INSTRUCTIONS

VERTICAL BAND RE-SAW

WITH 54in. DIAMETER WHEELS

Type XF/T

PLEASE HAND TO THE MACHINE OPERATOR

MACHINE TEST NO.... ....

Robinson

WOODWORKING MACHINERY

THOMAS ROBINSON & SON LIMITED ROCHDALE ENGLAND.
Telephone: Rochdale 47811 (8 LINES)
London Office: **AFRICA HOUSE, KINGSWAY W.C.2.** *Tel:* **Temple Bar 2356**

INSTRUCTIONS

All machines are tested before leaving our Works, and are not passed out unless in perfect working order. Although simple to operate, care is nevertheless necessary in their use and the following instructions should be carried out.

INSTALLATION

For every machine despatched from our Works, we supply a foundation drawing to enable our clients to make the necessary preparations for the installation of the machine prior to its delivery. The drawing gives full particulars of the space occupied, positions of the fixing bolts and the foundations we recommend.

NOTE: The latter must be taken as a general guide only, as site conditions may govern the foundation to some extent. On some machines certain modifications may be necessary if the machine is to be coupled to a dust extraction system, and before construction is commenced Exhaust Engineers should be consulted.

If the machine is to be fixed on concrete proceed as follows:-

(a) Prepare the foundation on well consolidated earth and as directed on the foundation drawing of the machine, leaving holes to receive the fixing bolts. These holes may be formed by boxes of thin timber, which can be easily removed when the concrete has set.

(b) Raise the machine so that the bolts can be suspended through the holes provided in the base or feet.

(c) Lower the machine into position, and level, by placing slate or metal packings on each side of the bolt holes, as follows:-

Mount the bottom wheel, (i e. the heavier of the two) on its spindle and thoroughly tighten the locking nut. Drop a plumb line across the wheel edges and check whether vertical or not If not, adjust the packings as necessary. Then lay a spirit level on the machine table parallel with the horizontal rollers and, if necessary, adjust the packings until the table top is level. Fit the top wheel and tighten the locking nut.

NOTE. On the 54 in. (1m. 37) and 60 in. (1m. 83) machines the bottom wheel yoke is removed prior to despatch When replacing the yoke position it so that the ground faces at the front and rear are flush, and the marks on them aligned correctly. After tightening the securing screws, tighten also the butting screws locating the yoke

(d) See that the moving parts are free.

(e) After checking levels again, place shuttering of suitable depth around machine base and run in sufficient grout to hold bolts and base

(f) Do not attempt to tighten bolts or work machine until the grout is thoroughly hard.

IMPORTANT. Do not attempt to fix the bolts before the machine is placed in position.

If a motor is to be fitted, fix in a similar manner to the machine, as described above, after first making sure that the motor and machine pulleys are correctly aligned and the correct distance centre to centre.

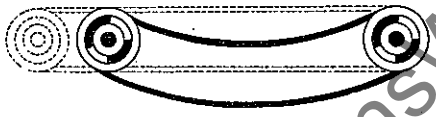
ELECTRICAL CONNECTIONS made on site must be carried out by experienced electricians only. For full details see the wiring diagram.

VEE BELT INSTRUCTIONS

To ensure trouble free service from vee belts careful observance of the following rules concerning their application is important:-

(1) When fitting the belts make sure that the grooves in the two pulleys are clean, i.e. free from dirt, grease or rust preventative etc.

(2) Always mount the belts loosely by hand. Do not force them into the pulley grooves with a screwdriver or any other such implement, as this would tend to damage the outer envelope or possibly rupture the load carrying cords. Any such damage might not be immediately apparent but could result in the belts failing within a matter of hours.



CORRECT METHOD OF FITTING.

INCORRECT METHOD OF FITTING.

(3) Tension the belts carefully. After one hour's running, and again after eight hour's running, check the tension and adjust, if necessary.

The tension applied should be just sufficient to prevent the belts slipping. Too little tension will allow slipping and will result in loss of driving power and belt life.

Too much tension will result in short belt life.

(4) Do not use belt dressing under any circumstances. It is not necessary and would only cause deterioration of the rubber compounds, and "snatch" due to temporary localised increases in the co-efficient of friction.

