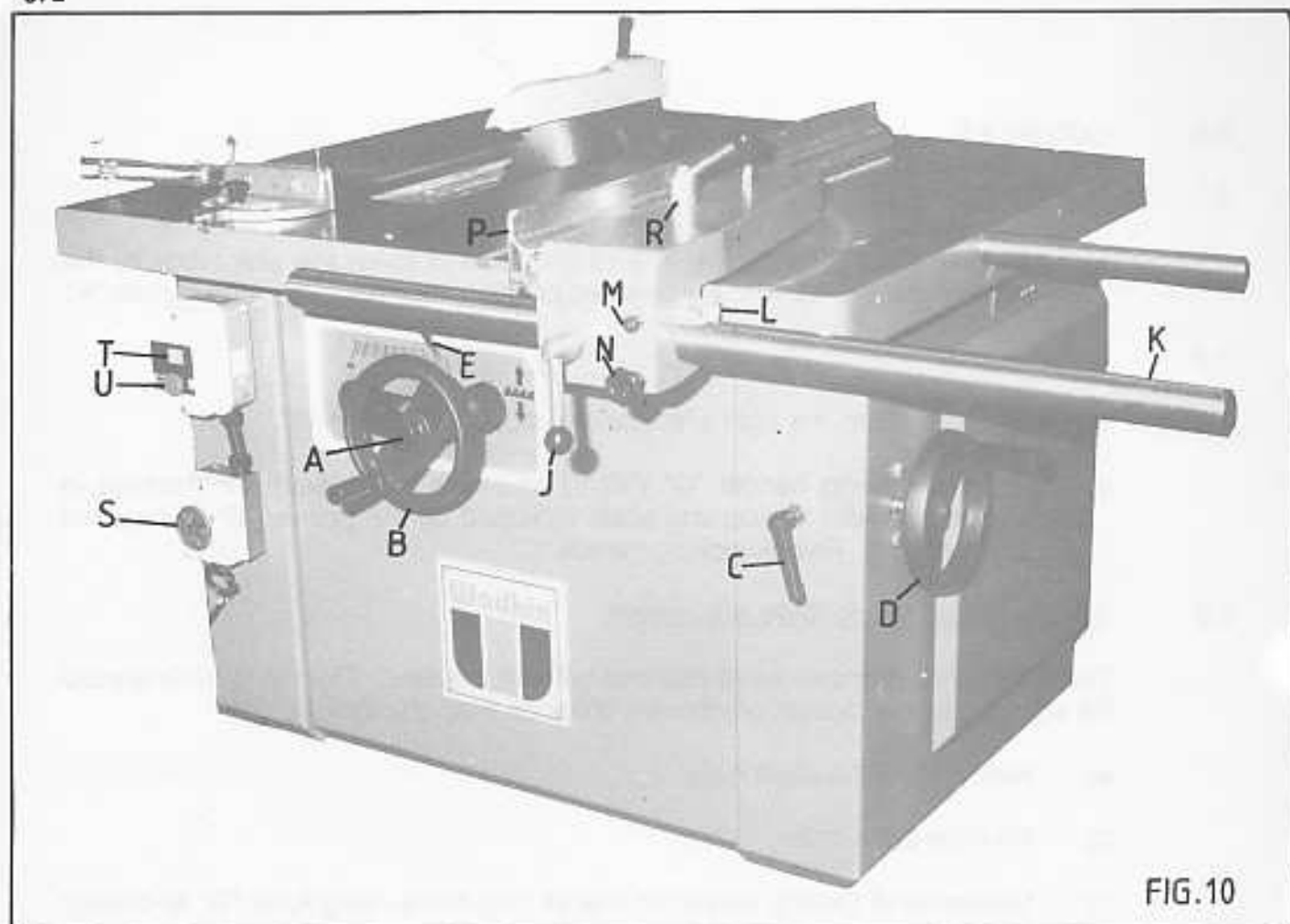
NOTE: The sawguard should then be adjusted to cover as much of the saw as possible.

5.4 Rip Fence

The rip fence slides on a round bar fitted to the front of the table. Rapid fence adjustment and micro-adjustment are provided with an effective lock.

5.4.1 Rapid Fence Adjustment

- a) Loosen locking handle "J" FIG.10.
- b) Position fence where required then turn locking handle "J" to lock fence in position. A ripping capacity scale on fence slide bar "K" is indicated by an adjustable pointer "L" located in the fence body and secured by socket capscrew "M".
- c) Relock locking handle "J".



5.4.2 Micro Fence Adjustment

- a) Loosen locking handle "J".
- b) Engage spring loaded handwheel "N" in the racked fence slide bar "K".
- c) Relock locking handle "J".

5.4.3 Fence Plate Positions

The fence plate "P" FIG.10 has two positions. Position shown in FIG.10 is for use with deep stock, fence can be moved longitudinally to facilitate this. Position shown in FIG.12 is for use with faced panels, melamine, veneer, etc.

- a) To change fence plate position, loosen locking handle "R" FIG.10, then slide fence plate from fence body.
- b) Slide fence plate over the locking plate to position shown FIG.12, relock locking handle "R".

NOTE: When the fence plate position has been changed as previously described, the pointer "L" FIG.10, must be reset.

- c) To reset pointer, loosen locking handle "J" FIG.10, then move fence to a position which would allow a reasonable cut to be taken, relock locking handle "J".
- d) Start machine, then feed a piece of timber past the sawblade keeping timber firmly up against the fence. Stop machine.
- e) Accurately measure the width of timber, then loosen socket capscrew "M" and set rule pointer "L" accordingly. Relock socket capscrew "M".

5.5 Electrical Controls

The control panel is shown in FIG.10. When isolator "S" FIG. is fitted, ensure it is in the 'ON' position before operating.

The saw is controlled by start and stop buttons "T" and "U" FIG.10.

5.6 Fitting Tooling

5.6.1 Main Sawblade

- a) Isolate machine electrically.
- b) Remove table insert.
- c) Raise saw spindle to uppermost position (Refer to 5.1).
- d) Lift and move forward undertable guard.
- e) Locate 8mm allen key (supplied) in main saw spindle as shown FIG.13, then remove spindle nut (left hand thread) with spanner (supplied) and front saw flange.

