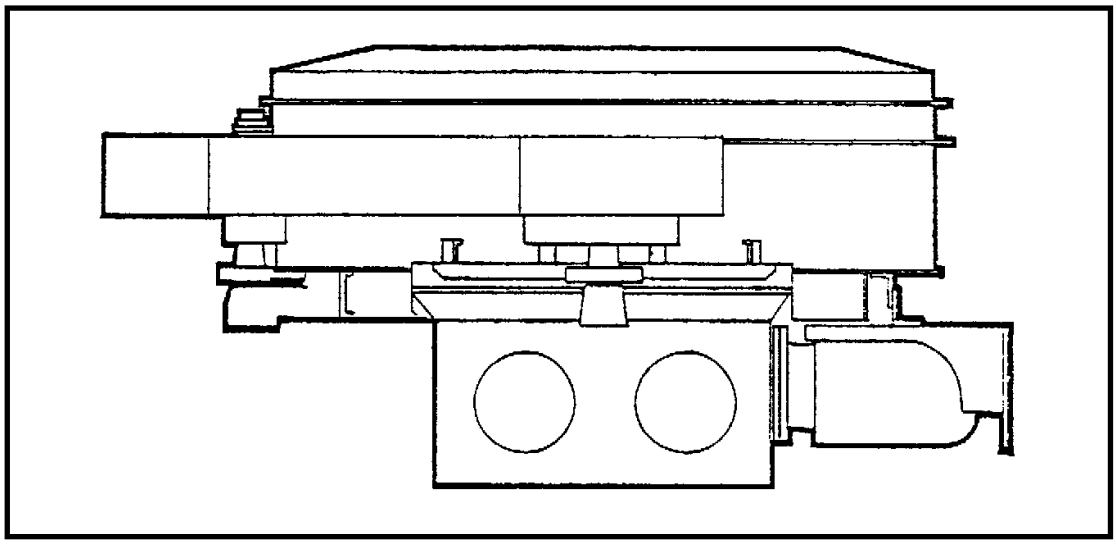
WINGET

OPERATION, MAINTENANCE & SPARE PARTS



750P TURBOMIXER

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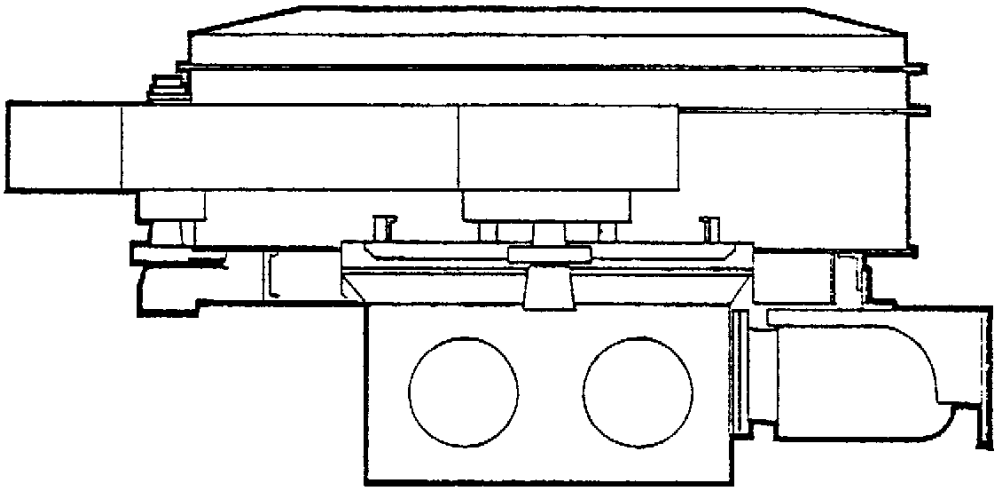
TURBOMIXER



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This manual is a reprint of the Winget publication No S78 last printed during February 1973 and is a direct copy of one of the remaining original manuals.

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Winget
LIMITED
CONSTRUCTION EQUIPMENT DIVISION

OPERATION MAINTENANCE & SPARE PARTS MANUAL

750 P

Turbomixer

Publication No. S 78 Feb 73

IMPORTANT

Your TURBOMIXER is a High Speed Mixer.

The Mix should never be allowed to remain in the pan for a period in excess of twice the mixing time required for any particular mix, otherwise, heavy overloading of the gear box will result.

Average mixing times are given on page 3 of this book.

Recourse to a wet hopper should be arranged if the take-off from the plant is erratic.

Under no circumstances should the Mixer be stopped and re-started during the mixing cycle.

NOTE:- When fitted in batching plant further information concerning water systems and electrical equipment will be given in batching plant manual.

LIST OF CONTENTS

DESCRIPTION AND OPERATING INSTRUCTIONS

OVERHAUL AND MAINTENANCE INSTRUCTIONS

SPARE PARTS SECTION

ILLUSTRATIONS

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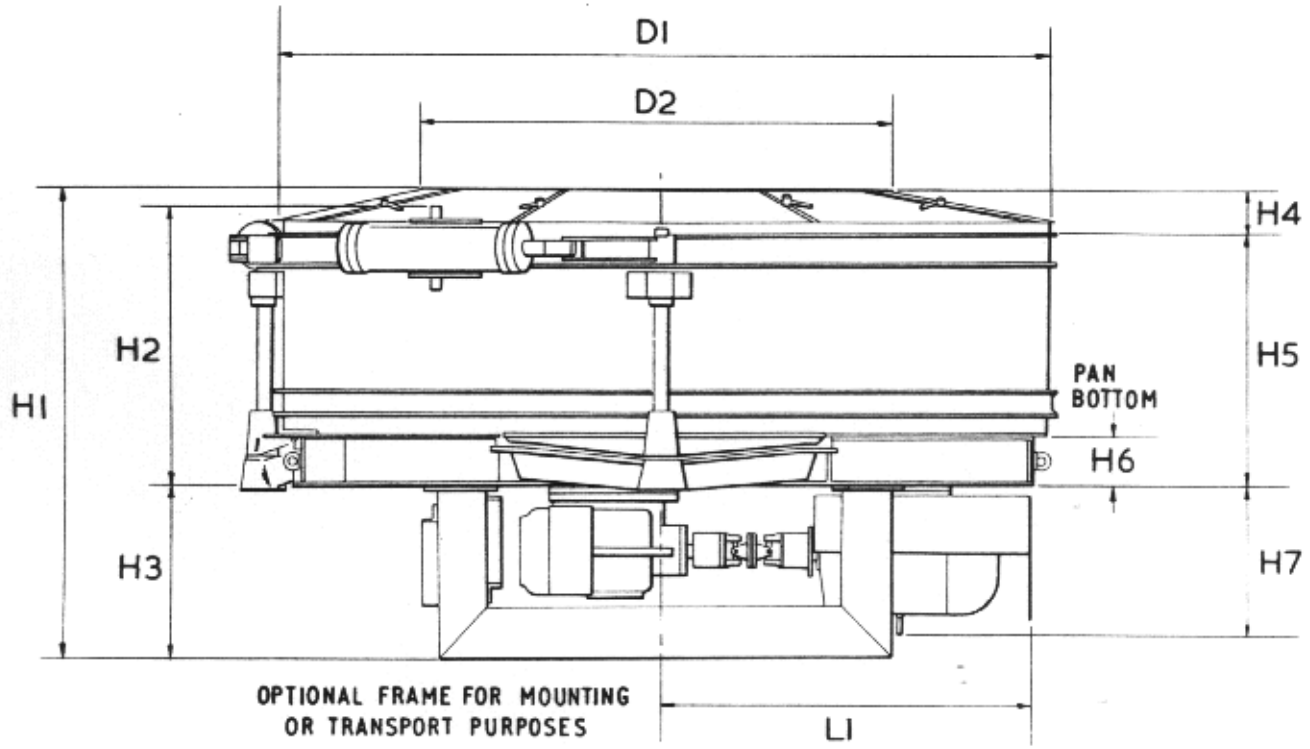