(5) Do not run old and new belts in the same set. If new belts are required always order and fit a complete 'matched' set.

(6) If belts flap excessively, increase tension. If the spindle shows signs of pulling up, stop the machine and feel if either of the pulleys is unduly warm. Such a condition indicates incorrect tension in the drive and this should be remedied by the means provided.

LUBRICATION (See also at the end of the booklet additional notes on lubrication and recommended lubricants).

Plain bearings

Power-driven shafts. The lubricators fitted allow grease to be applied directly to the bearings by means of a grease gun. In some cases the nipples fitted are similar to those fitted to the ball bearing housings, in which case only one grease gun is supplied. This should be filled with ball bearing grease, and used for charging both the ball bearing and plain bearing lubrication points.

Hand motion shafts. In most cases an oil cup, hole or groove is provided for application of oil by means of an oil can. Alternatively, a grease nipple is provided for application of grease by means of a grease gun. Apply lubricant regularly and according to usage.

Oil retaining bushes. Bushes of this type normally require no attention from the operator. After a long period of inactivity in a dusty atmosphere, however, it is advisable to apply a little oil on the shaft adjacent to the bearings. This also applies if the bearings become noisy.

Phosphor-bronze bearings.

A grease nipple or oilcup with wick feeder is provided for each bearing.

When a grease nipple is fitted, grease can be applied directly to the bearing by means of a grease gun. Use the recommended grease and apply according to usage.

When an oilcup is provided, frequently check the level of oil and top up as required. Always replace the oilcup cover. Do not remove the wick feeder.

Ball and Roller Bearings

Bearings with replenishable grease

Lubricant - It is necessary to use lubricant specially prepared for ball bearings, a sample tin of which is supplied with each machine. This grease is free from acid, alkali and resin, and is supplied in 7 lb. (3.17 kilos) tins. We recommend the exclusive use of "Robinson" Ball Bearing Grease for all ball bearings, but alternatives are listed on a later page.

Recharging with fresh lubricant - The lubricators fitted allow grease to be applied directly to the bearings by means of a grease gun. Great care should be taken not to charge the bearings too tightly with lubricant as this might result in their heating up.

NOTE:- Every care is taken in packing to protect the bearings from dirt, but, in spite of this, grit may obtain access during transit. To detect its presence turn each spindle slowly by hand when the slightest resistance will be noticed. If any resistance is encountered the bearings must be cleaned out. Take off the end cover and remove as much as possible of the old grease by hand. Wash out the remainder with benzine, then replace the end cover and replenish with fresh lubricant.

CAUTION:- Neither paraffin nor kerosine should be used for washing out

the bearings as they cause rust, and for the same reason persons whose hands perspire should exercise care when handling bearings.

Sealed-for-life Bearings. This type of bearing requires no further attention from the operator.

Grease packed bearings. Grease which is packed in these bearings during assembly should suffice to keep them lubricated for an indefinite period of time. When it becomes necessary to re-pack the bearings use specially prepared ball bearing grease, taking the same precautions as outlined for replenishable grease type bearings.

Thrust races. Apply oil regularly and according to usage by means of an oil can to the groove, when provided, or to the seating.

Gearboxes.

Gears and bearings are splash-lubricated from the gearbox oil. Maintain the gearbox oil level, as shown on the dipstick or oil level indicator, by topping-up as necessary. The oil should be filtered every six months and changed every two years. When a breather pipe is fitted, periodically check that the small air holes in it are clear.

NOTE: The gearbox oil is run off before the machine is despatched from our Works, and it is necessary, therefore, to re-fill the gearbox before the machine is run. For quantity of oil required see 'Technical Data'.