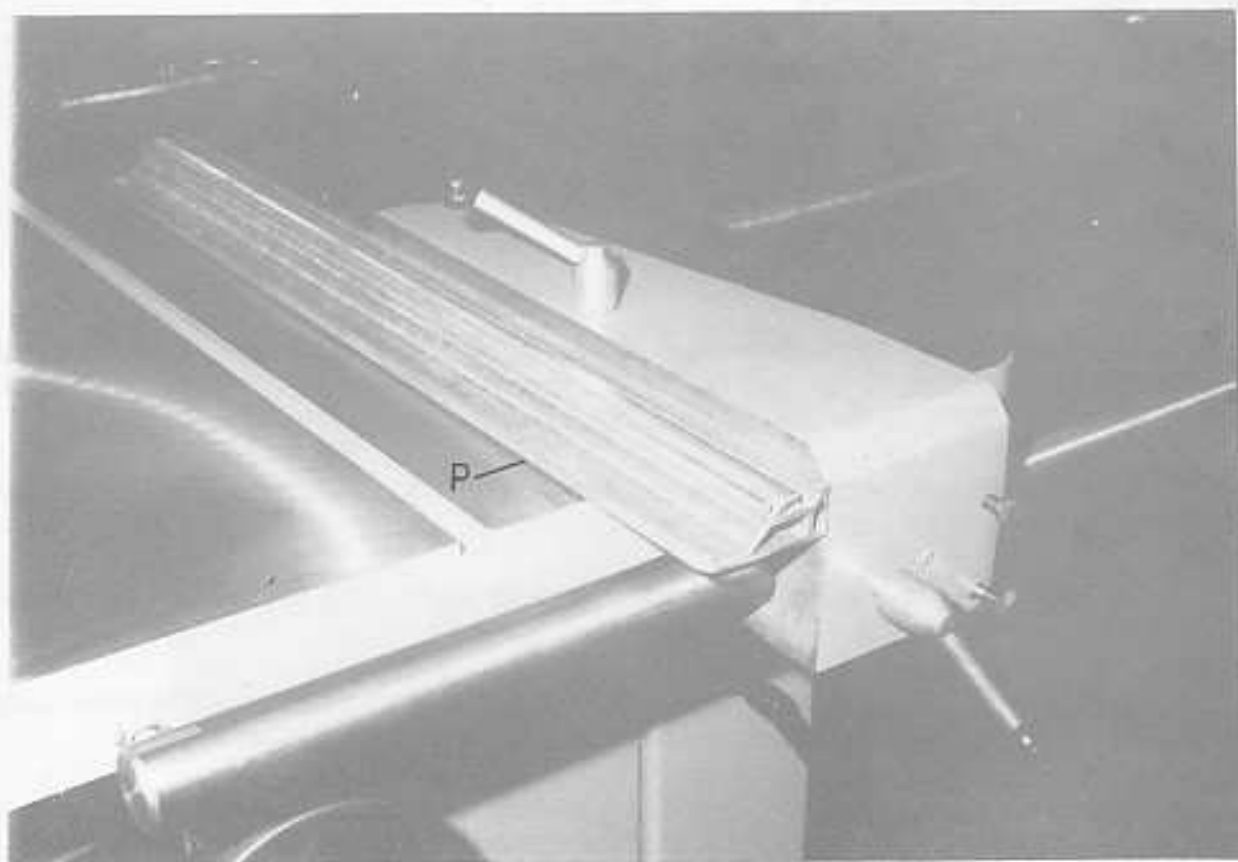


FIG. 12



FIG. 13

5.6.1 Main Sawblade (Continued)

- f) Select required blade and check blade is free from dirt, gum or sawdust, especially where it will be gripped by saw flanges. Check rear saw flange is clean and fit sawblade on spindle.

NOTE: Saw teeth must point towards front of machine.

- g) Check front saw flange is clean and fit on spindle.

NOTE: If flanges and saw are not clean, the saw will run out of true, causing vibration.

- h) Lock saw securely in position with spindle nut (left hand thread) as shown in FIG.14.

- i) Replace table insert.

- j) Position sawguard depending on thickness of timber to be worked.

IMPORTANT: Sawguard must cover as much as is practicable. Clearance between sawguard and timber should never exceed 12mm FIG.15 (Woodworking Machine Regulations 1974 16(3)).