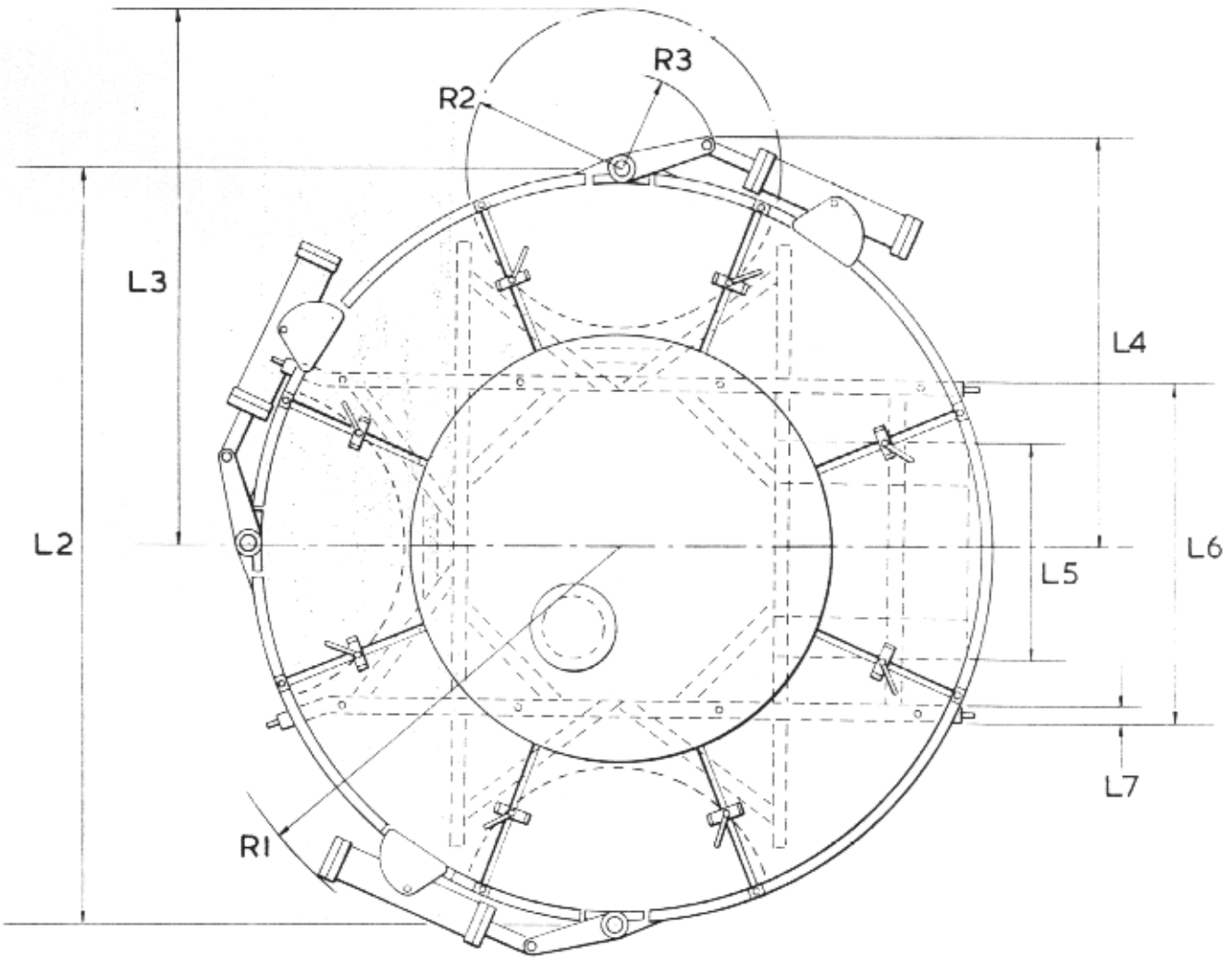

FIG I. SPECIFICATION

SPECIFICATION

BATCH FEEDING BASED ON 50 BATCHES/HOUR

BATCH	INPUT OUTPUT	1125 LITRES 39 CU. FT. 750 LITRES 27 CU. FT.
OUTPUT	CU. METRES/HOUR CU. YDS./HOUR	38 50
MOTOR	H.P. R.P.M.	50 1470
WEIGHT	KILOS	4550 Kilos 10,000 lbs.
NUMBER OF MIXING BLADES		9

OVERALL DIMENSIONS

LENGTH	MM	INS
D1	2591	102
D2	1626	64
H1	1754	69.1/16
H2	986	38.13/16
H3	660	26
H4	197	$7\frac{3}{4}$
H5	897	35.5/16
H6	203	8
H7	560	22.15/16
L1	1483	$58\frac{3}{8}$
L2	2743	108
L3	1905	75
L4	1486	$58\frac{1}{2}$
L5	940	37
L6	1492	$58\frac{3}{4}$
L7	76	3
R1	1689	$66\frac{1}{2}$
R2	533	21
R3	445	$17\frac{1}{2}$

WINGET LIMITED RETAIN THE RIGHT TO ALTER THIS SPECIFICATION WITHOUT NOTICE IN ACCORDANCE WITH THEIR POLICY OF IMPROVEMENT OF PRODUCTS.

S 78 February, 1973.

DESCRIPTION AND OPERATING INSTRUCTIONS

INSTALLATION

General: The mixer must be installed in its working position ensuring that it is mounted horizontally, and that there is no distortion of the base frame. Provision should be made below the mixer, to allow a free circulation of cooling air in and around the electric drive motor.

Access to the discharge door(s) from the underside of the mixer is recommended for inspection and maintenance of the mixing blades.

Air Operated Discharge Door(s) - if fitted: The discharge door(s) on some mixers are operated by an air cylinder. The working pressure required is in the range of 5.62 - 7.03 kilos per sq. cm. (80-100 p.s.i.) but should not exceed 10.55 kilos per sq. cm. (150 p.s.i.) The air supply is first passed through a filter to remove any dirt or moisture present, and then through an atomizing type airline lubricator.

Leaflets, supplied by the manufacturer, on the operation and servicing of these two units, are included at the back of this Manual. See page 11 for list of recommended lubricants.

PRE-RUNNING CHECKS:

1) Check the level of oil in spur gearbox and worm gearbox, top up as necessary - see page 5 for access instructions.

2) Check 1.6 mm (1/16") clearance between blades and pan, adjust as necessary - see page 7.

   It is recommended after any blade adjustment, that the rotor be given a couple of complete turns by hand, to ensure all round clearance of the blades due to any possible distortion of the pan or rotor housing.

3) If the mixer is being used for the first time after the electrical circuit has been connected or re-connected, ensure correct rotation of mixing blades.

4) If the water system has been drained, re-connect supply and pass a quantity of water through flowmeter to ensure accurate operation.

OPERATION:

Mixing: It is important that the mixing blades are rotating at their full working speed before any material is fed into the pan.

It is recommended that to reduce the mixing time cycle to a minimum where possible, the cement, water and aggregate be added to the pan simultaneously.

The actual charging and mixing time will vary depending on the type of mix, but should NEVER be less than thirty seconds, the average time being thirty to fortyfive seconds.

THE MIX SHOULD NEVER BE ALLOWED TO REMAIN IN THE PAN AFTER MIXING TIME HAS EXPIRED.

The action of the mixing blades and aggregate generates a small amount of heat which will cause the water content to drop and consequently stiffen the mix.

This stiffening would eventually reach a point when it would cause the overload trip mechanism of the starter switch to operate and stall the mixer.

In the event of the mixer stalling, the discharge door(s) should be opened, water added to the mix and as much concrete as possible shovelled out before any attempt is made to restart the electric motor.

To prevent the accidental starting of the mixer while manhandling concrete out of the pan, the supply fuses must first be removed or the isolating switch locked in the "OFF" position.

Discharging: An air operated semi-circular shaped discharge door (or doors) in the bottom of the mixing pan, allows the concrete to be quickly discharged by the action of the rotating mixing blades.

It is recommended that on a mixer fitted with two or more discharge doors, that if only one is consistently used for any period, to prevent the unused door(s) from sticking, that it/they be opened after approximately every 10 batches, to remove any grout that will have accumulated in the crevice between the door and the pan.

Cleaning the Mixer: At the end of each day's working, or if the mixer is idle for a period of more than two hours, the mixer should be thoroughly washed to prevent concrete setting in the pan or on the mixing blades.

REMEMBER a clean mixer is more efficient, reducing considerably the wear on the pan and mixing blades.

Washing down should be carried out as follows: With the mixing blades rotating, rinse the inside of the pan using a high pressure hose pipe. A quantity of gravel added to the pan will assist in a more intensive cleaning action.

After 3 or 4 minutes, open the discharge door and completely empty the pan. Switch off the motor, lock the isolating switch in the "OFF" position or remove the supply fuses. Remove top cover and hose down the paddle arms to remove all traces of concrete.

Check the setting of each mixing and scraper blade daily and adjust if necessary, lubricate as described on page 7.

