WADKIN
BURSGREEN

INSTRUCTION MANUAL

DOUBLE-END PROFILING MACHINE

TYPE DP

British Standard Classification 81.13

DP 75121

BOOK No. B562

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TOP TRACKS
8-4-86

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INSTRUCTION MANUAL

BRIAN CONLON

ERIC BLAKESLEY T/C

Double-End Profiling Machine

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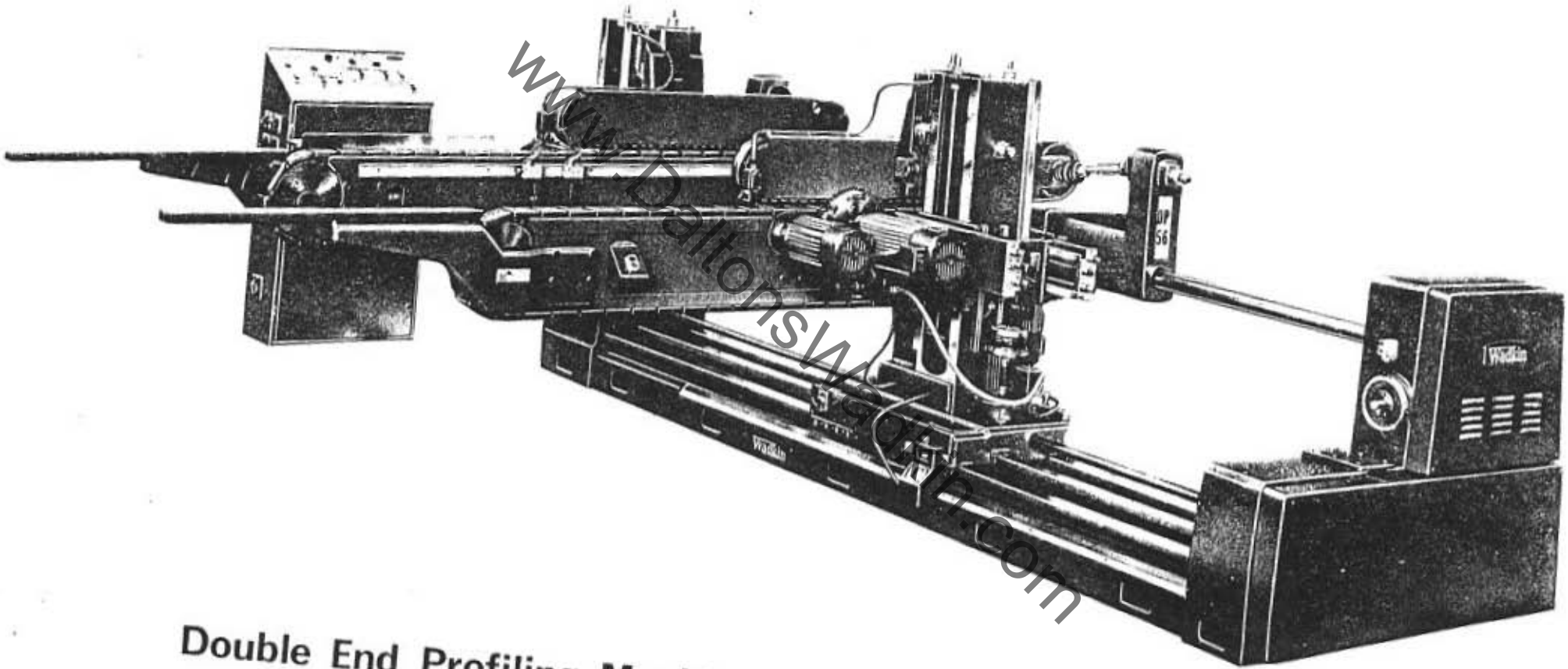
DP 75121

PLEASE INSERT SERIAL NUMBER OF MACHINE

DP 64/2 1975

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

INDEX



Double End Profiling Machine Type DP

SPECIFICATION

Max Thickness of Timber Admitted	150mm	6 in
Max distance across outside of chain tracks	1500mm	60 in
Max distance across outside of chain tracks	2500mm	102 in
Max distance across outside of chain tracks	3200mm	126 in
Min distance across outside of chain tracks	162mm	6.3/8 in
Spindle diameter	35mm	35 mm
Beam capacity with forward feeding dogs		
48 pitch chain		
56 pitch chain		
64 pitch chain		
Max depth of timber pressures will admit	150mm	6 in
Max overhang track to column	200mm	8 in
Standard feed speeds, infinitely variable	3 to 23 m/min	10 to 75.4 ft/min
Optional feed speeds infinitely variable	6 to 46 m/min	20 to 151 ft/min
Horsepower, feed motor	3KW	4 hp
Standard horsepower, DP type head motors	4KW*	5.5 hp*
Speeds of DP type head motors, 50 hertz	3000 and 6000 rev/min	
Speeds of DP type head motors, 60 hertz	3600 and 7200 rev/min	
Horsepower, WN type head motors (except jump dado and scoring heads)	3.7KW*	5 hp*
Speed of WN type head motors, 50 hertz	3000 rev/min (6000 rev/min with high frequency)	
Speed of WN type head motors, 60 hertz	3600 rev/min (7200 rev/min with high frequency)	

*5.5 KW (7.5 hp) motors available to special order

SLINGING

Each machine leaves the works with lifting cradles attached.

Secure lifting gear to the cradles and move machine into position.

NOTE: Upon completion of slinging the cradles should be returned to WADKIN-BURSGREEN for credit.

CLEANING

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

RE–ASSEMBLY OF MACHINE

For transportation reasons parts of the machine have been dismantled. To re-assemble machine proceed as follows:-

MACHINES WITH NON - DRIVEN TOP PRESSURES

1. Place sling around chain beam for fixed column then lift into a position near to the mounting bracket "A" in FIG 1.

2. Connect the air pipe "B" by the straight connector to the air pipe on the chain beam.

3. Locate 2 taper dowels (supplied with machine) in holes "C" and secure with 10mm locknuts and washers.

4. Fit chain beam to mounting bracket "A" ensuring the 2 taper dowels locate positively in chain beam.

5. Secure chain beam by 6-16mm bolts and washers (supplied with machine) fitted through holes "D" in mounting bracket.

6. Place sling around chain beam for adjustable column then lift into a position near to the mounting bracket "A" in FIG 2 on the adjustable column.

7. Connect the air pipe "B" and oil pipe "C" by the straight connectors to the appropriate air and oil pipes in the chain beam.

NOTE: These pipes are labelled to ensure correct connection.

8. Connect the electrical wires "D" to the appropriate wires in the chain beam (for FEED SWITCH operation)

9. Locate 2 taper dowels (supplied with machine) in holes "E" and secure with 10mm locknuts and washers.

10. Fit chain beam to mounting bracket "A" ensuring the 2 - taper dowels locate positively in the chain beam.

11. Secure chain beam by 6 - 16mm bolts and washers (supplied with machine) fitted through holes "F" in the mounting bracket.

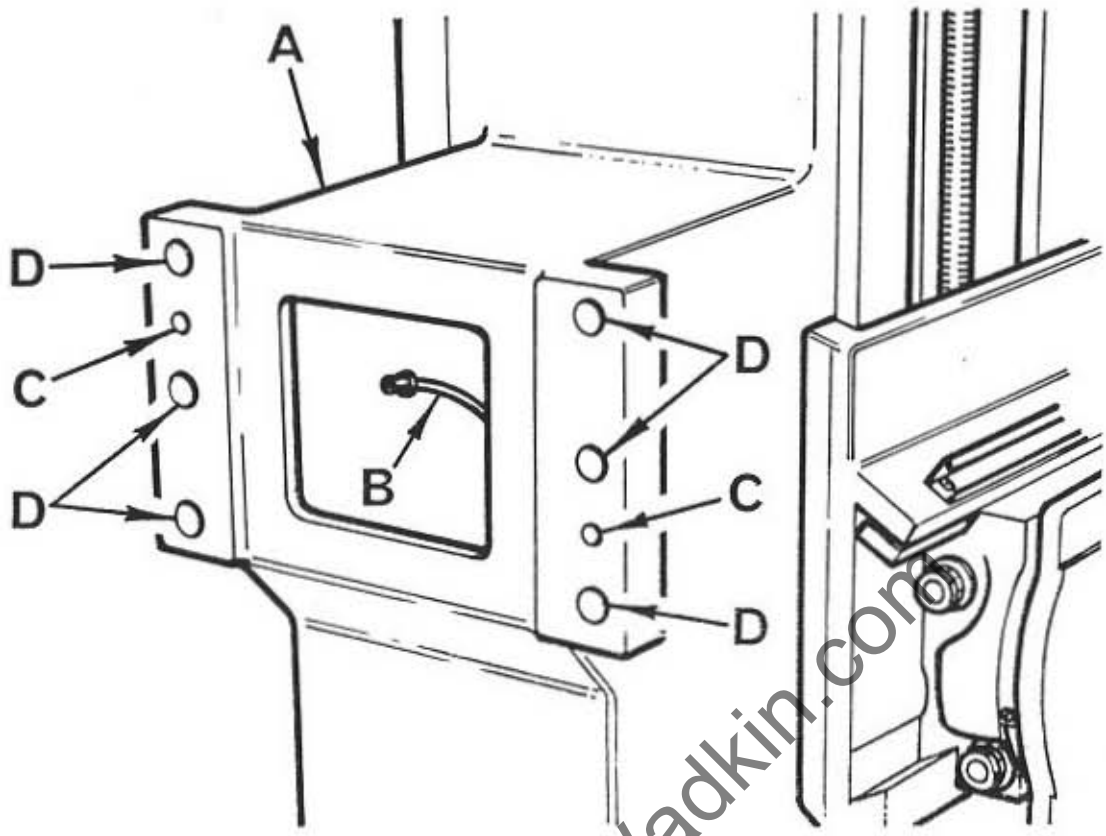


Fig 1

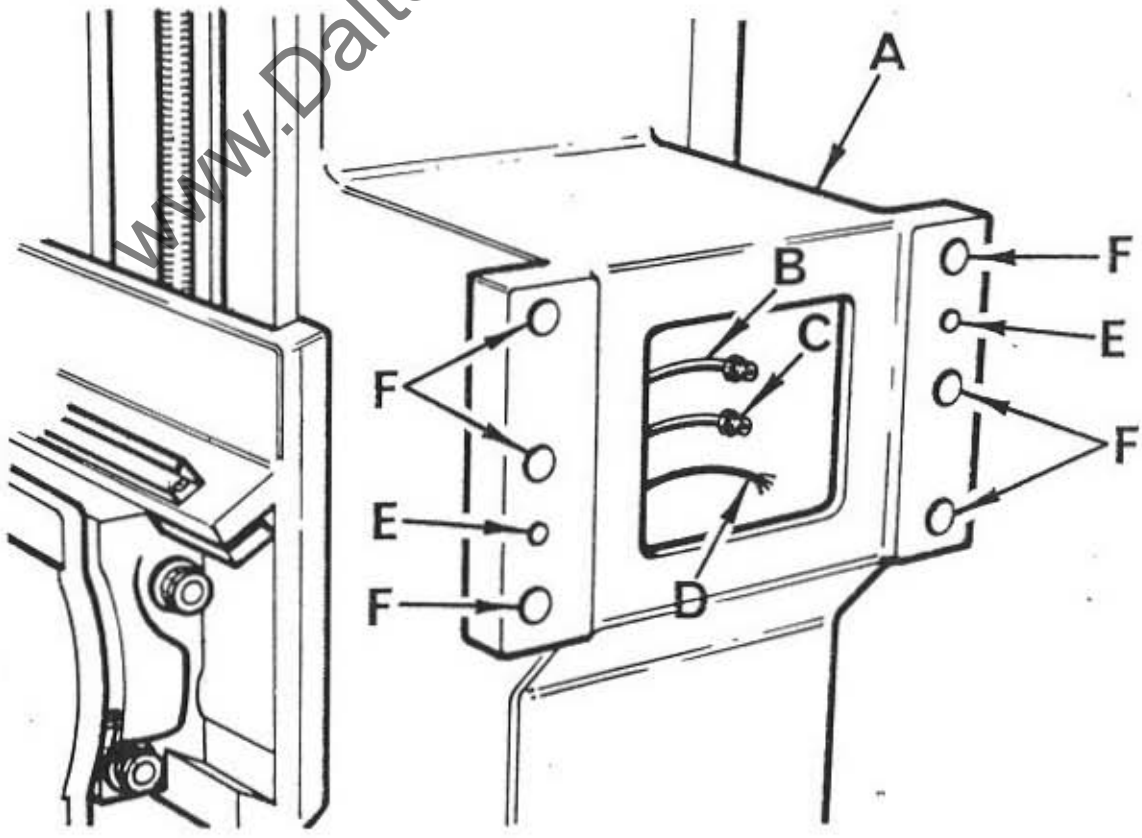


Fig 2

RE–ASSEMBLY OF MACHINE CONT'D

MACHINES WITH DRIVEN TOP PRESSURES

Assembly is the same as for machines with non-driven pressures with the only difference being as follows:-

