Wadkin

LEICESTER

T630

HEAVY DUTY THICKNESSER

INSTRUCTION MANUAL No. 3018

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M/C No.
TEST No.

INSTRUCTION MANUAL

PREFACE

IMPORTANT

IT IS OUR POLICY AND THAT OF OUR SUPPLIERS TO CONSTANTLY REVIEW THE DESIGN AND CAPACITY OF OUR PRODUCTS. WITH THIS IN MIND WE WOULD REMIND OUR CUSTOMERS THAT WHILE THE DIMENSIONS AND PERFORMANCE DATA CONTAINED HEREIN ARE CURRENT AT THE TIME OF GOING TO PRESS, IT IS POSSIBLE THAT DUE TO THE INCORPORATION OF THE LATEST DEVELOPMENTS TO ENHANCE PERFORMANCE, DIMENSIONS AND SUPPLIERS MAY VARY FROM THOSE ILLUSTRATED

THIS MANUAL IS WRITTEN AS A GENERAL GUIDE. A TYPICAL MACHINE IS SHOWN TO ILLUSTRATE THE MAIN FEATURES.

Failure to comply with instructions in this book may invalidate the guarantee

BE CAREFUL

THIS MACHINE CAN BE DANGEROUS IF IMPROPERLY USED

Always use Guards
Keep clear until rotation has ceased
Always operate as instructed and in accordance with good practice
Read Instruction Manual

2.1 H E A L T H & S A F E T Y

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.

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2.2 Safety Instructions

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

a) Slinging, 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 on request.

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

FIG. 1

3.0 SPECIFICATION

		T6
Capacity of Machine	633 x 250mm	25 x 9.3/4 in
Feed Speed	6-15m/min	20-50 f/min
HP of Cutterblock Motor	5.5Kw	7.5HP
Speed of Cutterblock	4500 rpm	
Speed of Motor - 50 cycle	3000 rpm	
Speed of Motor - 60 cycle	3600 rpm	
Dia of Cutting Circle	120mm	4.3/4 in
Dia of Feed Rollers	85mm	3.1/4 in
Maximum Stock Removal	10mm	3/8 in
Minimum Stock Length	280mm	11 in
HP of Rise and Fall Motor	.18Kw	1/4 HP
Length of Table	1000mm	39 in
Floor Space	1000 x 1310mm	39 x 51 in
Approx. Net Weight	675Kg	1488 lbs
Approx. Gross Weight	860Kg	1896 lbs
Shipping Dimensions	1.42 x 1.12 x 1.48m	55.9 x 44 x 58.26 in

4.1 Standard Items Despatched with Machine

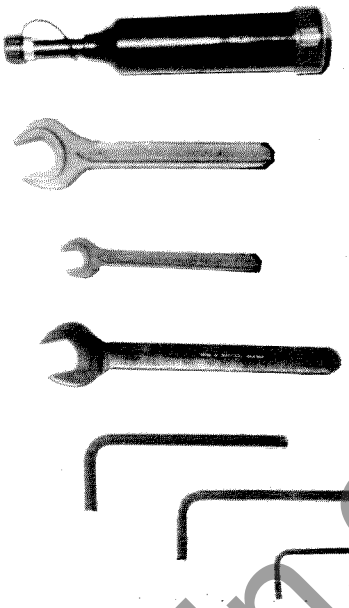


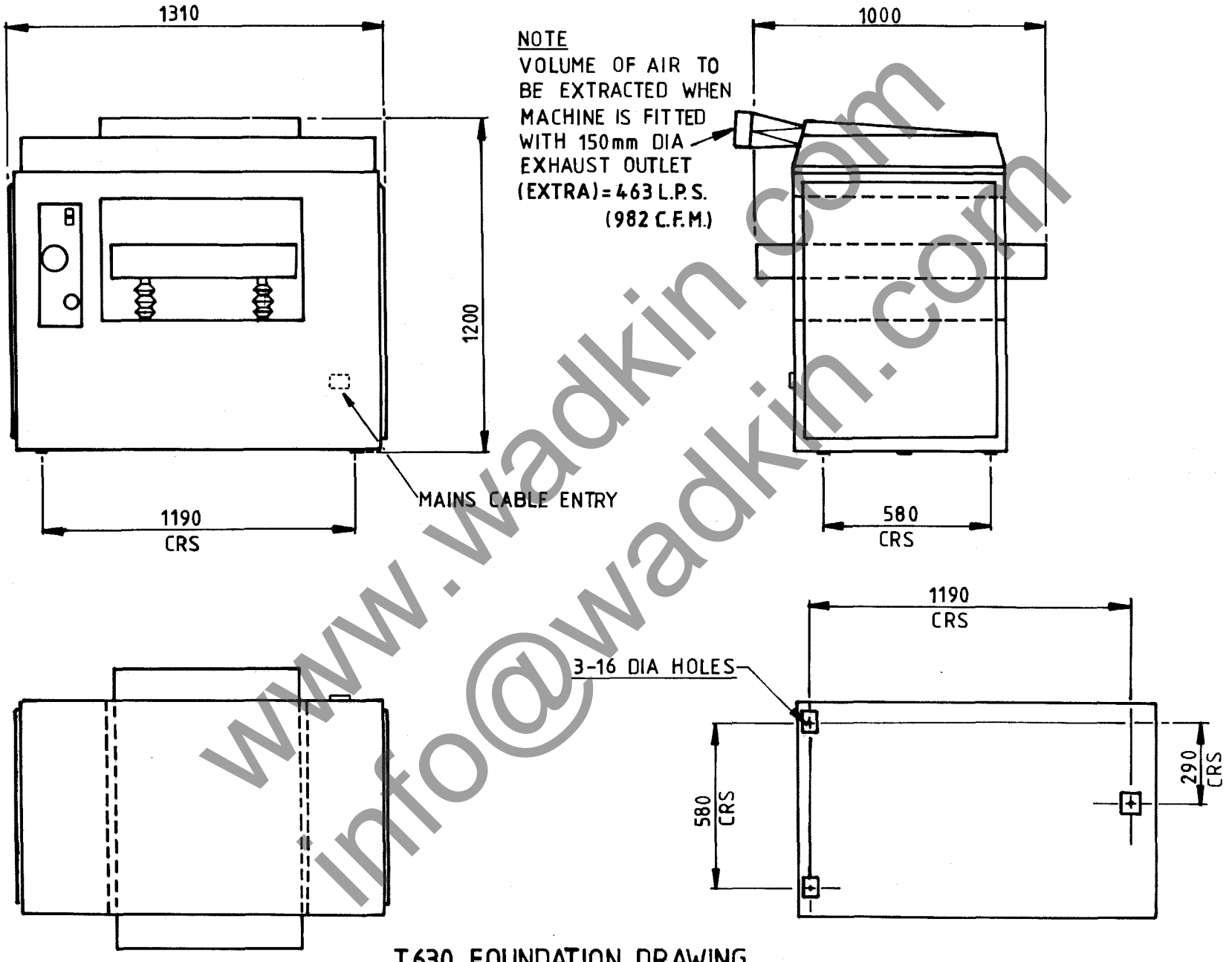
FIG. 2

1 - Grease Gun
1 - 19mm S/E Spanner
1 - 10mm S/E Spanner
1 - Cutterblock Spanner T6-94
1 - 8mm Allen Key
1 - 5mm Allen Key
1 - 3mm Allen Key

FIG.3

Grinder (Extra)

1 - 10mm Toggle Bar 1014-35
1 - Box Spanner T5-180



T630 FOUNDATION DRAWING

FIG. 4

4.0 ASSEMBLY INSTRUCTIONS

4.1 Standard Items Despatched with Machine

A set of operational spanners is despatched with the machine, see FIG.2 and FIG.3 for details.

4.2 Slinging

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

Approximate net weight of machine - 675 KG (1488 lbs)
Approximate gross weight of machine - 860 KG (1896 lbs)

a) Carefully position sling under both sides of table as shown in FIG.5, ensuring damage will not be caused to machine or sling during slinging operation.

NOTE: Use only rope slings not chains

b) 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.

NOTE: If machine is to be moved at a later date, raise table by handwheel until table hits stops in top position, then proceed as above.

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 750mm 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.4. Drill floor to suit rawlbolts. These bolts are not supplied with the machine, but can be supplied at an additional charge. To obtain access to foundation bolts, remove base side covers.

NOTE: Always replace covers.

4.4 Cleaning

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

FIG. 5

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

Voltage	Phase	KW	SAG Tinned Copper Wire	Amps
220	3	5.5	14	120
380	3	5.5	15	70
415	3	5.5	17	60
220	3	7.5	13	150
380	3	7.5	15	90
415	3	7.5	15	80

Star Delta

Voltage	Phase	KW	SAG Tinned Copper Wire	Amps
220	3	5.5	17	50
380	3	5.5	19	30
415	3	5.5	21	25
220	3	7.5	15	70
380	3	7.5	18	40
415	3	7.5	19	35

4.5.2 Fuse List (continued)

USA & Canada

Voltage	Phase	HP	Cartridge Fuse (Circuit Protection)
220/230	3	7.5	120
440	3	7.5	60
575	3	10	60
220/230	3	10	160
440	3	10	80

4.5.3 Wiring Diagrams

See FIGS. 6, 7, 8, 9 10, 11 and 12 (at rear of manual).

4.6 Dust Extraction Details

The extraction outlet is situated on top hood at the rear of the machine. The outlet size if 635mm x 50mm (except when 150mm dia exhaust outlet (extra) is fitted) and should be connected to a flexible extraction hose from the main plant. The volume of air to be extracted is 463 LPS (982 CFM) with a velocity of 26 MPS (5,000 ft per min).

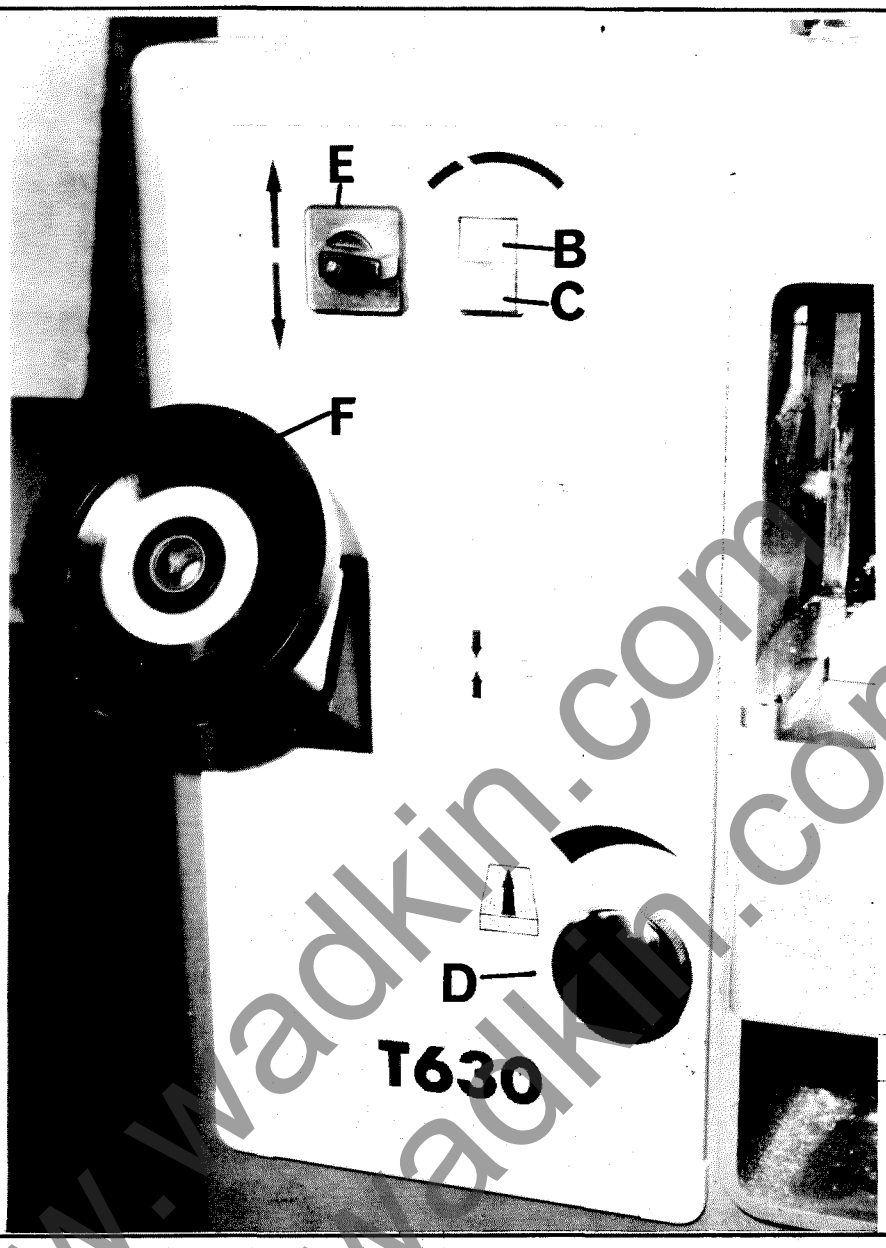
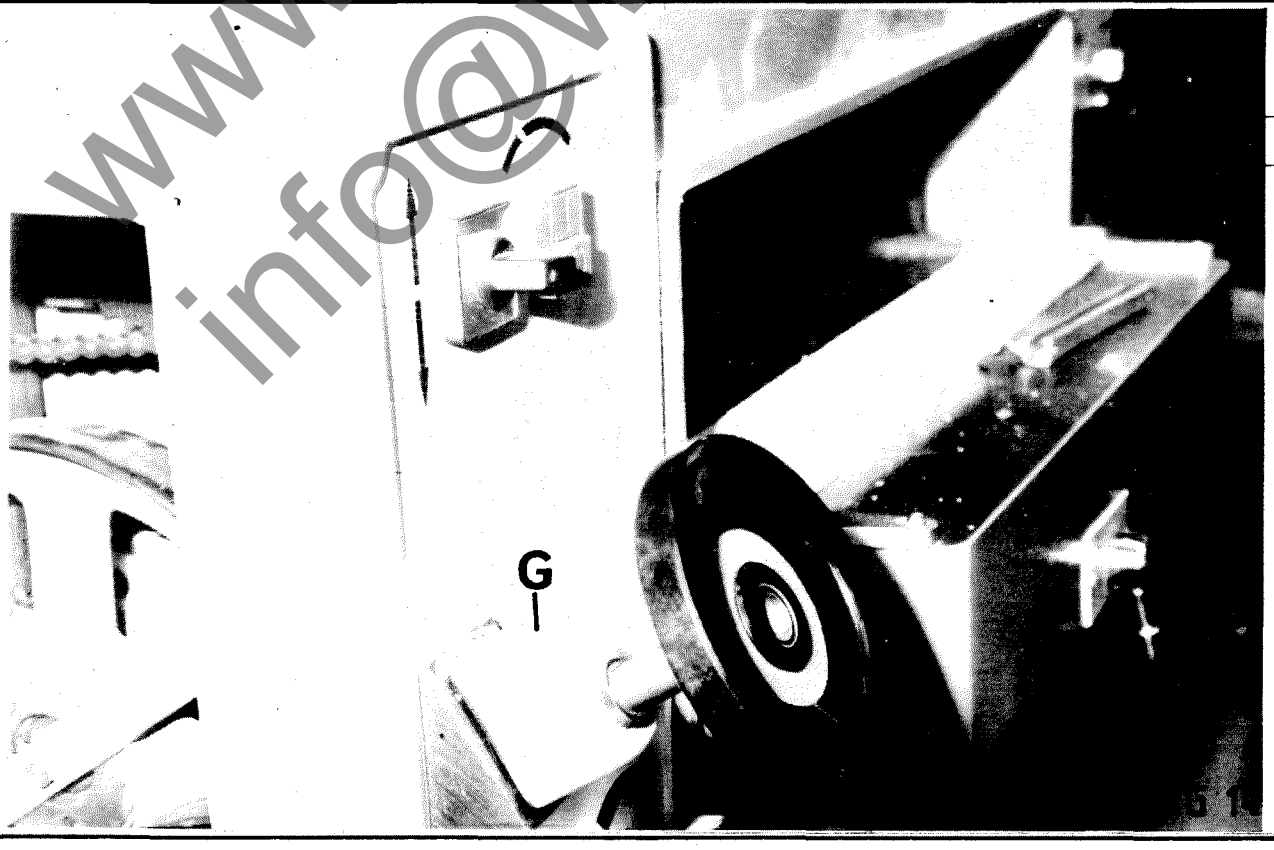


FIG 13



5.0 CONTROLS

5.1 Start/Stop

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

When an isolator which is situated at rear of machine is fitted, proceeds as follows:-

To start, turn isolator to '1', then press green button 'B', FIG.13, on left hand panel to start cuter. To stop, press the red button 'C'. To isolate machine, turn isolator to 'O' position. Where no isolator is fitted, control is simply via the panel start/stop button.

5.2 Brake Motor

Brake motor (extra) comes into effect when stop button is pressed, cutterblock cannot then be rotated. To release brake, turn switch situated on front right of machine, clockwise.

5.3 Variable Feed Speed Control

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

Turn variable feed speed handwheel 'D' clockwise to decrease speed, anti-clockwise to increase speed, FIG.13.

a) When altering feed speed, motor must be turning.

b) To prevent undue wear on variable pulley, turn handwheel throughout complete range once weekly.

5.4 Power Rise and Fall

Power table rise or fall drive is transmitted from a gearbox by a timing belt to table rise and fall screws, which 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:-

a) Ensure top cover and side covers are secured in position.

b) Move power rise and fall switch 'E' FIG.13, in direction required to either raise or lower table. For micro table adjustment when required, turn handwheel 'F'.

NOTE: If so desired, handwheel 'F' may be used to rise and fall the table through its full travel.

c) Check digital thickness counter 'G' FIG.14, to ensure correct table position for timber to be planned.

5.5 Digital Timber Thickness Indicator

A digital timber thickness indicator 'G' is conveniently situated on the control plate FIG.14. The scale is operated by vertical movement of the table.

This indicator is preset before despatch from our works, but should the setting be disturbed for any reason, then proceed as follows to reset indicator:-

a) Isolate machine electrically.

b) Remove left side base cover.

c) Ensure table rise and fall belt is correctly tensioned, (refer to 7.6(g)).

d) Replace all covers.

e) Start machine and thickness a sample piece of timber, then accurately measure timber thickness.

f) Loosen M5 grubscrew on timber thickness indicator 'G' and turn handwheel 'F' FIG.13, until indicator display corresponds to the measured timber thickness.

5.6 Table Rollers

The anti-friction rollers or bed rollers, revolve on sealed for life bearings which require no lubrications. The height of these rollers may be adjusted by means of hand lever 'H' on the front of the table FIG.14.

A clockwise rotation would raise the rollers to a maximum of 1.5m above the table surface.

An anti-clockwise rotation would lower to a minimum of 0.05m above table surface.

The maximum height position is for use with wet, twisted or roughly sawn materials, where feeding is a most important feature. In all cases the lowest position consistent with good and regular feed should be used to give the best possible results.

Should the rollers be removed for any reason, care must be taken to replace them exactly as before, otherwise the settings will be disturbed.

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

5.7 Rear Pressure Bar Settings

Rear pressure bar is adjustable by means of hand lever 'J' FIG.15 on the front right hand side of machine. Some slight advantage in finish or feeding may on occasions be obtained by raising or lowering pressure bar.