OVERHAUL AND MAINTENANCE INSTRUCTIONS

WARNING - BEFORE ANY MAINTENANCE WORK IS CARRIED OUT ON THE MIXER, THE ISOLATING SWITCH MUST BE LOCKED IN THE "OFF" POSITION, OR THE SUPPLY FUSES REMOVED BY A QUALIFIED ELECTRICIAN.

LUBRICATION

Spur Gearbox Topping Up: Level of oil in the box should be checked weekly by means of a sight glass situated on the outer circumference of the turbomixer pan, an oil level indication plate is positioned behind the sight glass giving the Maximum and Minimum oil levels. If level of oil is found to be low remove the filler cap. Clean around neck of filler hole and top-up using oil of recommended grade only - SEE "OIL CHANGE".

Oil Change Spur Gearbox: The gearbox should be drained, flushed with diesel oil and refilled after the first 500 running hours. This procedure should be repeated after 3,000 running hours and subsequently every 5,000 running hours.

The recommended procedure for changing oil is as follows:-

1) Run mixer for a short period, lightly loaded to thin down the oil in the gearbox. Alternatively, carry out the oil change at the end of a working day whilst the oil remains warm.

2) Remove drain plug situated on the side of the upper half of the worm gearbox, collect the oil in a suitable container. Approx 91 litres (20 Imp. Gallons.)

3) Replace the drain plug, refill box with diesel fuel and run for about 10 minutes and drain off oil. If possible the box should be left draining overnight.

4) Refill through gearbox access cover using approx. 91 litres (20 Imp. gallons) of oil of recommended grade as listed:

SHELL	-	MACOMA 72
ESSO	-	ESSTIC 78
REGENT	-	CALTEX MEROPA 3
REGENT	-	M.T. GEAR OIL EP 90
MOBIL	-	COMPOUND B.B.

Spur Gearbox Top Bearing Lubrication: A grease nipple is provided on top of the rotor drive shaft. This requires lubrication at monthly intervals. Access to this grease nipple is gained through a hole situated near the centre of the pan cover.

* Worm Gearbox Topping Up: An oil sight glass is fitted to enable oil level to be checked at weekly intervals. If level of oil is low, remove the filler plug situated on the upper half of the gearbox case. Top up as necessary with SHELL VITREA 79.

Oil Change: Oil in worm gearbox should be changed after the first month's running, and subsequently every six months. This is best carried out at the end of a day's working with the machine stationery when the oil is warm, but allowing enough time for the oil to settle.

1) Remove drain plug adjacent to sight glass tube and collect oil in a suitable container. - Capacity 27½ pints 15.60 litres.

2) Refill with SHELL VITREA 79 or equivalent oil to level on sight glass tube.

Stauffer Lubrication: At weekly intervals the Stauffer protruding from the Wormbox case should be given several turns. Refill with SHELL LIVONA (3) grease when empty.

REPLACEMENT OF WEARING PLATES: To assist in the replasement of wearing plates, they have been divided into easily removable sections. After any plates have been replaced it is recommended as a final check that the rotor housing be turned by hand, to ensure correct adjustment of blades in relation to bottom of pan.

Bottom and Inner Plates:

1) Remove top cover to expose mixing blades.

2) Remove one mixing arm assembly complete.

3) Turn the rotor housing by hand, until the mounting brackets of the removed blade is a little to one side of the wearing plate segment to be replaced.

4) Remove the countersunk screws and the wearing plate from the pan.

5) Fit new wearing plate, assemble mixing arm and top cover.

* NOTE :- Some gearboxes are fitted with level plug in place of sight glass. The plug is positioned approx. ½" below joint in casing. When topping up fill to level of level plug.

Outer Wearing Plate:

1) Remove top cover to expose mixing blades.

2) Turn rotor housing by hand, until the outer scraper blade is clear of the segment to be replaced.

3) Remove the countersunk fixing bolts and remove wearing plate from pan. Fit new wearing plate.

MIXING AND SCRAPER BLADES.

Adjustment: The blades should be inspected daily for wear and adjusted if necessary, to give approximately 1.6 mm (1/16") clearance between the blades and the bottom or side of the pan.

After any adjustments have been made, it is recommended that as a final check before the motor is started that the rotor housing be rotated by hand a couple of times, to ensure that the blades do not foul the pan.

Pre-Loading of "Flexitors"

1) Line up flexitor base parallel to top edge of mounting block on mixing blade arm. Scribe a straight line across block and serrated shaft.

Assemble mixing blade arm to flexitor with shaft scribe line offset 2-3 serrations anti-clockwise as viewed on this end, secure mixing blade arm to shaft in this position.

2) With mixing blade fitted in its lowest position on blade arm (i.e. such that is can be adjusted for wear,) and resting on top of pan bottom wear plates, offer upper edge of flexitor base to underside of rotor arm. As shown in fig. 1.

3) Position clamp around flexitor and rotor arm. Screw up on clamp until flexitor is positioned flush to rotor arm and secure with setscrews. Adjust 5/8 setscrew in mixing blade arm until it bears on under side of rotor arm and secure with nut.

Finally adjust mixing blade to give 1.6 mm (1/16") clearance between itself and pan bottom wear plates.

NOTE: Screw must only be used as a stop and not for height adjustment.

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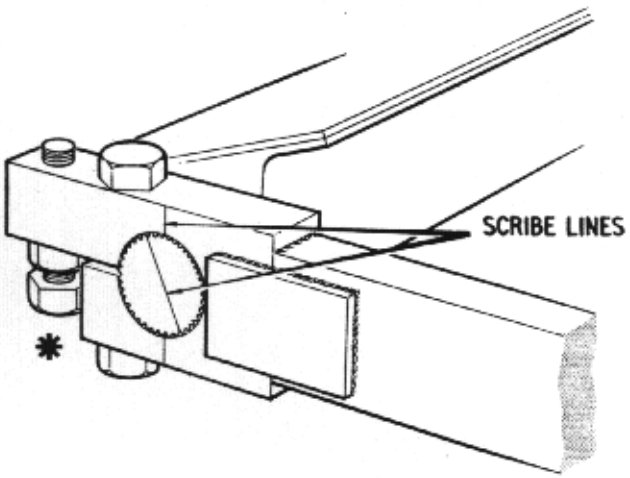
STAGE 1

LINE UP BASE OF 'FLEXITOR' PARALLEL TO TOP EDGE OF MOUNTING BLOCK AND SCRIBE A STRAIGHT LINE ACROSS BLOCK AND SERRATED SHAFT.

TURN FLEXITOR ANTI-CLOCKWISE UNTIL SHAFT SCRIBE LINE IS OFFSET 2-3 SERRATIONS FROM LINE ON MOUNTED BLOCK.

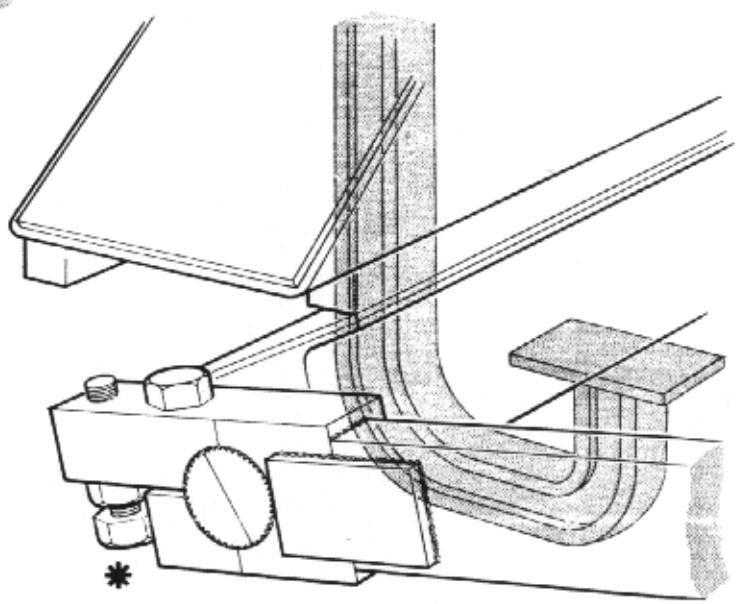
SECURE BLOCK TO SHAFT IN THAT POSITION.