1. When fitting each chain beam the pressure drive shafts "A" in FIG 3 must be keyed together as a sliding fit.

2. The chain beams can then be secured as previously described in MACHINES WITH NON-DRIVEN TOP PRESSURES.

MACHINE FITTED WITH EXTENSION COLUMN (EXTRA)

Assembly is the same as previously described with the difference being as follows:-

1. When fitting each chain beam the beam must be located on the 2 - dowels fitted to the extension column "A" in FIG 4

2. The beam can then be secured by 4 - 12mm socket head capscrews "B".

RE-ASSEMBLY OF BACKSHAFT

The backshaft should be re-fitted as follows:-

1. Insert backshaft "A" in FIG 5 through 2 - chain beam driving sprockets and locate in backshaft coupling "B".

2. Secure backshaft in coupling "B" by 12mm grubscrew fitted to coupling.

3. Secure backshaft in fixed beam driving sprocket by 8mm socket head capscrew fitted to driving sprocket.

4. Fit cover to end of backshaft on fixed chain beam.

MARKING OUT

Mark out floor, using floor plan supplied with machine and drill to suit 16mm ragbolts. These are not supplied with the machine but are available on request at additional cost.

LEVELLING

1. Locate centre hole of each steel packing piece "A" in FIG 6 (supplied with machine) over each 16mm foundation ragbolt.

2. Refer to SLINGING and move machine into position ensuring all holes in machine base locate on 16mm ragbolts and packing pieces as shown in FIG 6

3. Level bed to within .001"in 10" (0.1mm per 1,000mm) of length and width by adjustment of 2 - 16mm hexagon head bolts "B" in FIG 6 fitted to each steel packing piece.

4. When machine is level, fully tighten all the 16mm ragbolts protruding through holes in machine base.

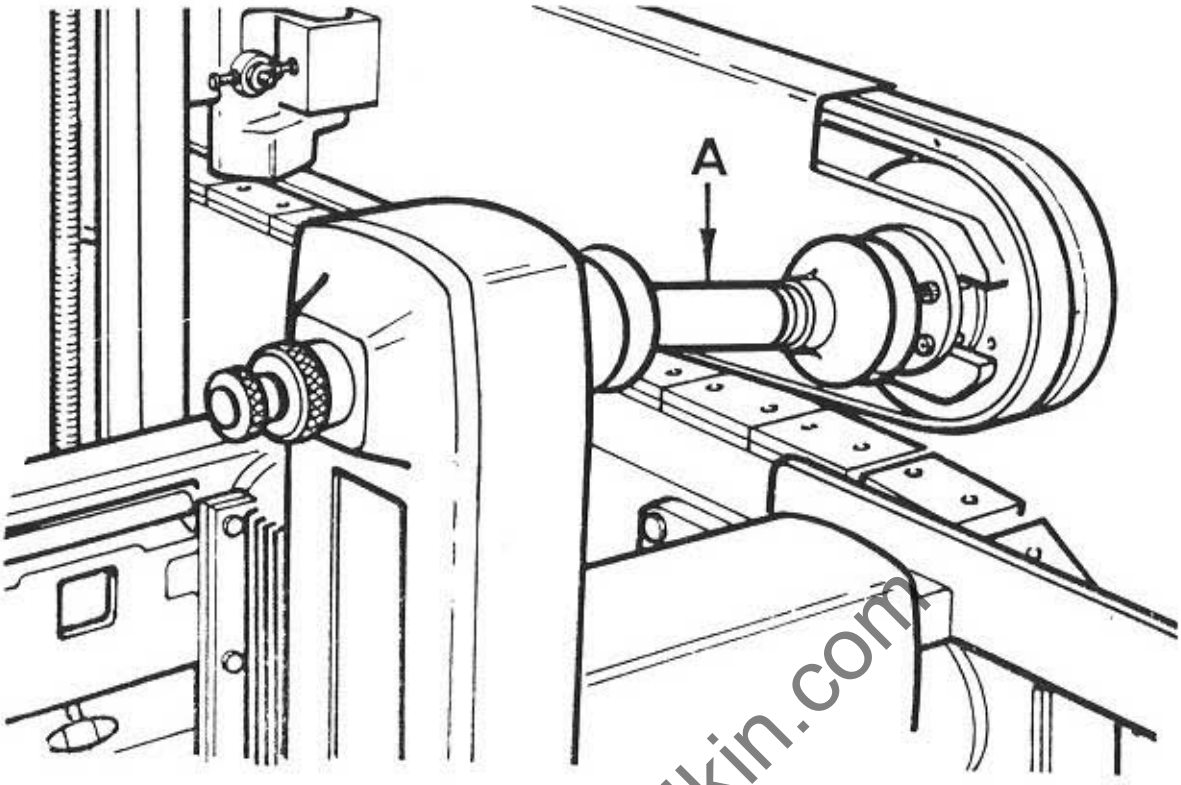


Fig 3

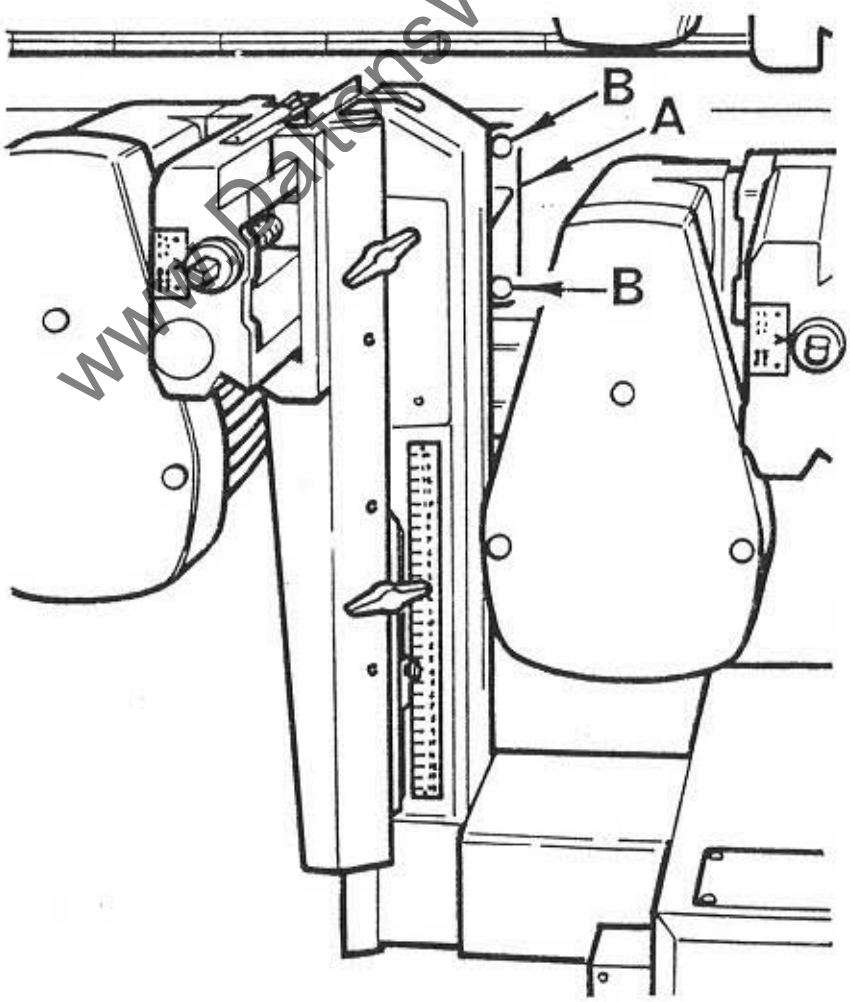


Fig 4

WIRING DETAILS

The motors and control panel 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 that the electrical supply details on the machine nameplate correspond to the supply available.

2. Check that the main fuses are correct. See chart on enclosed wiring diagram

3. Connect the incoming supply leads to the appropriate terminals on main isolating switch.

4. Check that all connections are sound.

5. Check that the adjustable headstock moves in the correct direction.

6. If directions of traverse are incorrect change over any two of the wires on the incoming supply. All the other movements will be found to be correct when the traverse is correct.

DUST EXHAUST SYSTEM

See Foundation Drawing. Further information on request.

PREPARATION FOR OPERATION

1. Remove six screws "A" in FIG 7 from two backshaft drive covers "B" remove covers.

2. Remove oil level plug "A" in FIG 8 from side of backshaft gearbox "B" and check that oil level is up to bottom of hole. Top up if necessary, using correct grade of oil. See Approved Lubricants Page 26.

3. Grease variable pulleys "C & D" in Fig 3 at points "E" & "F" as follows:-

a) Machine used 8 hours per day - Grease once weekly.

b) Machine used 16 hours per day - Grease twice weekly.

c) Machine used 24 hours per day - Grease three times weekly.

4. Replace backshaft drive cover.

5. Unscrew combined filler cap - dipstick "A" in FIG 9 from traverse worm gearbox "B" and check that oil up to correct mark shown on dipstick "A". Top up if necessary, using correct grade of oil. See Approved Lubricants Page 26.

6. Check that oil us up to oil level mark "A" in FIG 10 on lubrication unit "B" fitted to adjustable saddle. To top up if necessary using correct grade of oil, remove oil filler plug "C" top up to the oil level mark "A" then replace filler plug "C". See Approved Lubricants Page 26.