Chains

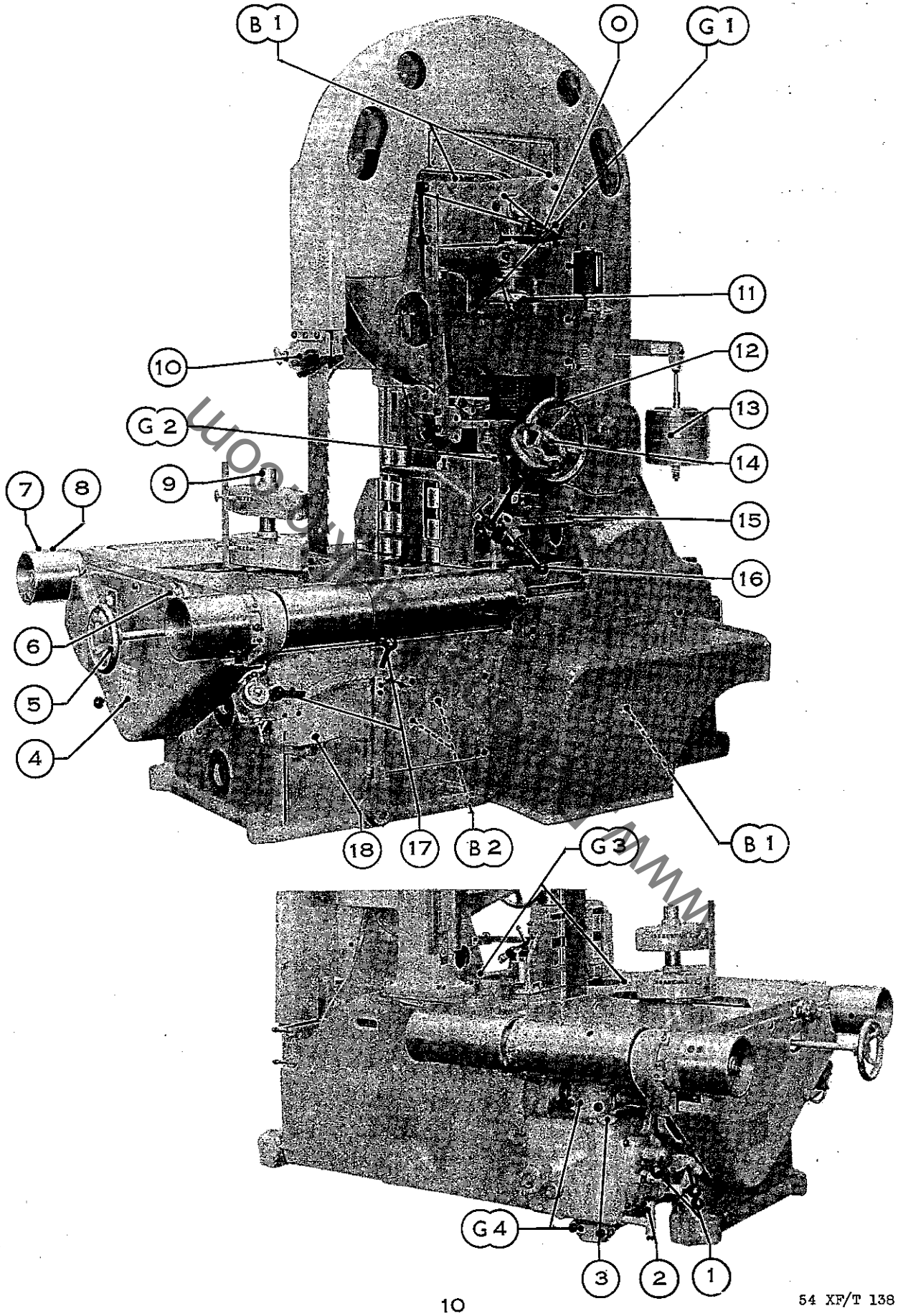
All chains should be periodically removed from the machine, thoroughly cleaned in a bath of benzine, dried and then immediately dipped in a bath of melted tallow before being replaced. Take care that the chain, when replaced, is mounted correctly, as shown in the illustrations.

Screws, slides and other working parts. These must be frequently oiled to ensure ease of operation. Wipe over with an oily rag to avoid forming dust-collecting traps, or periodically fill the oilcups, when provided.

Grease coated gears Black cling grease is applied to the gears whilst the machines are undergoing test at our Works, and they should not normally require attention for some weeks after installation. Periodically the gears should be inspected and, if necessary, more grease applied in order to ensure continued smooth running and prevent undue wear on the teeth We strongly recommend the exclusive use of 'Black Cling Grease' (manufactured by J. H. Isherwood (Oils & Paints) Ltd., Entwistle Road, Rochdale) which, if unobtainable locally, we can supply. Alternatives are listed on a later page.