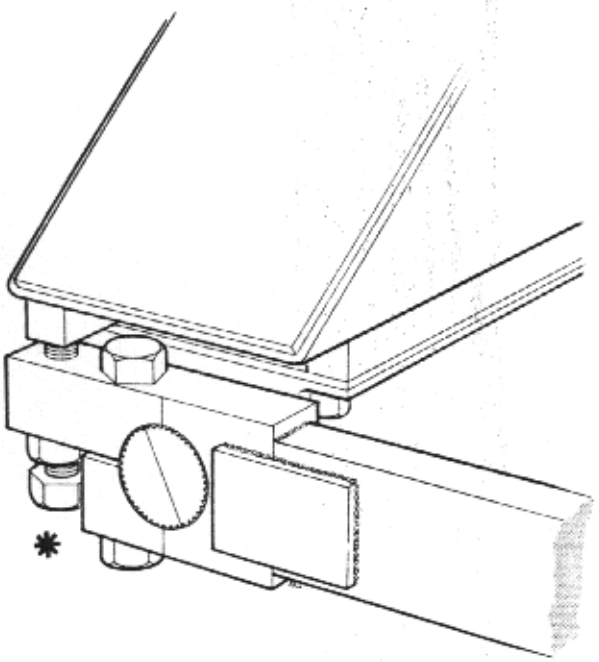


STAGE 2

OFFER UPPER EDGE OF 'FLEXITOR' BASE TO UNDERSIDE OF ROTOR ARM.

POSITION CLAMP AROUND FLEXITOR AND ROTOR ARM.





STAGE 3

SCREW UP CLAMP UNTIL 'FLEXITOR' IS POSITIONED FLUSH TO ROTOR ARM AND SECURE WITH SETSCREWS.

LIFT PADDLE BLADE 1/16 IN. FROM TOP OF BOTTOM WEARING PLATE, ADJUST 5/8 IN. SETSCREW UNTIL IT BEARS AGAINST UNDERSIDE OF ROTOR ARM SECURE WITH NUT.

NOTE:

* SCREW MUST ONLY BE USED AS A STOP AND NOT FOR HEIGHT ADJUSTMENT.

FIG2 PRE-LOADING OF FLEXITORS

Fitting New Blades:

Badly worn blades should be renewed as follows:

1) Open the discharge door and turn the rotor by hand until the worn blade is over the door opening.

2) Detach the blade by removing the two fixing bolts securing it to the mixing arm.

3) Fit new blade and tighten up bolts with them hard up to the top of the slotted holes in the mixing arm.

4) Reset blade until the correct clearance of 1.6 mm (1/16") is obtained as described.

ROTOR GEARBOX AND MOTOR REPLACEMENT:

The notes given in this section are intended for general guidance only.

1. Disconnect the electrical supply from the mixer by removing the fuses, and the electrical connections from the motor at the starter switch; these should be clearly labelled to assist in easy reconnections.

2. Drain the oil from the spur gearbox into a clean container of suitable capacity, by removing the plug from the drain point at the top of the worm box body. When all oil is drained, detach the filling tube and remove nipple.

3. Remove top cover complete with spider frame if space available, or if not, dismantle, by detaching individual cover plates, loosening centre bolts, withdrawing spider arms, after raising outer ends above pockets in pan body.

4. Unscrew single bolt in top of rotor shaft and remove rotor complete with blades, if head room is available or detach blades if not.

5. Remove inspection cover in top of spur gearbox and fit a lifting eye bolt into the end of the wormbox output shaft.

6. Remove setscrews from wormbox flange, and after disconnecting motor drive shaft, lower wormbox to ground complete with pinion and bearing, using suitable lifting tackle.

7. Remove false flange from underside of spur gearbox.

8. Screw lifting eye into rotor shaft and after removing bolts attaching spur gearbox to its mounting flange, lift gearbox complete, clear of pan and lower to ground.

   Alternatively the gearbox can be dismantled without removing it from the pan, providing care is taken to ensure no dirt or grit enters box.

9) Motor replacement is carried out, by first removing the wear plate immediately above the motor, revealing a hole in the pan bottom which gives access to a lifting eye on top of the motor support frame. The motor can then be lowered to the ground after removing bolts attaching the motor support frame to the pan frame.

NOTE: Motor can be replaced without removing spur or worm gearboxes.

To refit gearboxes and motor, carry out reverse procedure to above, finally refilling the spur gearbox with oil to the correct level, as indicated on the sight tube at the side of the pan. See page 5 for recommended oil and capacities.

Check that blade clearance of 1,6 mm (1/16") is maintained and rotate rotor by hand to ensure correct adjustment of blades relative to pan bottom.

Remake electrical connections to switch gear and replace covers before using the mixer, checking directions of rotation.

Recommended oils for use in the lubricator are as follows:

TELLUS 21	SHELL MEX AND B.P. LTD.
NORPOL 35	ESSO PETROLEUM CO. LTD.
GALTEX SPINDLE OIL A.	REGENT OIL CO. LTD.
MOBILE VELOCITE NO. 6	MOBIL OIL CO. LIMITED.

DISCHARGE DOOR CYLINDER CUSHION ADJUSTMENT:

A needle valve located to the site of the main inlet port allows adjustment of the cushion.

Turning the valve clockwise will increase the cushioning effect, alternatively, an anti-clockwise rotation will reduce it.

The ideal cushion produces a uniform deceleration of the moving parts without shock.

Cushion Setting:

Turn the adjusting screw clockwise to its fullest extent and then anti-clockwise, for one turn, Operate the cylinder. If bouncing takes place, turn the screw anti-clockwise one half turn. If, however, there is metallic impact from within the cylinder, turn the screw clockwise a fraction. Repeat this until the desired cushioning is achieved.

Servicing: The only components subject to any appreciable deterioration are the flexible sealing members fitted to the piston head, and those contained within the front end cover.

Replacement of Seals: NOTE: GENERALLY, REPLACEMENTS MAY BE FITTED WITH THE CYLINDER IN SITU. ALL SEALS MUST BE HANDLED CAREFULLY TO PREVENT DAMAGE TO THEIR SEALING EDGES.

Piston Head: Remove the end cover through which the piston rod emerges by unscrewing the four socket head screws. Withdraw front end cover, piston rod and piston head assembly from cylinder barrel.
Remove the whole piston head assembly from the shaft by unscrewing the three socket head screws.
Replace the seals on each of the two halves of the piston head, taking care to re-assemble the seals with their flared sealing lips pointing away from each other.
Replace the piston head assembly on the shaft, taking care to locate the split ring in both the shaft and the tapped half of the piston head.
Tighten the three socket head screws securely.
Replace the piston head assembly and front end cover into the cylinder barrel, making sure that the piston head seal lips are not pinched between piston head and barrel.
Finally, tighten end cover fixing bolts evenly, corner to corner.

Shaft Seal and Wiper Ring: Remove the wiper ring and shaft seal retaining circlip from the end cover through which the piston rod emerges. Apply air to the front of the cylinder. This will eject both the wiper ring, cage and shaft seal. Be sure and remove the air supply from <u>both ends</u> of the cylinder at this stage.
Wrap a strip of thin material over the piston rod flats and slip shaft seal on to rod, ensuring that the flared sealing lips face away from the screwed end of the piston rod.
Wrap a strip of thin material inside nose of the front end cover to protect the larger diameter sealing lip of the seal whilst sliding over the circlip groove.
Fit new wiper seal in cage and replace sub-assembly in end cover, making sure that leading edge of the seal projects through larger diameter of cage and towards screwed end of piston rod - replace circlip.

Cushion Seals - Blank end Cover: Remove from cylinder by unscrewing the four socket head screws. Remove circlip spring washer and bonded cushion seal. Replace seal taking care that the metal insert faces towards the back of the end cover. Replace spring washer and circlip.
Re-assemble end assembly, tightening each screw evenly, corner to corner.

Cushion Seals - Front End Cover: Remove from cylinder dismantle piston head assembly. Remove and replace cushion seal as already described. Re-assemble piston head and replace whole assembly as described previously.

NOTE: ON NO ACCOUNT MUST THE SHAFT BE REMOVED FROM THE END COVER. IF THIS HAPPENS, THE NECK PACKING SEALS WILL BE DAMAGED - NECESSITATING REPLACEMENT.

LOCATION OF SUSPECTED LEAKS

Piston Head: Remove each port connection in turn and test for leak. Subject to bubble test if necessary by leading connection from end cover into still water.
Replace defective seals as described and before re-assembly, ensure that the cylinder bore is perfectly free from all foreign materials. Should the cylinder continue to leak past the piston head after replacement seals are fitted, return it to the Works for inspection.

Front End Assembly: Test for leakage by connecting air to front end cover or cylinder and applying soapy water around the rod where it emerges from the end cover. Presence of bubbles indicates a leak.
Replace defective seal as described.
If leaks persist, return cylinder to Works for inspection.