5.8 Motorised Knife Grinder (Optional)

To operate open top hood. By doing so the cutterblock motor is isolated and the power is transferred to the grinder motor. Before commencing grinding operation located the indexing plunger by lever 'K' FIG.16 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. Screw grinder pull handle (which when not in use if secured to left side top cover) into slide bracket 'M'. Start grinder (switch at rear of machine) and screw down onto blade by knurled adjuster 'L' until a light cut is made. Using pull handle, 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 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.

After treating all blades, stop grinder motor, unscrew pull handle and pull lever 'K' back into free position.

NOTE: If hand lever 'K' is not in free position top hood will not close. Replace top hood before operating machine.

Modification to Knife Grinding Attachment

We have modified the knife grinding attachment to grind the knives at an angle of 45 degree, this will give a longer edge life, with no deterioration in surface finish. As our supplier will continue to supply knives at 35 degrees, the 45 degree angle will be the primary angle and the 35 degree will show as a secondary angle.

IMPORTANT - DRESSING OF CIRCULAR GRINDING STONE

Keep the grinding face on the circular grinding stone to within 1/8" (3mm) wide as shown in FIG.26. This will ensure accurate and clean grinding knives.

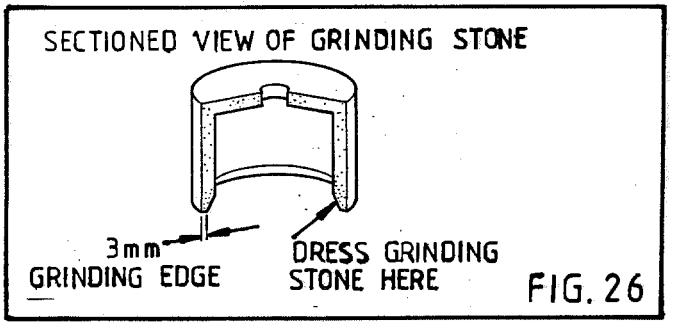


FIG. 26

FIG. 15

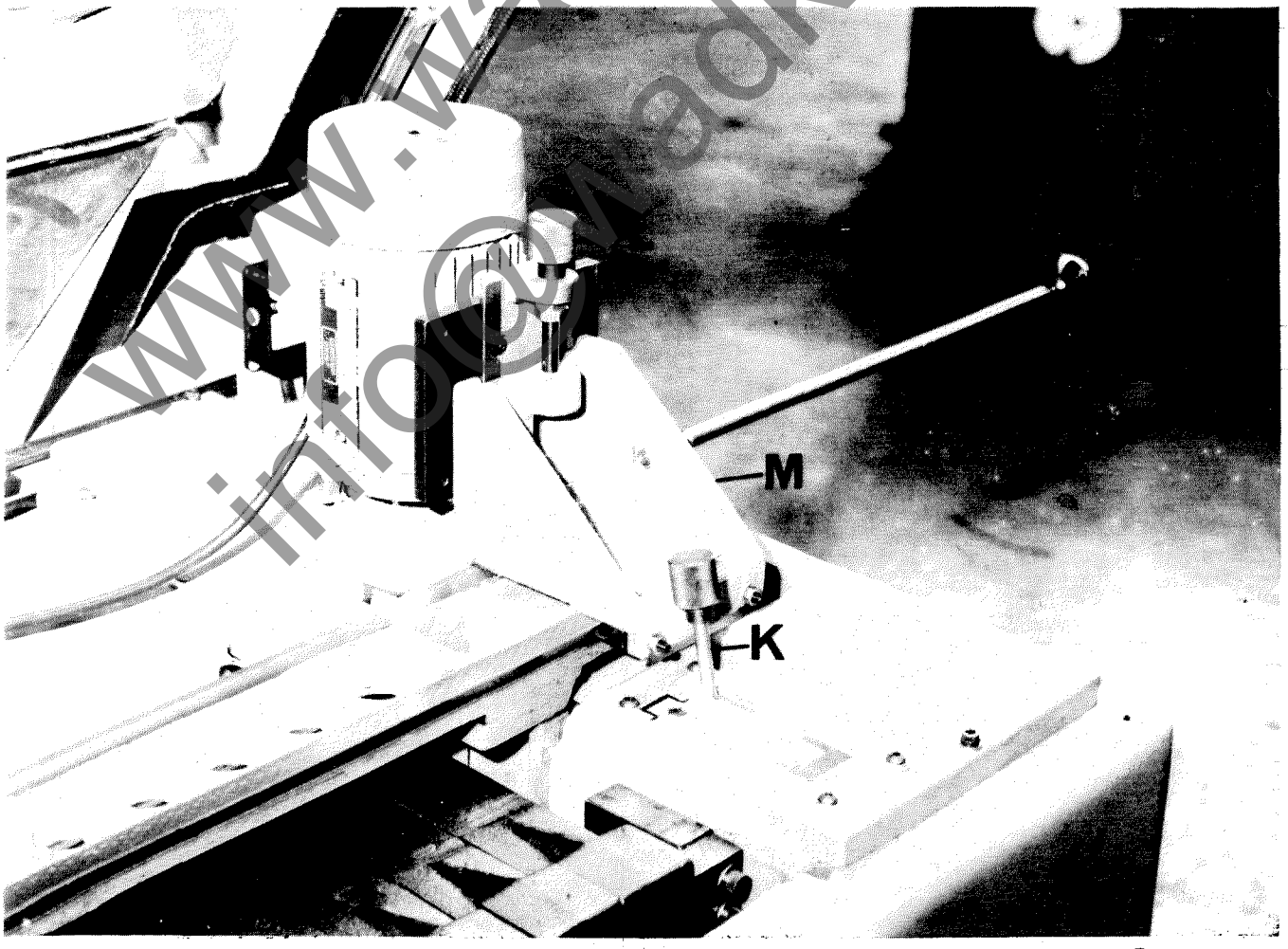


FIG. 16

7.0 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.

7.1 Feed Roller Settings

These are preset at works. Should the replacement of feed rollers be fitted at any time, the settings should be carefully checked with FIG.17. Some slight advantage in finish or feeding may on occasions be obtained by increasing or decreasing the tension on the feed roller springs.

7.2 Front Pressure Bar Settings

These are preset at works. Should the replacement of front pressure bars be fitted at any time, the settings should be carefully checked with FIG.17. Some slight advantage in finish or feeding may on occasions be obtained by increasing or decreasing the tension on the screw and nut FIG.18.

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

7.3 Cutterblock Belt Tension

The cutterblock is driven by 3 vee belts from the motor to tension belts, proceed as follows:-

a) Isolate machine electrically.

b) Remove left side base cover.

c) Loosen 4 - M12 hexagon bolts 'E' FIG.19.

d) Lower motor mounting plate 'F' until weight of motor tensions belt.

e) Retighten bolts 'E' then replace side cover.

NOTE: Check tension of belt 2 weeks after receipt of machine and check at monthly intervals after that.

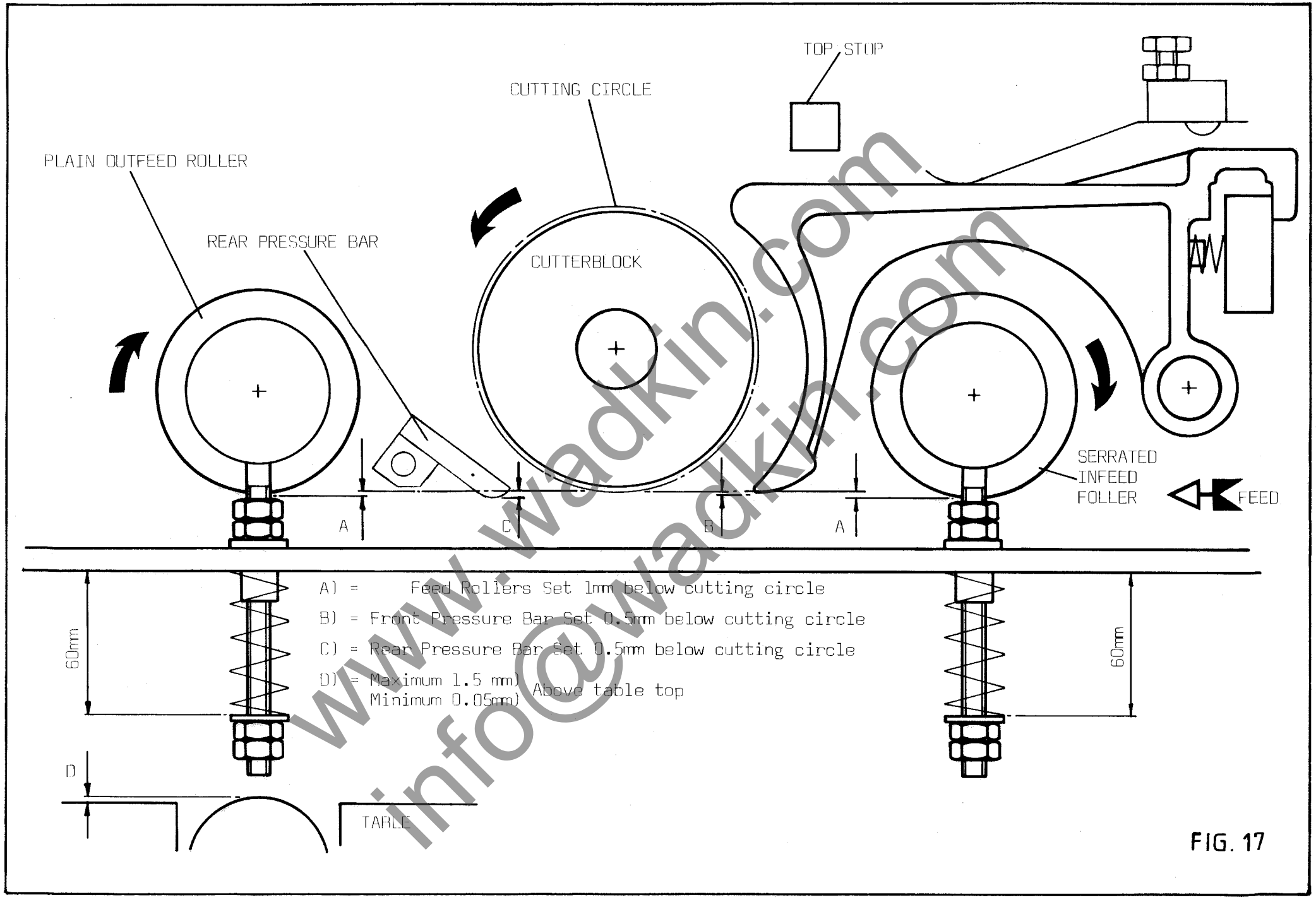


FIG. 17

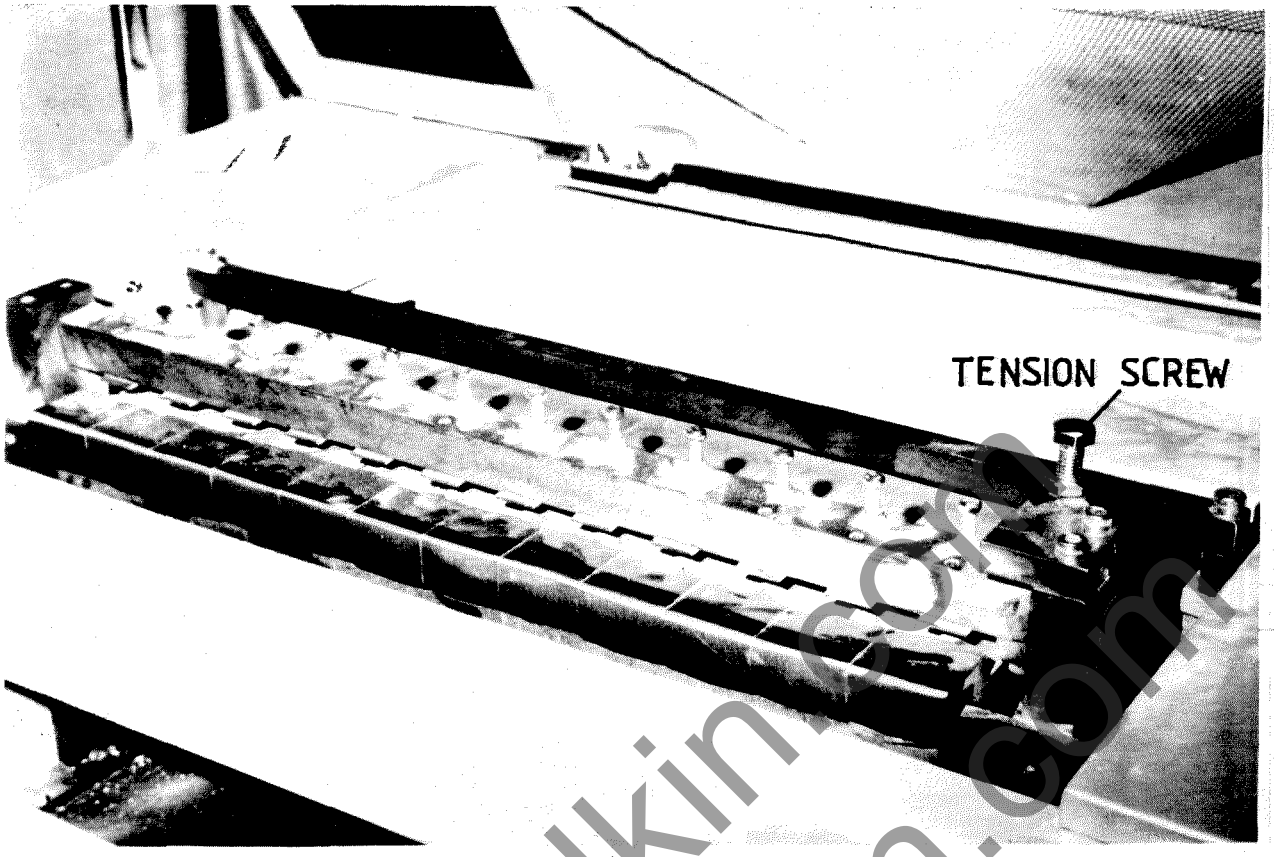


FIG. 18

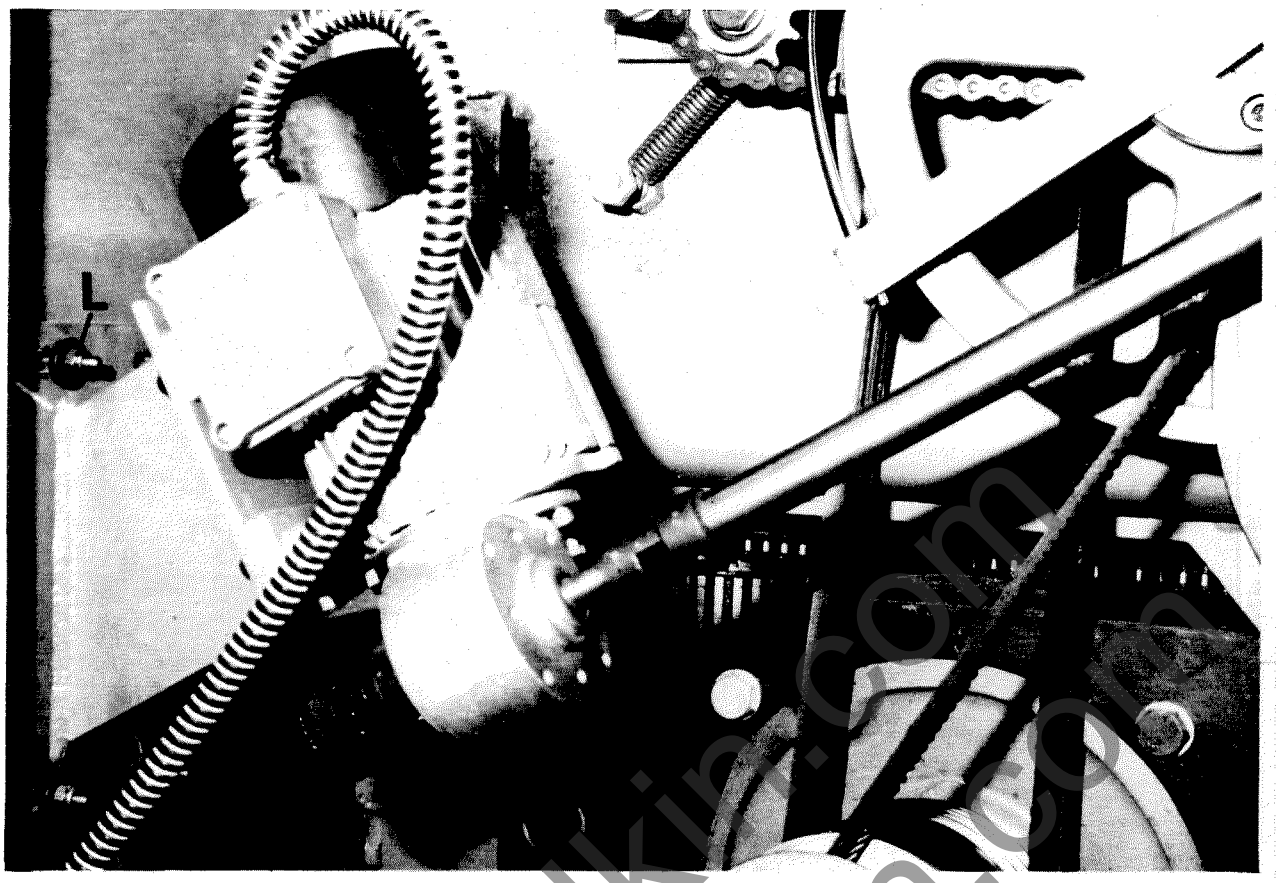


FIG. 20

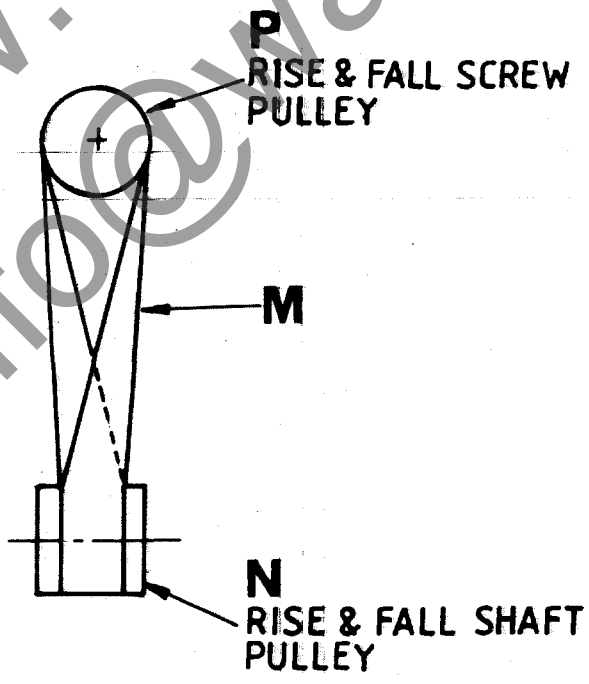


FIG. 21

7.4 Feed Chain Removal

Feed roller drive is transmitted from main motor through a variable pulley and belt, to feed drive chain 'G' FIG.19. Chain is automatically tensioned by chain tension sprocket 'H'.

To change chain, proceed as follows and refer to diagram inside left side of base:

a) Isolate machine electrically.

b) Remove left side base cover.

c) Extract split link 'J' and remove chain.

d) Reverse above procedure to refit chain then replace side cover.