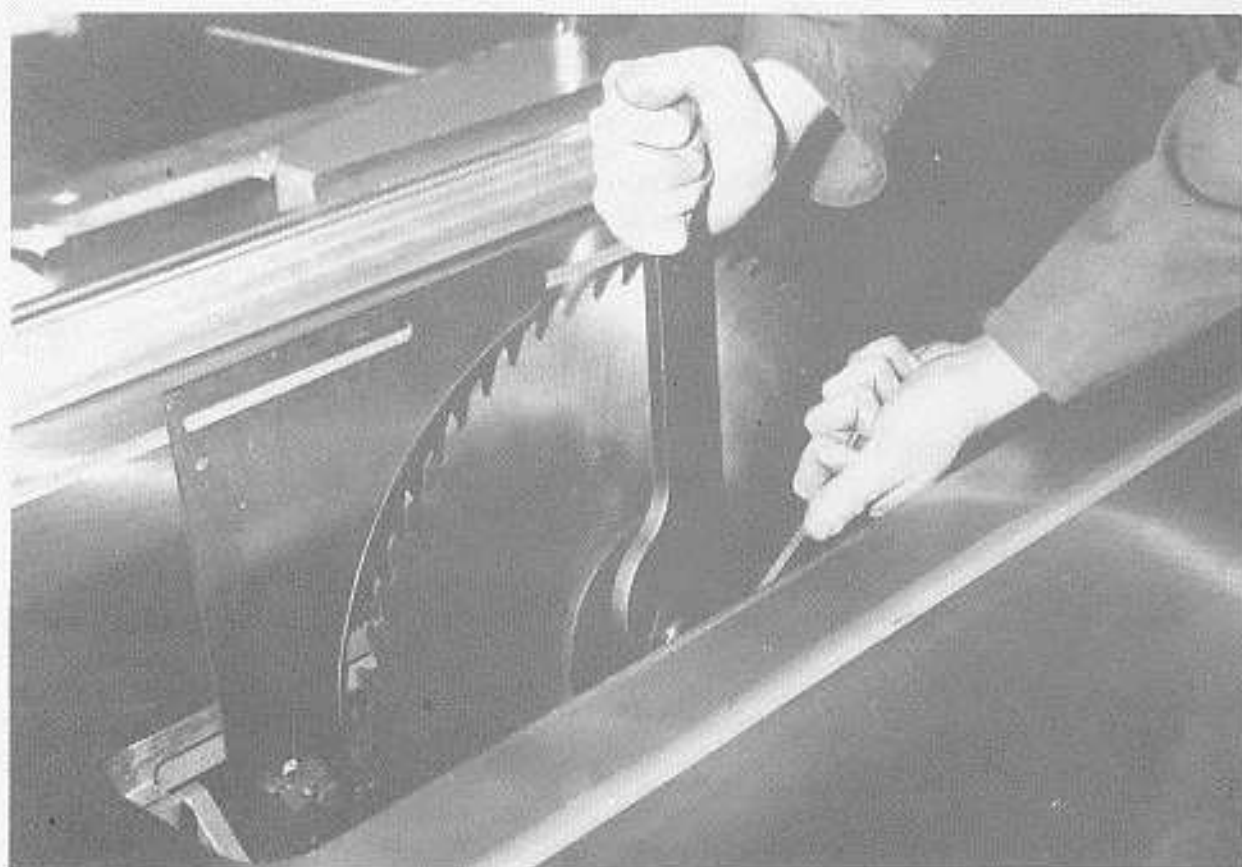


FIG.14

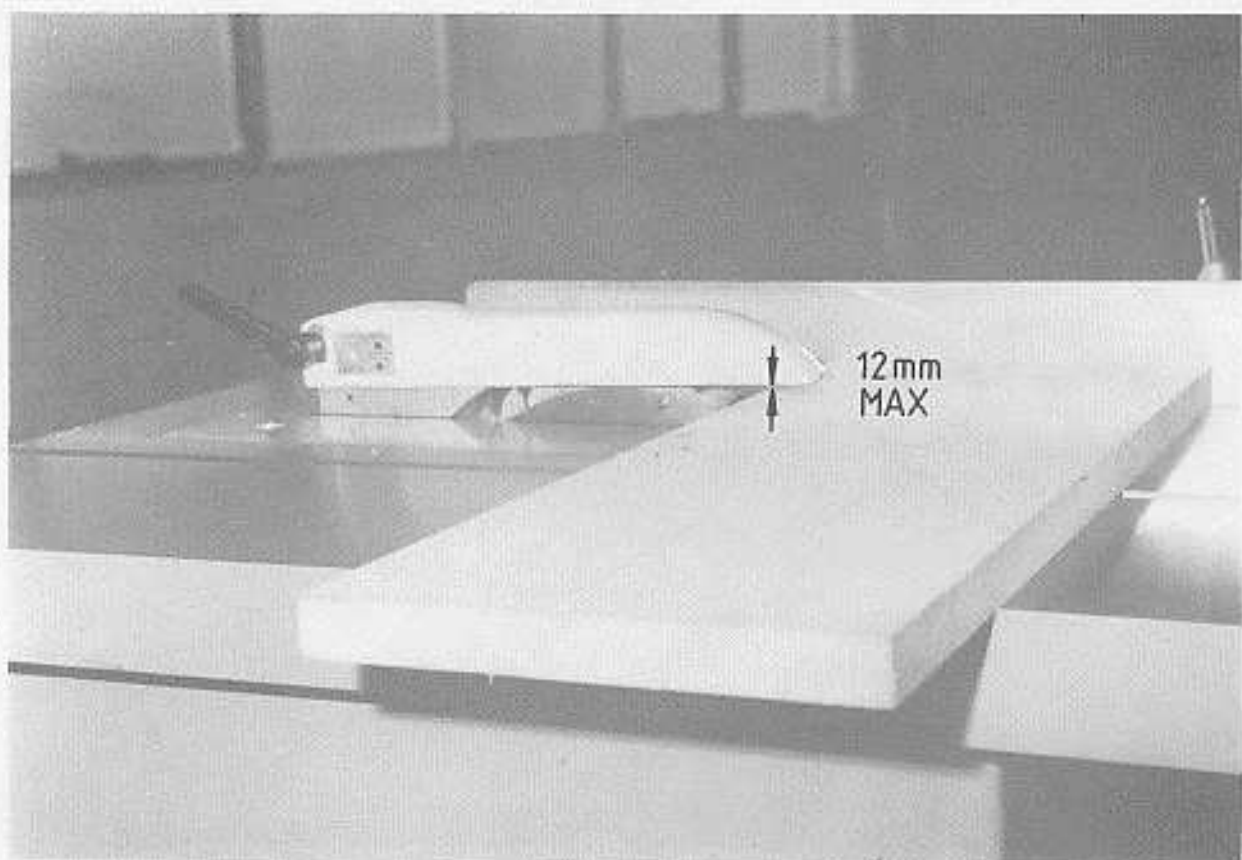


FIG.15

6.0 USE OF MACHINE

6.1 Ripping

- a) Slide rip fence to cutting width required (Refer to 5.4).
- b) Ensure sawguard, riving knife and saw are correctly adjusted (Refer to 5.3 and 5.6.1).

NOTE: Use correct sawblade when ripping (Refer to 8.2).

- c) Use a wood push stick FIG.16 (Refer to 2.1 and 2.2) as much as practicable when feeding timber to avoid accidents.

6.2 Mitre Fence

The mitre fence "A" FIG.17 slides in either of two table slots and can be used at either side of the sawblade. Two stop rods "B" are held together by two clamps "C" and wingnuts "D". The stop rods are secured to the fence body by either of the two thumbscrews "E" depending on which side of fence body the rods are used.

NOTE: Always ensure the stop rods are set clear of the sawblade or serious damage will result when machine is operated.

The mitre fence can be rotated through 90° with positive stops at 90° and 45°.

To position mitre fence at required angle, loosen handwheel "F" FIG.17, then pull plunger "G" from location, position fence as required using scale "H", then relock handwheel "F".

NOTE: Always ensure table slot is clean when using mitre fence.

Use of Mitre Fence Stop Rods

Accurate repetitive cutting can be made using the stop rods, see FIG.18.

The rods are held in the fence by thumbscrews "E" FIG.17 and the stop rods held together by the two clamps "C". See FIG.18 for several positions in which the stop rods can be used.

NOTE: Take care that the stop rods are always clear of the saw or serious damage will result.