Cleaning devices for both saw and wheels are provided. They consist of scrapers and pads spring-loaded to contact the wheels, and pads spring-loaded to contact both sides of the saw. The pads are fed with cleaning fluid (such as paraffin) from a central reservoir to keep the saw and wheels free of dust and gum. Individually adjustable drip points control the flow of fluid to the saw and wheel pads, and a master stop tap is provided immediately below the reservoir. This tap should be in the open position only when the machine is in operation.

NOTE: Care should be taken when adjusting the cleaning devices. They should not be applied with too much pressure otherwise this may result in an appreciable increase in power being needed to drive the machine Scrapers are of brass and replacements should be of this material not steel which will wear the faces of the wheels.

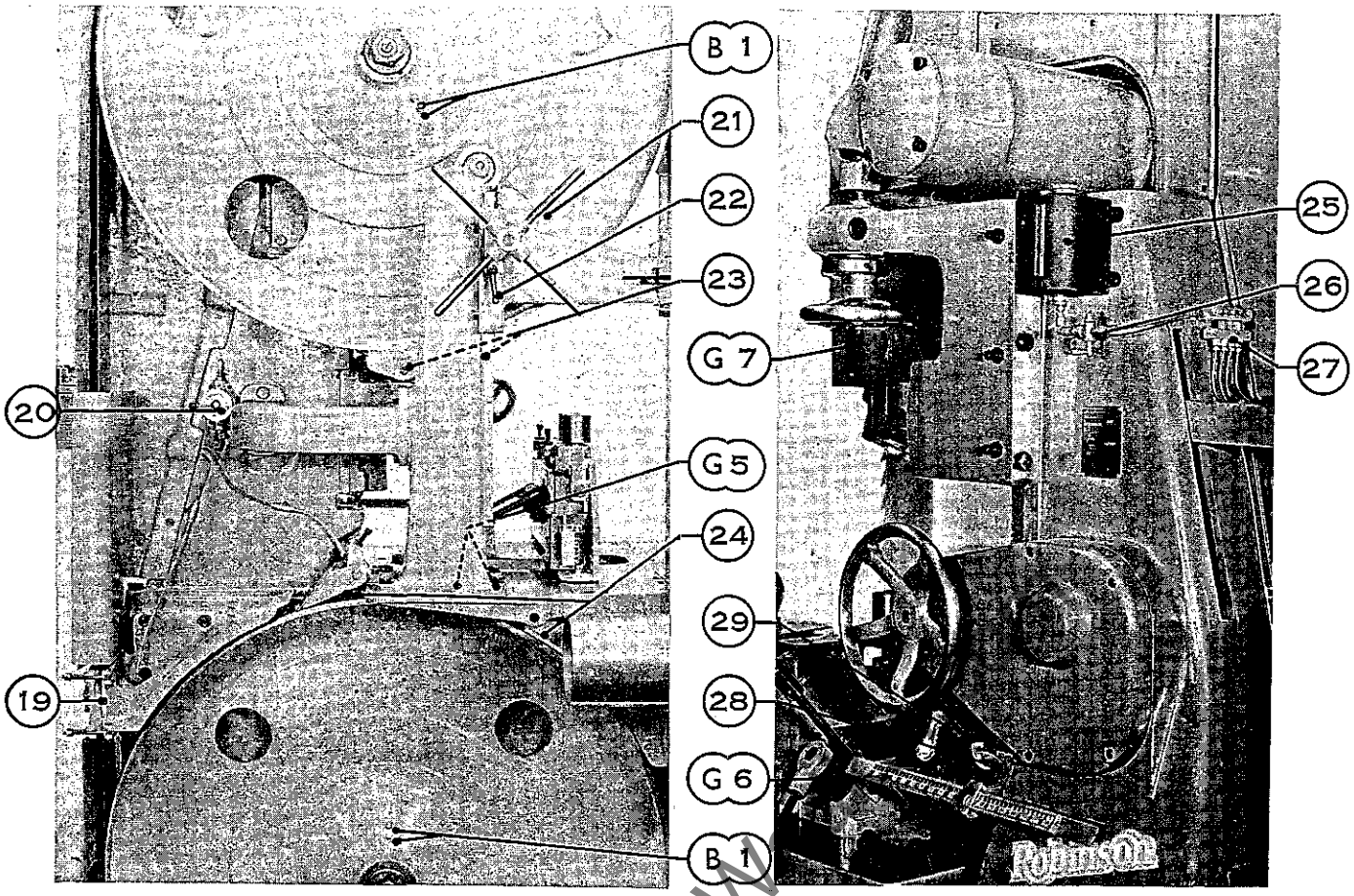


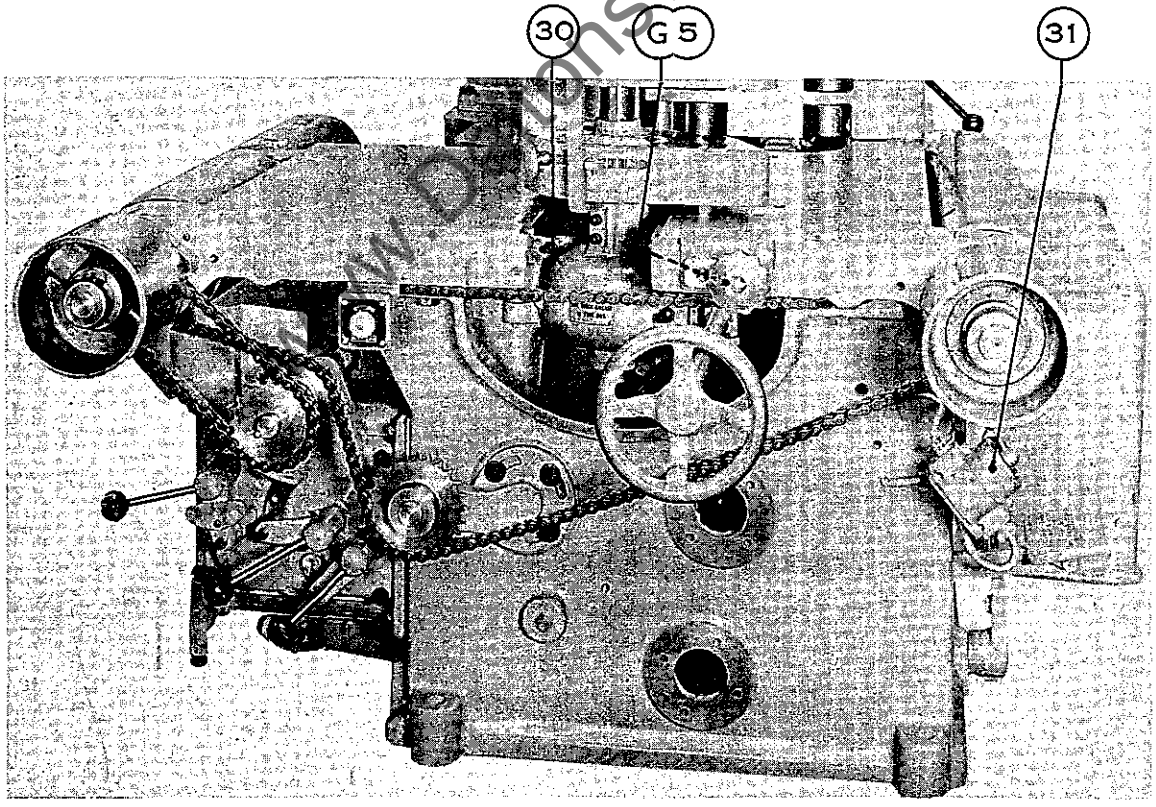
54" BAND RESAW TYPE XF/T

1. Selector levers for twelve speed gearbox.
2. Remove top plug for gauging depth of oil in gearbox. Remove bottom plug for draining purposes.
3. Filler cap for gearbox.
4. Index plate showing rates of feed and respective positions of selector levers.
5. Handwheel for screw which adjusts and limits movement of radial arm towards saw.
6. Handwheel for fine adjustment of fence.
7. When outer roller is required to rotate in direction of feed, place square head screw here and tighten on shaft. When screw is placed in this position but not tightened the outer roller will be free-running
8. When outer roller is required to rotate in opposite direction to feed, to return timbers to operator, place square head screw here and tighten in position.