7.5 Variable Drive Belt Removal

To change variable drive belt, proceed as follows:

a) Isolate machine electrically.

b) Remove left side base cover.

c) Turn variable feed speed handwheel 'D' FIG.13 anti-clockwise to maximum position.

d) Remove variable drive belt 'K' FIG.19.

e) Reverse above procedure to refit belt then replace side cover.

7.6 Table Rise and Fall Belt Replacement

To change timing belt, proceed as follows:-

a) Isolate machine electrically.

b) Remove left hand side cover.

c) Loosen 4 - M10 aerotight nuts 'L' FIG.20, to release tension on motor bracket.

d) Remove existing time belt 'M' from pulley 'N' on rise and fall shaft FIG.19.

NOTE: New belt should never be forced or prised over the pulley flange. To ensure smooth operation and prevent premature failure, do not sharply bend or crease the belt.

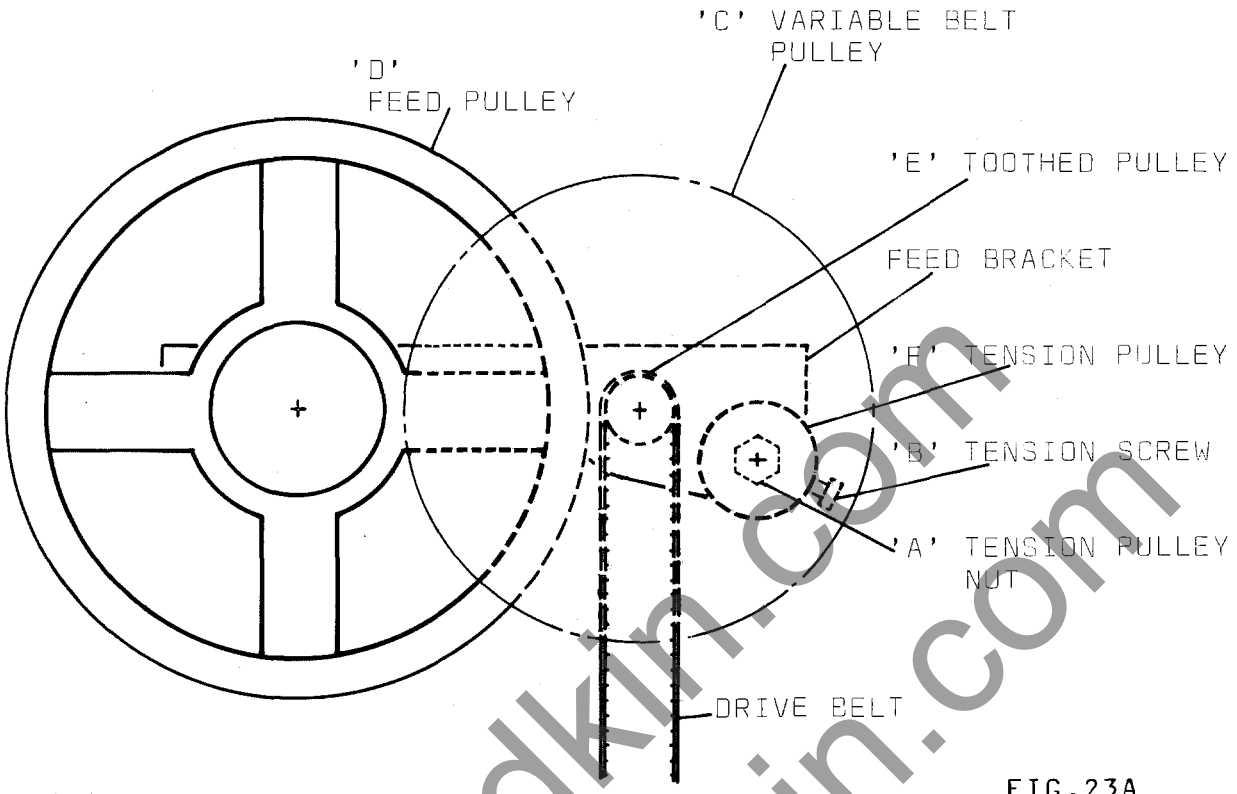


FIG.23A

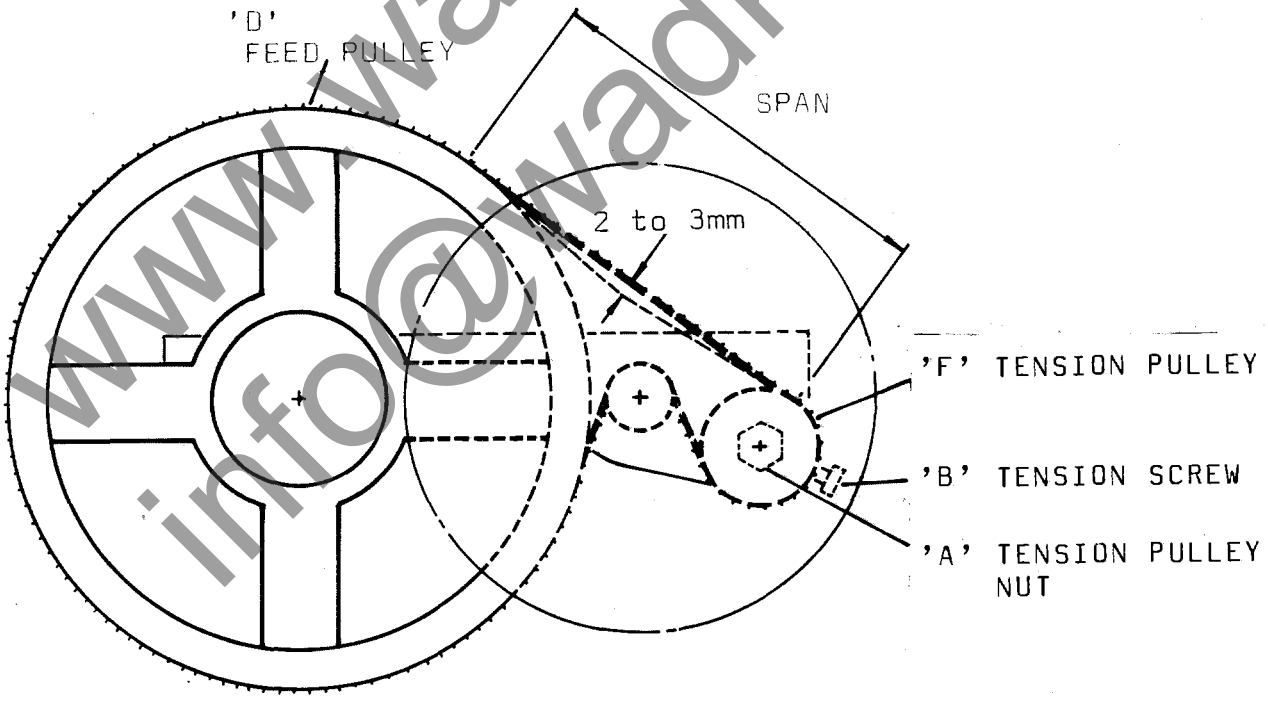


FIG.23B

7.6 Table Rise and Fall Belt Replacement (continued)

e) Position new belt over pulley 'P' on rise and fall screw FIG.21.

f) Turn belt through 45 degrees and locate over pulley 'N' on rise and fall shaft.

g) Adjust motor bracket to tension belt. Correct tension will have been achieved when belt can be deflected to 8mm in centre of span.

h) Relock M10 aerotight nuts.

i) Replace left hand side cover.

7.7 Replacement of Feed Timing Belt

a) Isolate machine electrically.

b) Remove left side base cover.

c) Remove variable speed belt (refer to 7.5).

d) Remove hexagon bolt 'R' on feed pulley and remove feed belt guard 'S' FIG.19.

e) Loosen belt tension pulley nut 'A' and tension screw 'B' FIG.23A.

f) To remove old timing belt, position belt between variable pulley 'C' and feed pulley 'D' at the same time turning variable pulley 'C' until belt is removed.

NOTE: New belt should never be forced or prised over the pulley flange. To ensure smooth operation and prevent premature failure, do not sharply bend or crease the belt.

g) Position new belt between variable pulley 'C' and feed pulley 'D' at the same time turning pulley 'D' until teeth of belt located around teeth of pulley 'E' ensuring that the remainder of belt is hanging vertically FIG.23A.

h) Refer to FIG.23B. Position belt around tension pulley 'F' then turn belt so as to reverse teeth from inside of belt to outside. Position belt around feed pulley 'D'.

i) Tighten tension screw 'B' to tension belt.

IMPORTANT: Belt must be tensioned very tight. This will have been achieved when belt can be deflected 2 to 3mm in centre of span FIG.23B.

7.7 Replacement of Feed Timing Belt (continued)

j) Lock belt tension nut 'A'.

k) Replace guard, variable speed belt guard and left side base cover.

7.8 Rise and Fall Chain Tension

a) Raise thicknesser table to top position.

b) Isolate machine electrically.

c) Loosen M12 aerotight nut 'T' FIG.24 and turn M8 grubscrew.

d) Retighten M12 aerotight nut 'T'.

7.9 Cutting 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 9 - M12 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 reset with the "WADKIN DURHAM" knife setting gauge, proceed as follows:

a) Turn the cutterblock to approximately the position shown in FIG.25 and loosen the 9 - M12 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 **Wadkin Durham, Dunbmire Trading Estate, Fence Houses, Houghton-le-Spring, Tyne & Wear, DH4 5RQ.**

b) To reset the knives, the cutterblock should be in the approximate position shown in FIG.25. Place the knife in between wedge and cutterblock with the blade drawn forward slightly.

c) Carefully secure the knife setting device 'V' FIG.25 (which when not in use is secured to the left side base top cover) to the cutterblock with the two knurled locking screws 'W' as shown in FIG.25.

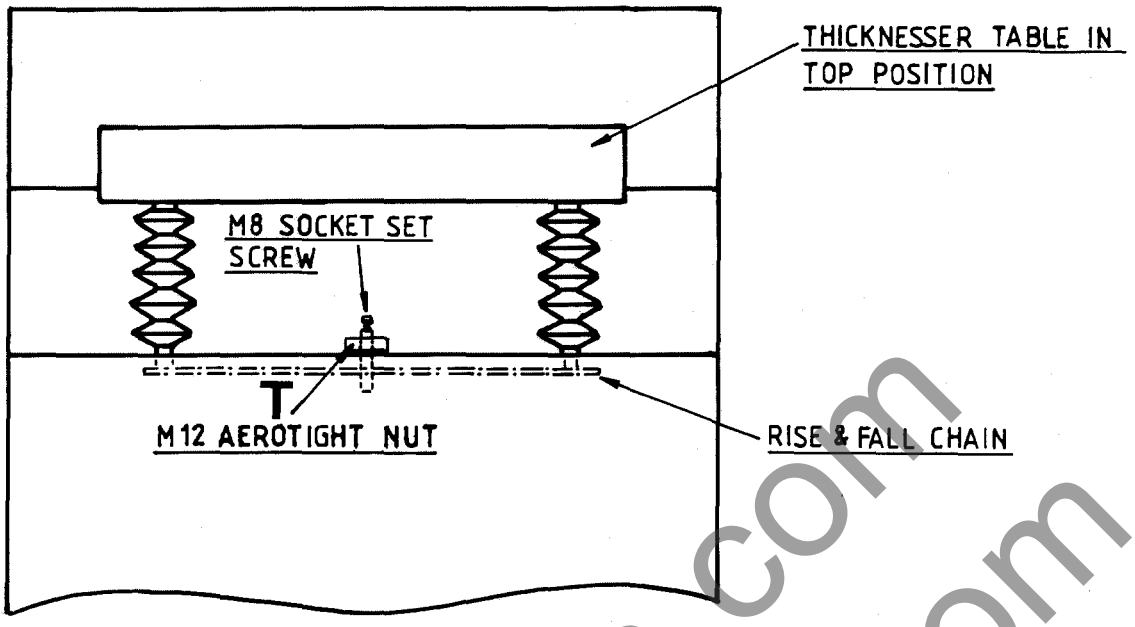


FIG. 24

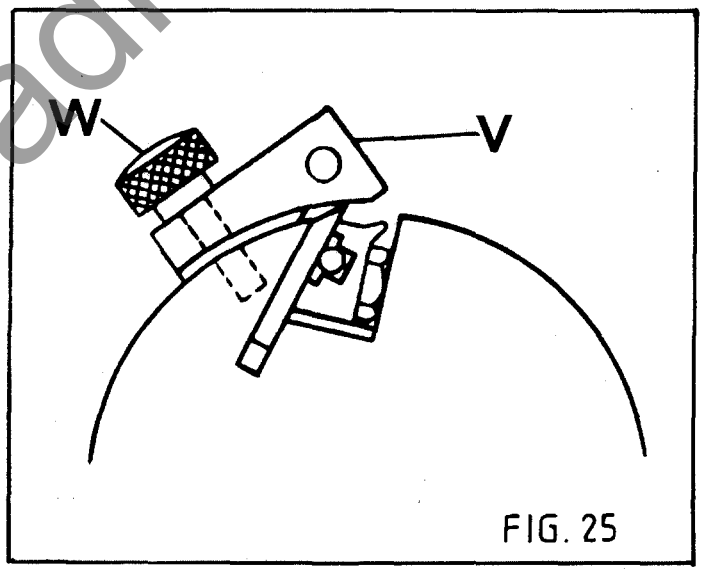


FIG. 25

7.9 Cutter Setting (continued)

d) Whilst turning these locking screws 'W' FIG.25, knife will be lowered to correct setting which is reached when knurled screws are locked in position and knife just touches knife setting device.

e) When the knife is correctly set, tighten the 9 - M12 hexagon head screws, remove knife setting device then securely lock the 9 - M12 hexagon head screws.

f) Rotate cutterblock until the next knife is in position and repeat the procedure until all the knives have been set.

g) 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.

7.10 General Hints

a) When thicknessing long lengths of timber, always support before and after the machine table, otherwise a step will appear on either or both ends.

b) When a smooth finish is required, use the slow speed. For roughing when the finish is not important, use the fast feed speed.

c) For the best results, always feed the timber to cut with the grain.

d) Should the timber stick when thicknessing, the probable causes are as follows:

i) To much friction on table.

ii) The spring pressure is too great on the rear pressure bar.

iii) Not enough pressure on either front or rear feed rollers.

NOTE: See feed roller, table roller and pressure bar setting.

iv) Machine table sticky due to timber resin (clean table).

v) Wet timber being machined (use dry timber).

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

7.11 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 left side base cover and loosen the shrouds and oil the four rise and fall screws.

Approved lubricants, see page 29.

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 Starfalk Premium 3	L6
Brake Cables	Brake Cable grease	Energrease L21M	Alvania R3	Esso Multi-purpose grease		

Instructions for fitting/replacing Tersa knives

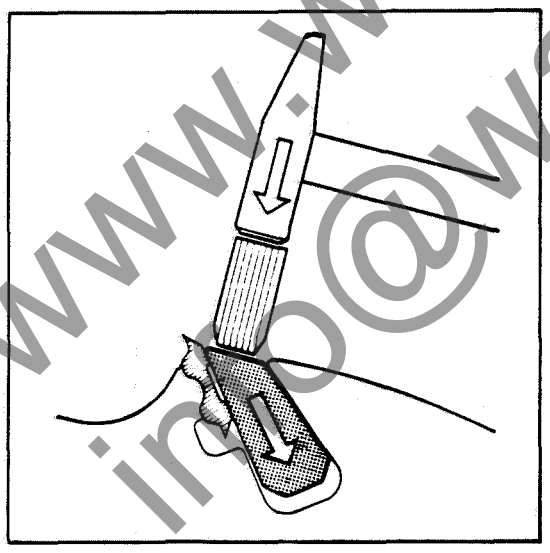
1) Ensure machine has been stopped and cutterblock is at rest.

2) Turn the isolator at the rear of the machine to the 'OFF' position.

3) Use an allen key to release a spring loaded capscrew at the front of the machine near the handle. This will allow the lid to be raised. Open the lid until the lid support 'clicks' into position.

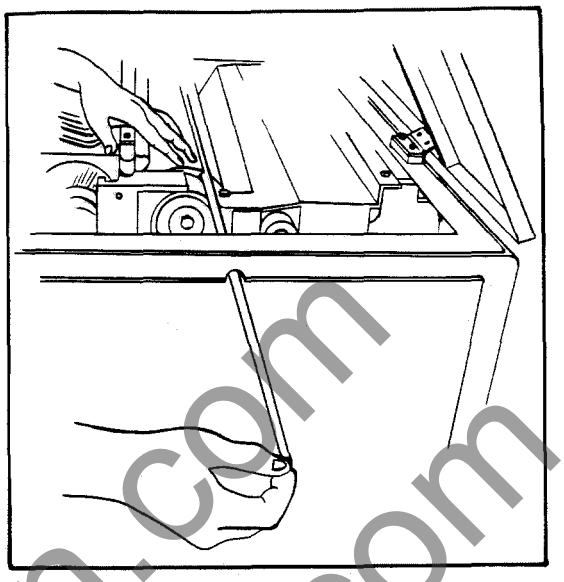
   To release support the lid must be raised slightly and a release lever (located half way up the support) pulled forward.

4) If a knife is already fitted use a soft wood driver and a mallet to tap the securing wedge downwards along its length.



Slide knife out through extraction hole in side of frame.

Note: Extreme care should be taken when handling knives.



5) Insert new knife or turn existing knife around to use the second cutting edge. Ensure knife does not project outside length of cutterblock.

6) Turn cutterblock and repeat removal/insertion procedure on all knives. A new knife protrudes approximately 1mm above cutterblock.

7) Close and fasten lid. Turn isolator to the 'ON' position and start machine. The centrifugal force on the wedges tighten them onto the knives.

8) Stop and isolate machine after approximately 15 secs. When the cutterblock has come to rest check all wedges are tight. If any are loose, remove knife and clean wedge groove using compressed air jet to remove any dirt, wood chips etc, that may be preventing wedge tightening. Replace knife. Repeat steps (6) and (7) until all knives are secure. Ensure lid is locked down before returning to full use.