LUBRICATING AND SERVICING SCHEDULE

DAILY or 24 hours

GENERAL	Thoroughly clean the inside and outside of the mixer paying particular attention to mixing and scraper blades. Give mixer a coating of equal parts of paraffin and engine oil. Apply a little engine oil to all moving parts, pin joints on discharge doors, etc.
DISCHARGE DOOR	* Use grease gun - 2 nipples (each door).
AIR VALVE TOP AND BOTTOM PLATE.	* Use grease gun - 2 nipples (each door).

WEEKLY or 200 hours

SPUR GEARBOX	Check oil level using sight glass, top up if necessary. For access see page 5. Top up with recommended oil only, see page 5.
WORM GEARBOX	Check oil level using sight glass, top up if necessary. For access see page 6. Top up with recommended oil only. See page 6. Turn Stauffer several times. Refil with Shell Livona 3.

MONTHLY or 800 hours

WORM GEARBOX	* Top bearing grease nipple using grease gun - one nipple. For access see page 6.
HARDY SPICER	* Use grease gun - three nipples.

SIX MONTHLY or 5000 hours

WORM GEARBOX	Change oil in gearbox. See page 6.
SPUR GEARBOX	Change oil in gearbox. See page 5.
MOTOR	*Use grease gun - one nipple.

* SHELL "ALVANIA" Grease No.2 or "UNEDO" Grease No.2.

Spares

Please note that a number of components are described as being c/w screws, nuts and washers, this is no longer the case and all fixings should be ordered separately if required. Imperial fixings may no longer be available and the nearest metric equivalent will be supplied.

HOW TO ORDER SPARES.

For fitting in your own workshop.

FROM YOUR NEAREST DEPOT.

This is the best and quickest method of obtaining spare parts. Main Winget Depots and Service Agents cover the country to give easier access to spares together with cheaper and more efficient service.

To avoid delays and errors, remember always to quote:-

THE MACHINE NUMBER.

- which will be found stamped on a plate at the side of the machine.

DESCRIPTION AND PART NUMBER.

- exactly as listed in this publication.

TO FIND A SPARE PART.

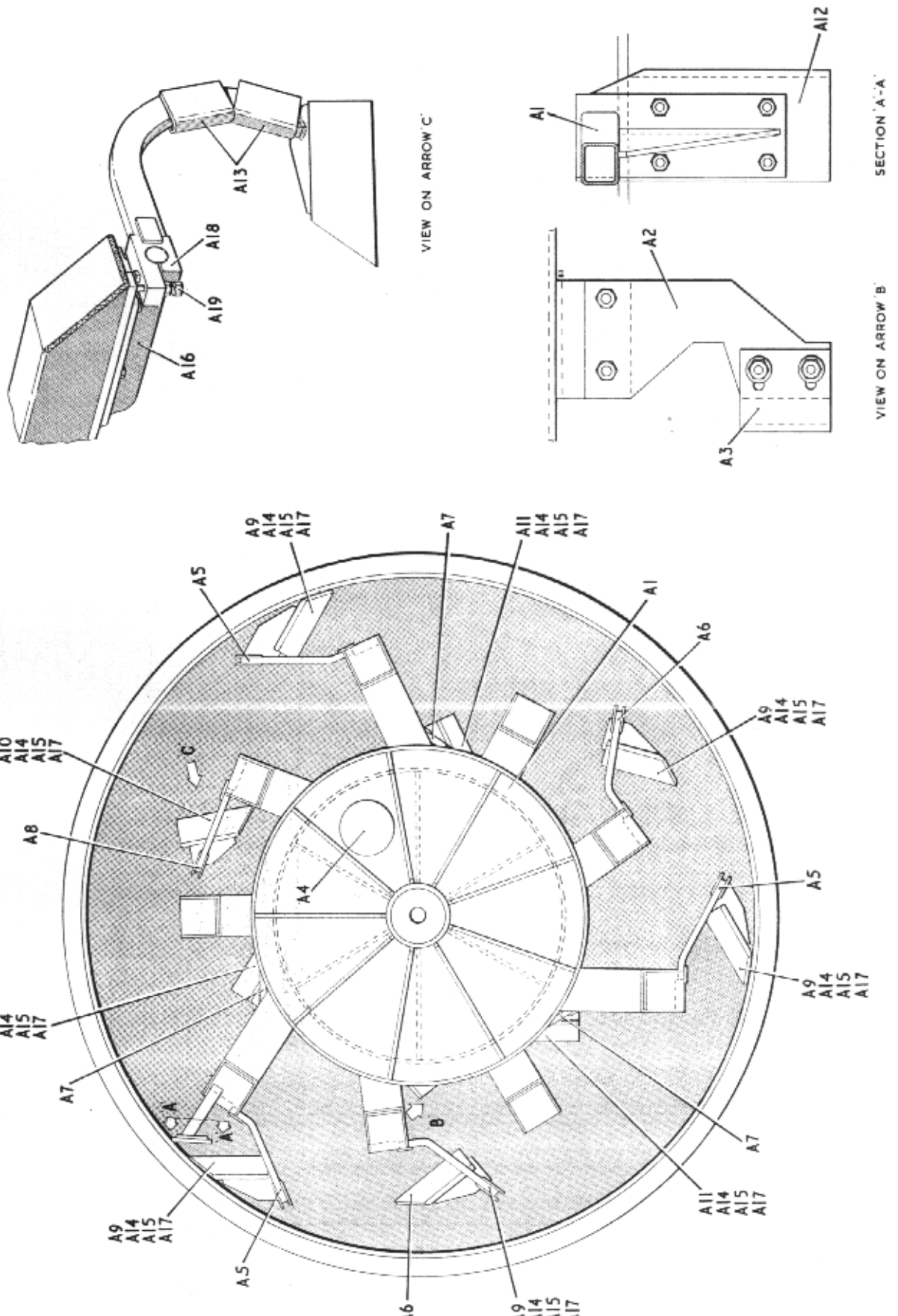
The assemblies on this machine have been divided into groups and given identification letters A, B, C, etc. To identify a component first find the relevant assembly in the list given on this page. This will give you a groups letter to turn to. On turning to this group, the illustrations will enable you to identify the part you require and give you a reference number. Against this number in the parts list will be found DESCRIPTION and PART NUMBER information which we require. Detailed instructions on how and where to order spares are given on Pages 15 and 16.

SPARE PARTS ILLUSTRATIONS

GROUP A	ROTOR PADDLE ARMS AND BLADES (SOLID TYPE ROTOR) ROTOR PADDLE ARMS & BLADES WITH SHEAR PINS
GROUP B	GEARBOX UP TO MACHINE NO. 51 GEARBOX FROM MACHINE NO. 52 GEARBOX OIL LEVEL ASSEMBLY
GROUP C	DRIVE ASSEMBLY
GROUP D	
GROUP E	DISCHARGE DOOR OPERATING RAM
GROUP F	AIR OPERATED DISCHARGE DOOR
GROUP G	PAN AND WEARING PLATES PAN BOTTOM WEARING PLATES
GROUP H	WORMBOX
GROUP J	ANCILLARY EQUIPMENT

REF NO.	NO PER MACHINE	DESCRIPTION	PART NO.
A1	1	Rotor (Fixed Type)	514-3118
A2	1	Scraper Blade Support complete with Hex. Hd. Bolts, Nuts and Sp. Washers	514-3116
A3	1	Inner Scraper Blade complete with Hex Hd. Bolts, nuts, spring and plain washers.	514-3117
A4	1	Access cover complete with Hex Hd. Setscrew and spring washers	514-2963
A5	3	Paddle Arm D/I (Outer)	514-2936
A6	2	Paddle Arm 'E' (Central)	514-2937
A7	3	Paddle Arm 'F' (Inner)	514-2938
A8	1	Paddle Arm 'G' (Intermediate)	514-2939
A9	5	L.H. Paddle Blade	514-2954
A10	1	Intermediate Paddle Blade (45°)	514-2955
A11	3	Paddle Blade (Inner)	514-2958
A12	1	Outer Scraper Blade complete with spring and plain washers	514-2940
A13	18	Mixing Arm wearing plate	514-1331
A14	18	Bolt for Paddle Blade	514-1624
A15	18	Paddle Blade Washer	514-1625
A16	9	Flexitor Unit No. 10 less arm and stub Complete with Hex. Hd. Setscrew and Sp. Washer	220-705000
A17	18	Hex. Binx Nut	330-110800
A18	9	Hex Hd. H.T. Bolt with nuts and spring washers	460-551026
A19	9	Hex. Hd. Setscrew with Hex Nuts	418-351020
A20	1	Rotor (Shear Pin Type)	514-3119
A21	1	Rotor Hub	514-3120
A22	1	Rotor Retainer Plate. Complete with Hex. Hd. Bolts and Spring Washers	514-3125
A23	3	Shear Pin Complete with Binx Nuts	514-3121
A24	3	Shear Pin Washer	514-3059
A25	3	Access cover complete with Hex. Hd. Setscrews and Sp. Washers	514-2963
A26	6	Headless Press Fit. Bush	514-3354/1
A27	1	90° Grease Nipple	333-501000