7. Grease backshaft gearbox at point "G" in FIG 8
Two shots of grease every 6 month.

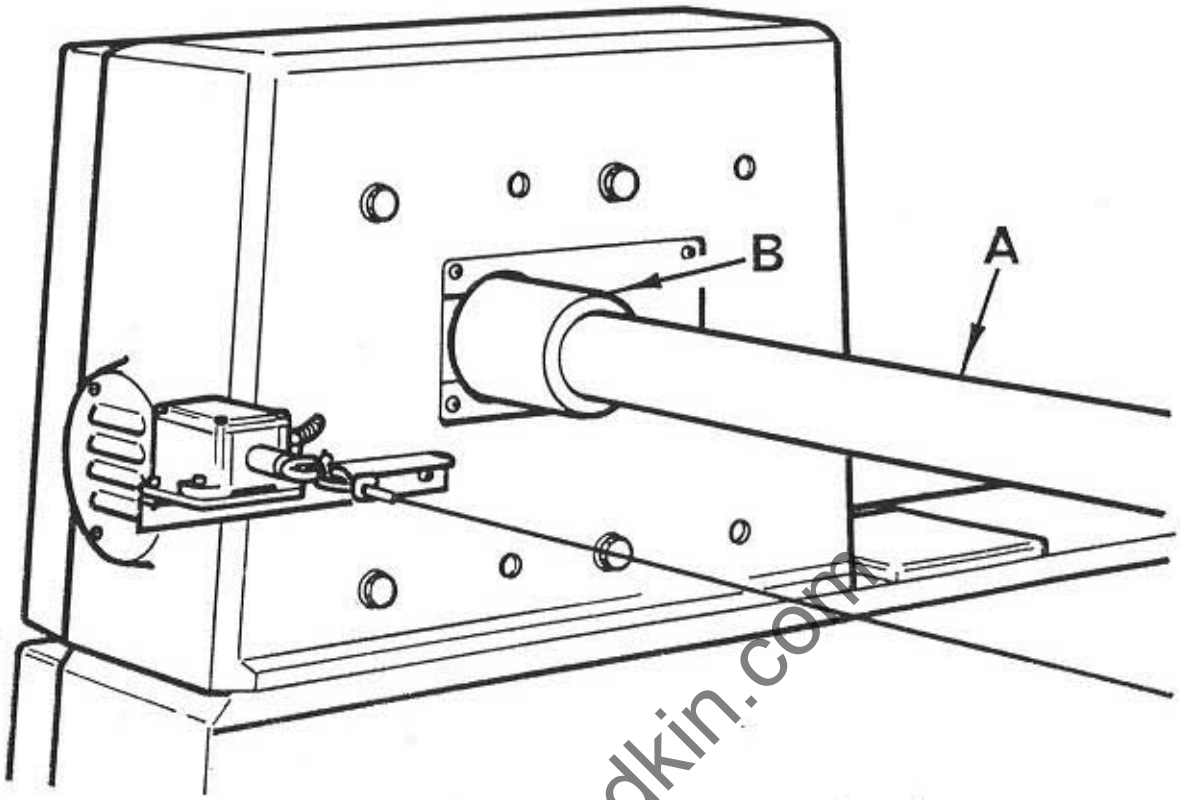


Fig 5

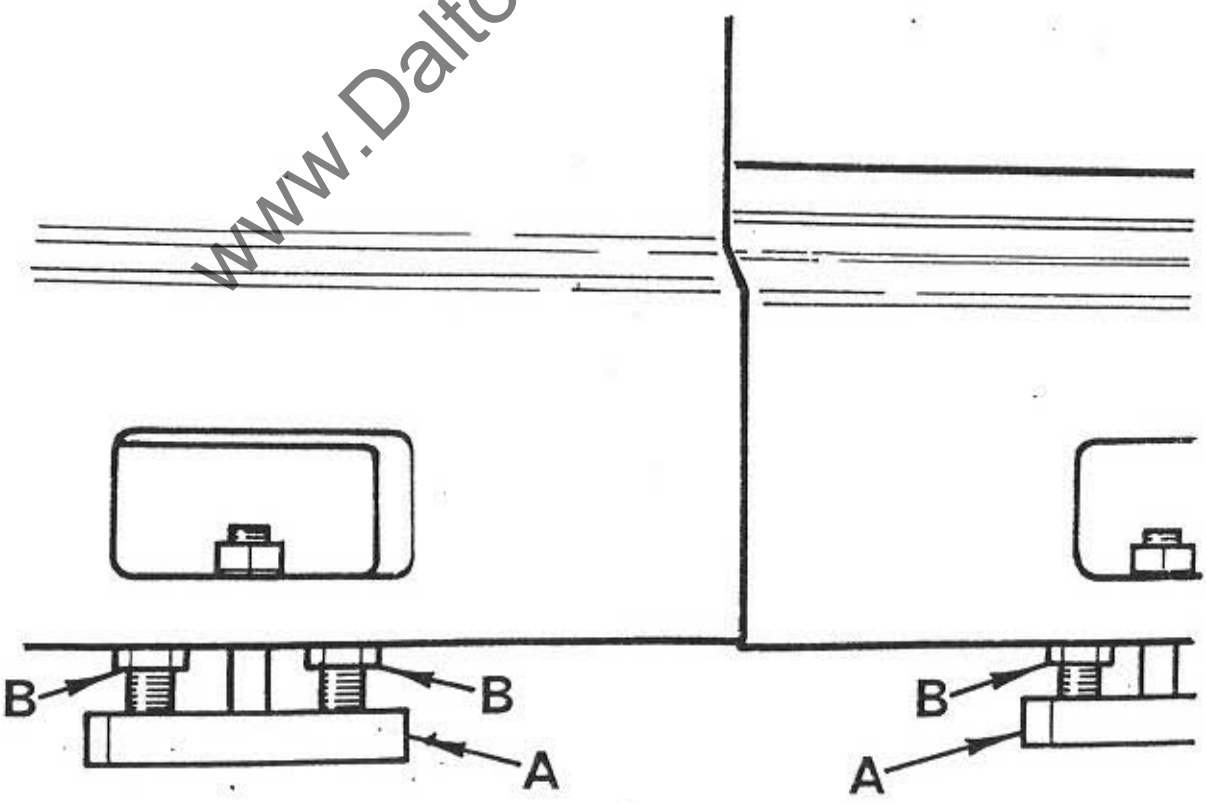


Fig 6

PREPARATION FOR OPERATION CONT'D

8. The machine must be connected at point "A" in FIG 11 to a compressed air supply.
This is for air cleaning of the tracks and operation of jump scorer or relisher if fitted.
Check the bottles "B" to ensure that they have not been cracked or damaged during transit.
Check that oil is up to level mark "C" and if necessary remove filler plug "D" and top up using correct grade of oil. See Approved Lubricants Page 26.
Replace filler plug "D".
Set pressure by regulating pressure knob "E" until 80 lb/in^2 is shown on guage.

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

CONTROLS

"A" Machines with all belt driven heads have a control console layout as follows:-

1. Individual head START/STOP push buttons on top of console.
Each push button shows an orange indication light when head is powered.

2. Head FORWARD/REVERSE switches are fitted to the side of console.

3. A FEED BUTTON is mounted on the top of console.
For convenience an additional FEED BUTTON is mounted on the traverse chain beam.

4. A MASTER STOP button is situated on the top of console.

5. An ISOLATOR SWITCH is fitted to the lower front of console.

"B" Machines with mixed drive heads ie (belt driven and direct motor driven) or machines with all direct driven heads and frequency changer have controls as follows:-

1. Individual head START/STOP push buttons on top of console.
Each push button shows an orange indication light when head is powered.

2. A FREQUENCY CHANGER push button on left side of console.
NOTE: This button when operated in conjunction with individual SPEED/DIRECTION switches will give high speed to selected heads.

3. Individual head SPEED/DIRECTION switches on left side of console.
NOTE: Each switch can be moved either left or right from the central OFF position depending on required head rotation direction.
Switch in position I for standard speed.
Switch in position II for high speed with FREQUENCY CHANGER button operated.

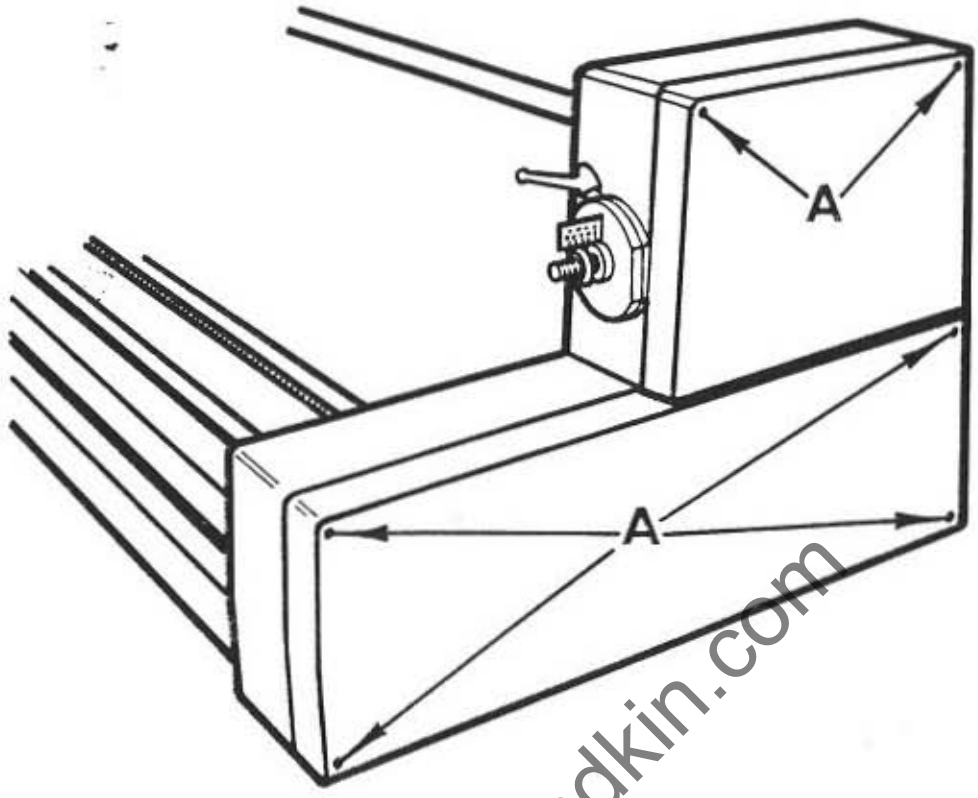


Fig 7

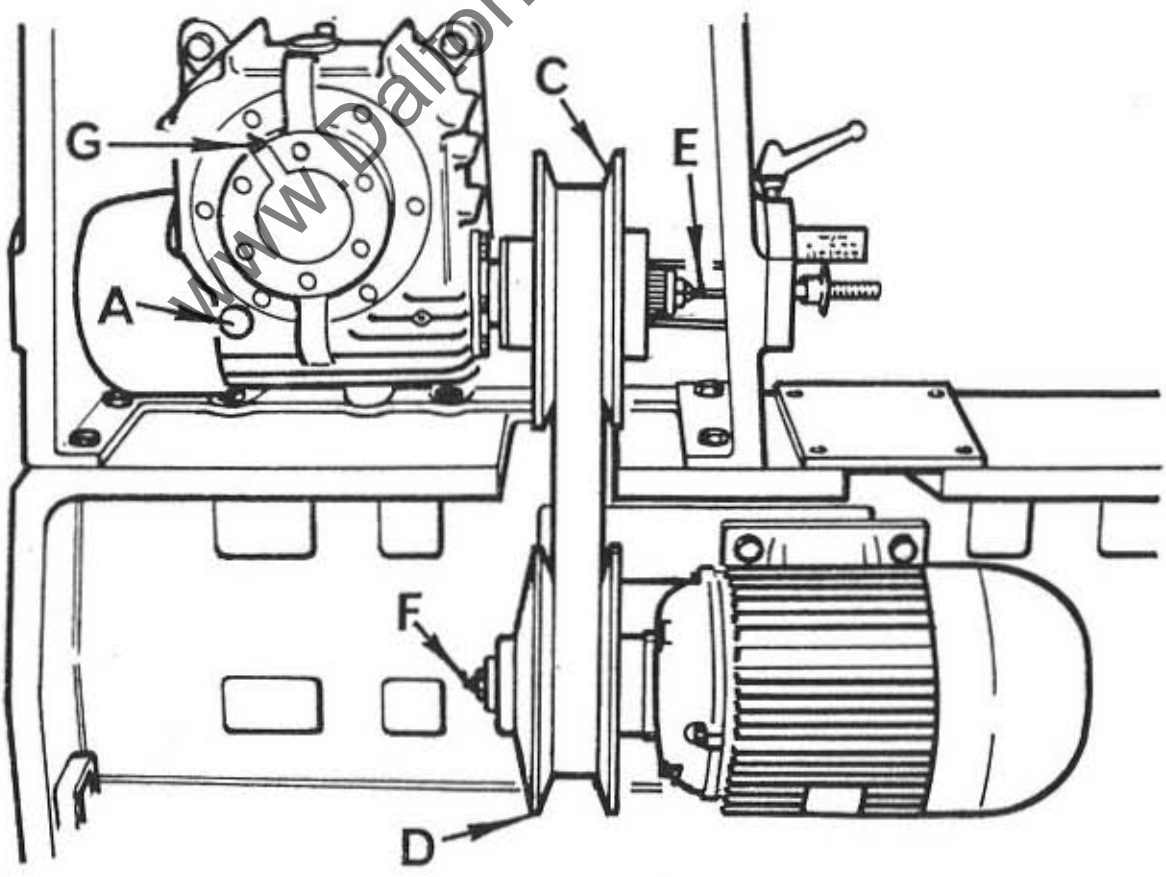


Fig 8

CONTROLS CONT'D

4. A FEED BUTTON is mounted on the top of console.
For convenience an additional FEED BUTTON is mounted on the traverse chain beam.

5. A MASTER STOP button is situated on the top of console.

6. AN ISOLATOR SWITCH is fitted to the lower front of console.

TRAVERSE SWITCH

All machines have the TRAVERSE SWITCH fitted to the traverse motor which is situated on the adjustable saddle.

Operation of the TRAVERSE SWITCH is as follows:-

1. Switch in centre position stops traverse.

2. Switch deflected either right or left traverses the column assembly as required.

NOTE: When switch is released it returns to the centre stop position.
Cut out switch fitted on machine bed automatically stops beam at approx 100mm from farthest possible traverse position at either end of bed.