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 Mechanical Spares List

Index

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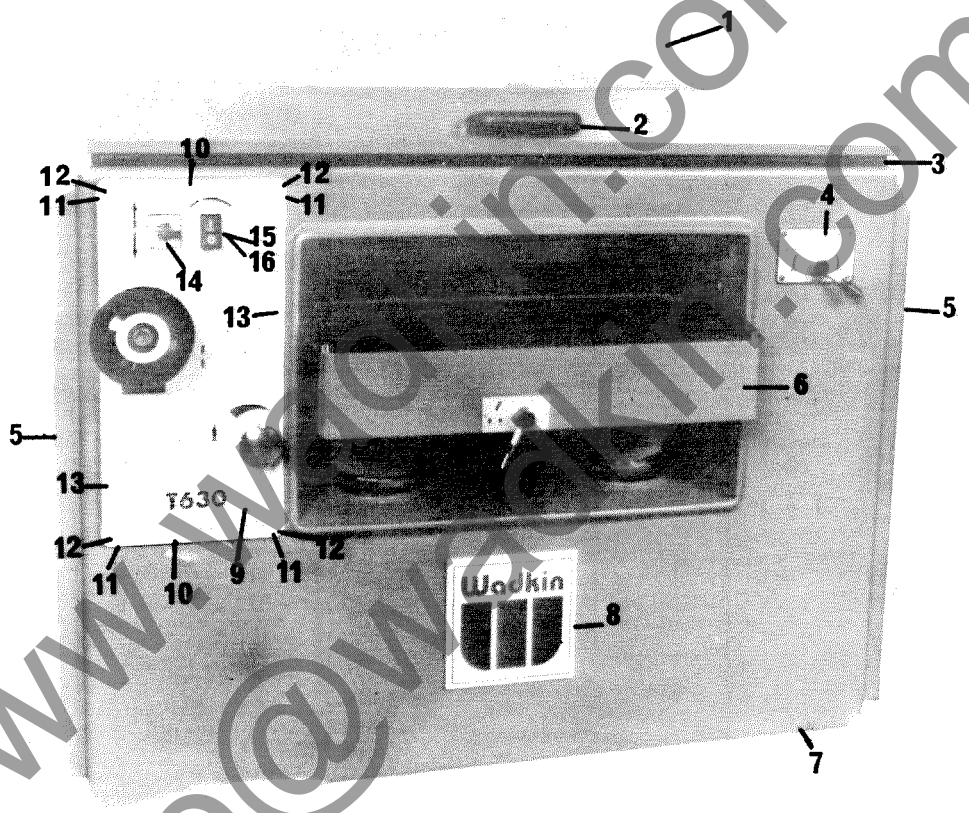
ILLUSTRATED PARTS LIST

ASSEMBLY:- **BASE**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
1	T6-107	1	Top Cover - Standard
	T6-101	1	Top Cover - Grinder
2	K51-27-200	1	Handle
3	K51-66-108	1	Edging Strip
4	T6-201	1	Control Plate
5	T5-262	2	Side Covers
6	T6-117	1	Table
7	T6-222	1	Base
8	QAJ-393	1	Wadkin Nameplate
9	T6-235	1	Control Plate
10	T6-111	2	Extrusions
11	BEL-51	4	Corner Mouldings
12	BEL-52	4	Corner Mouldings Caps
13	T6-112	2	Extrusions
14	K51-17-245	1	TO-3-62355GB/E Switch
15	K51-17-300	1	ZB2-BL9434 Stop/Start Button
16	K51-17-314	1	IN/C & IN/O ZB2-BZ105 Contact Block

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



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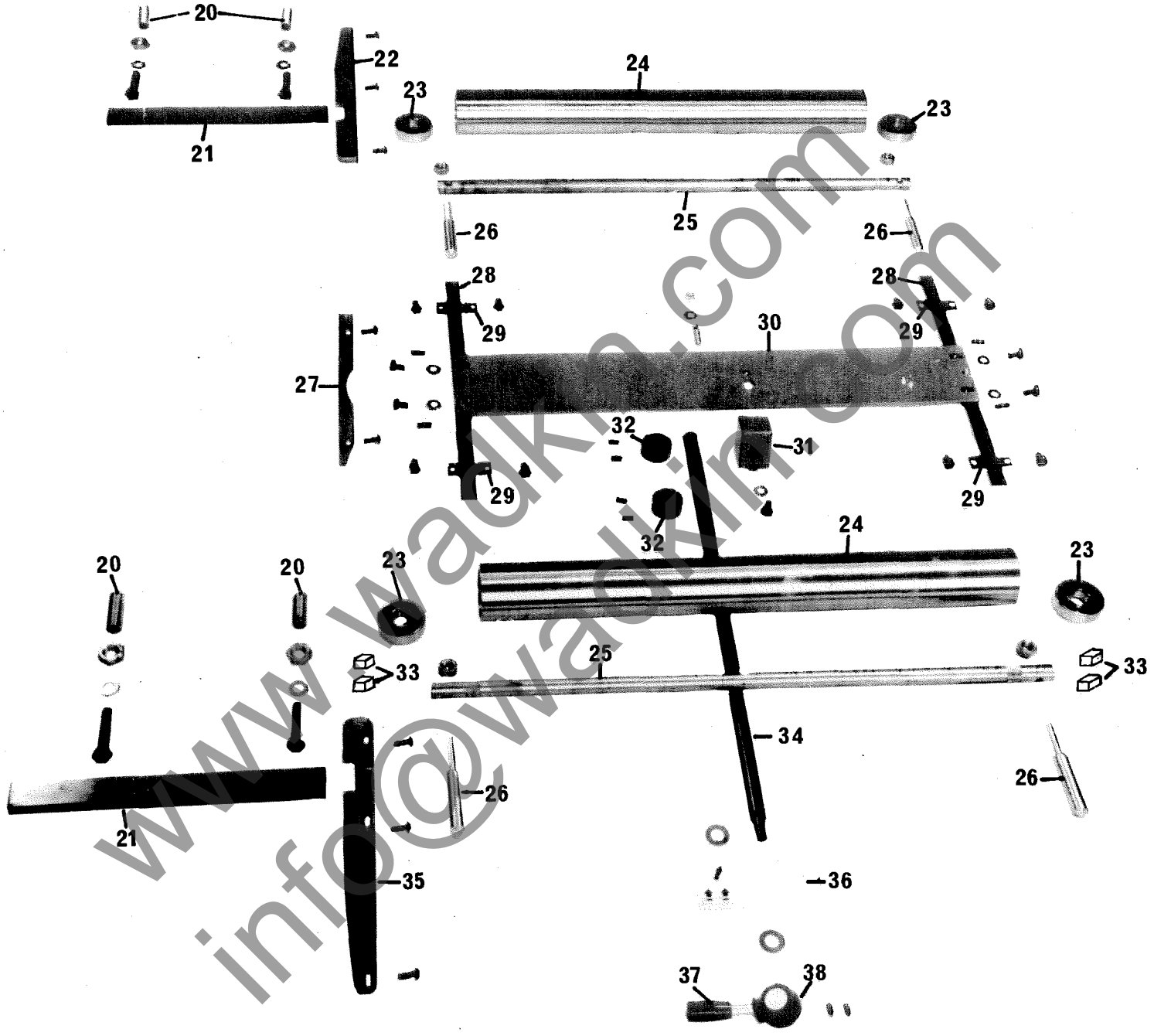
ILLUSTRATED PARTS LIST

ASSEMBLY:- **TABLE**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
20	T5-357	7	Adjusting Screws
21	T5-216	4	Table Guide Gibs
22	T5-244	2	Outfeed Table Fences
23	K06-01-331	4	6304-2RS Bearings
24	T6-17	2	Under Table Rollers
25	T6-118	2	Under Table Roller Shafts
26	T6-121	4	Under Table roller Height Adjusting Screw
27	T5-371	2	Intermediate Table Fences
28	T5-434	2	Under Table Roller Slide Bars
29	T5-500	4	Slide Bar Retaining Plate
30	T6-119	1	Under Table Roller Slide Bar Plate
31	079-1732	1	Cross Slide Nut
32	079-681	2	Stop Collars
33	T6-153	4	Dust Cover for Under Table Rollers
34	T5-436	1	Under Table Roller Screw
35	T5-367	2	Infeed Table Fences
36	T5-440	1	Control Plate
37	K51-27-195	1	Lever Arm
38	CP3-255	1	Lock Handle

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



Wadkin

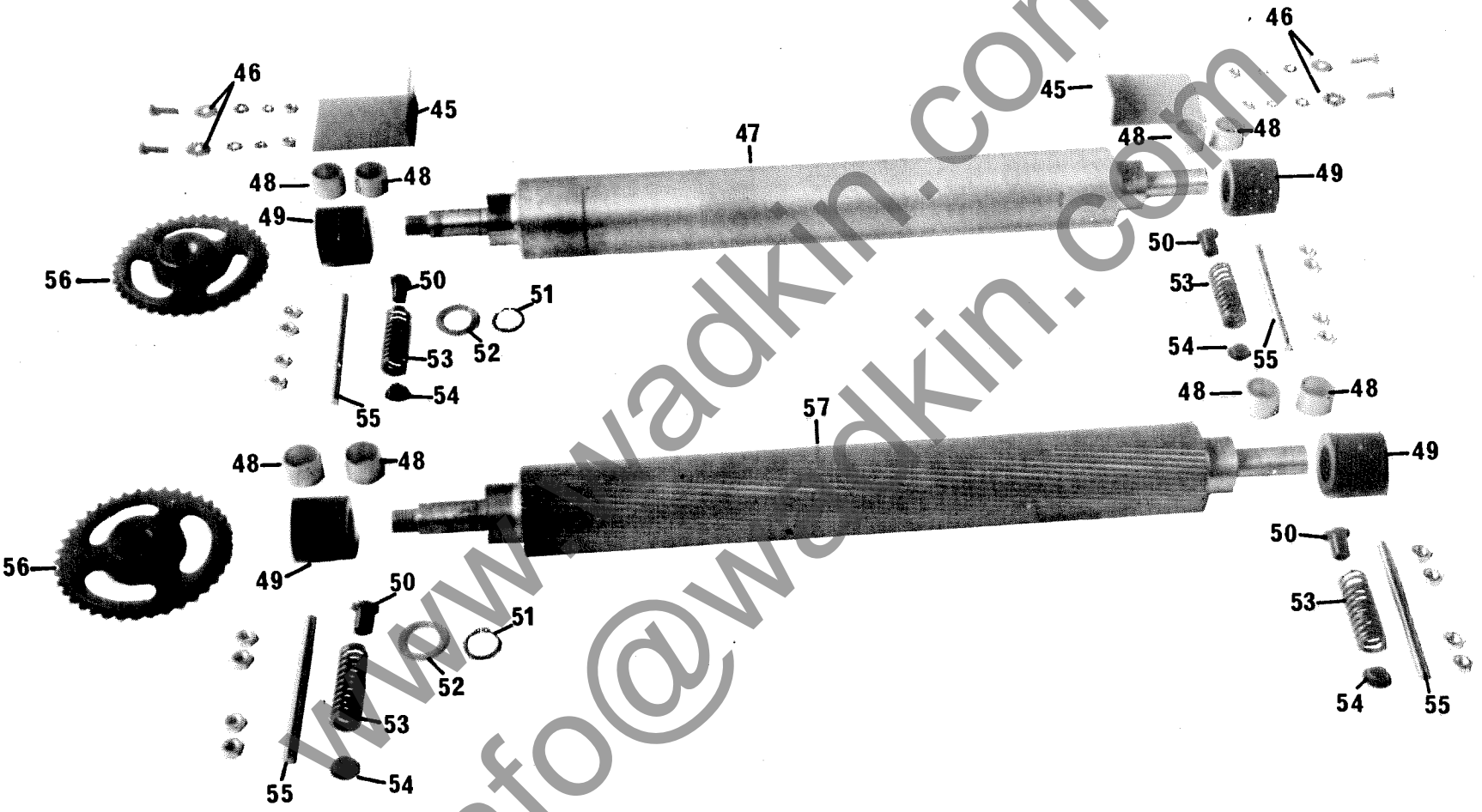
ILLUSTRATED PARTS LIST

ASSEMBLY:- **FEED ROLLER**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
45	T5-257	2	Angle Brackets
46	041-88	4	Washers
47	T6-8	1	Outfeed Roller
48	K51-05-130	8	30 x 35 x 25 Oilite Bushes
49	T5-45	4	Feed Roller Bearing Housings
50	T5-154	4	Bushes for Feed Rollers
51	K51-10-408	2	7100-030 External Circlip
52	T5-83	2	Washers for Feed Rollers
53	K51-73-121	4	ETS 188 Springs
54	069-106	4	Spring Guides
55	T5-54	4	Studs for Feed Rollers
56	T5-9	2	Sprockets
57	T6-9	1	Infeed Roller

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



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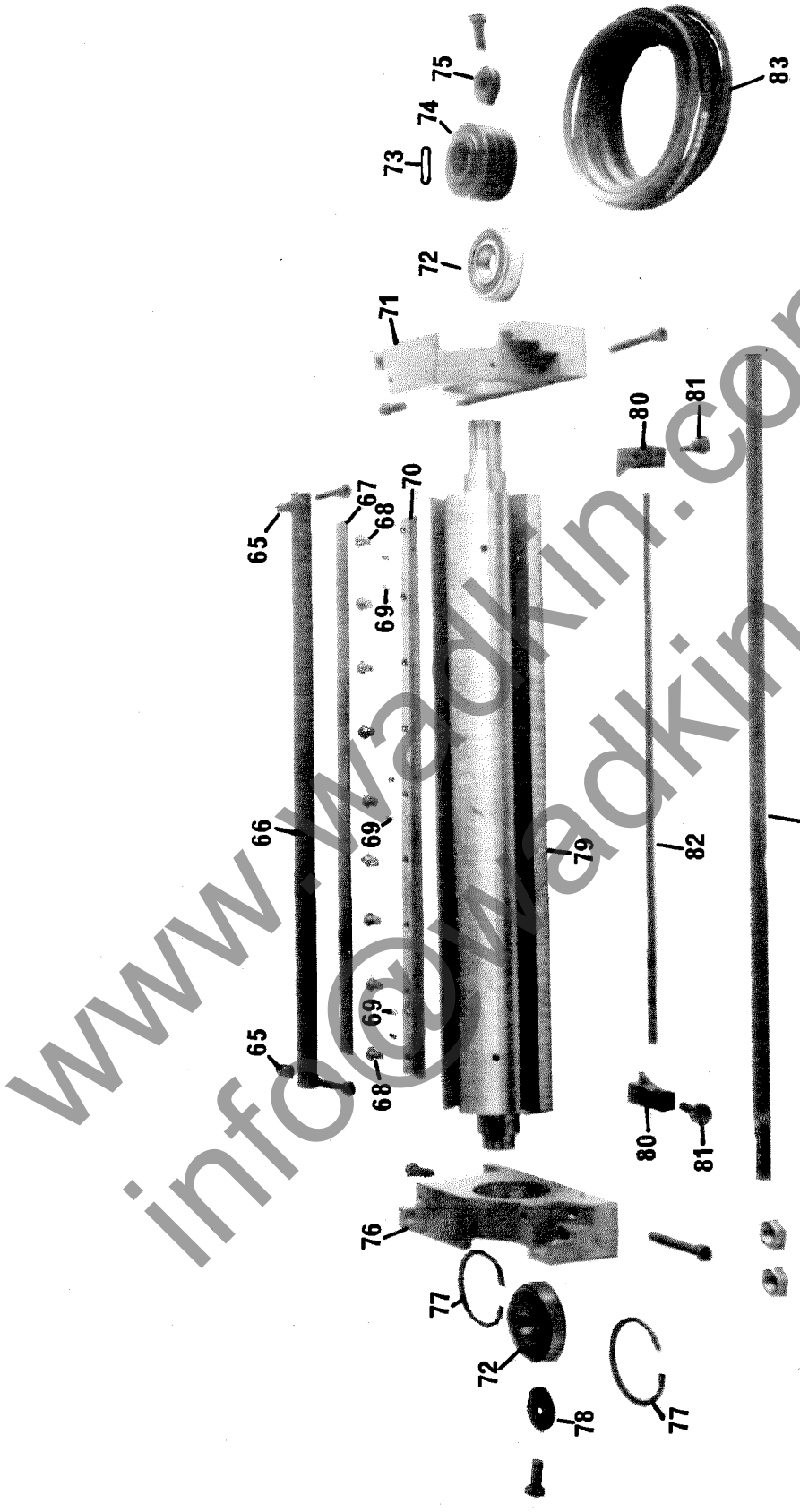
ILLUSTRATED PARTS LIST

ASSEMBLY:- **CUTTERBLOCK**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
65	024-74	2	Spacers
66	T6-87	1	Limited Bar
67	BVP-100	4	Knives
68	069-424	36	Screws for Cutterblock Wedges
69	K51-29-122	12	1/4" Dia Ball Catch
70	078-91	4	Cutterblock Wedges
71	T6-264	1	Drive Side Bearing Housing
72	K06-01-354	2	6307-2RS Bearings
73	K51-20-117	1	10 x 8 x 35 Long Parallel Key
74	T5-531	1	Cutterblock Pulley
75	070-193	1	Washer
76	T6-263	1	Non Drive Bearing Housing
77	K51-10-209	2	7000-080 Internal Circlips
78	EM-172	1	Washer
79	T6-97	1	Cutterblock
80	T5-70	2	Knife Setting Device Blocks
81	069-184	2	Knife Setting Device Screws
82	078-54	1	Knife Setting Device Tie Bar
83	K51-04-207	3	Sec 1600 Optibelt
84	T6-14	1	Top Stop Bar
85	T5-81	2	Top Stops

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



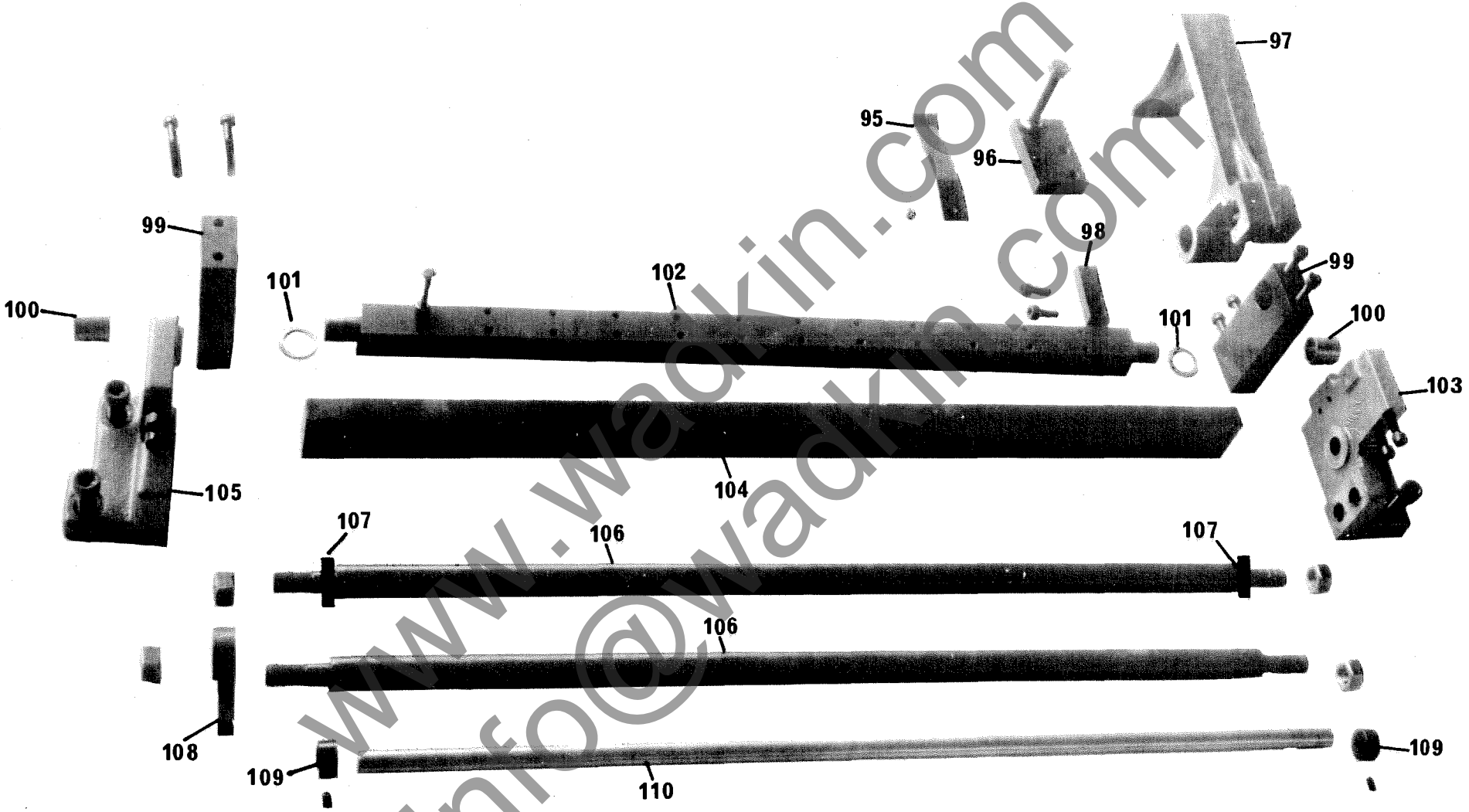
Wadkin

ILLUSTRATED PARTS LIST

ASSEMBLY:-		FRONT PRESSURE BARS AND KICK BACK FINGERS	
FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
95	T5-373	12	Chipbreaker Springs
96	T5-510	1	Top Plate
97	T6-103	12	Sectional Pressure Bars
98	T6-210	1	Pressure Plate
99	T5-509	2	Bearing Plates
100	K51-05-116	2	20 x 25 x 25 Long Oilite Bushes
101	T6-211	2	Washers
102	T6-192	1	Spring Support Bar
103	T5-491	1	Pressure Bar Support Bracket (RH)
104	T6-190	1	Pressure Bar Support
105	T5-492	1	Pressure Bar Support Bracket (LH)
106	T6-144	2	Support Bar for Kick Back Fingers
107	T5-385	2	Collars
108	BSK-1344	45	Kick Back Fingers
109	T5-81	2	Top Stops
110	T6-145	1	Stop Bar