Straight Grained Hardwood

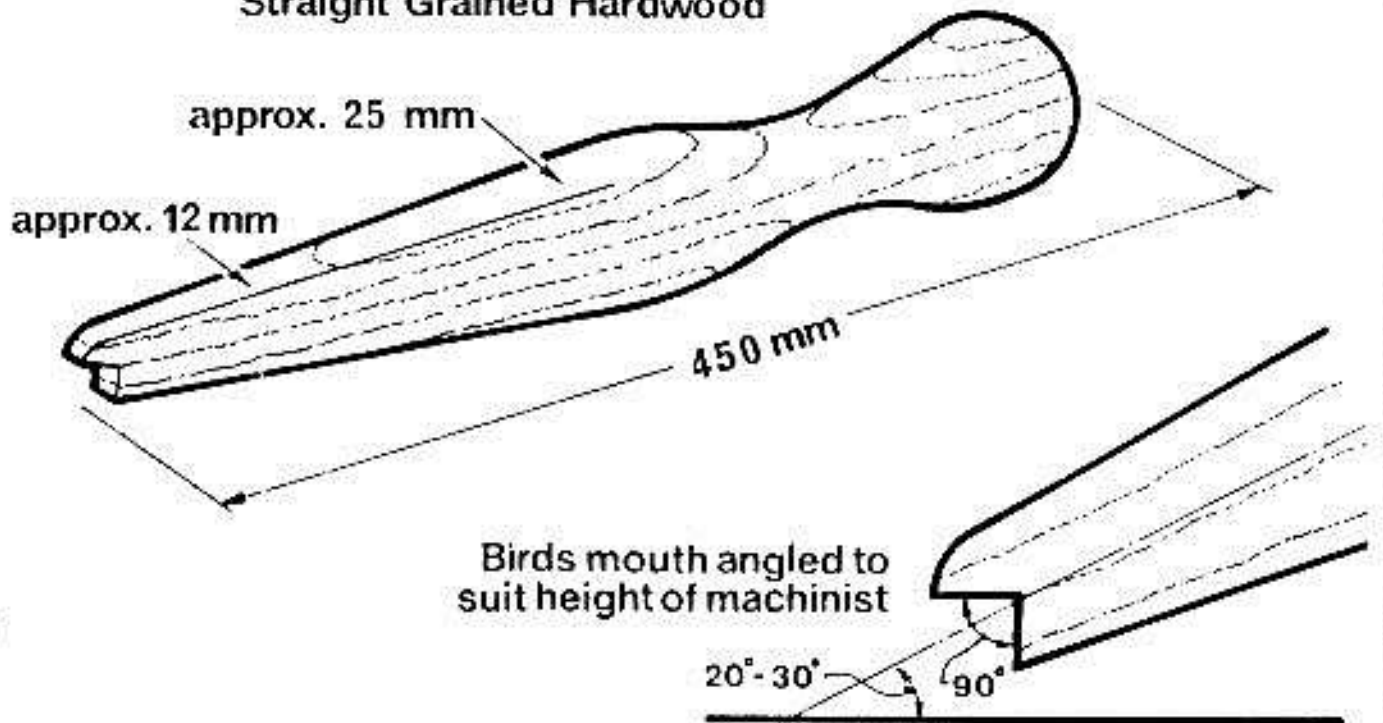


FIG.16

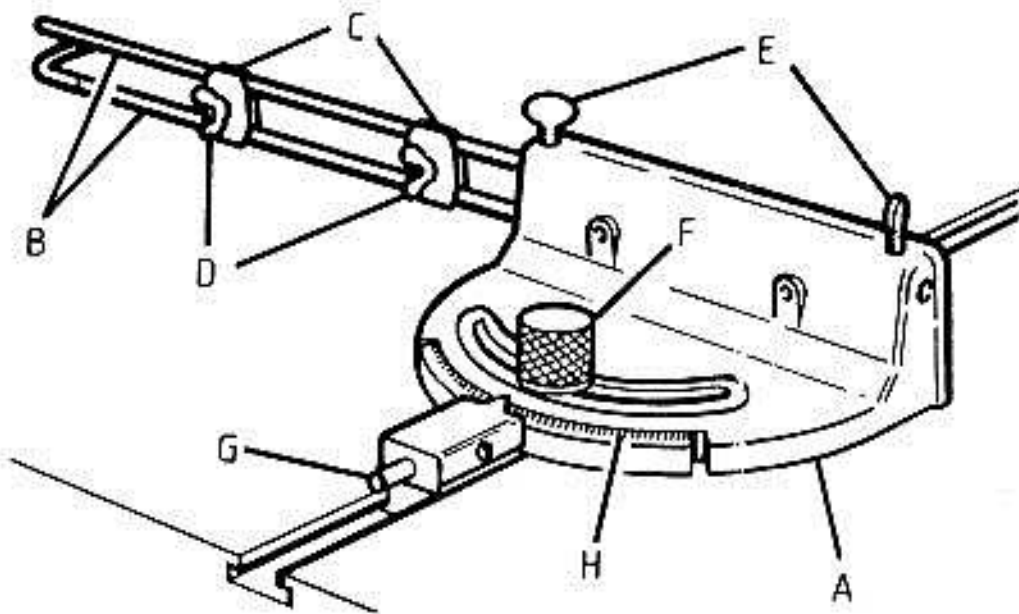


FIG.17

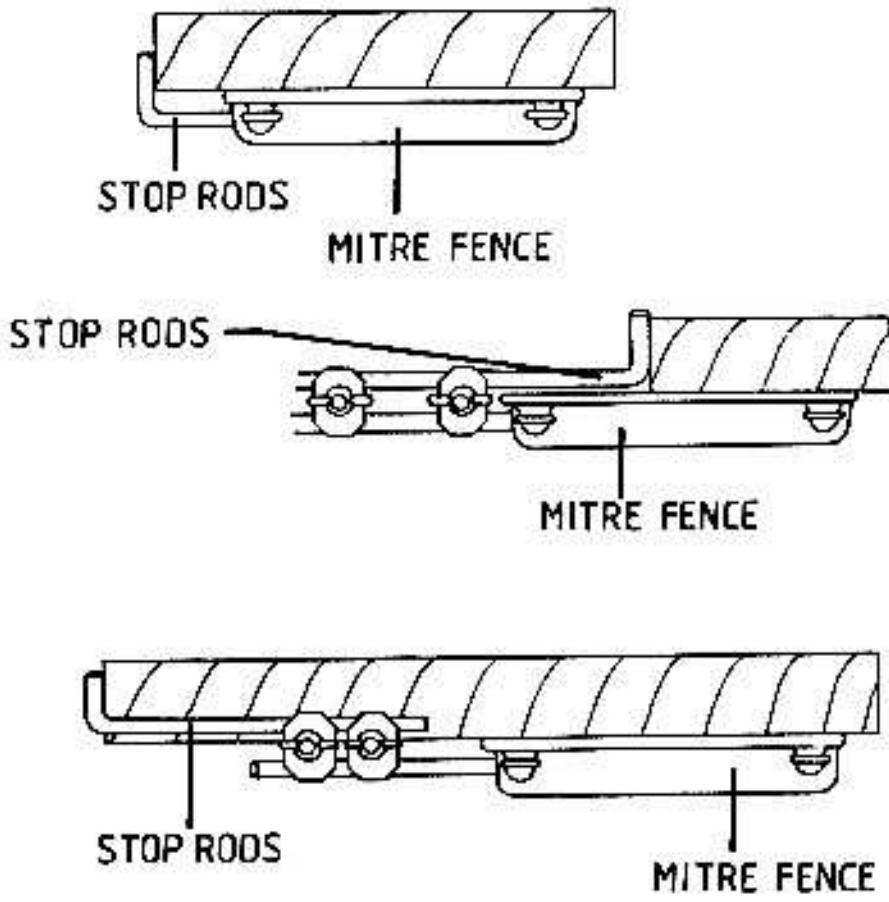


FIG.18

7.0 MAINTENANCE

7.1 Lubrication

The majority of machine working parts are designed to require no lubrication.

- a) Oil rise and fall screw, canting screw and slides on a weekly basis.
- b) From time to time clean saw spindle with a resin solvent and lightly oil. It is advisable to keep all bright parts covered with a thin film of oil to prevent rusting.

For approved lubricants, see page 7/6.

7.2 General

Regularly clear chips and dust from inside the machine.

7.3 Setting Main Table in Line with Saw

The table grooves are preset at works, if for any reason the table has been disturbed, the undermentioned procedure should be followed:

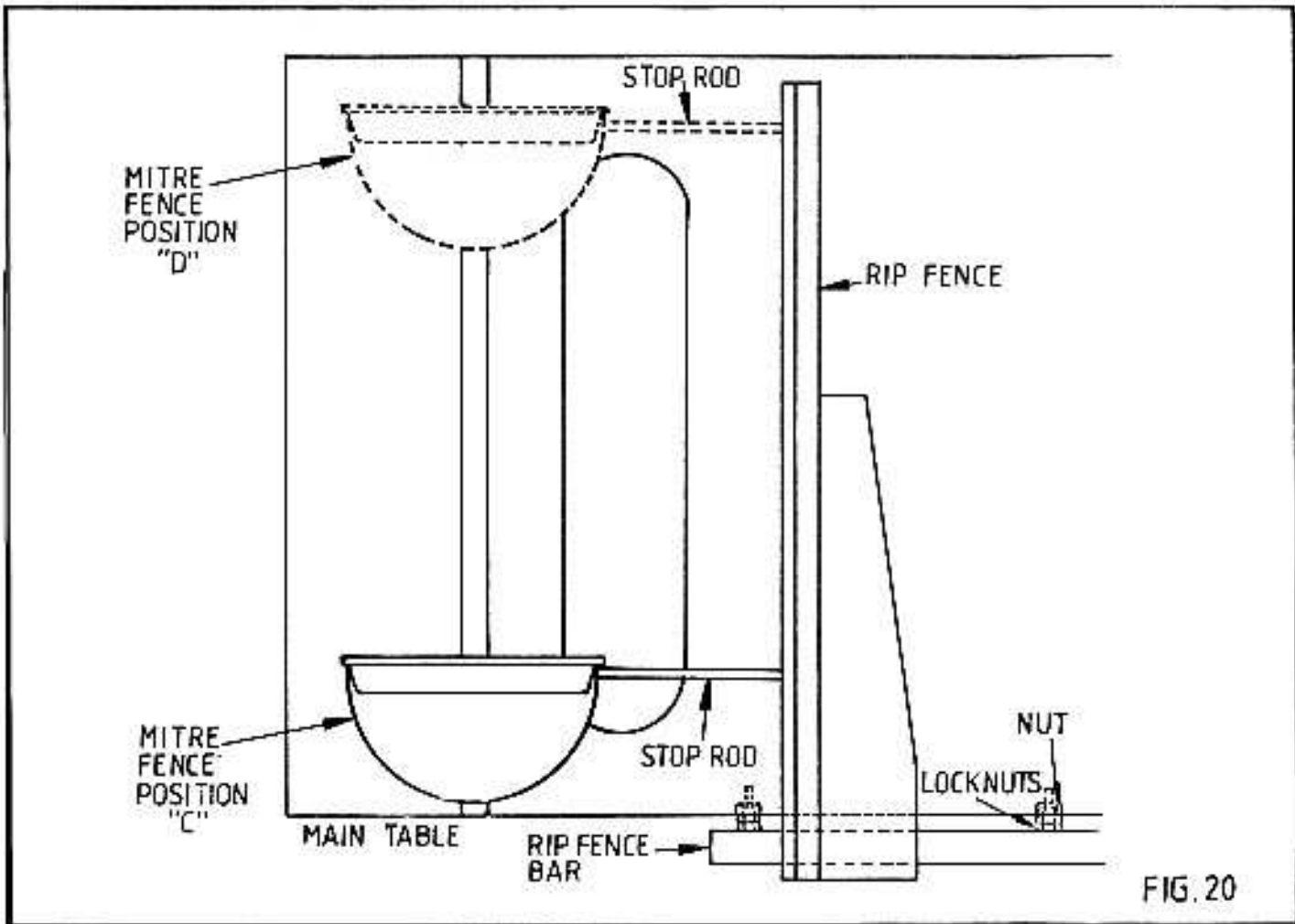
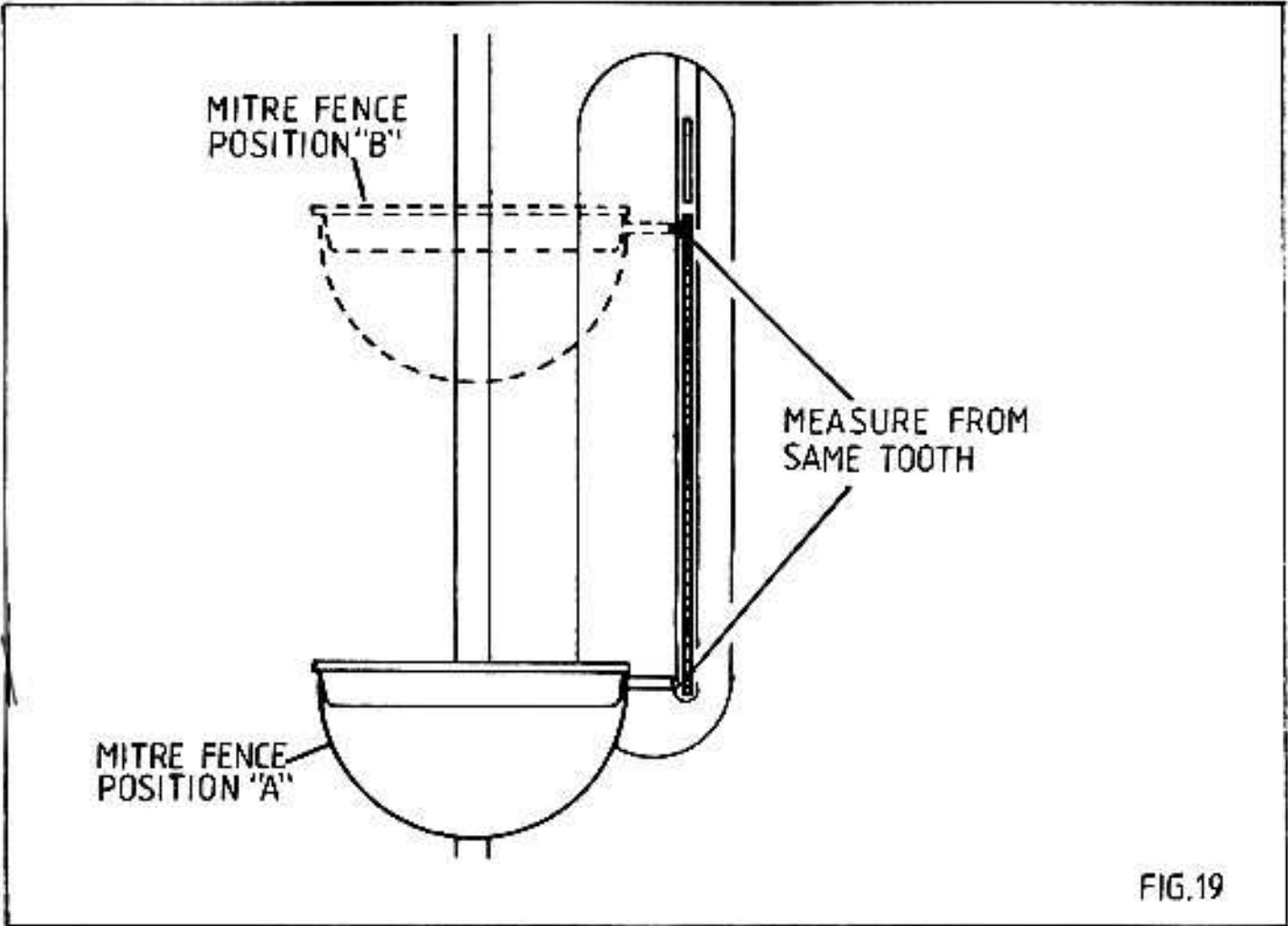
- a) Isolate machine electrically.
- b) Loosen the 4 - M10 nuts securing the main table to the base.
- c) With the saw fitted to the arbor (refer to 5.6.1), select a tooth and position straight stop rod of mitre fence (refer to 6.2), so that it touches saw in position 'A' FIG.19.
- d) Slide mitre fence to rear position 'B' of the saw, swing tooth of saw which was mentioned in item c) above. Check whether stop rod touches the tooth.
- e) If stop rod is touching, position table until a lead off of .002"/.004" from position 'B'.
- f) The correct position of saw in relation to the table insert slot is 25.4mm (1") from the right hand side. This will ensure clearance on table insert when the saw is canting.
- g) When set, retighten 4 - M10 nuts.
- h) To check this alignment, cut several pieces of wood using the mitre fence to ensure there is no back cut as the stock is passed through the sawblade.