NOTE: Always screw dust-cap into socket not in use.

9. Vertical feed roller shaft. Will tilt up to 30 degrees inwards for bevel sawing. For flat cutting rollers and guards can be removed and shaft swivelled over below table top.
10. Adjustable saw guides.
11. Handwheel for tilt adjustment of top saw wheel.
12. Handwheel for vertical adjustment of top wheel mounting.
13. Sectional weights for regulating strain to suit saw in use.
14. Handwheel for quick horizontal movement of fence.
15. Rule and pointer to indicate exact distance saw to fence.
16. Locking handle for 14.
17. Handlevers for controlling feed through belt tightener.
18. Foot lever for quick movement of feed rollers to and from fence.





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19. Cleaning pads for saw.

* 20. Control for power rise and fall of top saw wheel.

21. Handwheel for vertical adjustment of top saw guide.

22. Locking handle for top saw guide vertical movement.

23. Cleaning pad and scraper for top saw wheel.

24. Cleaning pad and scraper for bottom saw wheel.

25. Central reservoir for lubrication fluid (fill with paraffin).

26. Stop tap for fluid.

27. Adjustable drip points to regulate flow of fluid to pads.

28. Handwheel for tilting adjustment of fence.

29. Locking handle for 28.

30. Adjustable stop for locating feed roller shaft vertically after having been tilted or swivelled over below table top.

*31. Control for power traverse of vertical feed rollers.

* Optional features.

WORKING INSTRUCTIONS

Cleaning Remove the rust preventative with which the bright parts of the machine have been coated, and thoroughly clean all working parts so as to remove the grease and any dirt or grit which may have collected during transit.

For convenience of packing, machines are sometimes partially dismantled. Fit these parts in position before proceeding further, leaving off only the removable guards for the saw wheels.

Mounting the saw

Bring the top wheel to the vertical position, adjusting the tracking screw as required, checking by dropping a plumb line across the edges of the wheel. On the 54in. (1m37) and 60in. (1m83) machines, open the top saw guide. Lower the top wheel by means of the handwheel, or by actuating the handlever on the rotary switch in the required direction when power rise and fall is provided. Add or remove weights as required to put the correct amount of strain on for the saw to be used. Place the saw on the wheels making sure that the toothed edge overhangs about $\frac{1}{8}$in. (3mm.) beyond the bases of the gullets. Raise the top wheel until the lever which carries the straining weight is lifted clear of its stop and is in an approximately horizontal position - well clear of the top of the slot in the casting. Place in position the saw cleaning pads, the top saw guide and the removable saw guards.

NOTE: Never put more strain on the saw than is necessary to keep it from running back on the wheels when cutting, and reduce the amount as the saw becomes narrower through wear. A plate giving the recommended loads for various widths of saws is fitted on the machine.

Start up the machine and, by means of the handwheel or lever provided, tilt the top wheel until the saw finds its correct running position on the wheels, i.e. with the toothed edge overhanging about $\frac{1}{8}$in. (3mm.) beyond the bases of the gullets.

Saw guide adjustment

The packings of the top and bottom saw guides are adjustable too and from the saw, and should be set to give about 005in clearance between the packings and the saw, after the latter has been strained This is easily achieved by placing a sheet of writing paper between the saw and the packing on each side, and adjusting the packings until the paper is just gripped against the saw Then carefully fasten the packings in position without disturbing the line of the saw. As soon as the saw moves the paper will be dragged out, thus leaving equal clearance on each side. The packings fitted are a special, hard, oil-impregnated material Replacement packings can be supplied from stock.

Feed gear

The vertical feed rollers are carried from a radial arm arranged below the table; they will cant up to 30 degrees for bevel sawing and, when flat cutting, can be removed and the shaft turned over clear of the table top. The radial arm is carried from the gear box, from which the feed roller shaft is driven through bevel gearing.