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



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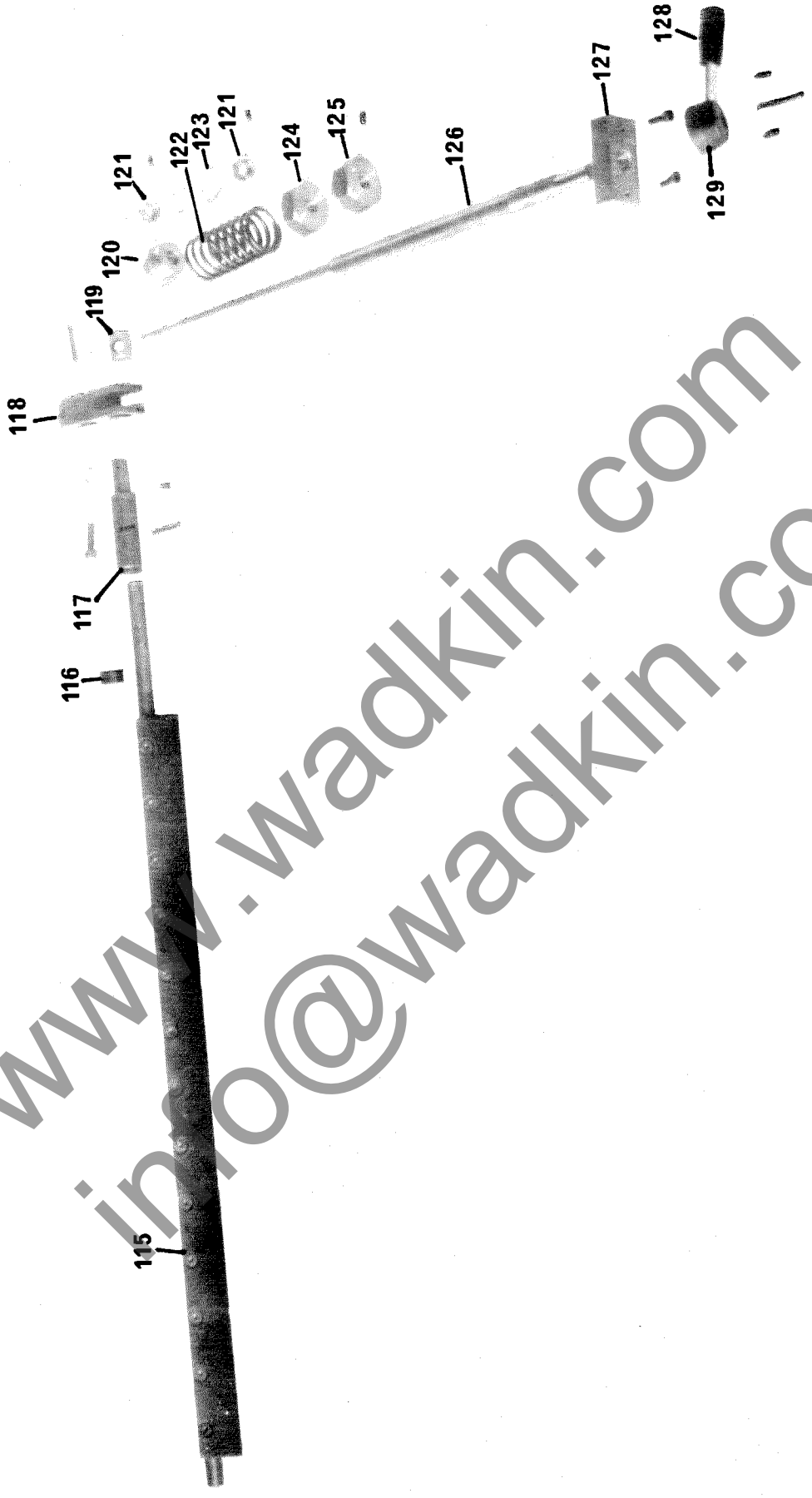
ILLUSTRATED PARTS LIST

ASSEMBLY:-	REAR PRESSURE BAR		
FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
115	T6-255	1	Rear Pressure Bar
116	PAR-84	1	Locking Collar
117	T6-180	1	Extension Shaft
118	T6-175	1	Clamp Bar
119	T6-168	1	Swivel Nut
120	T6-166	1	Spring Retainer
121	T5-101	2	Stops
122	K51-73-123	1	ETS 217 Spring
123	T6-209	1	Washer
124	T6-167	1	Locknut
125	T6-165	1	Adjusting Nut
126	T6-174	1	Adjustment Screw
127	T6-245	1	Adjustment Plate
128	K51-27-195	1	Lever Arm
129	CP3-255	1	Locking Handle

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



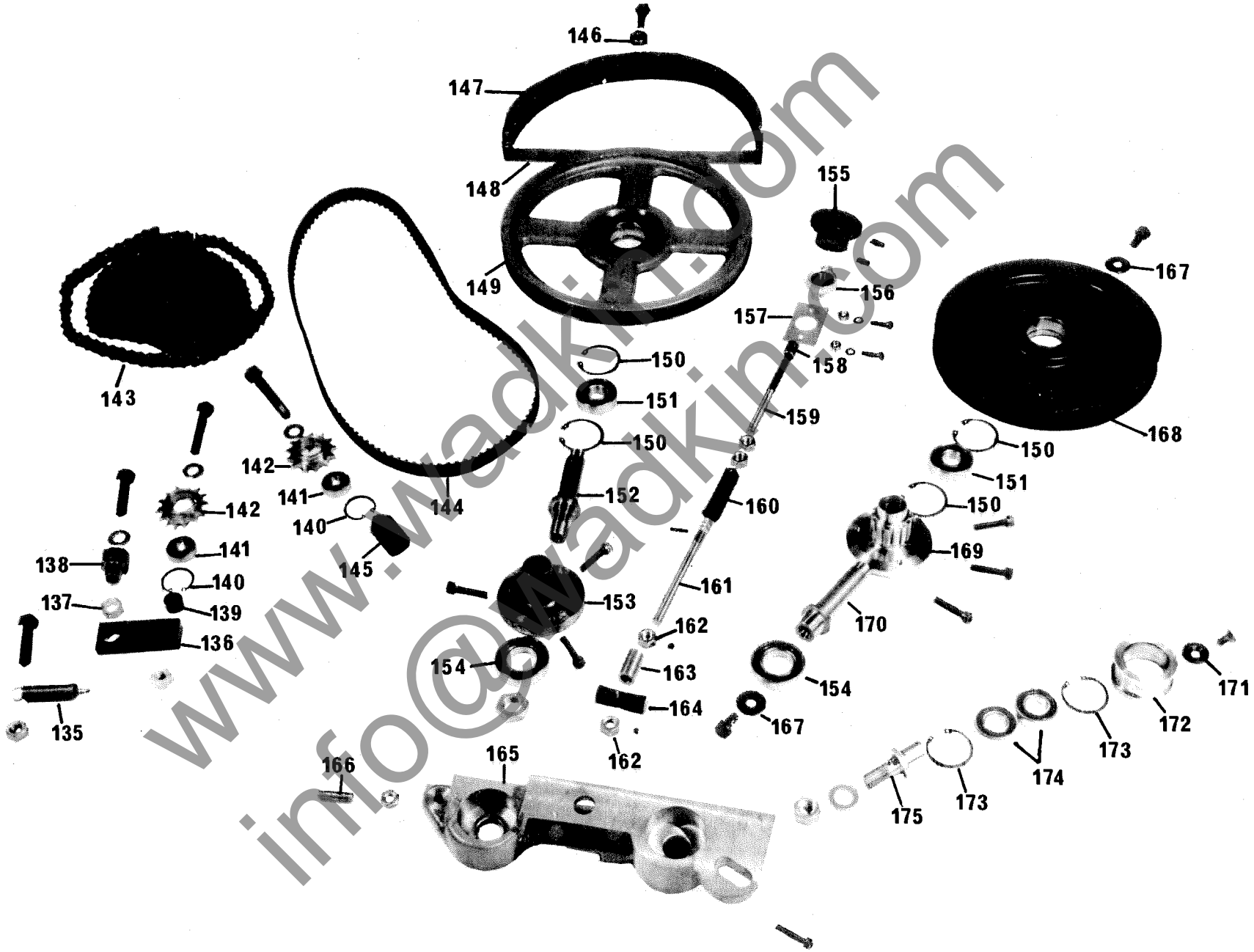
Wadkin

ILLUSTRATED PARTS LIST

ASSEMBLY:-	FEED		
FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
135	K51-73-129	1	ETS 579 Spring
136	T5-49	1	Plate for Chain Tensioner
137	K51-05-144	1	18 x 22 x 12 Long Oilite Bush
138	T5-50	1	Pivot Pin for Chain Tension
139	T5-48	1	Spacer
140	K51-10-202	1	7000-2RS Internal Circlips
141	K06-01-180	2	6201-2RS Bearings
142	T5-10	2	Sprockets
143	K51-08-131	1	138 Pitch 1/2" Chain
144	K51-04-653	1	480L075 Belt
145	T5-47	1	Spacer for Idle Sprocket
146	S25-10	1	Spacer
147		1	Driven Pulley Guard Strip
148	T5-313	1	Driven Pulley Guard Bracket
149	T5-354	1	Driven Pulley
150	K51-10-205	4	7000-047 Internal Circlip
151	K06-01-200	2	6204-2RS Bearings
152	T5-44	1	Feed Change Spindle
153	T5-4	1	Sprockets
154	K06-01-126	2	6006-2RS Bearings
155	T5-135	1	Rise and Fall Handwheel
156	K06-30-401	1	Asahi UFL001 Bearing
157	T5-345	1	Bearing Back Plate
158	T5-108	1	Spacer
159	T5-327	1	Feed Adjusting Shaft - Plain
160	T5-329	1	Feed Adjusting Screwed Sleeve
161	T5-328	1	Feed Adjusting Shaft - Screwed
162	T5-101	2	Stops
163	T5-399	1	Spacer for Screwed Adjusting Shaft
164	T5-66	1	Feed Adjustment Nut
165	T5-19	1	Feed Change Bracket
166	T5-310	1	Brass Screw
167	026-396	2	Washers
168	T6-256	1	Feed Drive Pulley
169	T5-3	1	Gear
170	T5-43	1	Feed Drive Gear Spindle
171	032-22	1	Spacer
172	T5-248	1	Drive Belt Flange Roller
173	K51-10-204	2	7000-042 Internal Circlips
174	K05-01-121	2	6004-2RS Bearings
175	T5-249	1	Tension Roller Spindle

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



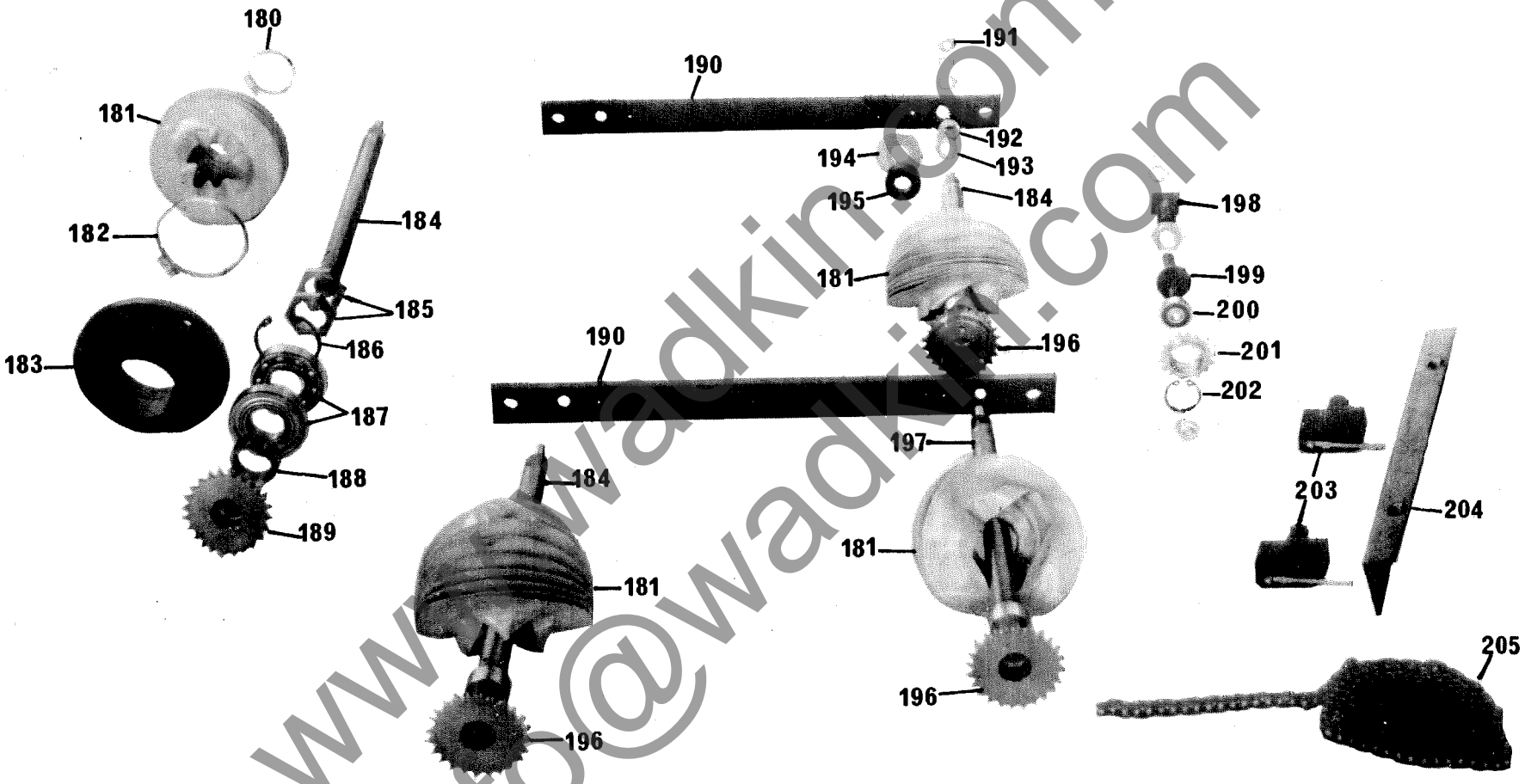
Wadkin

ILLUSTRATED PARTS LIST

ASSEMBLY:-	RISE & FALL		
FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
180	K51-11-202	4	40mm Dia Jubilee Clips
181	T5-279	4	Bellows
182	K51-11-205	4	80mm Dia Jubilee Clips
183	T6-257	4	Bearing Housings
184	T5-324	3	Rise & Fall Screws
185	T5-256	8	Rise & Fall Locknuts
186	K51-10-208	4	72mm Internal Circlips
187	K06-01-219	8	6207Z Bearings
188	PAR-89	4	Driven Sprocket Spacers
189	T6-238	1	Drive Sprocket
190	T5-61	2	Rise & Fall Screw Tie Plate
191	041-88	4	Washers
192	T6-396	4	Rise & Fall Screw Domed Washers
193	T5-63	4	Rise & Fall Screw Washers
194	T5-330	4	Tab Washers
195	T5-64	4	Collars
196	T5-266	3	Sprockets
197	T5-447	1	Rise & Fall Screw
198	T6-214	1	Collar
199	T6-213	1	Chain Tensioner Shaft
200	K51-01-180	1	6201-2RS Bearing
201	PAR-178	1	Chain Tension Sprocket
202	K51-10-202	1	7000-032 Internal Circlip
203	K51-17-104	2	C Y K
204	T5-448	1	Limit Switch Mounting Plate
205	K51-08-129	1	198 Pitch 3/8" Chain
—	T6-228	1	Drive Sprocket Timing Pulley (used with Item 189)

— ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



Wadkin

ILLUSTRATED PARTS LIST

ASSEMBLY:- **RISE & FALL**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
210	T6-223	1	Motor Gearbox Bracket
211	K51-15-650	1	Rise & Fall Motor
212	K51-04-554	1	367 x L050 Timing Belt
213	T6-229	1	Gearbox Timing Pulley
214	T6-215	2	Couplings
215	K51-17-106	1	U4-26-736 Coupling Spider
216	T6-236	1	Handwheel Shaft (Metric)
	T6-237	1	Handwheel Shaft (Imperial)
217	S25-394	1	Collar
218	K51-10-205	1	7000-047 Internal Clip
219	K06-30-415	1	1204 Self Align Bearing
220	T6-233	2	Brackets
221	T6-232	1	Bearing Housing (Metric)
	T6-240	1	Bearing Housing (Imperial)
222	K51-09-132	1	Counter (Metric)
	K51-09-110	1	Counter (Imperial)
223	T5-505	1	Rise & Fall Handwheel