ADJUSTMENTS

TOP PRESSURE ADJUSTMENT

Each top pressure beam has 3 lateral adjustment positions for specific types of works, eg:-
Profiling of built up sashes and rebating etc.

To adjust each pressure beam laterally proceed as follows:-

1. Loosen 2 - hexagon locking screws "D" in FIG 12

2. Move pressure beam laterally to allow 2 - pressure lateral adjustment bobbins "E" to be rotated by hand to the required lateral pressure position.

NOTE: When the correct lateral pressure position is selected, either one of the 3 lateral stops "F", "G" or "H" must be in contact with the pressure beam stop "I". The same stop must be selected at each side of the pressure beam slide "J".

3. When the required lateral position is selected, push the pressure beam securely against the selected stops and relock 2 - hexagon locking screws "D".

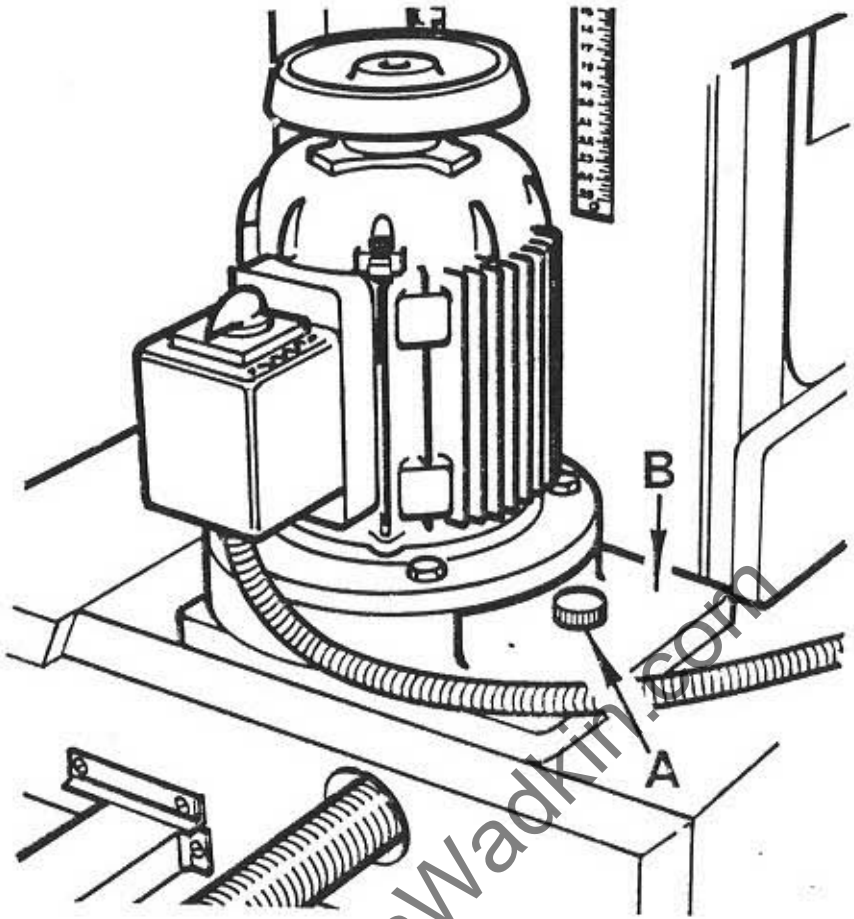


Fig 9

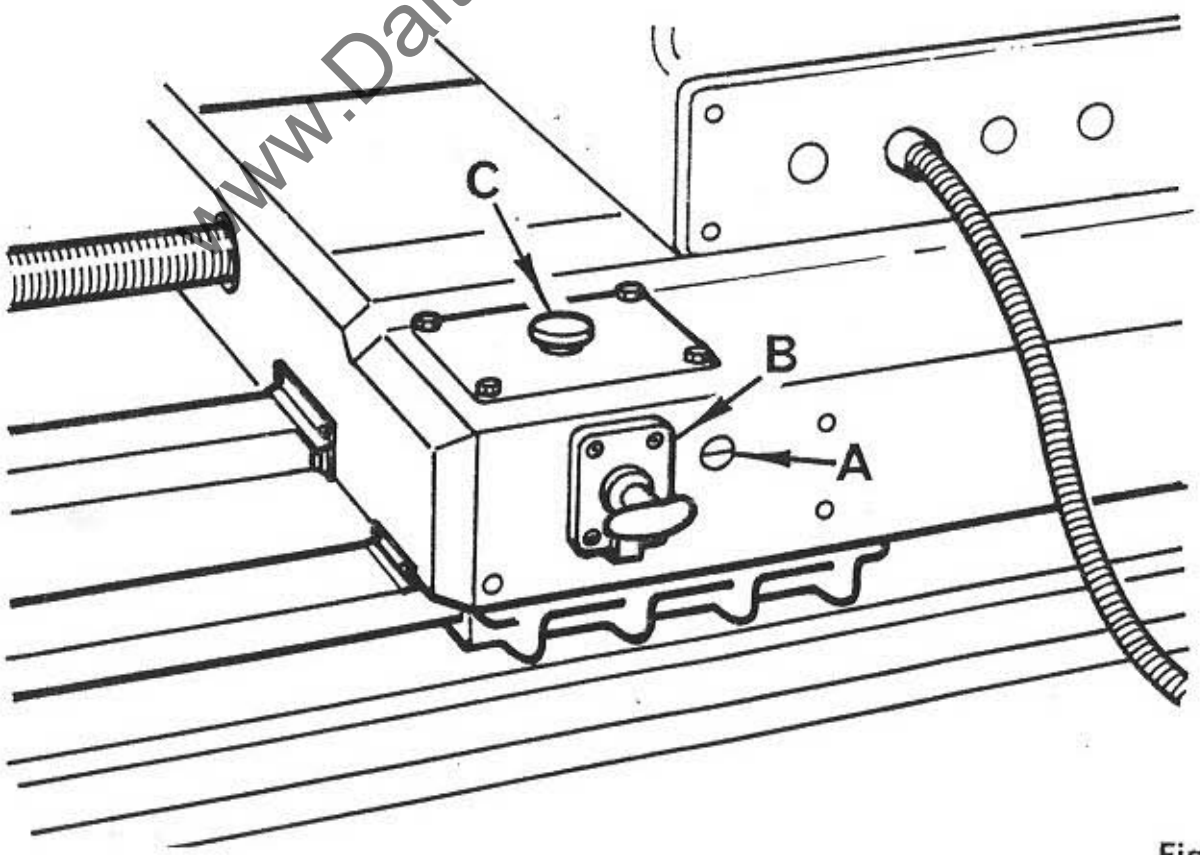


Fig 10

ADJUSTMENTS CONT'D

CLUTCH DRIVE TO TOP PRESSURES(EXTRA) (TOP DRIVEN PRESSURES ONLY)

Drive to each top pressure is through a friction clutch controlled by handwheels "A" in FIG 13. This feature compensates for the feed speed differential between tracks and top pressures. Drive to each top pressure can be completely disengaged by removing pressure from the friction clutch by means of the handwheels "A".

COLUMN TRAVERSE ADJUSTMENT

Traverse of adjustable column is by means of the TRAVERSE SWITCH as previously described in "Controls" section. For fine adjustment of traverse, a handwheel "A" in FIG 14 is fitted to traverse motor "B". For accurate adjustment a traverse scale is fitted to the bed slide and is indicated by a illuminated magnified pointer mounted on the adjustable saddle.

FEED SPEED ADJUSTMENT

Ensure motor is running before attempting to adjust variable feed speed or damage may occur to belt and pulleys (see Controls section for FEED SWITCH)
For variable feed speed adjustment proceed as follows:-

1. Release locking handle "A" in FIG 15

2. Using cranked handle (supplied with machine) scale "B" and pointer "C", turn adjusting screw "D" to increase or decrease speed.

3. When set re-lock locking handle "A".

SETTING UP MACHINE

Ensure locks are free before making adjustments:

TYPE "A" HEADS - DIRECT DRIVEN
TYPE "B" HEADS - BELT DRIVEN

1. TYPE "A" & "B" HEADS
Set each head vertically by loosening locking handle "A" in FIG 16 and position head by vertical adjustment screw "B" in-conjunction with height scales "C" on columns and micro adjustment scales "D" fitted to each vertical adjustment screw. Relock locking handle "A".

2. TYPE "A" HEADS
Set heads at required angle by loosening locking screw "A" in FIG 17 canting head unit "B" to required angle by canting screw "C"in-conjunction with the canting scale fitted to the motor mounting boss and micro adjustment scale fitted to canting screw. Relock locking screw "A".

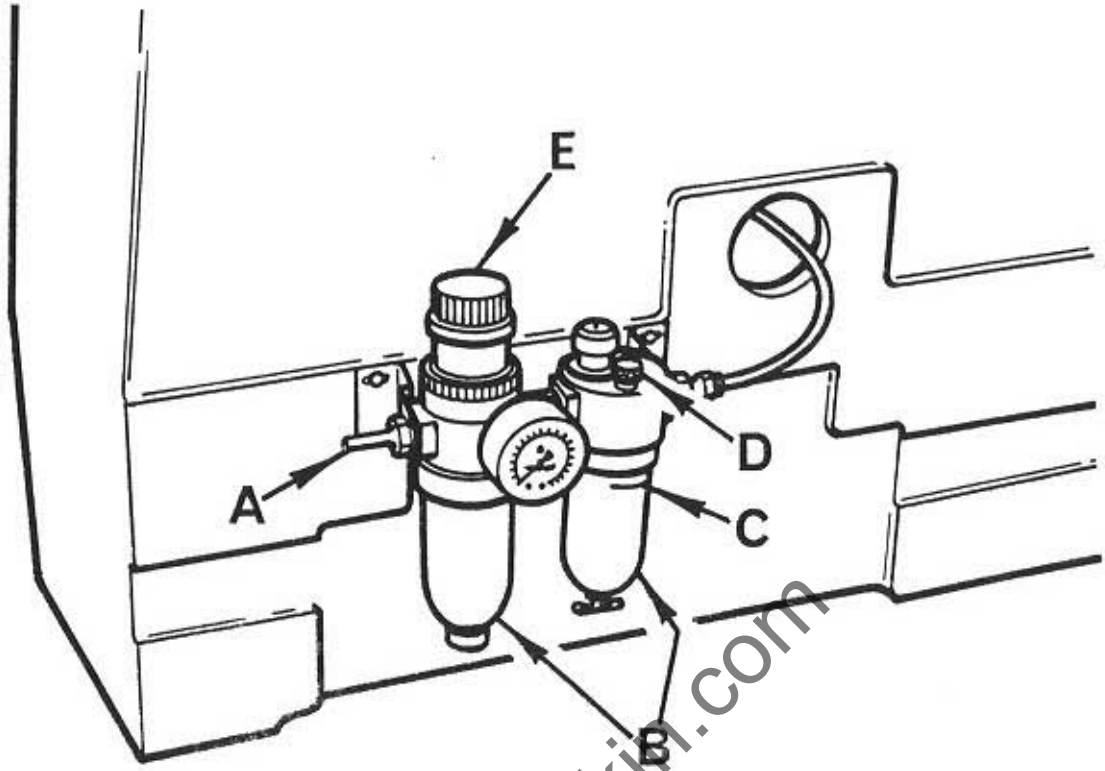


Fig 11

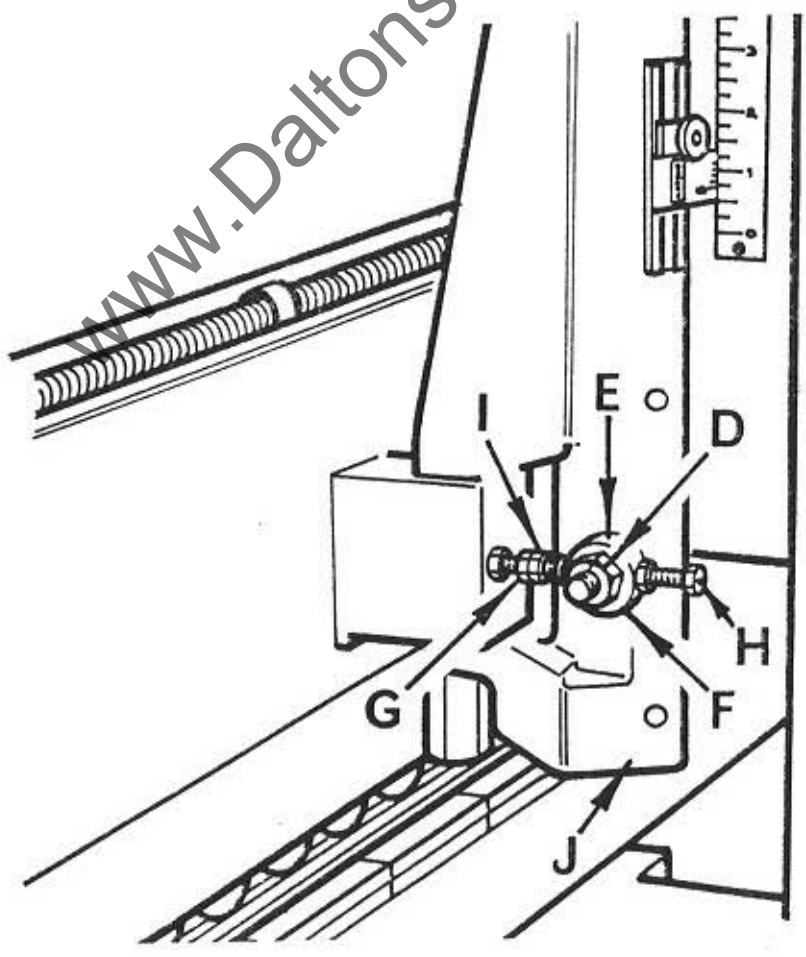


Fig 12

SETTING UP MACHINE CONT'D

3. TYPE "B" HEADS
To set heads to required angle manually support motor and belt drive housing "A" in FIG 18 then loosen 2 - 12 mm locking nuts "B" which are situated at the rear of the head canting boss. Move head assembly to required angle using the canting scale "C". Relock 2 - 12mm locknuts "B".