7.4 Setting Rip Fence

The rip fence is preset at works, if for any reason the rip fence has been disturbed, the undermentioned procedure should be followed.

NOTE: Ensure saw is parallel to table slot (refer to 7.3)

- a) Isolate machine electrically.
- b) Remove sawguard, riving knife and saw (ref to 4.4.3 and 5.6.1).



7.4 Setting Rip Fence (Continued)

- c) Slide rip fence towards table insert (refer to 5.4).
- d) Position straight stop rod of mitre fence so that it touches rip fence plate in position "C" FIG.20.
- e) Slide mitre fence to rear position "D". Check whether the stop rod touches the rip fence plate.
- f) If stop rod is touching, loosen locknuts on the two bolts holding the rip fence bar.
- g) Reset rip fence until a lead off of .004"/.006" from position "D".
- h) When set retighten locknuts in new position and retighten nut behind main table.

7.5 Setting Saw to Riving Knife

The saw spindle is preset at works and requires no adjusting unless saw is cutting out of line.

- a) Isolate machine electrically.
- b) Cant saw to 45° (refer to 5.2).
- c) Open access door.
- d) Loosen hexagon head bolt "E" FIG.21 and tap spindle (with hide face hammer) as required, taking care not to damage the threads on spindle ends.
- e) Cant the saw to 90°.
- f) Place a steel rule along both sides of riving knife to check saw is central.
- g) When set, retighten the hexagon head bolt "E".
- h) Close access door.
- i) To check this setting, feed a short piece of timber from the rear, along both sides of the riving knife. If riving knife is set correctly, the blade will cut equal shoulders as shown in FIG.22A and when set incorrectly, unequal shoulders as shown in FIG.22B.