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES

Wadkin

ILLUSTRATED PARTS LIST

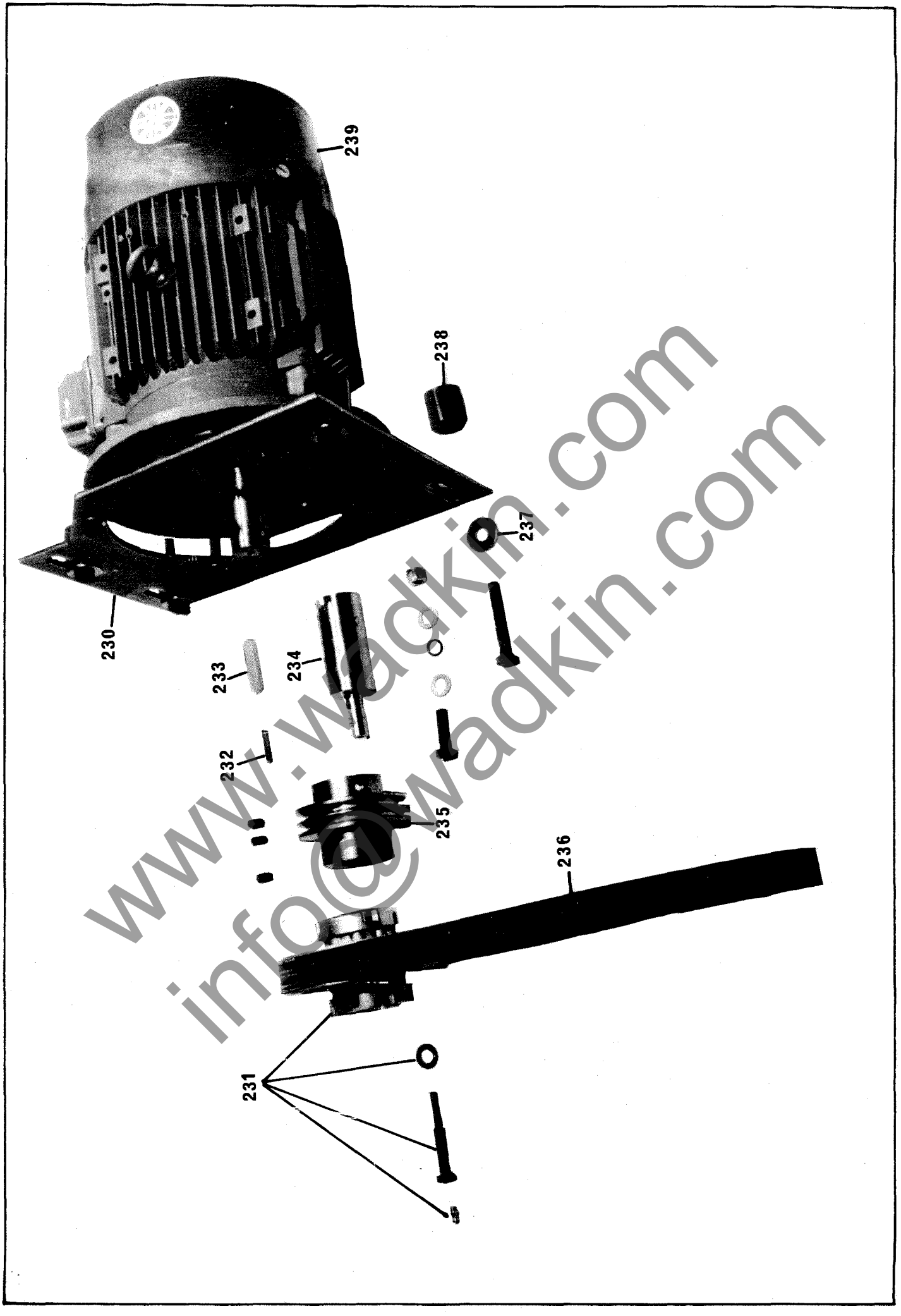
ASSEMBLY:- **MAIN MOTOR**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
230	T5-148	1	Motor Mounting Plate
231	K51-59-101	1	11.104.05.4.1 VS Pulley
232	T5-430	1	Key for Drive Pulley
233	K51-20-106	1	6 x 6 x 35 Long Parallel Key
234	T6-243	1	Pulley Adaptor Shaft
235	T5-532	1	Motor Pulley
236	K51-04-663	1	ES-28-008 Simplabelt
237	026-22	4	Washers
238	T5-78	1	Spacer
239		1	Main Motor

NOTE: When re-ordering motor, state voltage, phase, HP and Frame size from motor plate.

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



Wadkin

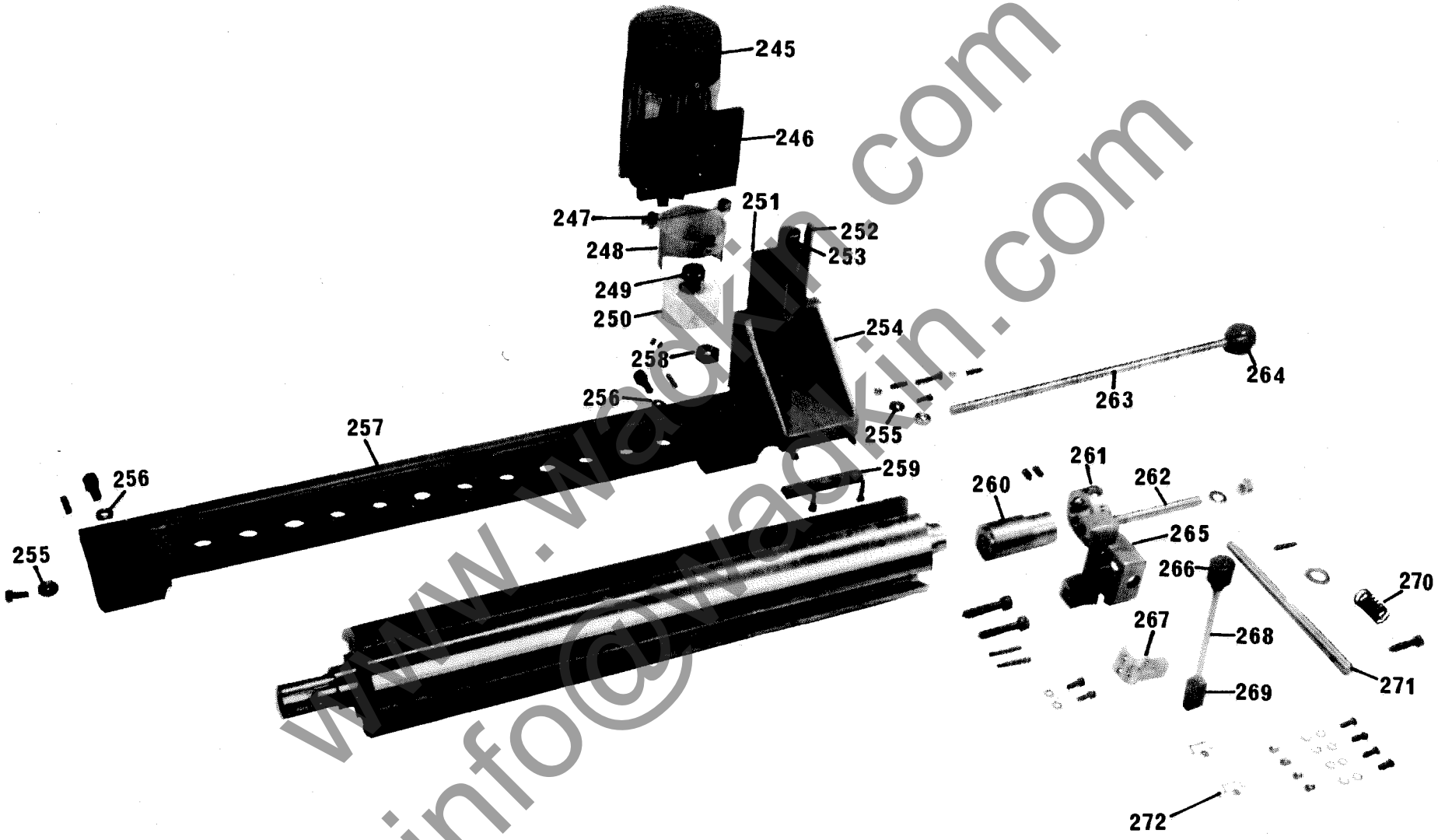
ILLUSTRATED PARTS LIST

ASSEMBLY:-			GRINDER
FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
245		1	Grinder Motor
246	T5-177	1	Motor Adaptor Plate
247	T5-402	3	Spacers for Grinder Guard
248	T5-401	1	Guard for Grinder
249	T5-179	1	Grinder Wheel Holder
250	K51-02-141	1	Grinding Wheel
251	T5-184	1	Slide for Grinding Stone
252	T5-155	1	Gib Strip for Slide Bracket
253	T5-325	1	Depth Adjuster for Grinder
254	T5-94	1	Grinder Slide Bracket
255	T5-369	2	Washers
256	079-1008	2	Washers
257	T6-19	1	Grinder Slide
258	T5-242	1	M20 x 1.5 Pitch Nut
259	T5-176	1	Gib Stirp for Grinder Slide
260	T5-145	1	Grinder Extension
261	T5-73	1	Grinder Location Ring
262	T5-311	1	Extension Stud
263	T5-400	1	Pull Rod for Grinder
264	K51-27-153	1	1.3/4" Dia Ball Knobs
265	T5-146	1	Plunger Bracket
266	T5-182	1	Handle for Location
267	T5-499	1	Location Cam Bracket
268	T5-300	1	Cutterblock Location Pivot Arm
269	T5-185	1	Cutterblock Location Pivot
270	K51-73-117	1	ETS154 Compression Spring
271	T5-299	1	Cutterblock Location Plunger
272	T5-303	1	Location Plate

NOTE: When re-ordering motor, state voltage, phase, HP and frame size from motor plate.

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



Wadkin

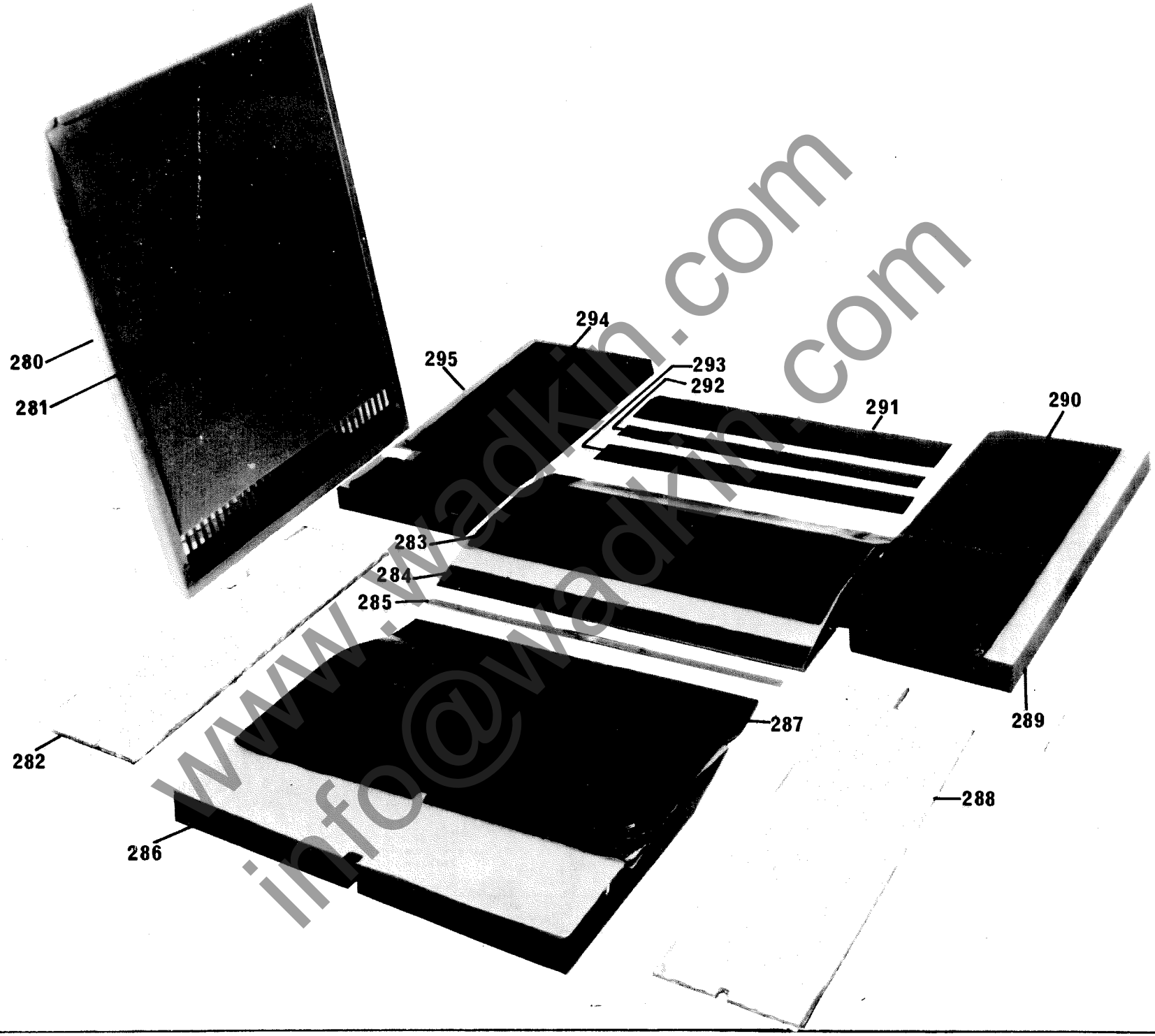
ILLUSTRATED PARTS LIST

ASSEMBLY:- **SOUNDPROOFING STANDARD MACHINE**

FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
280	T5-413	2	Side Covers
281	T5-472	2	Side Covers Soundproofing
282	T6-131	1	Drive Side Top Cover Soundproofing
283	T6-128	1	Back Centre Top Head Soundproofing
284	T6-124	1	
285	T6-122	1	Plate for Top Hood Soundproofing
286	T6-125	1	Front Centre Top Hood Soundproofing
287	T6-129	1	
288	T6-135	1	Non Drive Side Top Cover Soundproofing
289	T6-126	1	R H S Top Hood Soundproofing
290	T6-130	1	
291	T6-132	1	Outfeed Roller Cover Soundproofing
292	T6-133	1	
293	T6-134	1	
294	T6-127	1	L H S Top Hood Soundproofing
295	T6-123	1	

– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



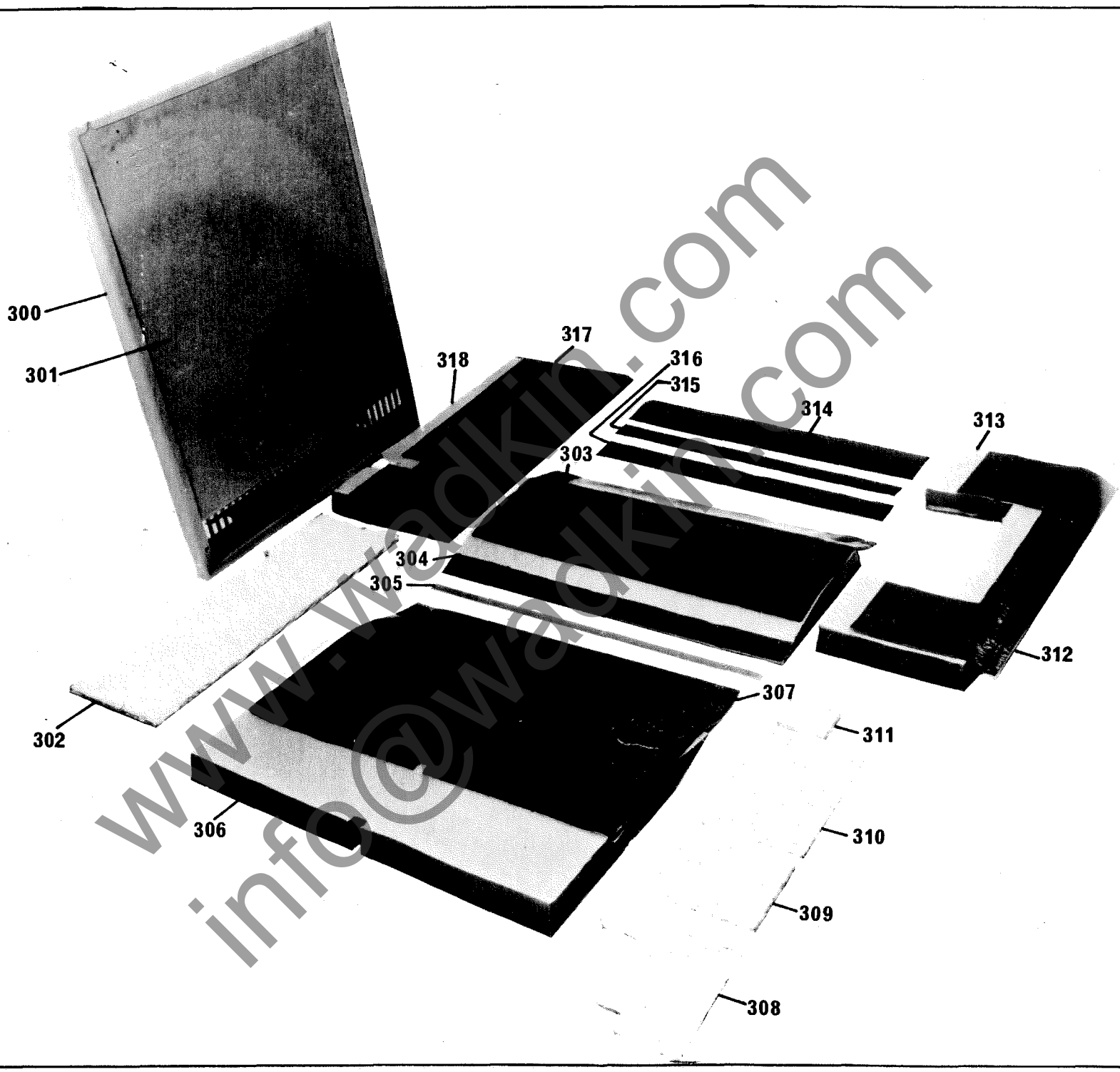
Wadkin

ILLUSTRATED PARTS LIST

ASSEMBLY:-	SOUNDPROOFING GRINDER		
FIG ITEM	PART NO. *	UNITS PER ASSEMBLY	DESCRIPTION
300	T5-413	2	Side Covers
301	T5-472	2	Side Covers Soundproofing
302	T6-131	1	Drive Side Top Cover Soundproofing
303	T6-128	1	Back Centre Top Head Soundproofing
304	T6-124	1	
305	T6-122	1	Plate for Top Hood Soundproofing
306	T6-125	1	Front Centre Top Hood Soundproofing
307	T6-129	1	
308	T6-135	1	Non Drive Side Top Cover Soundproofing
309	T6-126	1	
310	T6-141	1	
311	T6-142	1	
312	T6-137	1	R H S Top Hood Soundproofing
313	T6-136	1	
314	T6-132	1	Outfeed Roller Cover Soundproofing
315	T6-133	1	
316	T6-134	1	
317	T6-127	1	L H S Top Hood Soundproofing
318	T6-123	1	