4. TYPE "A" & "B" HEADS
Set heads at required lateral position by loosening locking screw "D" in FIG 17, adjusting head laterally to required position by means of screw "E" in conjunction with scale fitted to top of lateral slide housing and micro adjustment scale fitted to lateral adjustment screw. Relock locknut "A".

5. Set top pressure beams to thickness of timber:-
Loosen locking handle "A" in FIG 19. Adjust pressure beam vertically by screw "B" in conjunction with accurate timber thickness scale "C" fitted to the pressure beam slide. Relock locking handle "A".

6. Set number of disappearing drive dogs required. Those not required should be secured below level of track as follows:-
Place special key (supplied with machine) over square of dog, depress and give half turn to secure dog below track.
To release dogs reverse above procedure.

NOTE: Various types of dogs (EXTRA) are available for specific types of work eg:-

Disappearing Dogs Core Stock Dogs	Panels
Flat Back Dogs Finger Dogs Hold Back Dogs	Joinery

Further information on the above dogs is available on request.

7. When crosscutting narrow board etc., feed against front of dogs, when feeding large panels feed against rear of dogs (back dog)
Drive to pressures should be adjusted to suit various operations.
Adjusting instructions are as follows:-

A. When feeding timber against front of dogs (ie with dogs pushing timber) the drive to the pressures should be released by loosening the knurled locking handwheels "A" in FIG 20 then releasing drive by knurled handwheels "B". Relock handwheels "A".

B. When feeding timber against the back of dogs (back dogging) the drive to the pressures should be set to positive by loosening the knurled locking handwheels "A", setting positive drive by knurled handwheels "B" then relocking handwheels "A".

C. When feeding timber with all dogs secured below track the pressures should be set to minimum driving position by loosening the knurled locking handwheels "A", turning knurled handwheels "B" until drive can be stopped by gripping drive shafts "C" with hand. When set relock handwheels "A".

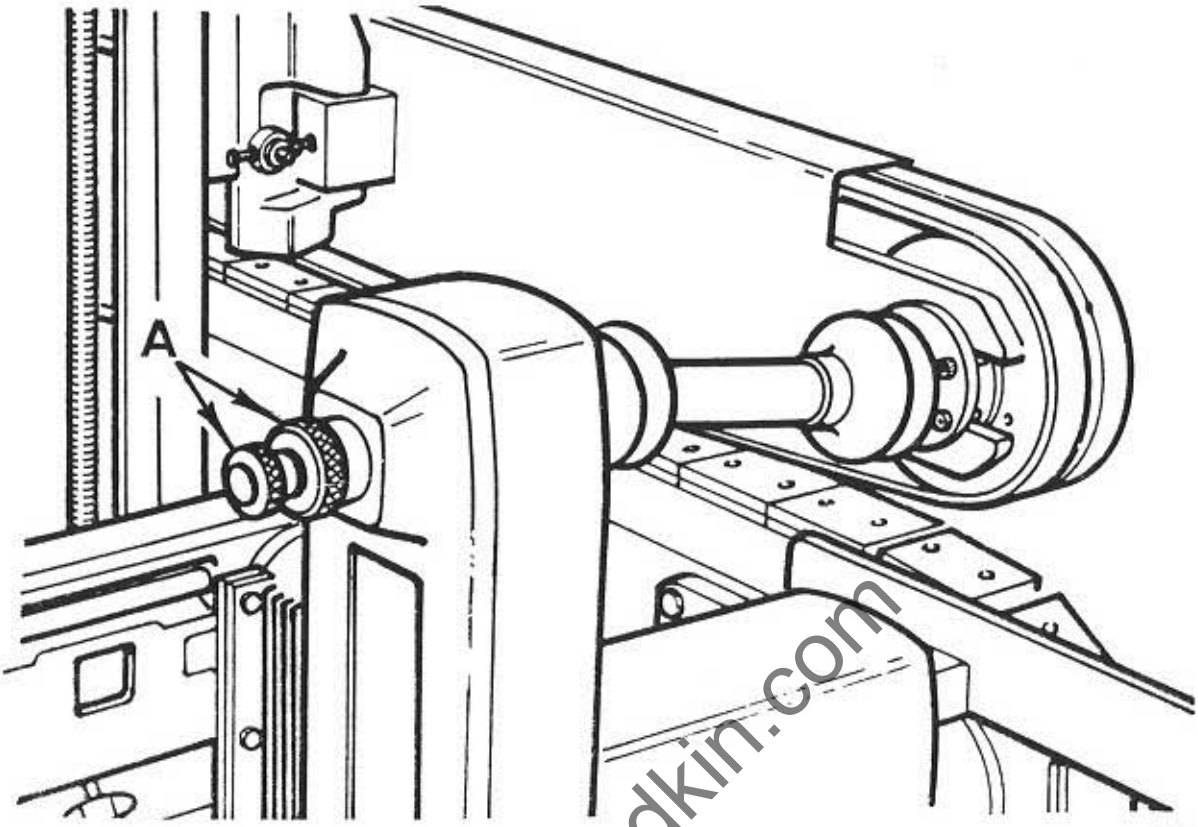


Fig 13

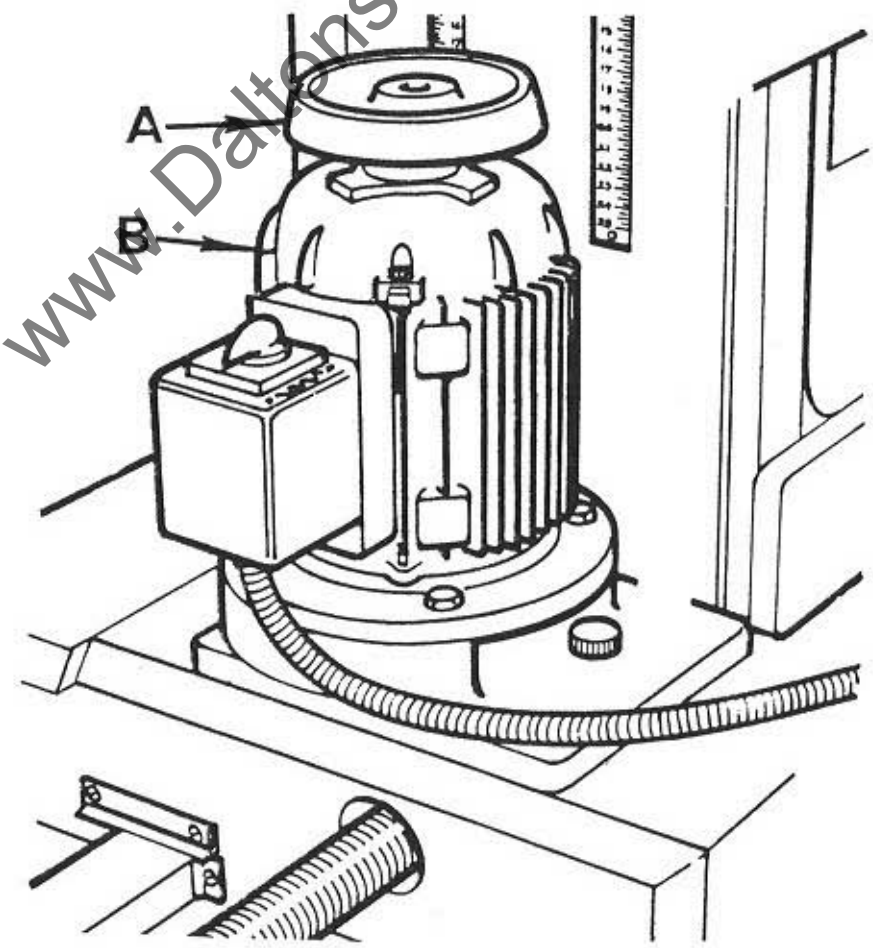


Fig 14

SETTING UP MACHINE CONT'D

8. Set required main track feed speed as previously described in "Adjustments" section.

9. Set fence "A" in FIG 21 to guide the timber into the machine.
Loosen lateral lock handle "B", set fence laterally by screw "C".
Relock handle "B".
Loosen vertical lock handle "D", set fence vertically by screw "E".
Relock handle "D".

NOTE: Optional fence arrangements (EXTRA) are available for specific types of work, eg:-
Swing Away Fence
Long Fence
The standard fence can be reversed to form a Core Guage Fence when feeding panels with overhanging veneers.

Further information on the above fences is available on request.

IMPORTANT
SAFETY SECTION

1. Feed stop switches on pressures to ensure wrong thickness of stock does not foul machine.

2. Safety stop trip wire fitted to outfeed end of machine enables operator to stop machine immediately in the case of emergency.

3. Ensure the spindle speed is correct in relation to the cutters and blocks being used.

4. Ensure guards are adjusted correctly to give maximum protection from rotating cutter equipment.

5. Check all heads are running before feeding timber into machine.

6. Ensure all heads are running in the correct direction.

7. Ensure correct track speed for work required.

NOTE: Ensure machine is correctly lubricated before commencing to start.
SEE LUBRICATION CHART: Page 25.

STARTING

Before starting machine check carefully to ensure that all the cutters are tight and secure in their respective cutterblocks and that cutterblocks are securely locked on spindles.

Check that the pressures and fence are set correctly.