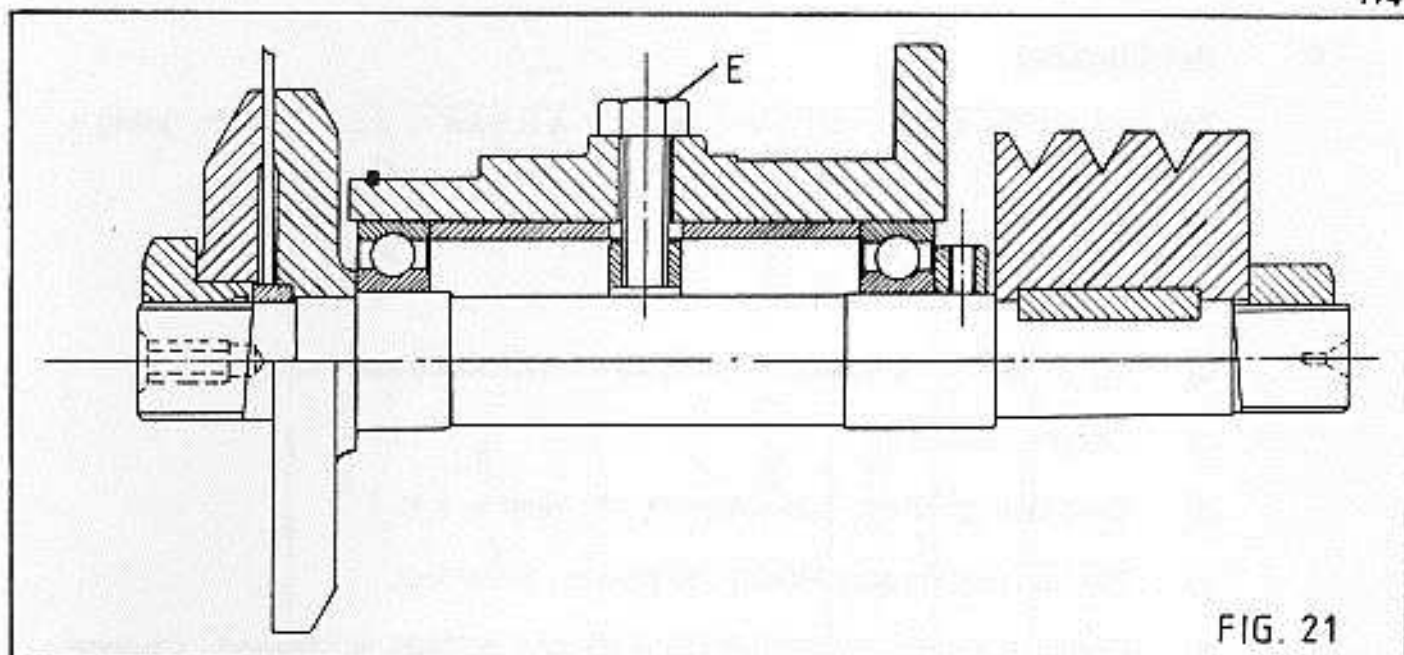


FIG. 21

CORRECT**INCORRECT**

FIG. 22

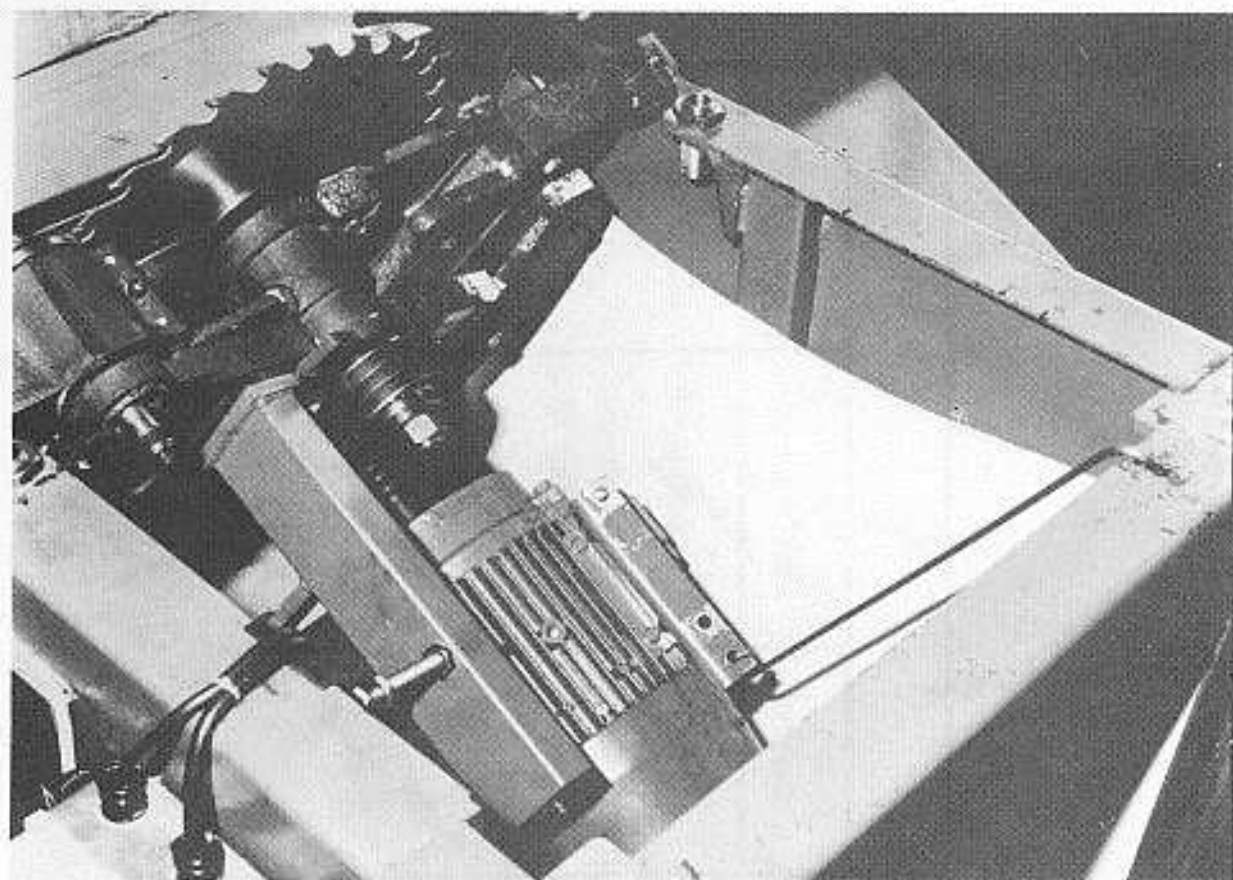


FIG. 23

7.6 Belt Changing

The saw spindle is driven by 3 Vee belt from a 5.5 kw or 7.5 kw motor, giving a speed of 3000 rpm.

To change belts, proceed as follows:-

- a) Isolate machine electrically.
- b) Lower saw spindle approximately to mid position (refer to 5.1).
- c) Open access door.
- d) Cant saw spindle to approximately 45° (refer to 5.2).
- e) Position tension stay FIG.23 into hole on motor foot.
- f) Continue canting saw spindle until tension on belts is released. Change belts.
- g) Reverse above procedure.

NOTE: Main table is removed for photographic purposes only.

APPROVED LUBRICANTS						
Application	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	Hvspin AWS32	Energol HL32	Tellus 37	Nuto H32	Rando Oil HD32	
Grease	Spherol AP3	Energrease L53	Alvania R3	Beacon 3	Regal StarTalk Premium 3	L5
Brake Cables	Brake Cable Grease	Energrease L21M	Alvania R3	Esso Multi-Purpose Grease		

8.0 **SPARES**

8.1 **Instructions When Ordering Spare/Replacement Parts**

The undermentioned information should be given with all orders requesting spare/replacement parts.

- a) Machine type.
- b) Machine serial number.
- c) Part number of required parts, as stated in the instruction manual.
- d) If no manual available, as full a description as possible of the required part, including location within the machine.
- e) Order number and full company name and address.
- f) Company account number, with **Wadkin**, if known.
- g) All telephone orders must be followed by an official order, clearly marked "Confirmation Order".

NOTE: The company operate a 'Minimum Order Charge' on all spare/replacement part orders.

8.2 **Sawblades**

For best results, we recommend the purchase of sawblades from Wadkin Durham.

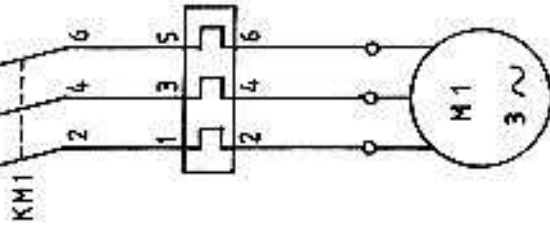
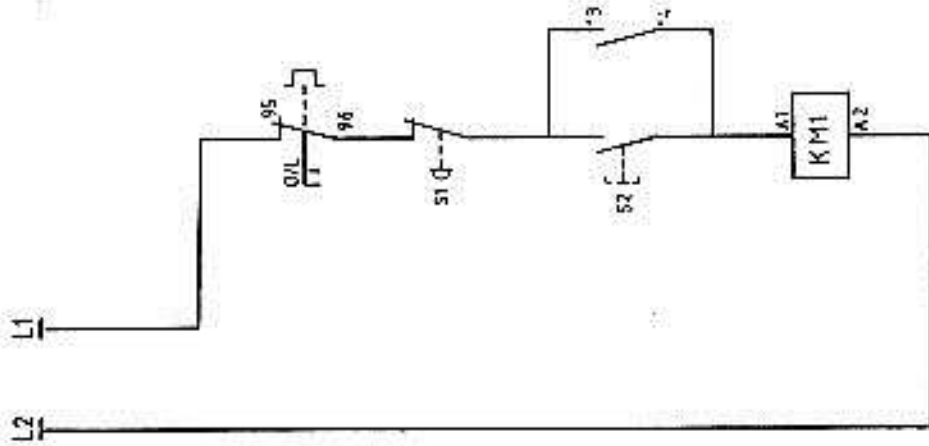
400mm dia x 30mm bore alloy rip sawblade	B-S-239
400mm dia x 30mm bore TCT rip sawblade	B-S-382
400mm dia x 30mm bore alloy crosscut sawblade	B-S-240
300mm dia x 30mm bore alloy rip sawblade	B-S-383
300mm dia x 30mm bore TCT rip sawblade	B-S-384
300mm dia x 30mm bore TCT crosscut sawblade	B-S-305

NOTE: When using 300 diameter sawblade, standard riving S40-18 must be replaced by riving knife P32-353 (which can be obtained at an additional charge).