GROUP A



ROTOR, PADDLE ARMS & BLADES (SOLID TYPE ROTOR)

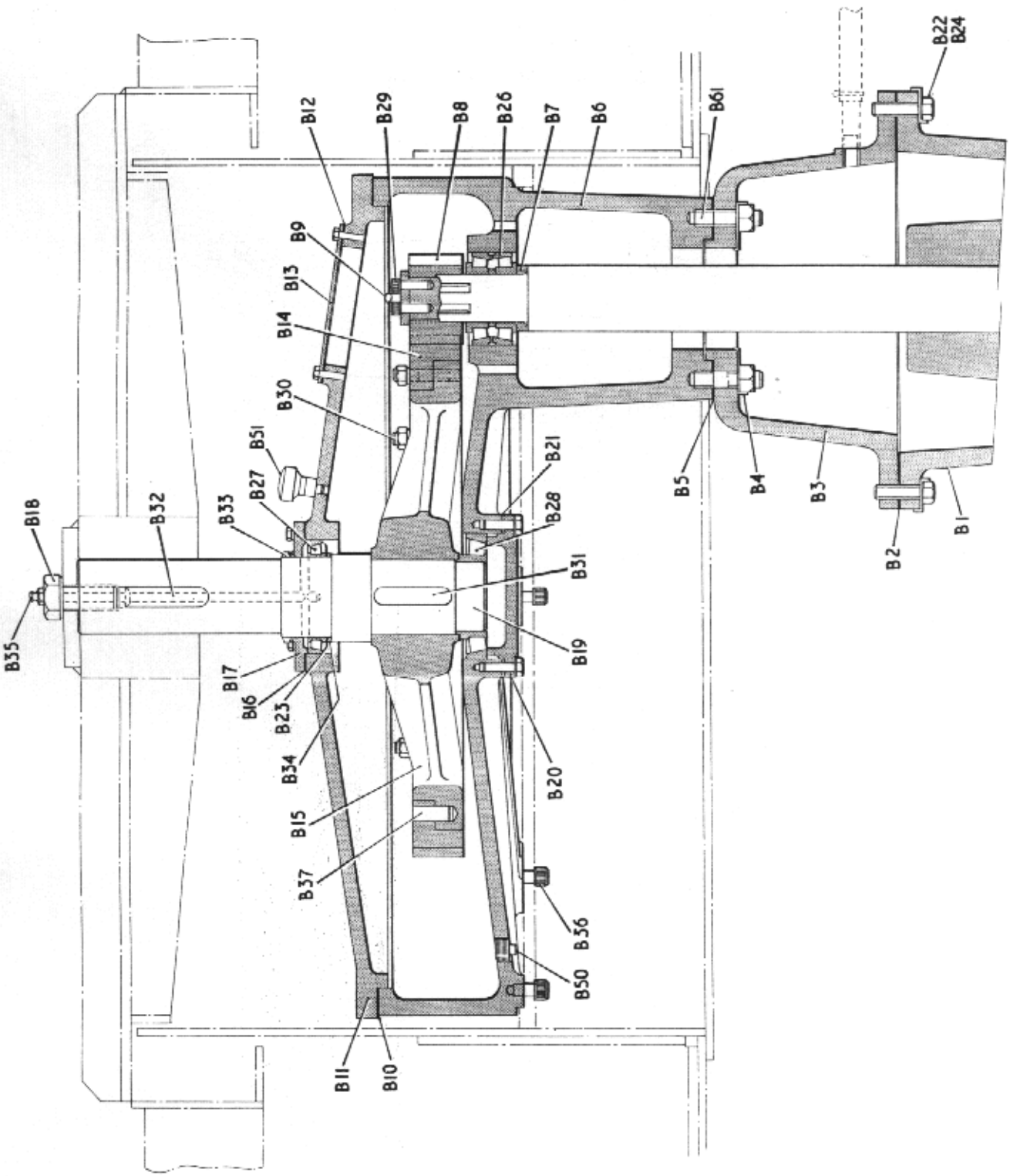
GROUP A

ROTOR, PADDLE ARMS & BLADES WITH SHEAR PINS

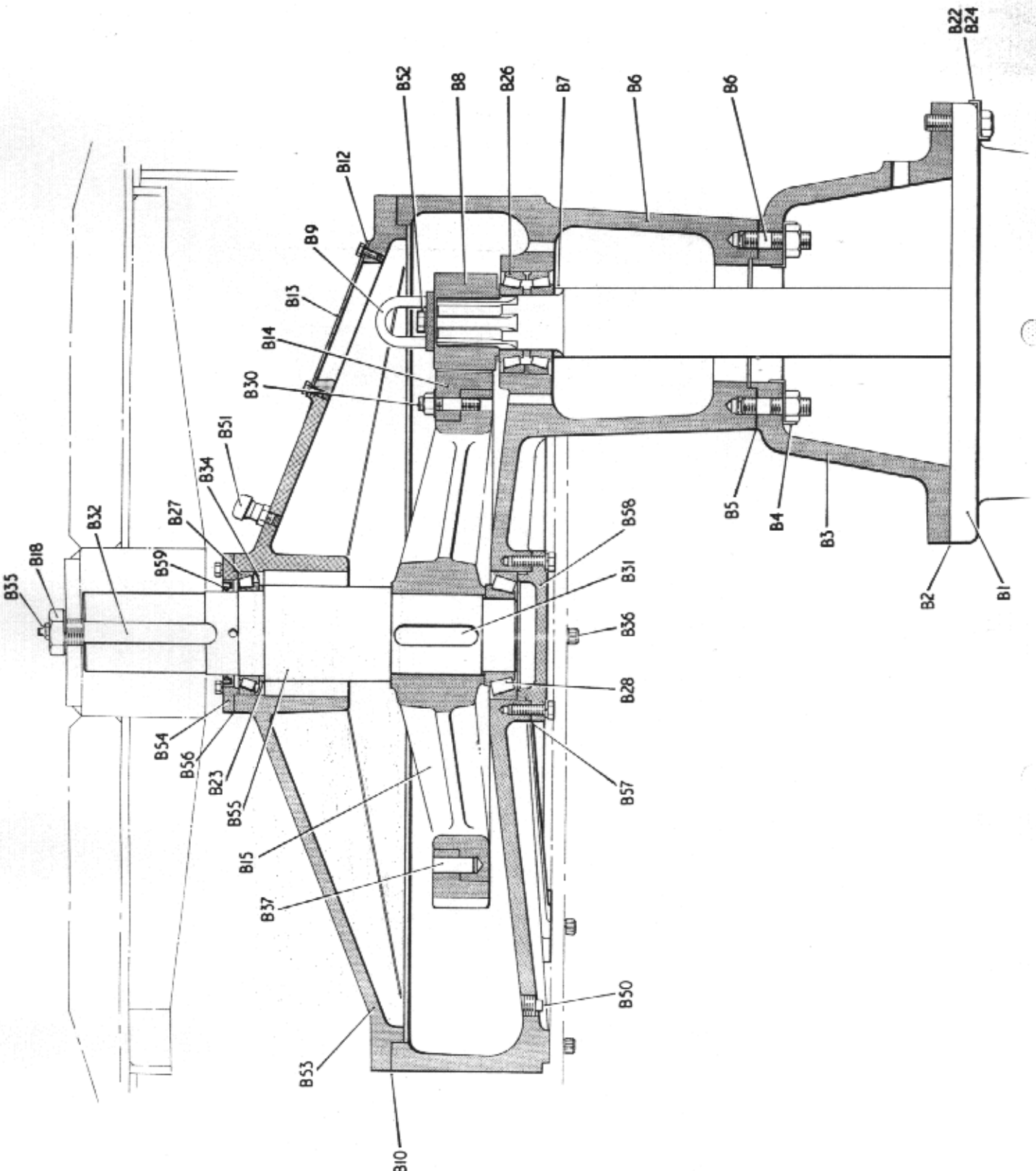
REF NO.	NO. PER MACHINE	DESCRIPTION	PART NO.
B 1	1	Moss Gear Unit (Type 900)	514-3087
B 2	1	Moss Gear Gasket	514-3082
B 3	1	Adaptor (Gearbox to Moss Gear)	514-3073
B 4	6	Tab Washer	514-2994
B 5	1	Gasket (Gearbox to Adaptor)	514-3083
B 6	1	Gearcase - Lower Half	514-3070
B 7	1	Thrust Washer	514-3079
B 8	1	Gear Box Pinion (16T)	514-3078
B 9	1	Lifting Eye	514-3081
B 10	1	Gasket	514-3084
B 11	1	Gearcase - Upper Half Complete with Hex. Hd. Setscrews and spring washers.	514-3071
B 12	1	Access Cover Gasket	514-2983
B 13	1	Access Cover Complete with Hex. Hd. Setscrews with Sp. Washers.	514-2982
B 14	1	Gear Ring (102T)	514-3076
B 15	1	Gear Ring Hub	514-3072
B 16	1	Gasket	514-3085
B 17	1	Bearing Retainer - Upper Complete with Hex. Hd. Setscrews with Spring Washers.	514-3075
B 18	1	Rotor setscrew complete with Sp. Washer	514-2993
B 19	1	Rotor Drive Shaft	514-3077
B 20	1	Bearing Retainer - Lower complete with Hex. Hd. Setscrews (Spring Washers)	514-3074
B 21	1 Set	Shims	514-3086
B 22	6	Tab Washers (not illustrated)	514-2981
B 23	1	Spacer	514-3080
B 24	6	Hex. Hd. H.T. Setscrews (not illustrated) used with B.22	418351218
B 25	6	Stud Type 'A' H.T. with Hex. Nut	41191426
B 26	1	Bearing with Spacer	119108
B 27	1	Bearing	119106
B 28	1	Bearing	119107
B 29	2	Socket HD Capscrew with Spring Washers	440470820
B 30	8	Stud Type 'B' Complete with Binx Nuts & Plain Washers	41191024