1. Select correct head rotational direction for each head in use as previously described in "Controls".

2. Place isolator switch fitted to front of control console, in ON position.

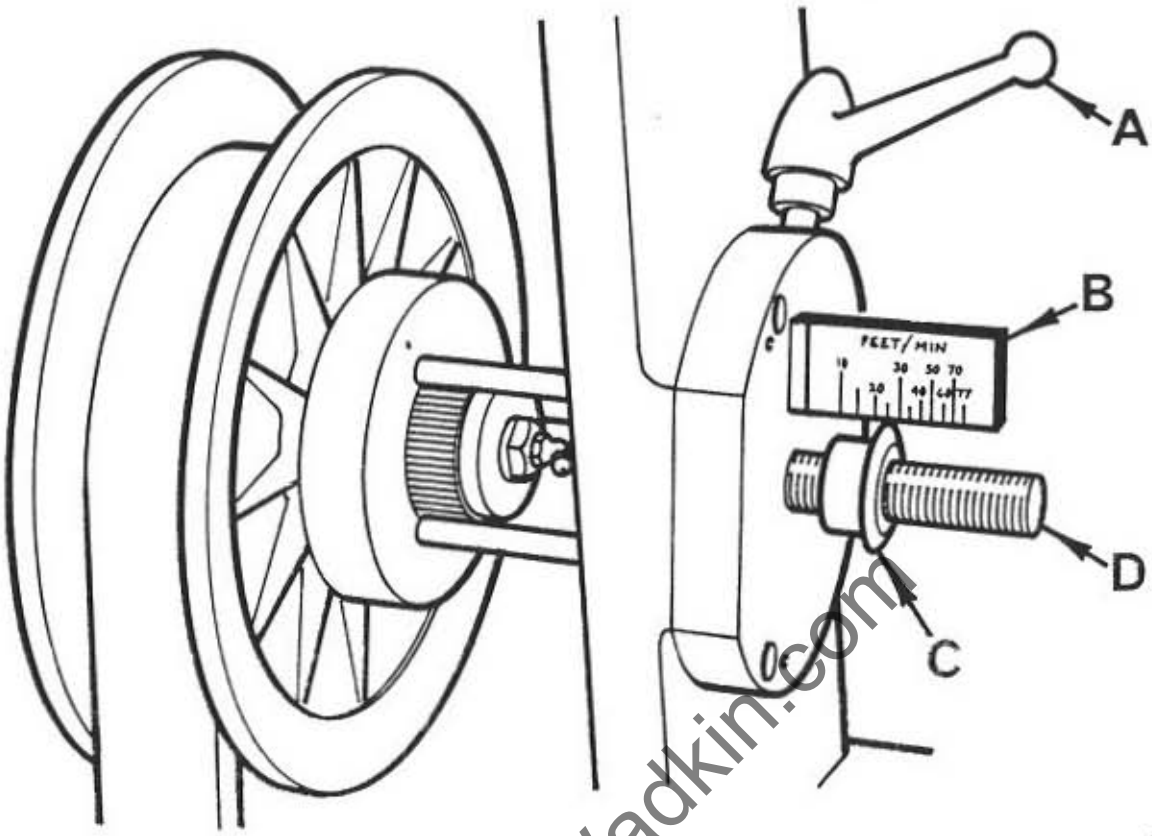


Fig 15

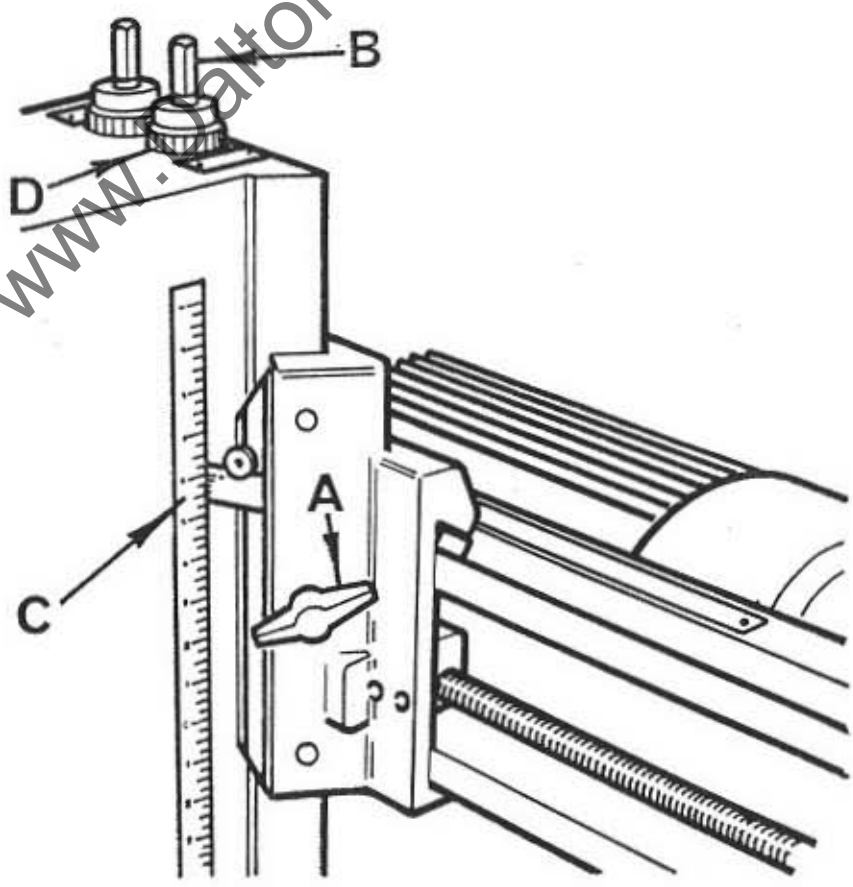


Fig 16

STARTING CONT'D

3. Start each head (See "Controls")

4. Start Tracks (See "Controls")

5. Carry out work, pushing material securely against the dogs (if dogs are used), then feed material into machine using fence as a guide.

STOPPING

1. Feed and each head can be stopped individually by STOP/START push buttons situated on top of Control Panel. An individual feed STOP/START push button is fitted to the traverse chain beam.

2. Depression of the MASTER STOP switch (situated on top of Control Panel) shuts down all electrics.

NOTE: The MASTER STOP button automatically stays in the OFF position until released by turning in a clockwise direction.

3. Machine can be isolated electrically by the ISOLATOR SWITCH fitted to the lower front of the Control Cabinet.
The ISOLATOR SWITCH should be used for safety during maintenance or machine down time.

GENERAL MAINTENANCE

LUBRICATION See enclosed Lubrication Plan.

TOP PRESSURE BELT TENSION ADJUSTMENT

1. Insert toggle bar (supplied with machine) into hole in top pressure rear pivot locknut "A" in FIG 22

2. Move toggle bar in anti-clockwise direction to loosen the rear pivot locknut "A".

3. Turn hexagon head screw "B" to adjust belt tension.

NOTE: The correct belt tension is when the belts in the bottom centre of the pressure beam are tensioned up to be covered by approx 1/8" (25.4mm) of roller.

4. When belts are correctly tensioned relock rear pivot locknut "A" and remove toggle bar.

5. Use the same procedure to adjust tension of belts on opposite pressure beam.

SETTING DISAPPEARING DOGS FOR SQUARENESS

The disappearing dogs are pre-set for squareness at the works. If adjustment ever becomes necessary, check and adjust as follows:-

1. Lower each pressure beam by releasing 2 - locking screws "A" in FIG 18 and turning pressure beam vertical adjustment screws "B" to apply pressure to the tracks. Relock 2 locking screws "A".

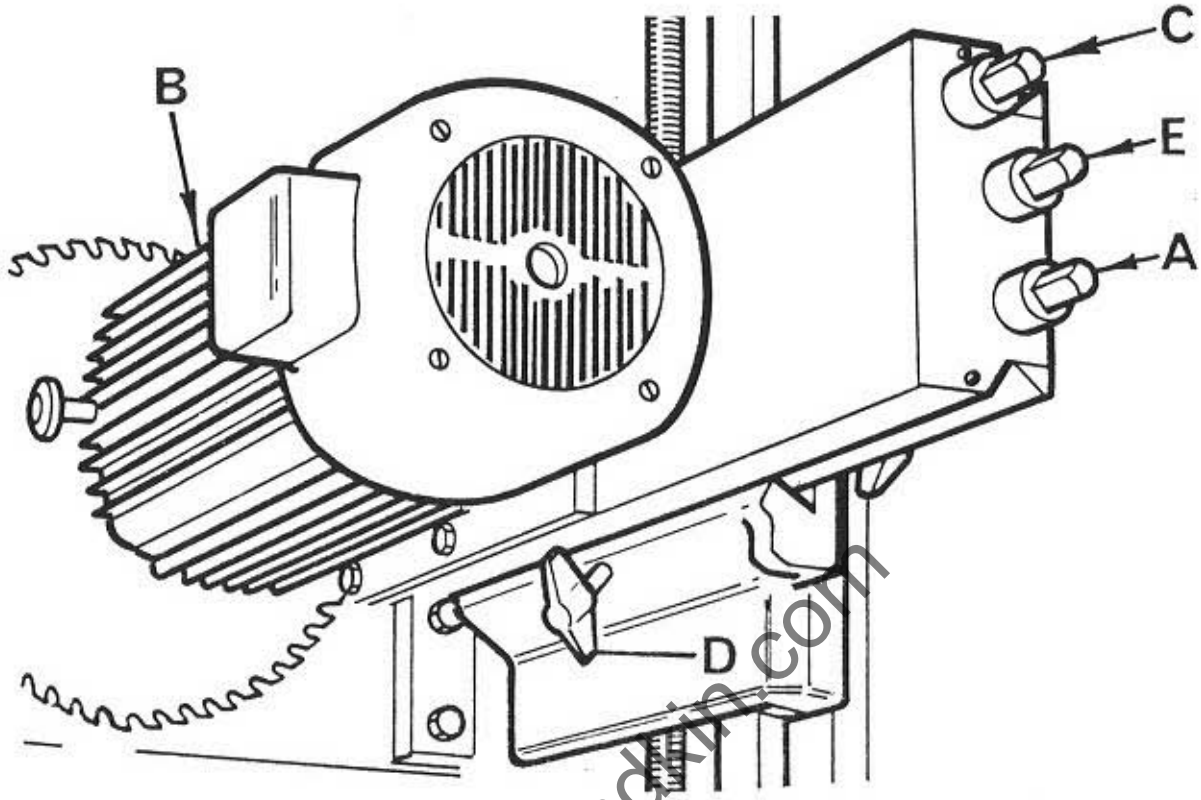


Fig 17

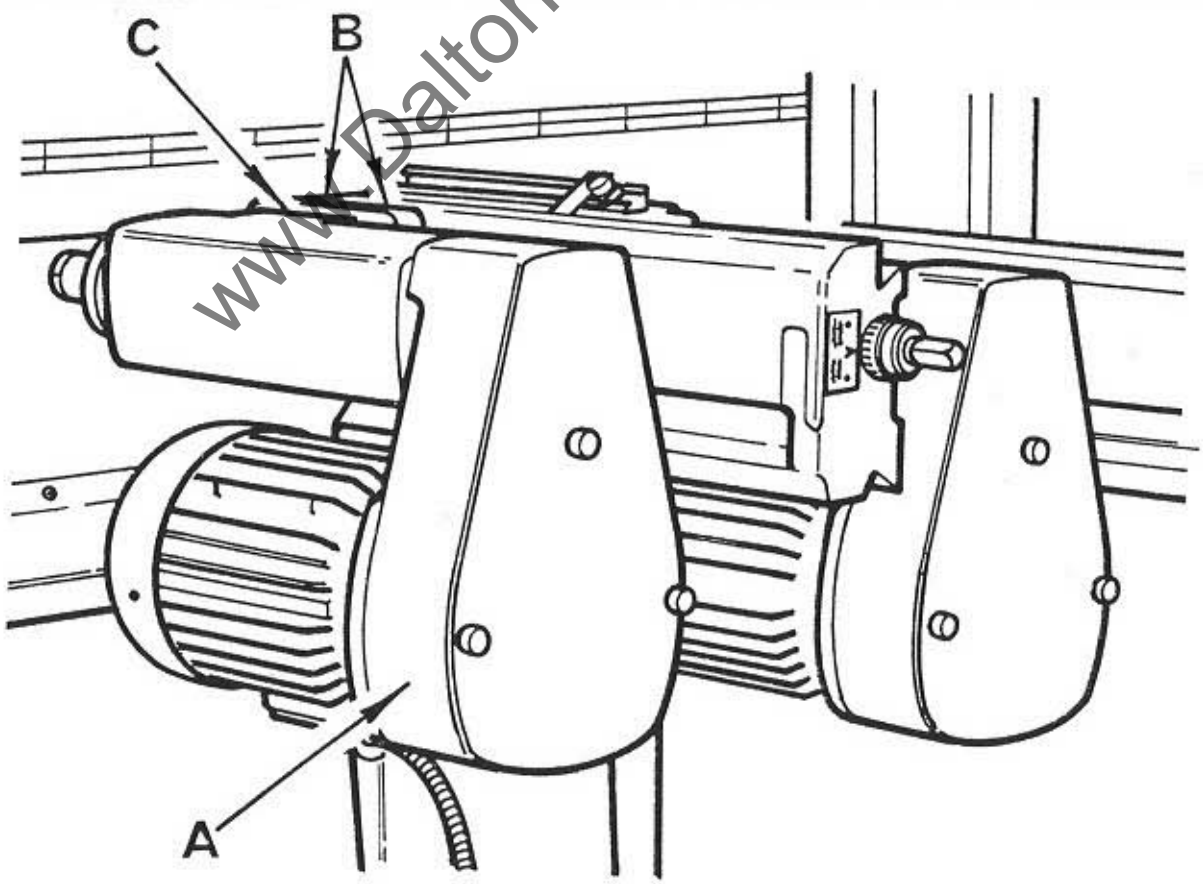


Fig 18

GENERAL MAINTENANCE CONT'D

2. Place a large machine square with stock to fence and blade across the tracks as shown in FIG 23.

3. By means of FEED BUTTON START/STOP (See Controls Section) bring a pair of dogs up to blade of machine square as shown in FIG 23.