OPERATIONS

PART No.
AGS-3-WD

DISCONNECT SWITCH (OPTIONAL)



- KM1 - CONTACTOR
- M1 - 3 PH. MOTOR
- S1 - STOP BUTTON
- S2 - START BUTTON

GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

FINISHES: 0.06 IN APP. LENGTH UP TO 1 IN
 0.005 PLUS 0.0025
 0.005 PLUS 0.0025
 0.005 PLUS 0.0025
 0.005 PLUS 0.0025
 0.005 PLUS 0.0025
 0.005 PLUS 0.0025

UNLESS OTHERWISE STATED

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

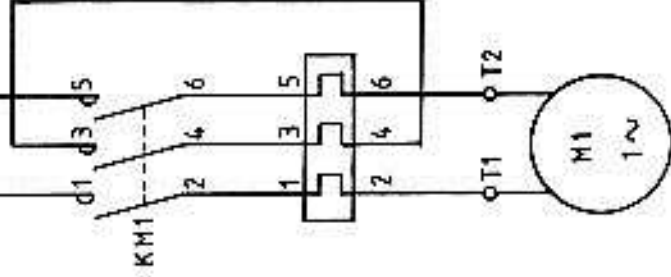
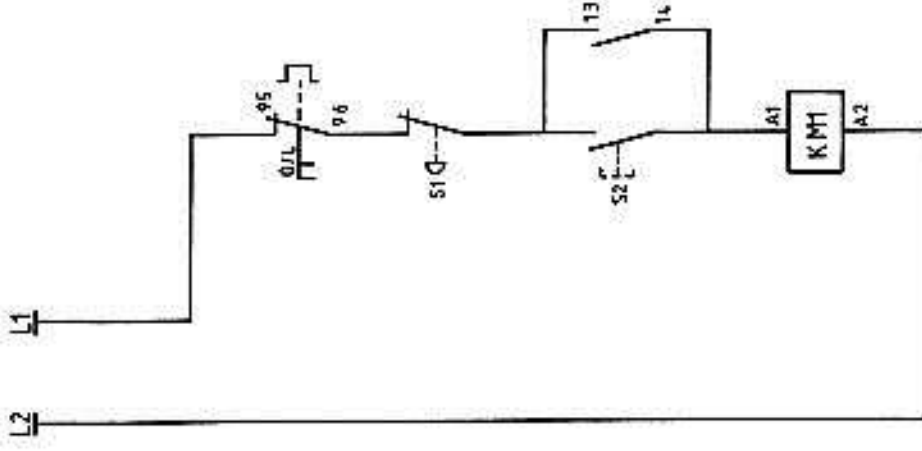


DATE ALT.	F	DATE ALT.	E	DATE ALT.	D	DATE ALT.	C	DATE ALT.	B	DATE ALT.	A	TRAFFIC SIGN	DESCRIPTION	QTY.	MATERIAL
													Wadkin Durham Fence Houses Tyne & Wear		
													STANDARD 3 PH MACHINE MEM STARTER		
													AGS-3-WD		

OPERATIONS

PART NO.
AGS-4-WD

DISCONNECT SWITCH (OPTIONAL)



KM1 - CONTACTOR
M1 - 1 PH MOTOR
S1 - STOP BUTTON
S2 - START BUTTON

GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

- FLATNESS \square 0.010 IN. MAX. LENGTH OF STRAIGHTNESS
- SHAFTNESS \perp TO SURF. PLUS 0.0010 IN. MINUS 0.0005 IN.
- PARALLELISM \parallel 0.0005 IN. MAX.
- WAVE DUT \sim 0.0005 IN. MAX.
- CYRINDRICITY ϕ 0.0005 IN. MAX.
- ANGULARITY \angle 0.010 IN. MAX.
- SYMMETRY \sim 0.0005 IN. MAX.
- SMOOTH NUMBER \sim 2.000
- 1-SECOND PLACE \sim 0.0005 IN. MAX.
- 3-SECOND PLACE \sim 0.0001 IN. MAX.
- ACCUMULATIVE \sim 0.0005 IN. MAX.
- 7 - 50 MIL MICROF. FINISH
- 80 - 100 MIL MICROF. FINISH
- 90 - 150 MIL MICROF. FINISH
- 100 - 200 MIL MICROF. FINISH
- 150 - 300 MIL MICROF. FINISH
- 200 - 400 MIL MICROF. FINISH
- 300 - 600 MIL MICROF. FINISH
- 400 - 800 MIL MICROF. FINISH
- 500 - 1000 MIL MICROF. FINISH
- 600 - 1500 MIL MICROF. FINISH
- 700 - 2000 MIL MICROF. FINISH
- 800 - 3000 MIL MICROF. FINISH
- 900 - 4000 MIL MICROF. FINISH
- 1000 - 5000 MIL MICROF. FINISH
- 1500 - 7000 MIL MICROF. FINISH
- 2000 - 10000 MIL MICROF. FINISH
- 3000 - 15000 MIL MICROF. FINISH
- 4000 - 20000 MIL MICROF. FINISH
- 5000 - 30000 MIL MICROF. FINISH
- 6000 - 40000 MIL MICROF. FINISH
- 7000 - 50000 MIL MICROF. FINISH
- 8000 - 60000 MIL MICROF. FINISH
- 9000 - 70000 MIL MICROF. FINISH
- 10000 - 80000 MIL MICROF. FINISH
- 15000 - 100000 MIL MICROF. FINISH
- 20000 - 150000 MIL MICROF. FINISH
- 30000 - 200000 MIL MICROF. FINISH
- 40000 - 300000 MIL MICROF. FINISH
- 50000 - 400000 MIL MICROF. FINISH
- 60000 - 500000 MIL MICROF. FINISH
- 70000 - 600000 MIL MICROF. FINISH
- 80000 - 700000 MIL MICROF. FINISH
- 90000 - 800000 MIL MICROF. FINISH
- 100000 - 900000 MIL MICROF. FINISH

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



DATE ALT.	F	DATE ALT.	E	DATE ALT.	C	DATE ALT.	B	DATE ALT.	A

DATE ALT.	F	DATE ALT.	E	DATE ALT.	C	DATE ALT.	B	DATE ALT.	A

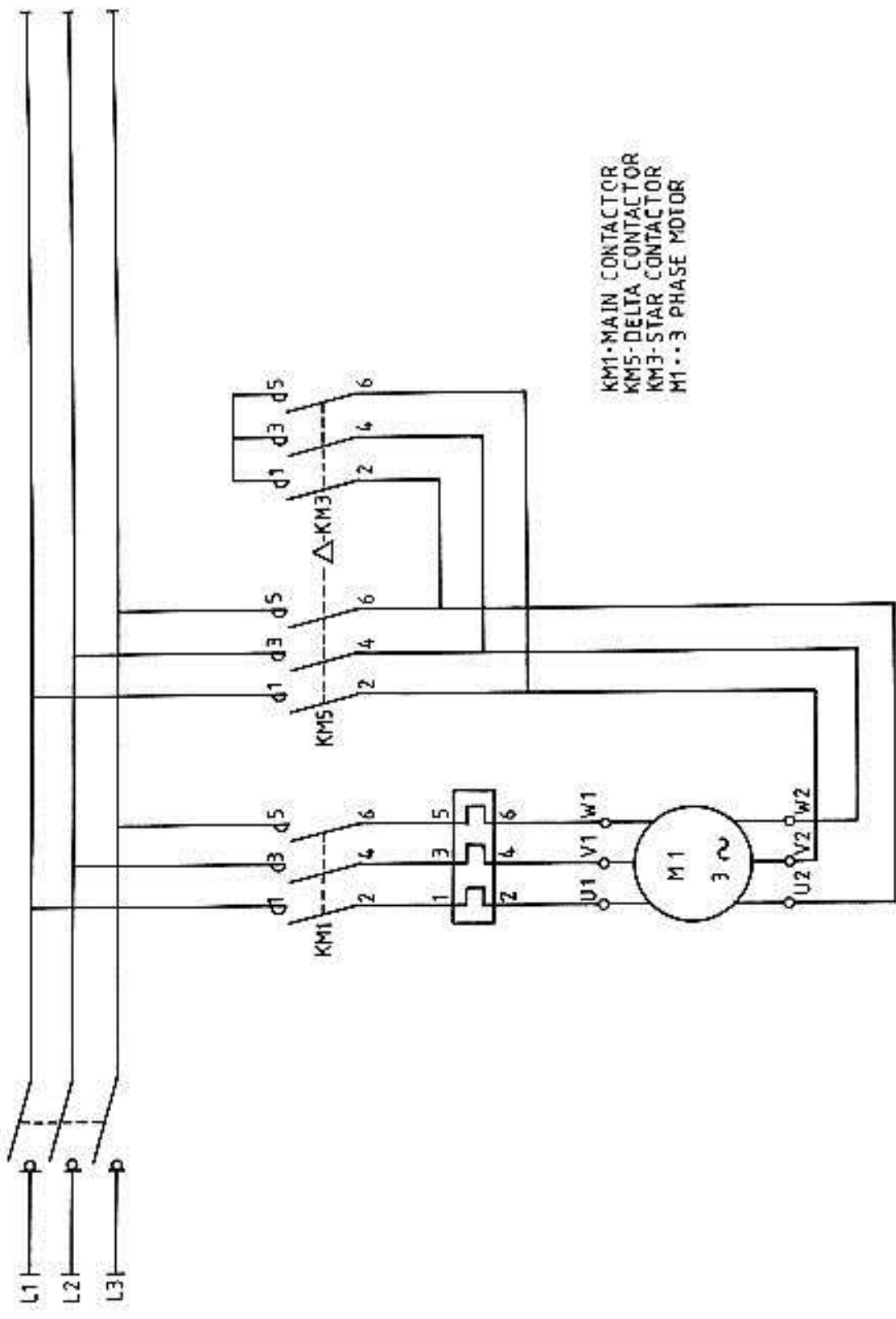
Wadkin Durham Fence Houses Tyne & Wear
 DRAWN P.A. DESCRIPTION SINGLE PHASE MACHINE
 DATE 27-2-90 MEM STARTER