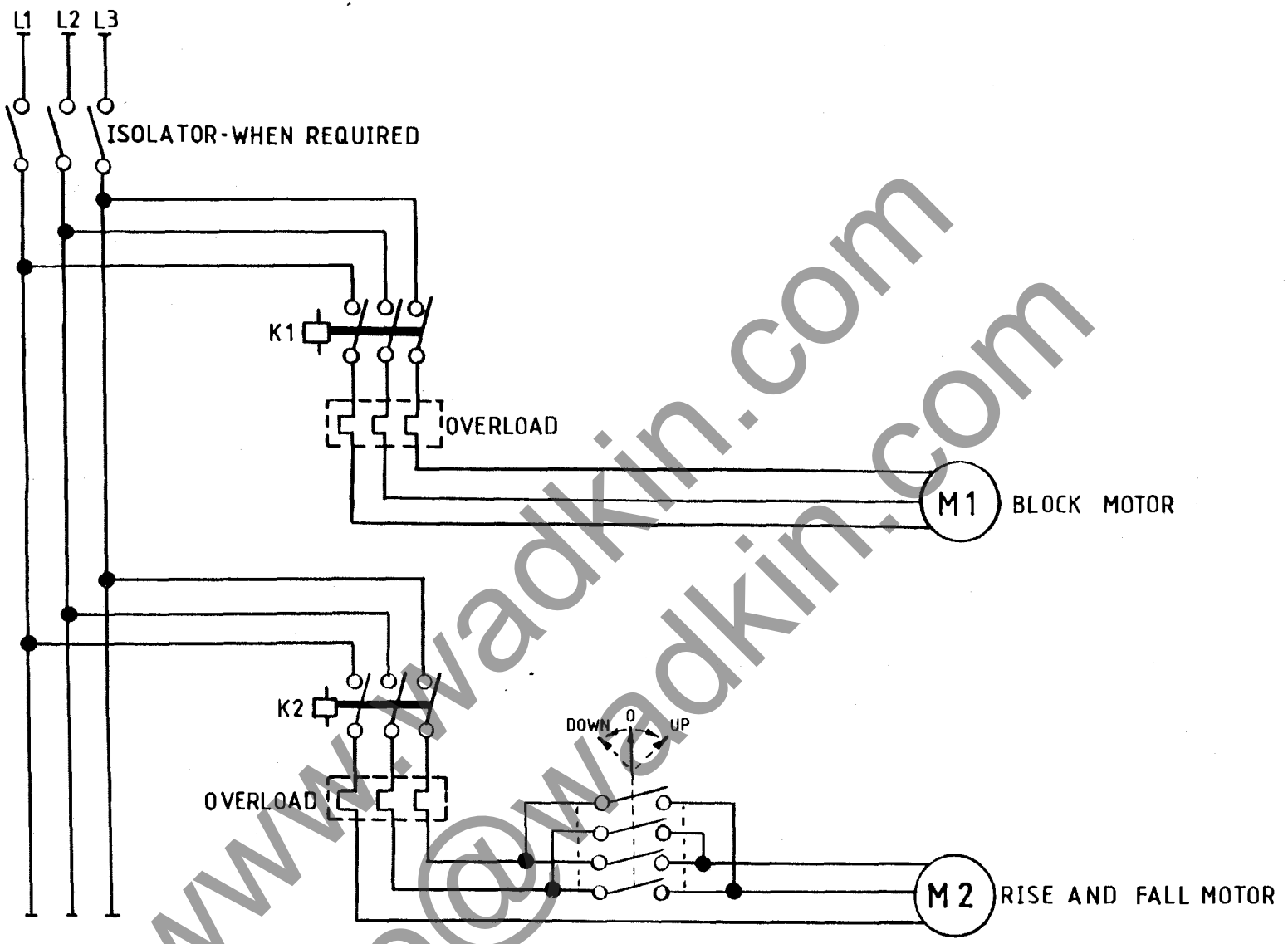
– ITEM NOT ILLUSTRATED

* PLEASE QUOTE PART & MACHINE NUMBER WHEN ORDERING SPARES



OPERATIONS

PART No.
T6-1-WD

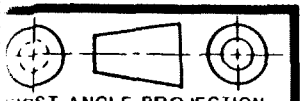


NERAL TOLERANCES LIMITS &
FACE FINISH UNLESS STATED

NESS	⏥	0.04 IN ANY LENGTH UP TO 300. PLUS 0.04/300 THEREAFTER
IGHTNESS	—	
HENESS	⊥	
LLELISM	//	
OUT	↗	0.08mm T.I.R. MAX.
NDRICITY	⌭	0.02mm MAX
LANITY	∠	± 0.25° MAX
ETRY	⌯	
E NUMBERS	± 1mm.	NON ACCUMULATIVE
IMAL PLACE	± 0.1mm	
IMAL PLACE		

6.3 25.0 MICRONS. ROUGH M/C
1.6 3.2 MICRONS. FINISH M/C
1.6 3.2 MICRONS. ROUGH GRD.
0.4 0.8 MICRONS. FINISH GRD

L DIMENSIONS IN MILLIMETRES
UNLESS OTHERWISE STATED



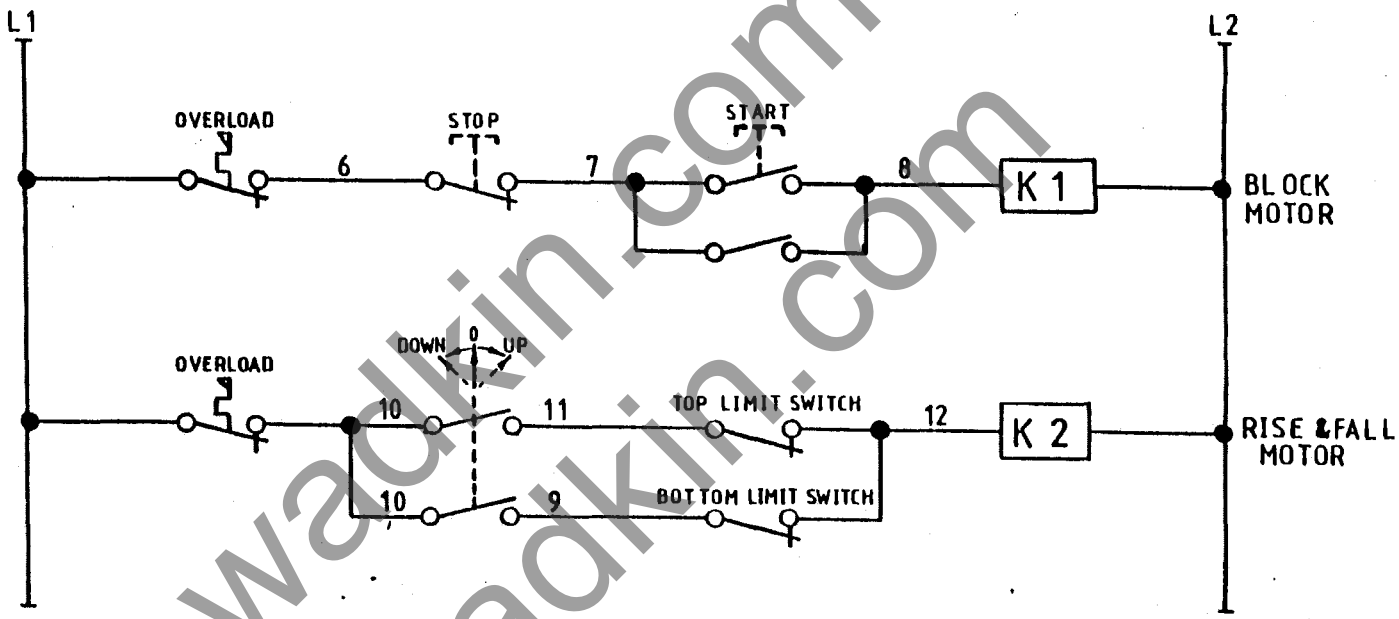
IRST ANGLE PROJECTION

FIG. 6

E	F	DATE ALT.	E	DATE ALT.	D	DATE ALT.	C	DATE ALT.	B	DATE ALT.	A	BURSGREEN DURHAM DIVISION OF WADKIN PLC.			QTY.	MATERIAL	
												DRAWN T.E.	DESCRIPTION				
												CHECKED	STANDARD SCHEMATIC DIAGRAM		SCALE	PART No.	
												DATE				T6-1-WD	

OPERATIONS

PART No.
T6-2-WD



GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

FLATNESS	□	0.04 IN ANY LENGTH UP TO 300, PLUS 0.04/300 THEREAFTER
STRAIGHTNESS	—	
SQUARENESS	⊥	
PARALLELISM	//	
RUN OUT	↗	0.06mm T.I.R. MAX.
CYLINDRICITY	⌭	0.02mm MAX.
ANGULARITY	∠	± 0.25° MAX
SYMMETRY	≒	
WHOLE NUMBERS		± 1mm. NON ACCUMULATIVE
1 DECIMAL PLACE		± 0.1mm
2 DECIMAL PLACE		

▽ – 6.3 2.5 0 MICRONS, ROUGH M/C
▽▽ – 1.6 3.2 MICRONS, FINISH M/C
▽▽ – 1.6 3.2 MICRONS, ROUGH GRD.
▽▽▽ – 0.4 0.8 MICRONS, FINISH GRD.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

FIRST ANGLE PROJECTION

FIG. 7

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

BURSGREEN DURHAM DIVISION OF WADKIN PLC.

DRAWN T.E.
CHECKED
DATE

DESCRIPTION
STANDARD CONTROL DIAGRAM

QTY.
MATERIAL
SCALE
PART No. T6-2-WD

PART No.

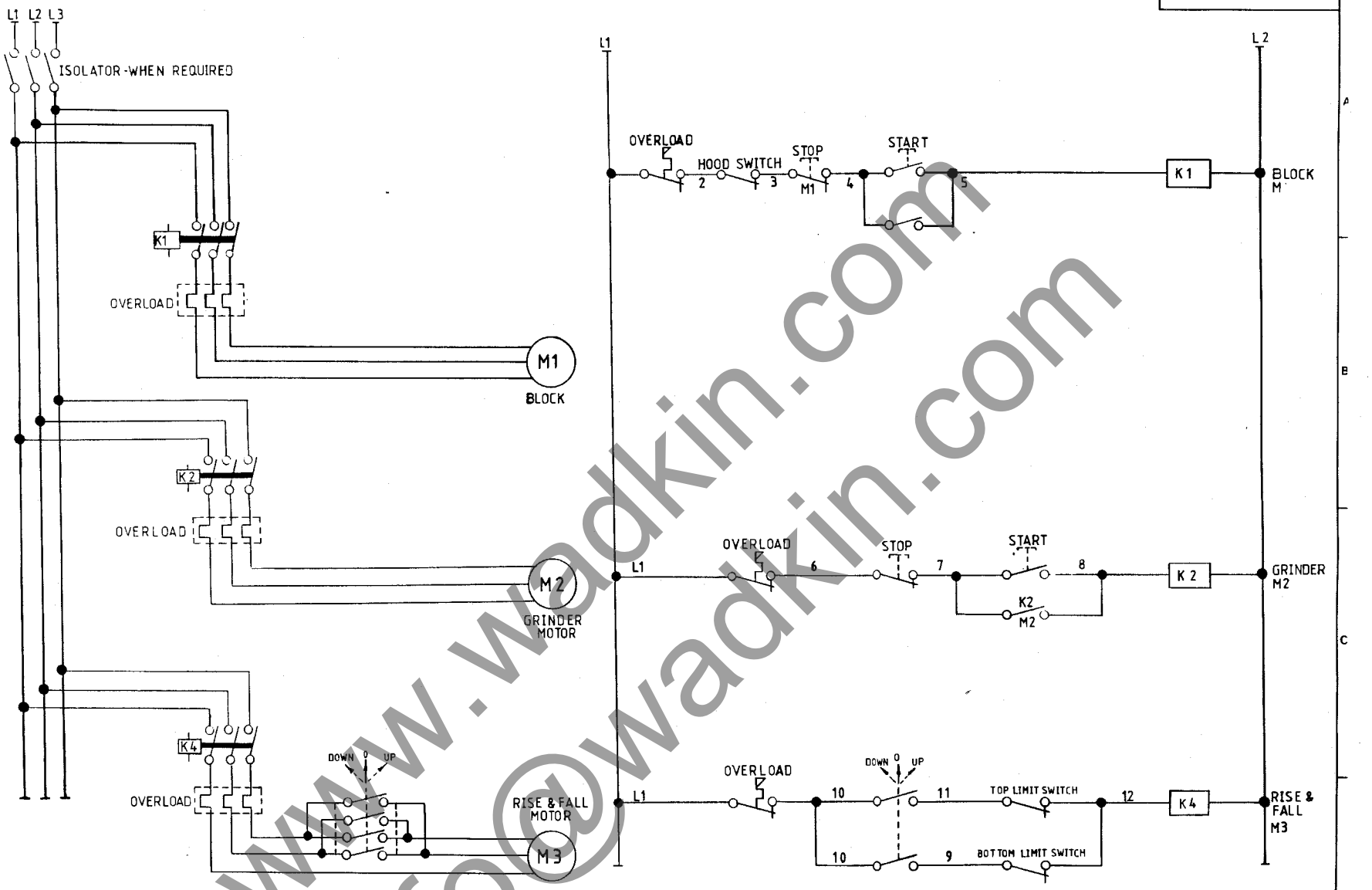


FIG. 8

GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

FLATNESS		0.04 IN ANY LENGTH UP TO 300 PLUS 0.04 300 THEREAFTER
STRAIGHTNESS		
SQUARENESS		
PARALLELISM		
RUN OUT		0.08mm T I R MAX
CYLINDRICITY		0.02mm MAX
ANGULARITY		± 0.25° MAX
SYMMETRY		
WHOLE NUMBERS		± 1mm NON ACCUMULATIVE
1 DECIMAL PLACE		
2 DECIMAL PLACE		± 0.1mm
9	6.3 2.5 0	MICRONS ROUGH M/C
99	1.6 3.2	MICRONS FINISH M/C
999	1.6 1.2	MICRONS ROUGH GRD
9999	0.4 0.8	MICRONS FINISH GRD

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

FIRST ANGLE PROJECTION

ALT.	ALT.	ALT.	ALT.	Wadkin Durham Fence Houses Tyne & Wear	QTY.	MATERIAL
				DRAWN C.P. DATE 23-5-89 DESCRIPTION STANDARD WIRING DIAGRAM WITH GRINDER MOTOR	SCALE	PART No.

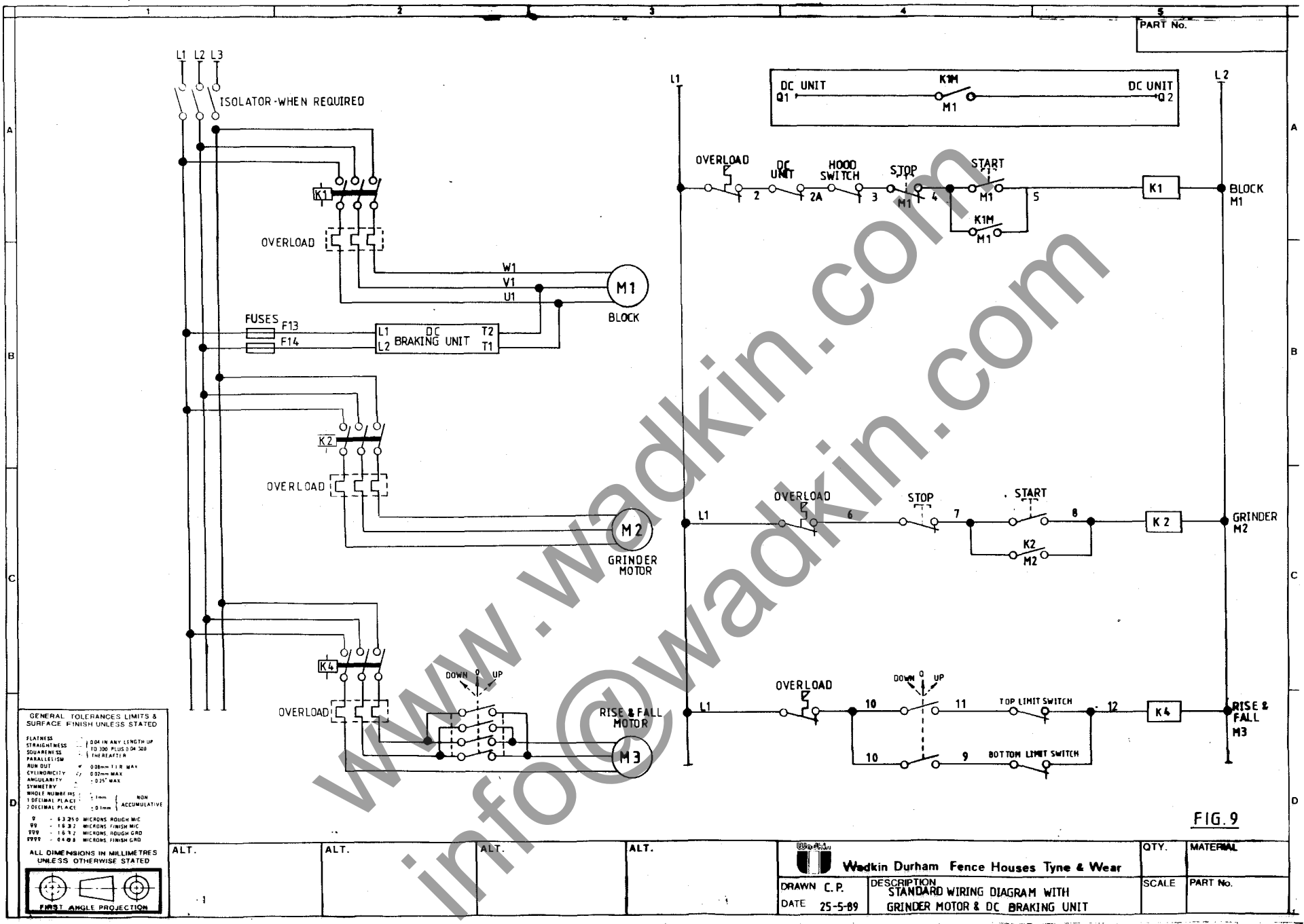


FIG. 9

PART No.