NOTE: Each pair of dogs should be up to blade during check. Fixed dogs are fitted to one track and adjustable dogs to the other.

4. Align out of square dogs by loosening the button head socket screw in the adjustable dog then slide dog diagonally until it touches the machine square and so lines up with the dog on the opposite track. When set re-lock button head socket screw.

5. When all dogs are set the top pressure beams should be re-adjusted to suit the thickness of timber to be worked.

6. Dogs not being used can be secured below the track by depressing dog with key supplied then giving half a turn

BELT REPLACEMENT OR SPEED CHANGING ON "B" TYPE HEADS

Each belt driven head is fitted with two stepped pulleys to give alternative speeds of 3,000 RPM and 6,000 RPM (STANDARD) or 4,500 RPM and 7,200 RPM (EXTRA) SEE PAGE 27 for type of belt used.

To change belt on each head for required speed proceed as follows:-

1. Isolate machine electrically.

2. Unscrew and remove 3 - knurled knobs securing belt cover plate to head.

3. Remove belt cover plate.

4. Loosen 3 - hexagon head nuts "A" in FIG 24 at the rear of head pulley housing.

5. Locate 10mm toggle bar (supplied with machine) in motor mounting boss at point "B" and move motor to release belt tension on pulleys.

6. Fit belt "C" on pulleys to give required spindle speed.

NOTE: Belt is shown on the high speed pulleys in FIG 24

7. Apply tension to the belt by moving the motor with the toggle bar (located in motor mounting boss).
Correct belt tension is when the belt deflection is approximately 10mm under slight finger pressure.