The horizontal rollers can be adjusted vertically for the feeding of wet or rough timber, and to compensate for wear.

Horizontal feed rollers are chain driven. The individual roller sections can be tightened onto their shafts and used to assist the feed in conjunction with the vertical feed rollers, or can remain loose to act as anti-friction rollers. In addition, the rear outer roller serves a three-fold purpose. It can be set a) to assist the feed, b) to rotate in the opposite direction to the feed for returning timbers to the operator, or c) remain loose to assist both feed and return of timbers. For details see pages 10 and 11.

TECHNICAL DATA

54 in. (1m.37) Band Resaw Type XF/T

Diameter of saw wheels	54 in.	1m.35
Maximum width of saw	6 in.	150 mm.
Maximum depth of cut	27 in.	685 mm.
Maximum distance saw to fence	15 in.	380 mm.
Maximum distance saw to feed rollers	15 in.	380 mm.
R.P.M. of saw wheels	530	
B.H.P. required	40	
Nett weight (motor driven machine)	9,723 lb.	4,409 kilos
Nett weight (belt driven machine)	9,184 lb.	4,166 kilos
Oil capacity of gearbox (approximately)	~~approximately 2 gallons~~ 9 litres	2 gallons 9·1 litres
Maximum length of saw	27ft 0 in	8m23
Minimum length of saw	26ft 2 in	7m98

SPARE PARTS LIST

Description		Reference Number
Top spindle bearings	(Wheel end	S.K.F. 22318, 90 mm. bore roller bearings.
	(Opp. end	S.K.F. 2314, 75 mm. bore double row ball bearing.
Bottom spindle bearings	(Wheel end	S.K.F. 22318, 90 mm. bore roller bearing.
	(Opp. end	S.K.F. 2315, 75 mm. bore double row ball bearing.
Fence roller bearings		DN 205 sealed-for-life ball bearings
Bushes for vertical feed roller shaft	(Top	F.S. 3928, 2.5/8 in. O/D x 3 in. long
	(Bottom	F.S. 3923, 2.1/16in. O/D x $2\frac{1}{2}$ in. long.
Vertical feed rollers		F.S. 4361, 2-off 10 in. dia. x $2\frac{3}{8}$ in. face.
Saw guides (mintex)		F.S. 4589, 6-off top, 6-off bottom
Allen screws for pads		F.S. 3545, $\frac{3}{4}$in. x 1in. long socket head screws, 4-off each guide.
Felt pads		F.S. 4587, 1-off each for wheels, 2-off for saw.
Cleaning fluid tubes.		$\frac{1}{4}$ in. I/D P.V.C. tubing.
Wheel scrapers (brass)		F.S. 4588, 1-off each wheel.
Vee ropes		C96, 7/8in. section short centre drive (7-off) C120, 7/8in. section long centre drive (7-off)
Feed gear driving belt		3 ply balata $3\frac{1}{2}$ in. wide x 8ft. 0in. long (89mm. wide x 2m. 44 long.)

LUBRICATION

Machine part	Point **	Type of Lubricant	Amount	Frequency of application
Saw wheel spindles Replenishable grease type ball bearings. (60 in. machine top wheel has only one grease nipple)	B1	Ball and roller grease *	Small charge	Weekly
Motor Replenishable grease type ball bearings	-	Ball and roller grease *	Small charge	***
Feed gear Gearbox *	-	Gearbox oil	Top up	As required
Radial arm swing shaft	G4	Plain bearing grease	Small charge	Monthly
Radial arm adjustment shaft	G5	" "	"	"
- both plain bearings		" "	"	"
Radial arm gearboxes grease coated gears	-	Open gear grease *	According to use	As required
Radial arm drive shafts and bearings for levers - oil retaining bushes.	-	General oilcan	*	*
Gearbox input shaft and belt tightener pulley - replenishable grease type ball bearings (To gain access remove panel below infeed)	B2	Ball and roller grease *	Small charge	3 - monthly
Horizontal feed rollers - oil retaining bushes	-	General oilcan	*	*

* See notes on lubrication

** Lubrication points are shown on pages 10 and 12

*** Motors leave our Works charged with sufficient grease to last approximately 12 months under normal service conditions. Thereafter charge once every three months.