QTY.	MATERIAL
SCALE	PART NO. AGS-4-WD

OPERATIONS

PART No.
AGS-5-WD

DISCONNECT SWITCH (OPTIONAL)



KM1-MAIN CONTACTOR
KM5-DELTA CONTACTOR
KM3-STAR CONTACTOR
M1-3 PHASE MOTOR

GENERAL TOLERANCES & LIMITS & SURFACE FINISH UNLESS STATED

LEADER LINE SYMBOLS:
 □ DIM IN ANY LENGTH UP TO 1000 PLUS 0.10
 ○ DIM IN ANY LENGTH UP TO 1000 PLUS 0.10
 ○ DIM IN ANY LENGTH UP TO 1000 PLUS 0.10
 ○ DIM IN ANY LENGTH UP TO 1000 PLUS 0.10
 ○ DIM IN ANY LENGTH UP TO 1000 PLUS 0.10

UNIT: MILLIMETRES
 UNLESS OTHERWISE STATED

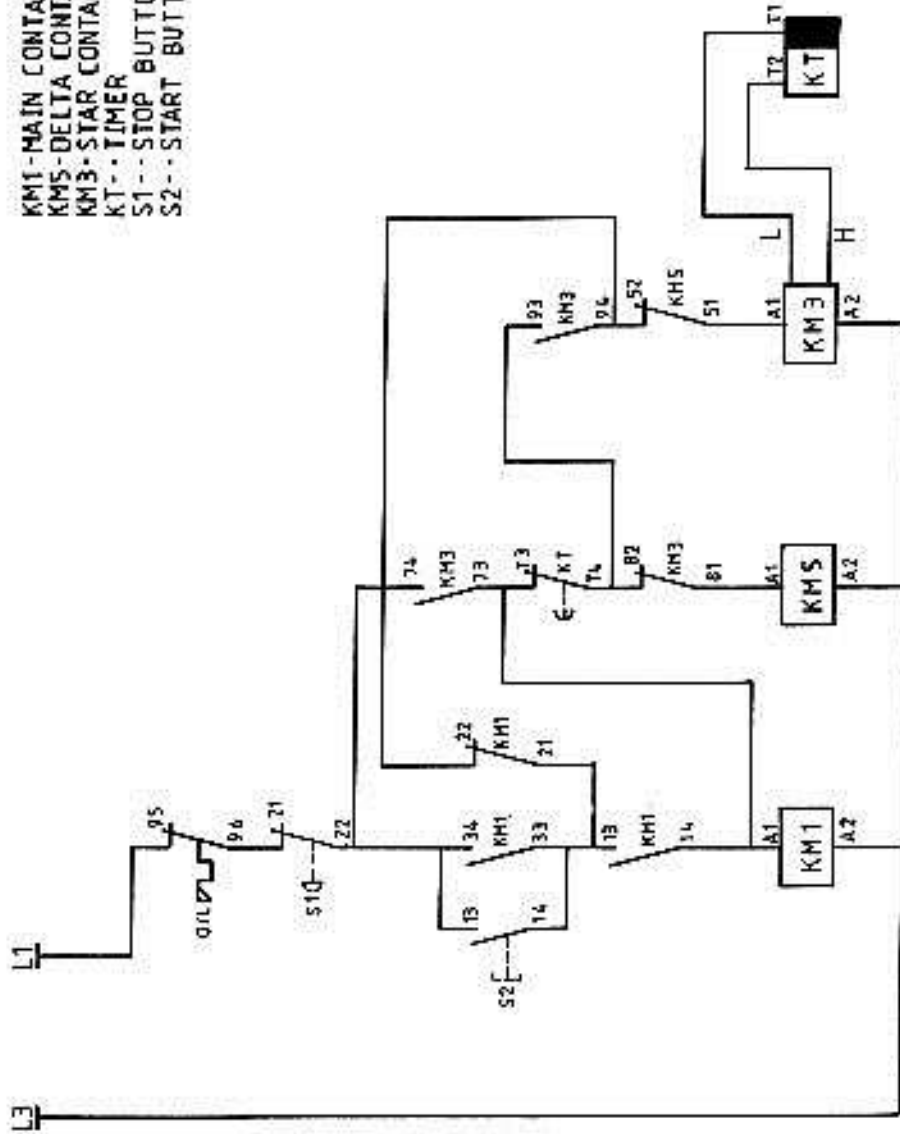


DATE ALT.	F	DATE ALT.	E	DATE ALT.	D	DATE ALT.	C	DATE ALT.	B	DATE ALT.	A	REVISED	DESCRIPTION	QTY.	MATERIAL
													Wadkin Durham Fence Houses Tyne & Wear		
													STAR/DELTA SCHEMATIC		
													MEM STARTER		
													SCALE		
													PART No.		
													AGS-5-WD		

OPERATIONS

PART NO.
AGS-6-WD

KM1-MAIN CONTACT
KMS-DELTA CONTACTOR
KM3-STAR CONTACTOR
KT--TIMER
S1--STOP BUTTON
S2--START BUTTON



GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

FINISHES: □ 80 IN ANY DIRECTION
 STRAIGHTNESS: — 10.00 PLUS 0.000
 TOLERANCES: — 1.00 PLUS 0.000
 PARALLELISM: — 1.00 PLUS 0.000
 RUNOUT: — 1.00 PLUS 0.000
 PERPENDICULARITY: — 1.00 PLUS 0.000
 ANGULARITY: — 1.00 PLUS 0.000
 SYMMETRY: — 1.00 PLUS 0.000
 HOLE NUMBERS: — 1.00 PLUS 0.000
 ORIGINAL FINISH: — 1.00 PLUS 0.000
 2 ORIGINAL FINISH: — 1.00 PLUS 0.000

9 - 63.26 MICRONS RUGH MC
 98 - 162.5 MICRONS FINISH MC
 879 - 162.5 MICRONS RUGH MC
 977 - 64.88 MICRONS 1.45-2.00

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



DATE ALT.	F	DATE ALT.	E	DATE ALT.	D	DATE ALT.	C	DATE ALT.	B	DATE ALT.	A



Wadkin Durham Fence Houses Tyne & Wear
 DRAWN P.A. DESCRIPTION STAR/DELTA CONTROL MEM STARTER
 DATE 27-2-90

QTY.	MATERIAL
SCALE	PART NO. AGS-6-WD