8. When belt tension is correct relock 3 - hexagon head nuts "A".

9. Replace belt cover plate and secure with the 3 - knurled knobs.

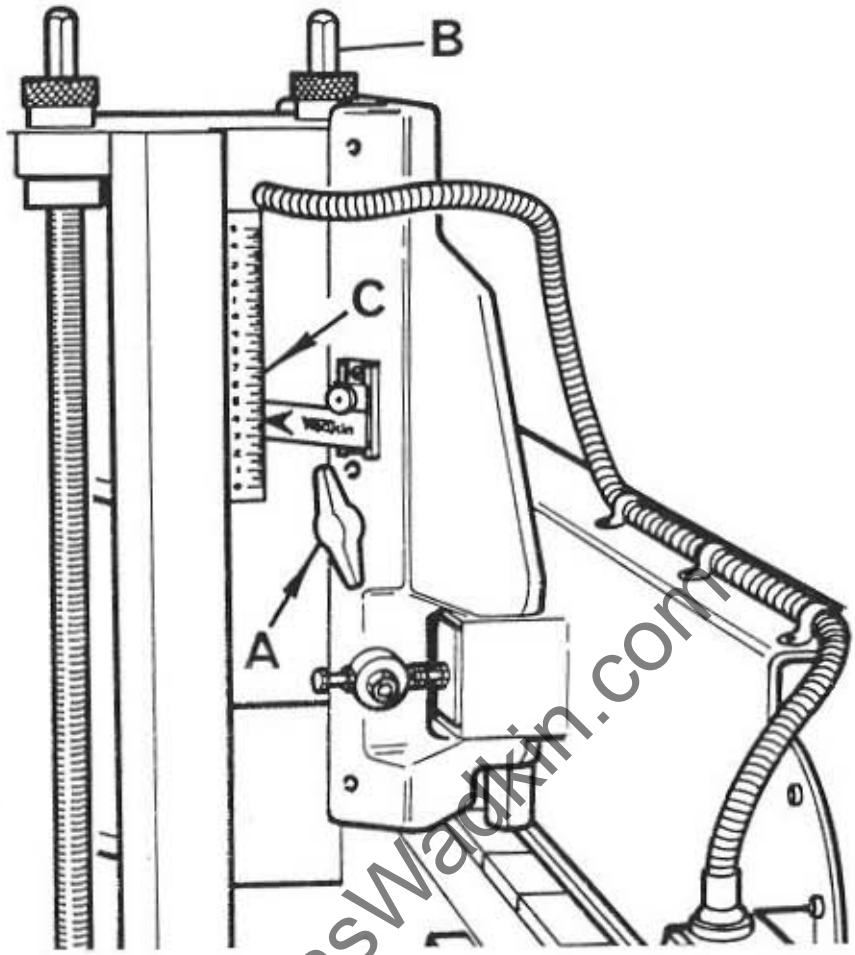


Fig 19

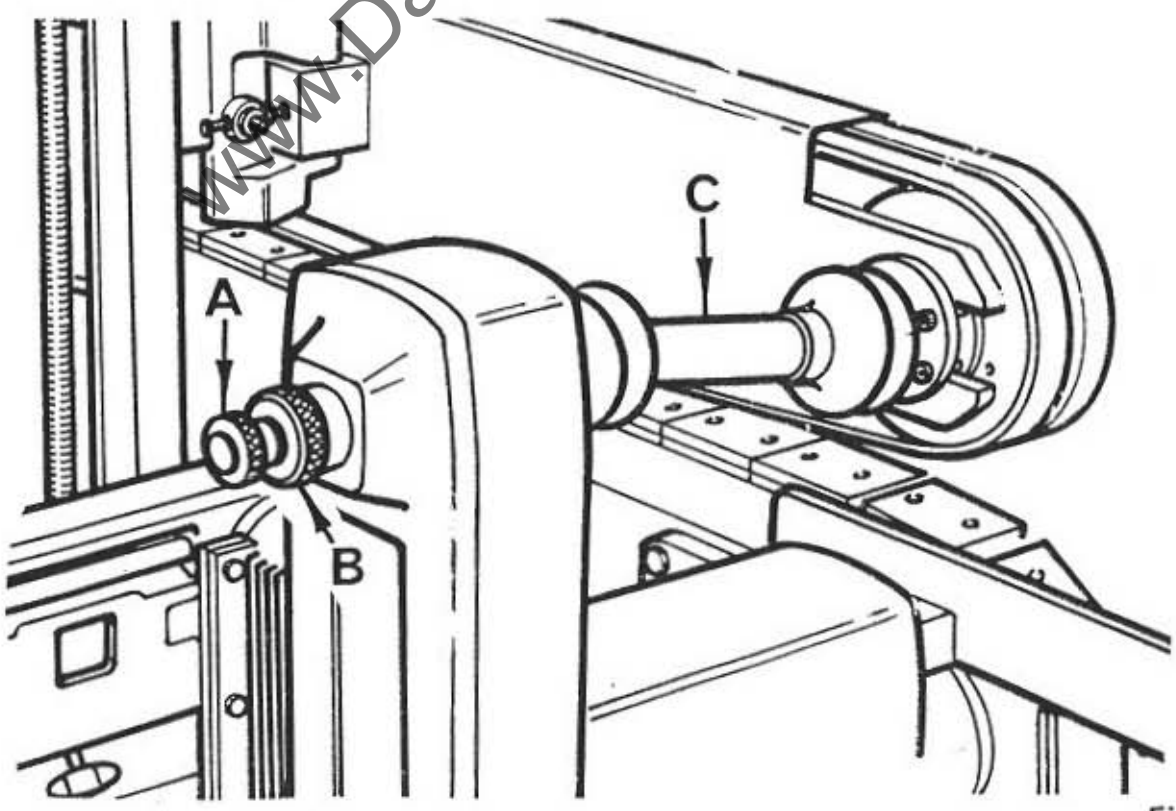


Fig 20

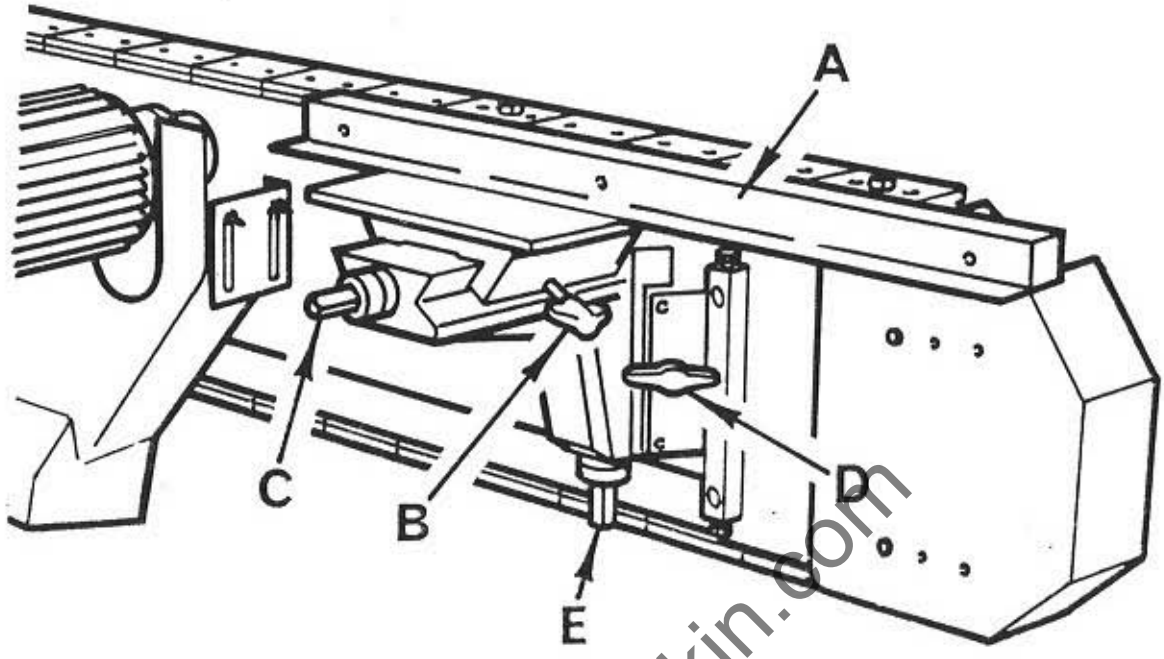


Fig 21

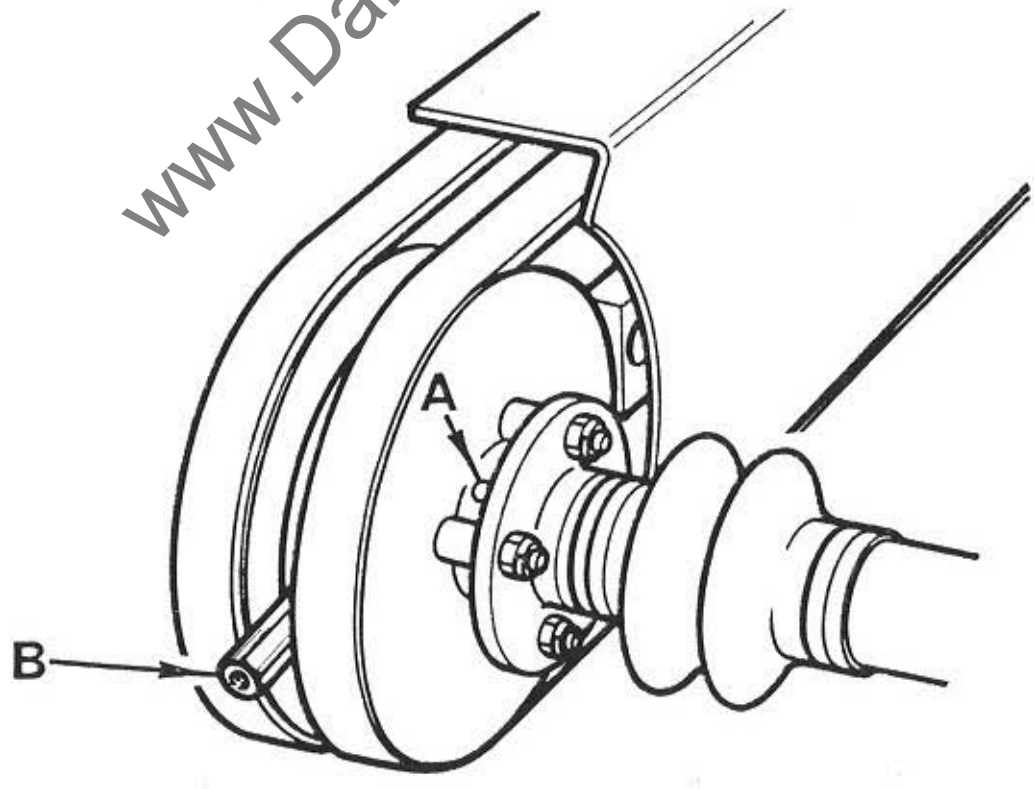


Fig 22

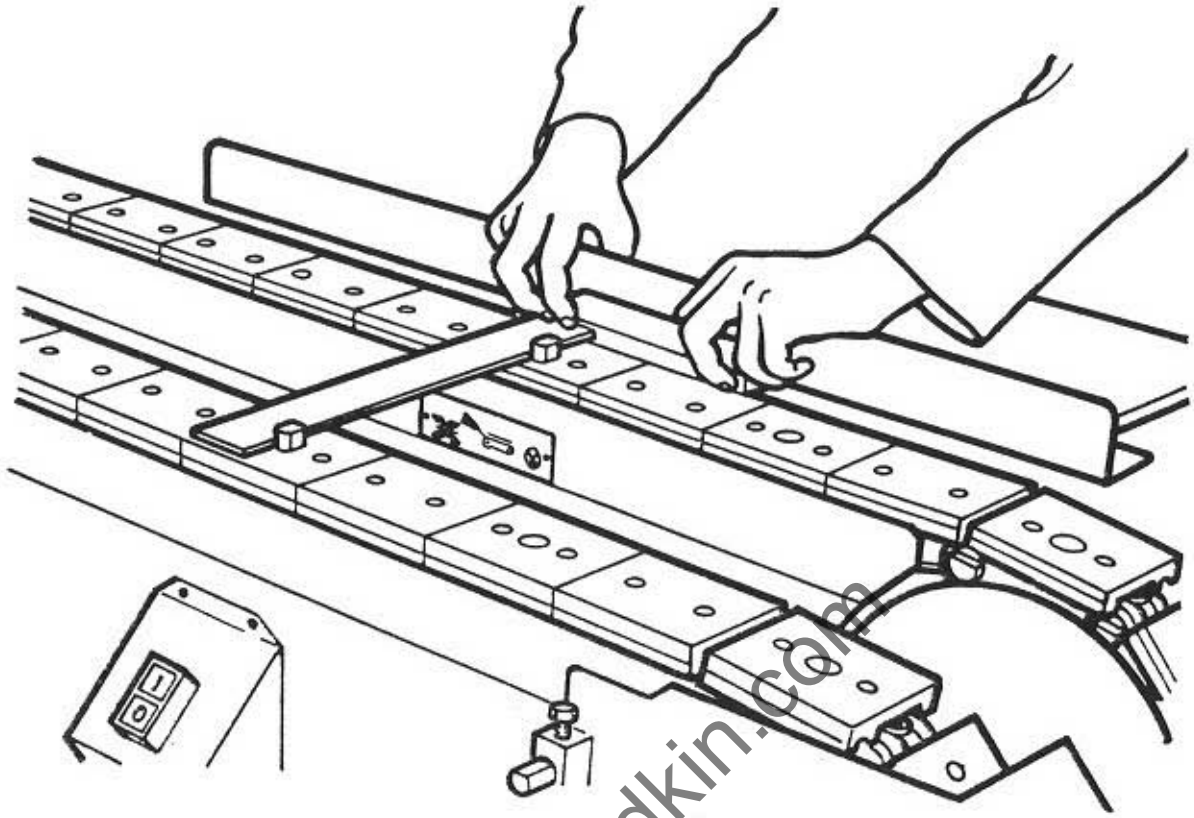


Fig 23

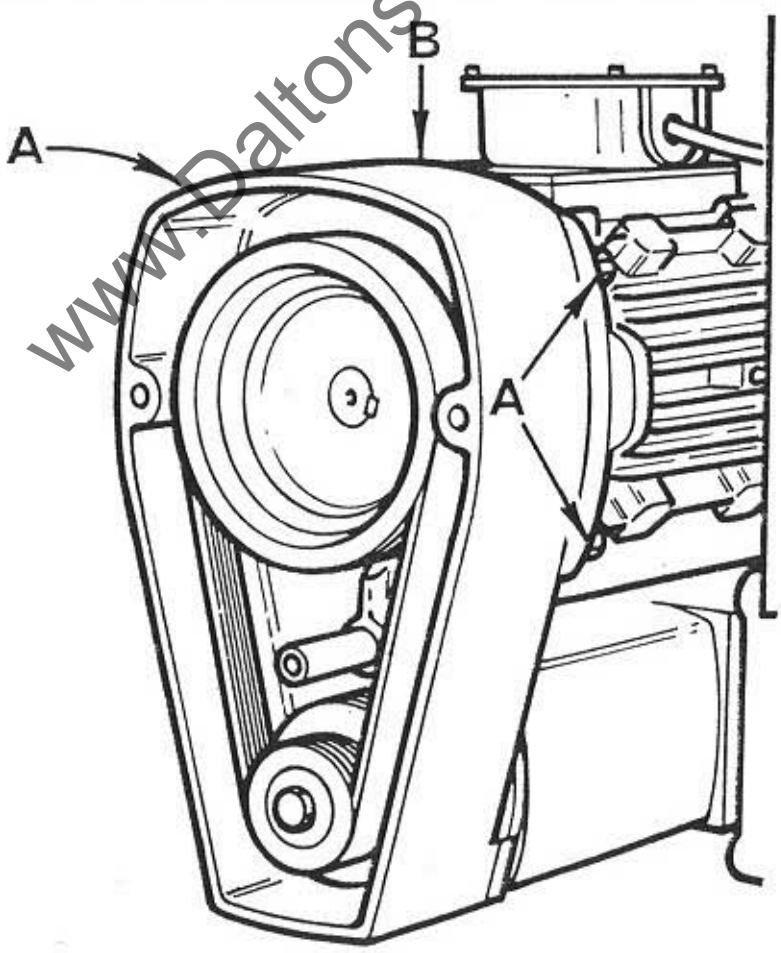


Fig 24

LUBRICATION

The undermentioned lubrication schedule (inconjunction with enclosed lubrication plan) must be followed to ensure long working life of all machine parts.

	A	Withdraw and release plunger on "TECALEMIT" Lubrication Unit before each traverse of the adjustable column.
WEEKLY:	B	Give two depressions of oil gun containing "REDEX" to all chain axles.
	C	Give one depression of oil to each of the oilers on the two top pressure beams
	D	Give two depressions of oil gun to each of the two top pressure drives.
	E	Give two depressions of oil gun to all slideways for heads and pressures.
	F	Oil traverse screw
	G	Top up "TECALEMIT" Lubricator Unit through filler plug until oil reaches level shown in oil level indication glass.
	H	Top up Pneumatic Lubricator bottle through filler plug until oil reaches correct level shown by indication mark on the side of bottle.
MONTHLY:-	I	Check oil level in Traverse Gearbox is up to mark on filler plug dipstick. Top up if necessary.
	J	Check oil is up to level plug hole on Backshaft Drive Gearbox. Top up if necessary through filler plug.
	K	Check oil is up to filler plug holes in both variable pulleys with the filler plugs in their uppermost positions. Top up with REDEX if necessary.

FOR CORRECT LUBRICANTS SEE APPROVED LUBRICANTS SHEET

Application	APPROVED LUBRICANTS						
	Castrol	B. P.	Shell	Esso	Texaco/ Caltex	Gulf	Wadkin
Worm Boxes	Alpha 617	Energol CS 425	Vitrea 75	Pen-O-Led E. P. 3	Regal Oil 3	EP Lubricant S104	L. 2.
General Lubrication	Magna ED	Energol HP. 20	Vitrea 33	Esstic 50	Ursa Oil P. 20	Security 53	L. 4.
Pneumatic Lubricators	Hyspin AWS 32	Energol HL 65	Tellus 27	Nuto H44	Rando Oil HDA	Harmony 43 AW	L. 1.
Grease	Spheerol AP. 2	Energrease LS. 2	Alvania 2	Beacon 2 Starfak Premium 2	Regal	Gulf Crown Grease No. 2	L. 6.
Brake Cables	Brake cable grease	Energrease L21M	Alvania 3	Multi-purpose grease H		Gulf crown Grease EP No. 2	
Variable Pulley's		Ennergrease RBB2 or Ennergrease LS2	Alvania 2	Andok B or Beacon 2			
Chain Tracks	REDEX						

BEARINGS

BEARINGS FOR DRIVEN TOP PRESSURE TRACKS:-

4 OFF 6205-2RS Bearing (used on lower drive shaft)
4 OFF 6205-2RS Bearing (used on top drive shaft)
2 OFF ZKL 51105 Thrust Bearing (used on top drive shaft)
2 OFF AXK 2542 Needle Thrust Cage (used on top drive shaft)
4 OFF AS 2542 Needle Thrust Washer (used on top drive shaft).

BEARINGS FOR NON-DRIVEN AND DRIVEN TOP PRESSURE TRACKS:-

8 OFF 6007-2RS Bearing (used on top pressure pulleys) X 6007 2RS

BEARINGS FOR BOTTOM CHAIN TRACKS:-

4 OFF 6008-2RS Bearing (used on jockey arms)
4 OFF 6018-2Z Bearing (used on drive hubs)

BEARINGS FOR TRAVERSE GEARBOX:-

1 OFF 6004-2RS Bearing (used on top of worm shaft)
1 OFF 6206-2RS Bearing (used on bottom of worm shaft)
2 OFF DN209 Bearing (used on worm wheel)

BEARINGS FOR BELT DRIVEN HEADS

4 OFF ZKL 51104 Thrust Bearing (used on Rise/Fall and horizontal screws)
1 OFF 6207-2RS Bearing (used on rear of spindle) ✓
1 OFF 6208-2RS Bearing (used on front of spindle) ✓

BEARINGS FOR DIRECT DRIVEN HEADS

2 OFF ZKL 51104 Thrust Bearing (used on Rise/Fall screw)

BELTS

BELT FOR VARIABLE SPEED PULLEY

1 OFF SIMPLABELT Wide Section Variable, Type 40/1400, Part No. 004168 X 41-46P

BELTS FOR BELT DRIVEN HEADS

3,000 to 6,000 RPM Speed:-
1 OFF PER HEAD 260 J10 POLY "V" BELT ✓
4,500 to 7,500 RPM Speed:-
1 OFF PER HEAD 280 J10 POLY "V" BELT

BELTS FOR TOP PRESSURES

4 OFF Belt No. C3100 (used on No. 1 extension pressure beams)
4 OFF Belt No. C3520 (used on No. 2 extension pressure beams)
4 OFF Belt No. C3710 (used on No. 3 extension pressure beams)
4 OFF Belt No. C4060 (used on No. 4 extension pressure beams)
4 OFF Belt No. C4450 (used on No. 5 extension pressure beams)

OIL SEALS & "O" RINGS

1 OFF	Oil Seal No. M20-42-10	(used on wormshaft for traverse)
2 OFF	"0" Rings No. RM0995/30	(used on adjustable chain beam hub)
2 OFF	"0" Rings No. R122	(used on fence Rise/Fall and Lateral screws)
2 OFF	"0" Rings No. R122	(used on Top Pressure Rise/Fall screws)

"0" RINGS FOR BELT DRIVEN HEADS

2 OFF PER HEAD "0" Rings No. R122 (used on Rise/Fall and Horizontal screw)

"0" RINGS FOR DIRECT DRIVEN HEADS

1 OFF PER HEAD "0" Rings No. R122 (used on Rise/Fall screw)

MR DOBBIE

MR BOWMAKER

	POSITIONS
600 1000 1400	DP48/1 DP56/1 DP64/1
400 800 1200	DP48/2 DP56/2 DP64/2
315 715 1115	DP48/3 DP56/3 DP64/3
150 550 950	DP48/4 DP56/4 DP64/4
150 550 950	DP48/4U DP56/4U DP64/4U
350 750	DP56/5 DP64/5
350 750	DP56/5D DP64/5D