NOTE. The frequency of application of lubricant, as stated above, should be taken as a GENERAL GUIDE ONLY, as the actual running time, working conditions, heat, humidity, type of lubricant used, sound and feel of the bearings, etc., must be taken into account.

LUBRICATION

Machine part	Point **	Type of Lubricant	Amount	Frequency of application
Rear outer roller	7&8	General oilcan	According to use	Weekly
Top saw wheel				
Pivots - plain bearings.	0	General oilcan	Fill oilcups	Weekly
Adjusting shaft -	G2	Plain bearing grease	Small charge	Monthly
Slides -	G1			
Tracking shaft - - all plain bearings	G7			
Rise and fall gearbox - grease packed	-	Plain bearing grease	Fill gearbox	As required
Fence				
Rollers - sealed-for-life ball bearings	-	-	-	-
Adjustment shaft -	G3	Plain bearing grease	Small charge	Monthly
handwheel shaft - - both plain bearings	G6			
Cleaning pads - reservoir fed	-	Paraffin ***	Top up reservoir 25	As required
General				
Feed roller guards, slides and other working parts	-	General oilcan	As required	According to use.

* See notes on lubrication

** Lubrication points are shown on pages 10 and 11.

*** When cutting very resinous wood add a little RELEASIL fluid to the paraffin (Sold by Midland Silicones Ltd.).

NOTE. The frequency of application of lubricant, as stated above, should be taken as a GENERAL GUIDE ONLY, as the actual running time, working conditions, heat, humidity, type of lubricant used, sound and feel of the bearings, etc., must be taken into account.

RECOMMENDED LUBRICANTS

FOR ROBINSON WOODWORKING MACHINES

Make	Application		
	Gear Boxes	Hydraulics	Plain Bearings
Shell-Mex & B.P. Ltd.	Vitrea Oil 69	Tellus Oil 27	Unedo Grease 1 or Alvania Grease 3.
Esso Petroleum Co. Ltd.	Esstic 50	Esstic 42	Cazar K2 Grease
Castrol Limited	Perfecto T.T.	Hyspin 70	Spheerol L or Spheerol AP.3 Grease
Mobil Oil Co. Ltd.	Vactra Extra Heavy	DTE Oil Light	Mobilgrease AA No. 2
Sternol Ltd.	-	-	Sternoline

Make	Application		
	Open Gears	General Oilcan use	Ball & Roller Bearings
Shell-Mex & B.P. Ltd.	Cardium Compound 'D'	Carnea Oil 35	Alvania Grease 2.
Esso Petroleum Co. Ltd.	Surett 800	Coray 55	T.S.D. 807
Castrol Limited	Grippa 33/5	Perfecto TT	A.P. 2.
Mobil Oil Co. Ltd.	Mobil Dorcia 150	Rubrex 500	Mobilux Grease No. 2

NOTE: The Skefko Ball Bearing Co. Ltd. approve Alvania Grease 2 and Mobilux No. 2, but are unable to comment on the suitability of the others for Ball and Roller Bearings.

GENERAL INFORMATION

IMPORTANT: ON ALL CORRESPONDENCE RELATING TO THIS MACHINE PLEASE QUOTE THE MACHINE TEST NUMBER.

ROBINSON SERVICE

Customers faced with special applications will receive our recommendations if complete details, i.e. sample pieces or dimensioned drawings, are submitted to our Technical Department for examination.

ELECTRICAL EQUIPMENT

Inspection, maintenance or adjustment should be carried out by experienced electricians only, and prior to any investigation being made the current should be switched off at the isolating switch to avoid risk of accident.

It is recommended that this handbook should be read in conjunction with the following booklet:-

"SAFETY HINTS ON THE USE OF WOODWORKING MACHINERY" obtainable from H.M. Stationary Office, York House, Kingsway, LONDON, W.C.2., branch offices or any bookseller, price 9d. net.

"Be guided by the instructions in this handbook, but never forget that equally important is operator intelligence."

Additional copies may be had at a nominal charge.

Illustrations and instructions given can be taken to give a generally true picture, but neither are binding as to detail.

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