REF NO.	NO PER MACHINE	DESCRIPTION	PART NO.
B31	2	Parallel Key with Rd. Ends	304-117000
B32	2	Parallel Key with one end Rd.	304-118000
B33	1	V Ring Seal Type V100	417-771000
B34	1	Ring	391-602000
B35	1	Straight Hydraulic Grease Nipple	333-104G
B36	8	Socket Hd. Cap Screws with Spring Washer	404-750824
B37	2	Silver Steel Dowel	353-212160
B42	1	Reduction Box Oil Filler Pipe complete with Hex. Hd. Bolt and Nuts and Spring Washers	512-1307
B43	1	Durapipe Cap	512-1309
B44	1	Oil Filler Pipe	514-3065
B45	1	Oil Level Label	514-3384
B46	1	7 ft. long Tube	260-803000
B47	2	Hose Clip	132-101200
B48	4	Clip	143-266000
B49	4	Hex Hd. Setscrews with Nut and Sp. Washer	418-951012
B50	1	Drain Plug	241-706000
B51	1	Breather Plug	220-247000
B52	1	Tab Washer	514-3390
B53	1	Gearbox Upper Half complete with Hex Hd. Setscrews and Spring Washers	514-3392
B54	1	Bearing Retainer - Upper complete with Hex. Hd. Setscrews and Spring Washers	514-3388
B55	1	Rotor Drive Shaft	514-3391
B56	1 set	Bearing retainer shims (upper)	514-3394
B57	1	Lower Bearing Retainer Gasket	514-3389
B58	1	Bearing Retainer Lower complete with Hex. Hd. setscrews and spring washers	514-3387
B59	1	Oil Seal	417- 181000
B60	2	Hex Hd Setscrews	418-250810
B61	8	Studs H.T. complete with Hex Nuts	331-864000