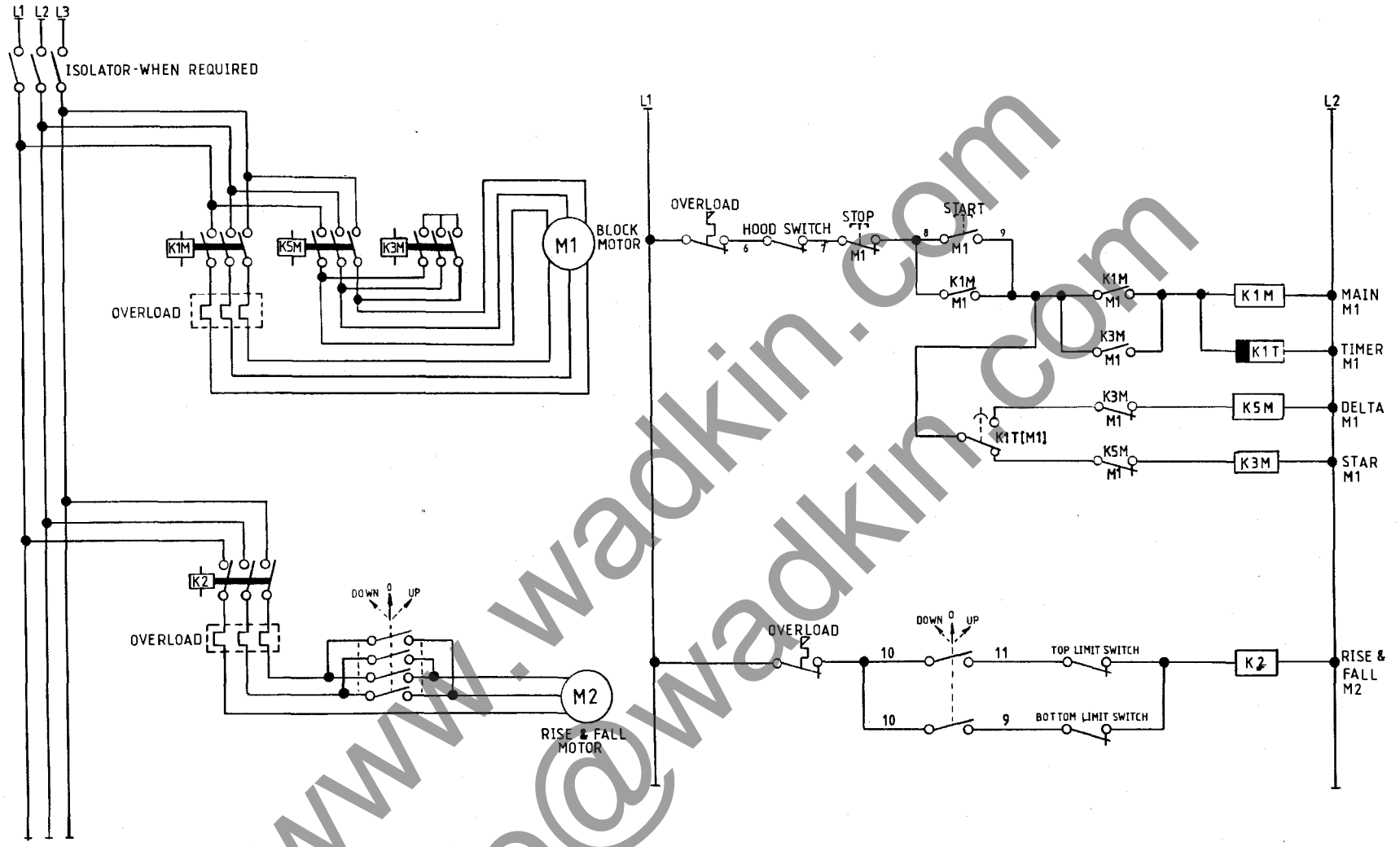


FIG. 10

GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

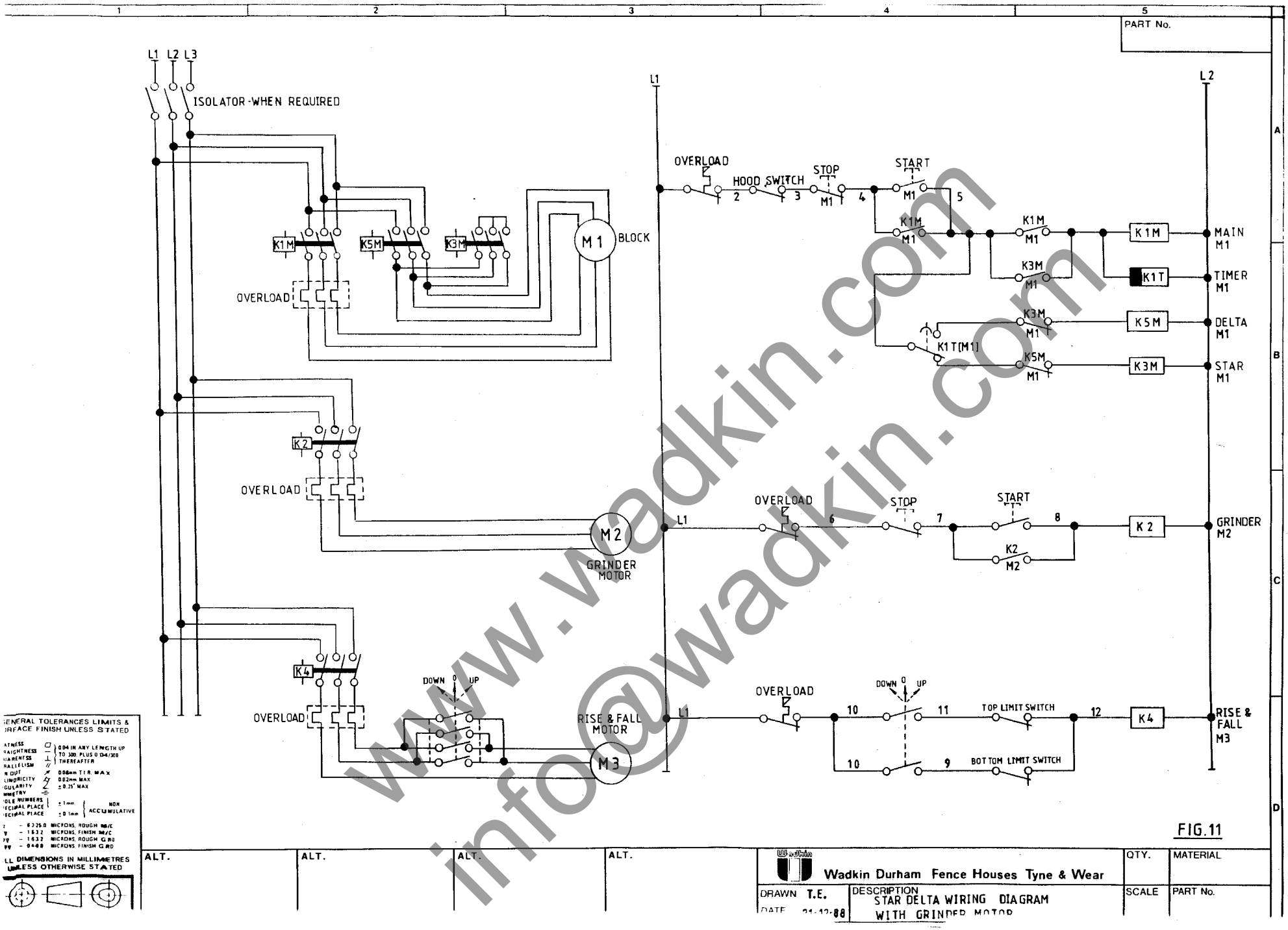
FLATNESS	0.04 IN ANY LENGTH UP TO 300 PLUS 0.04/300 THEREAFTER	
STRAIGHTNESS		
SQUARENESS		
PARALLELISM		
RUN OUT	0.08mm T.I.R. MAX	
CYLINDRICITY	0.02mm MAX	
ANGULARITY	± 0.25° MAX	
SYMMETRY		
WHOLE NUMBERS	± 1mm	NON ACCUMULATIVE
1 DECIMAL PLACE	± 0.1mm	
2 DECIMAL PLACE		
▽	6.3 2.5 0 MICRONS. ROUGH M/C	
▽▽	1.6 3.2 MICRONS. FINISH M/C	
▽▽▽	1.6 3.2 MICRONS. ROUGH GRD.	
▽▽▽▽	0.4 0.8 MICRONS. FINISH GRD.	

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

ALT.	ALT.	ALT.	ALT.

Wadkin Durham Fence Houses Tyne & Wear

DRAWN T.E.	DESCRIPTION	QTY.	MATERIAL
DATE 20-12-88	STAR DELTA WIRING DIAGRAM	SCALE	PART No.



GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

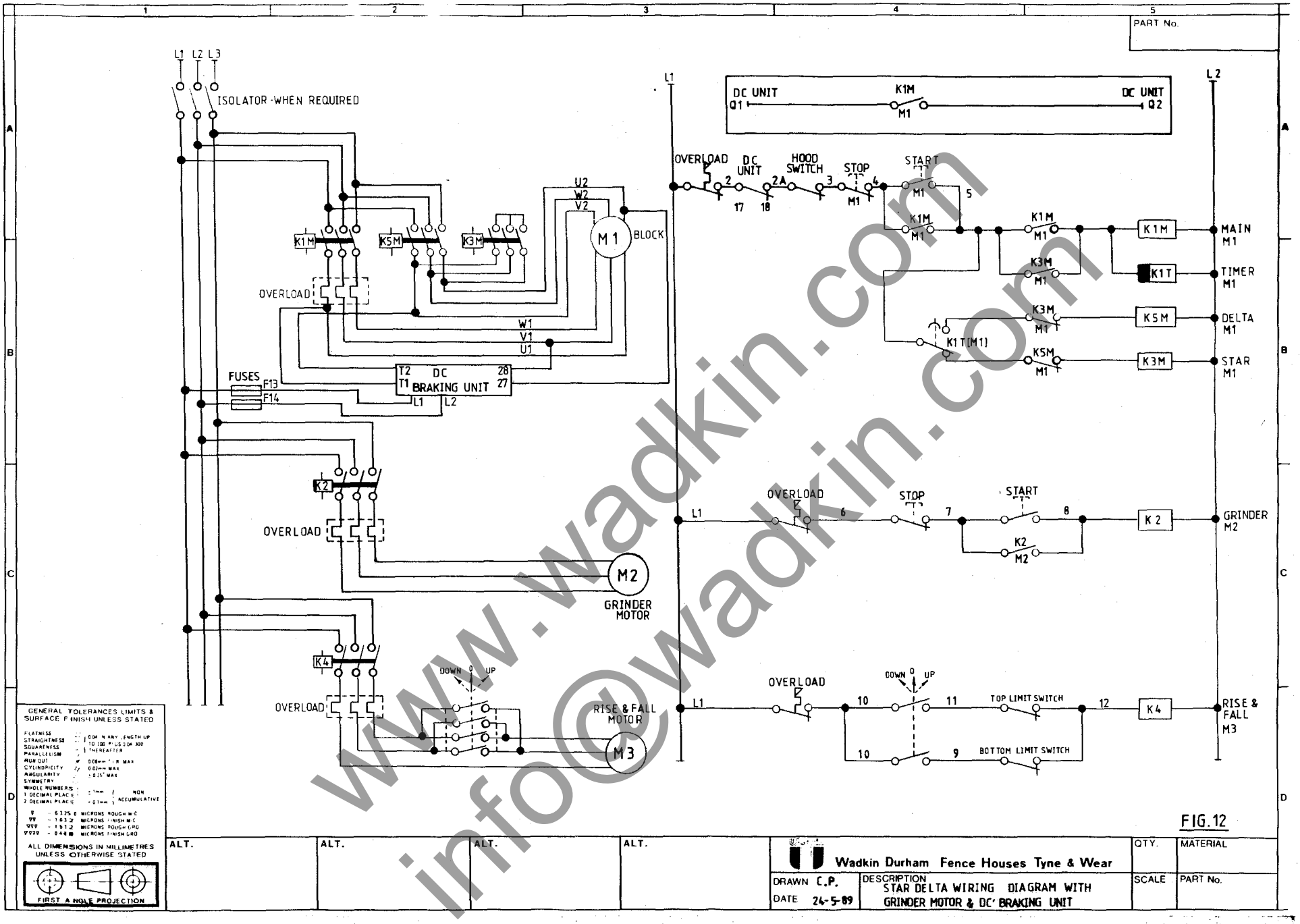
ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

ALT.	ALT.	ALT.	ALT.

Wadkin Durham Fence Houses Tyne & Wear

DRAWN T.E.	DESCRIPTION STAR DELTA WIRING DIAGRAM WITH GRINDER MOTOR	QTY.	MATERIAL
DATE 21-12-88		SCALE	PART No.

PART No.



GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

FIRST & NOLE PROJECTION

ALT.	ALT.	ALT.	ALT.	Wadkin Durham Fence Houses Tyne & Wear	QTY.	MATERIAL
				DRAWN C.P. DATE 24-5-89	SCALE	PART No.
				DESCRIPTION STAR DELTA WIRING DIAGRAM WITH GRINDER MOTOR & DC BRAKING UNIT		

FIG.12

PART No.

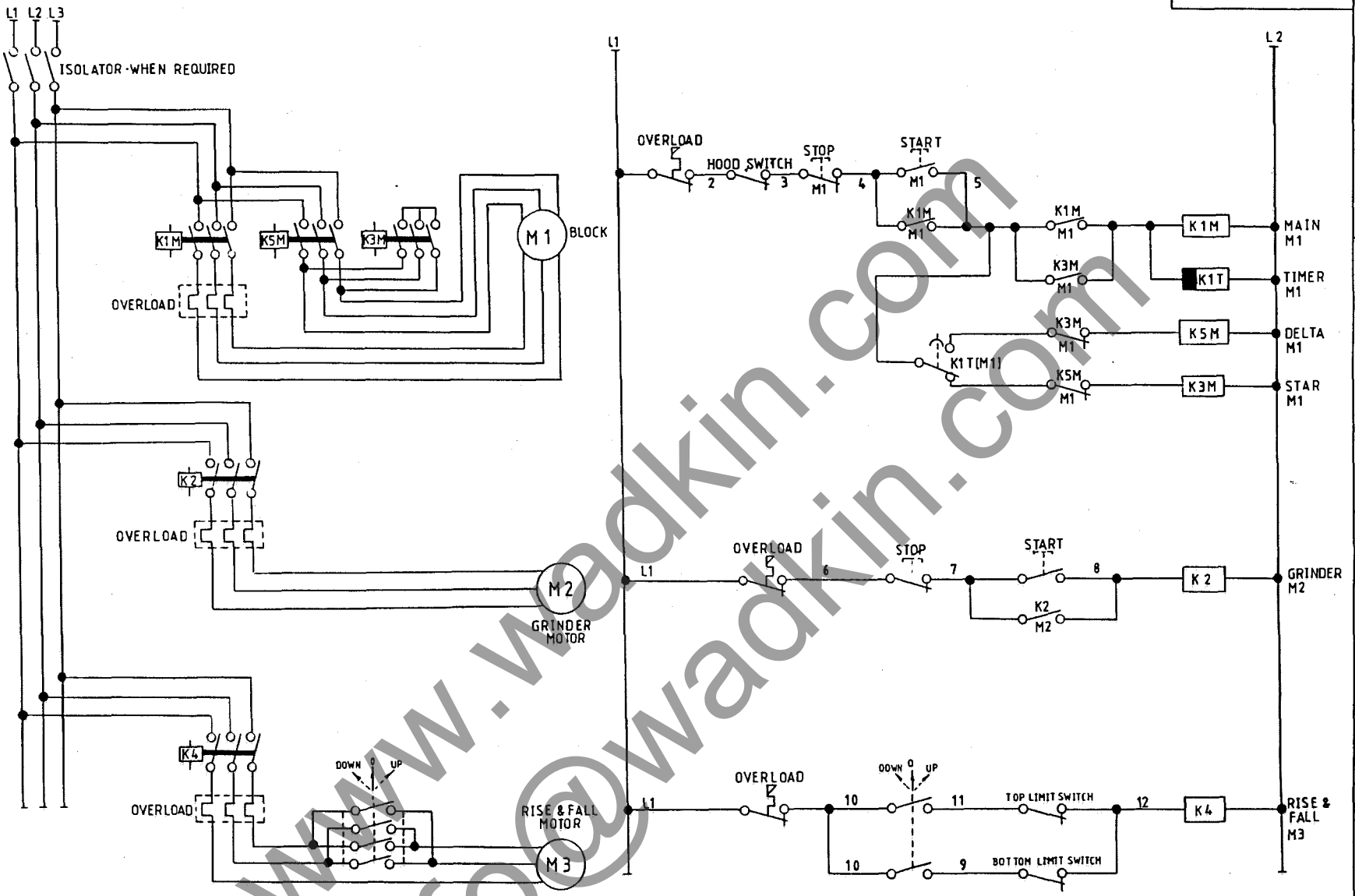


FIG.11

GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

ALT.	ALT.	ALT.	ALT.

Wadkin Durham Fence Houses Tyne & Wear

DRAWN T.E.	DESCRIPTION STAR DELTA WIRING DIAGRAM WITH GRINDER MOTOR	QTY.	MATERIAL
DATE 24-12-88		SCALE	PART No.

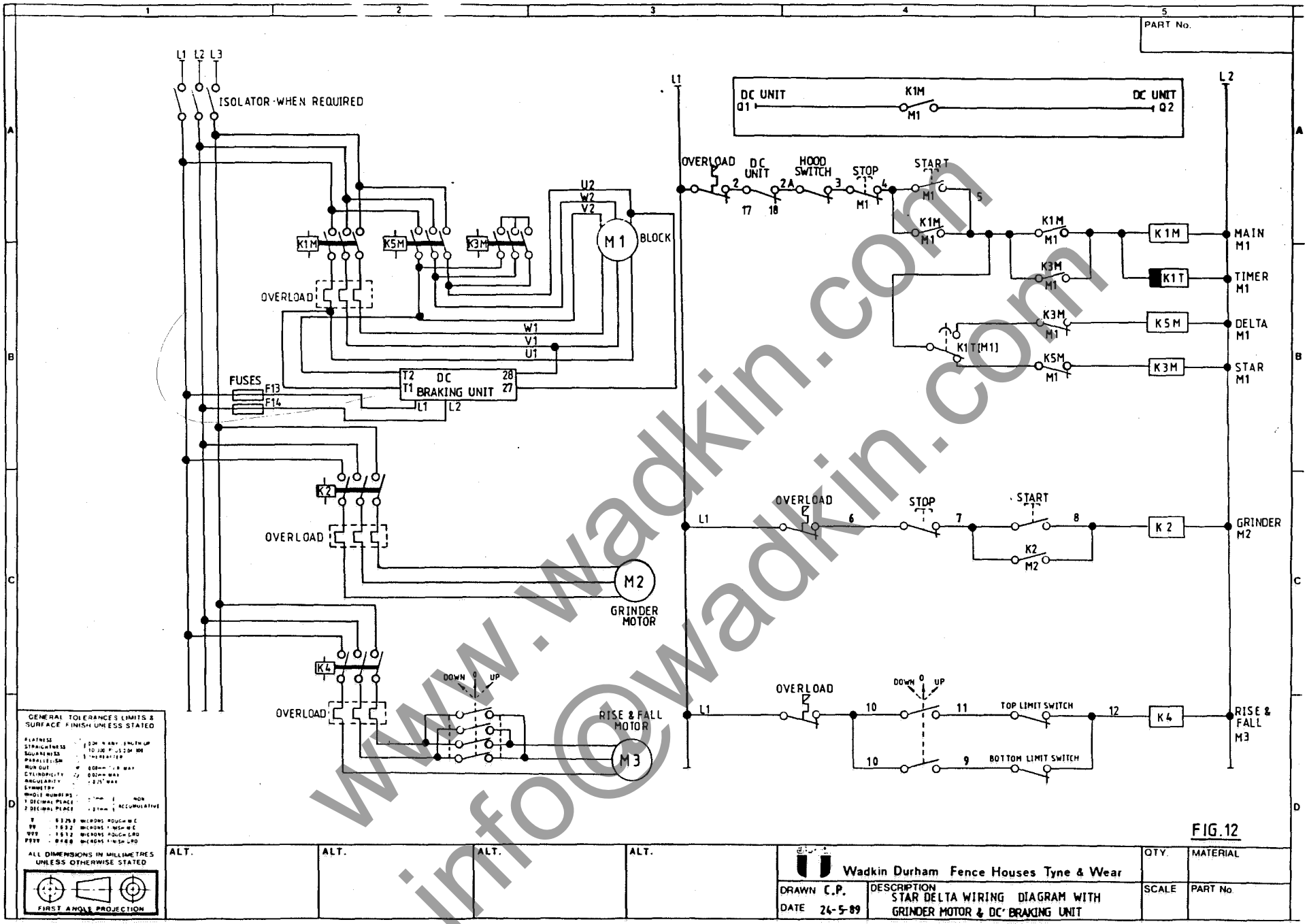


FIG.12

GENERAL TOLERANCES LIMITS & SURFACE FINISH UNLESS STATED

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

FIRST ANGLE PROJECTION

ALT.	ALT.	ALT.	ALT.	Wadkin Durham Fence Houses Tyne & Wear	QTY.	MATERIAL
				DRAWN C.P. DATE 24-5-89 DESCRIPTION STAR DELTA WIRING DIAGRAM WITH GRINDER MOTOR & DC BRAKING UNIT	SCALE	PART No.