GROUP B

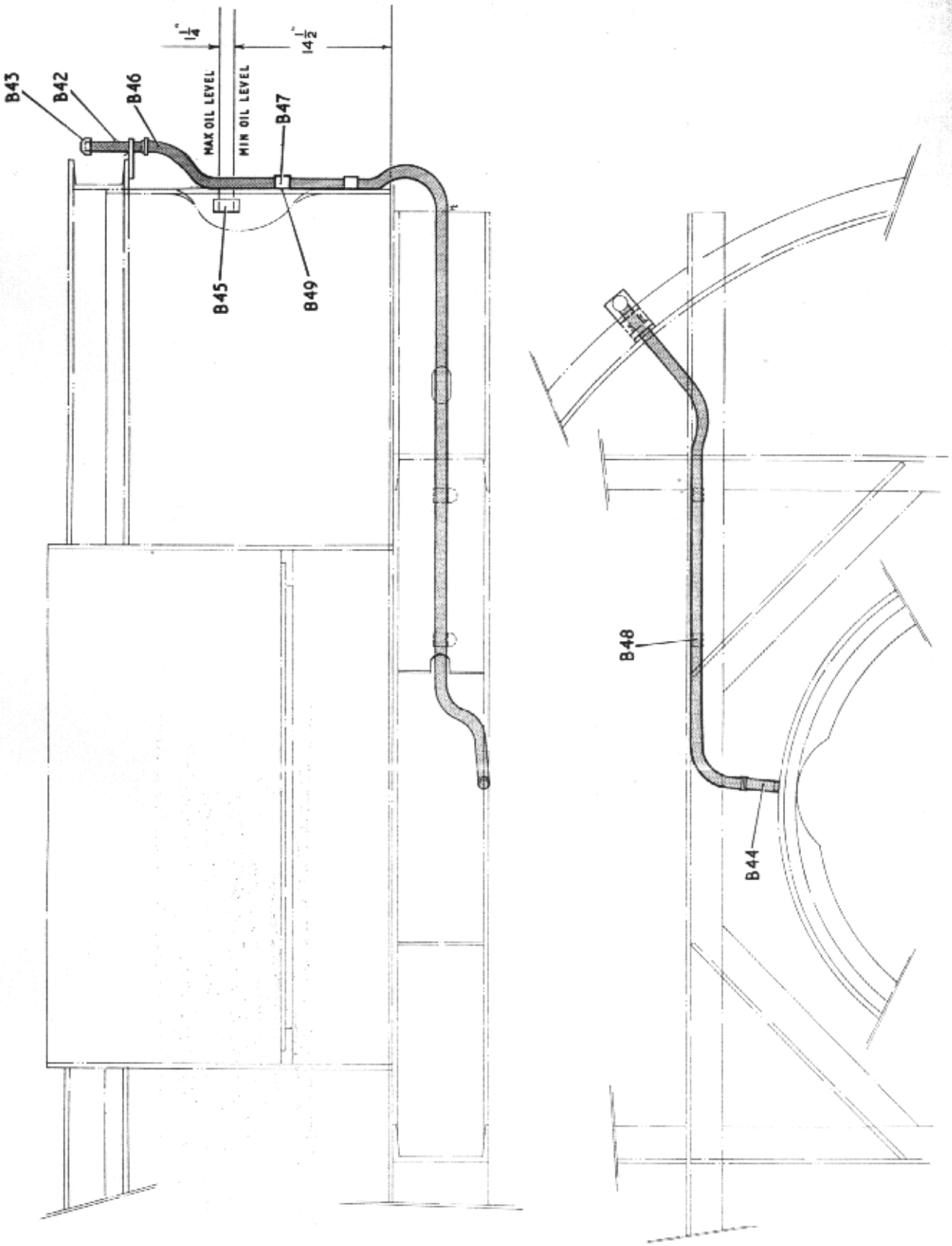


UP TO MACHINE N°51



FROM MACHINE N° 52

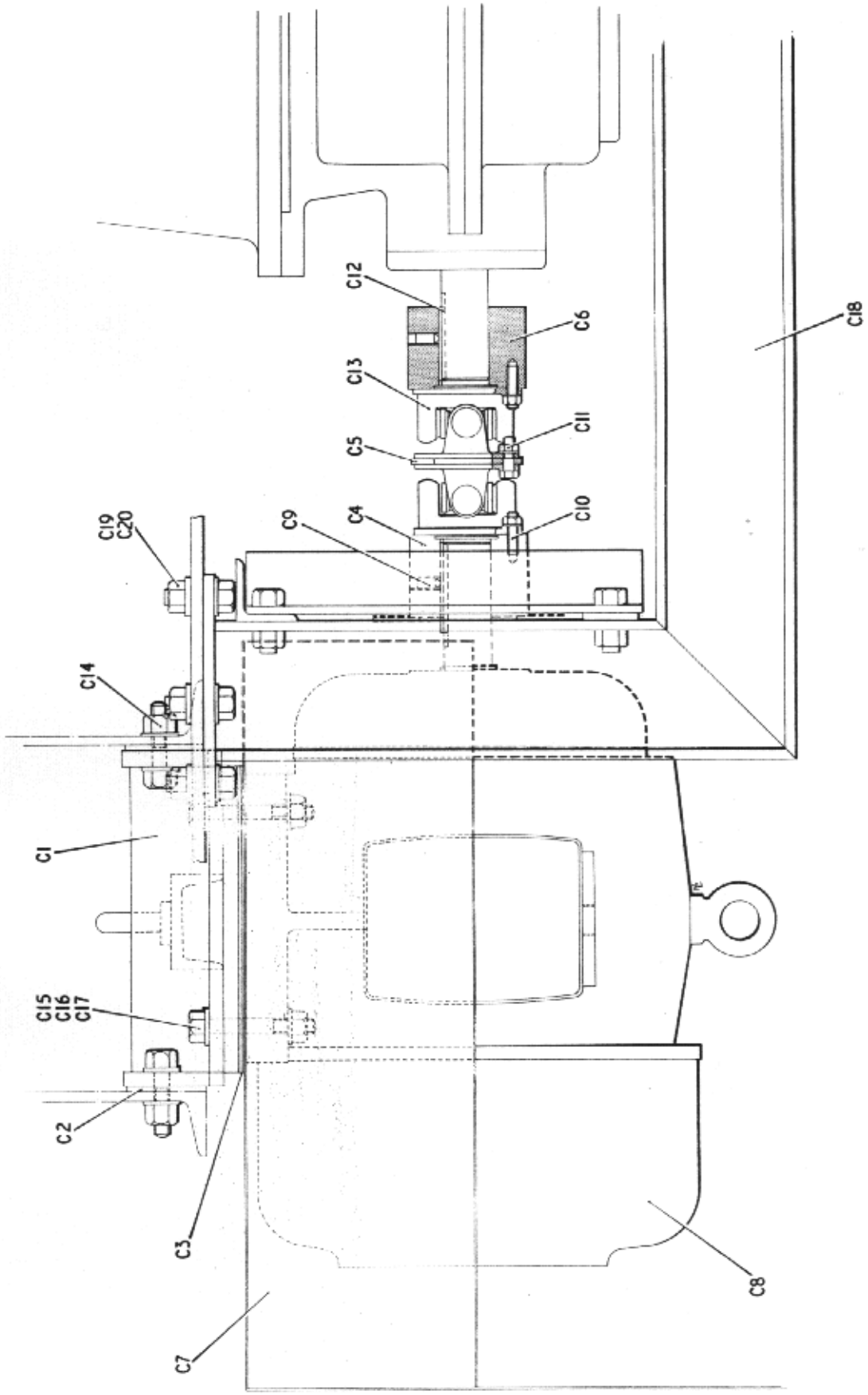
GROUP B



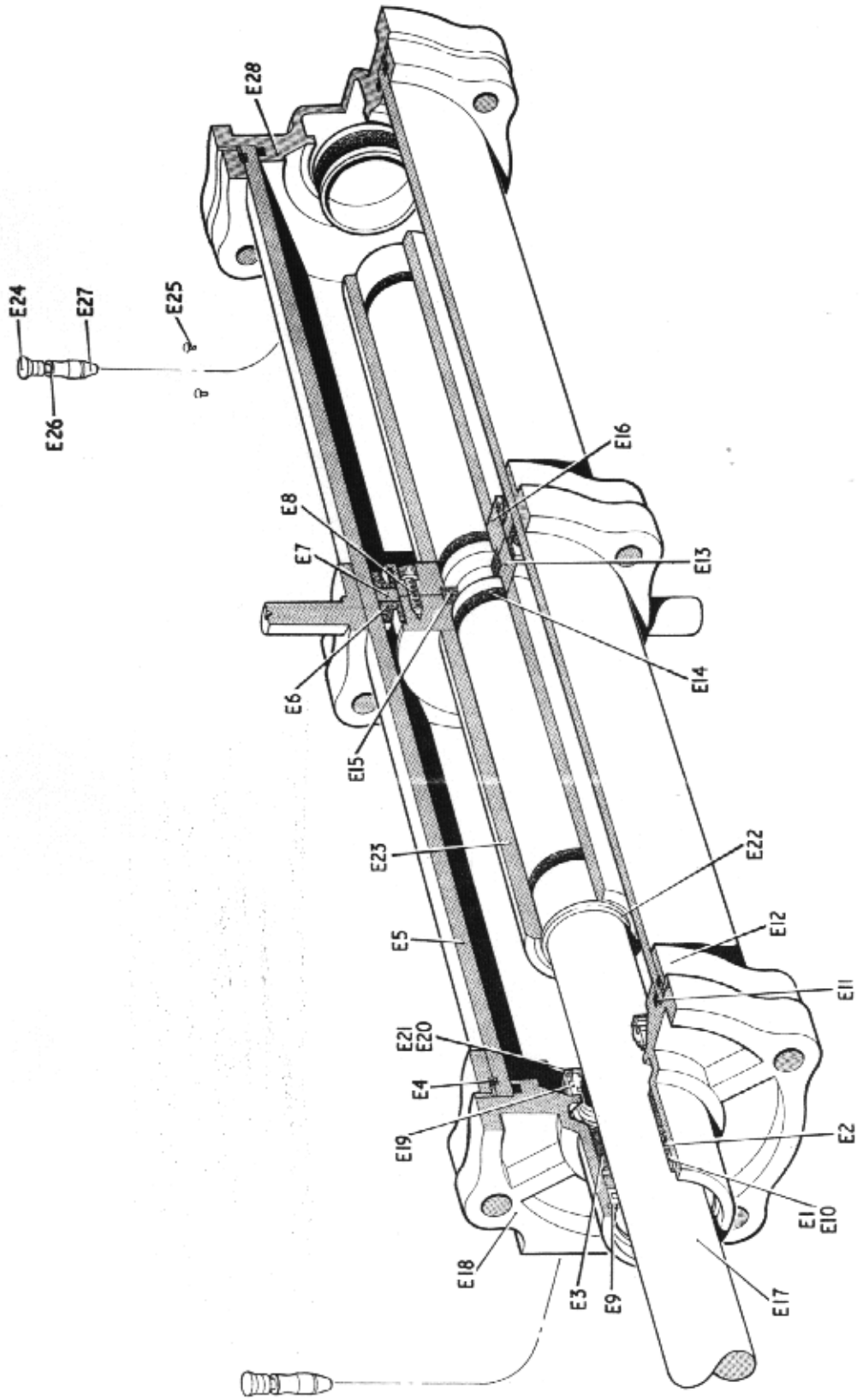
GEARBOX OIL LEVEL ASSEMBLY

REF NO.	NO PER MACHINE	DESCRIPTION	PART NO.
C1	1	Motor Mounting	514-3107
C2	2	Motor Mounting Packer	514-3108
C3	1 set	Shims for Motor	514-3112
C4	1	Half Coupling for Electric Meter	514-3109
C5	1	Spacer	514-3111
C6	1	Half Coupling for Worm Unit	514-3110
C7	1	Water Cover for Electric Motor	514-3113
C8	1	Electric Motor - ASEA M2255 - 50 HP at 1470 RPM NEWMAN D2255 - 50 HP at 1475 RPM Brook D2255 - 50 HP at 1500 RPM	
C9	3	Cone Point Skt. Setscrew	403-560616
C10	8	Stud for Coupling complete with Binx Nut and Plain Washers	514-3233
C11	4	Hex. Hd. Bolt (H.T.) with Binx Nut and Plain Washers	460-350712
C12	1	Parallel Key with Square Ends	305-910626
C13	2	Hardy Spicer Special Joint	130-957000
C14	8	Hex Hd. Bolts (H.T.) with nut SP and plain washer	460-351016
C15	4	Hex. Hd. Bolts (H.T.) with Binx Nut and 2 Plain Washers (ASEA Motor only)	460-351022
C16	4	Hex. Hd. Bolts (H.T.) with Binx Nut and 2 plain wahsers (NEWMAN Motor Only)	460-351026
C17	4	Hex. Hd. Bolts (H.T.) with Binx Nut and 2 plain washers (BROOK Motor only)	460-351024
C18	1	Mixer Support	514-3347
C19	22	Hex HD Bolts (H.T.) with Binx Nuts and plain washers	460-551218
C20	20	Taper Washers	465-212000

GROUP C


C12
C6
C18
C13
C11
C5
C4
C10
C9
C19
C20
C14
C1
C15
C16
C17
C2
C3
C7
C8

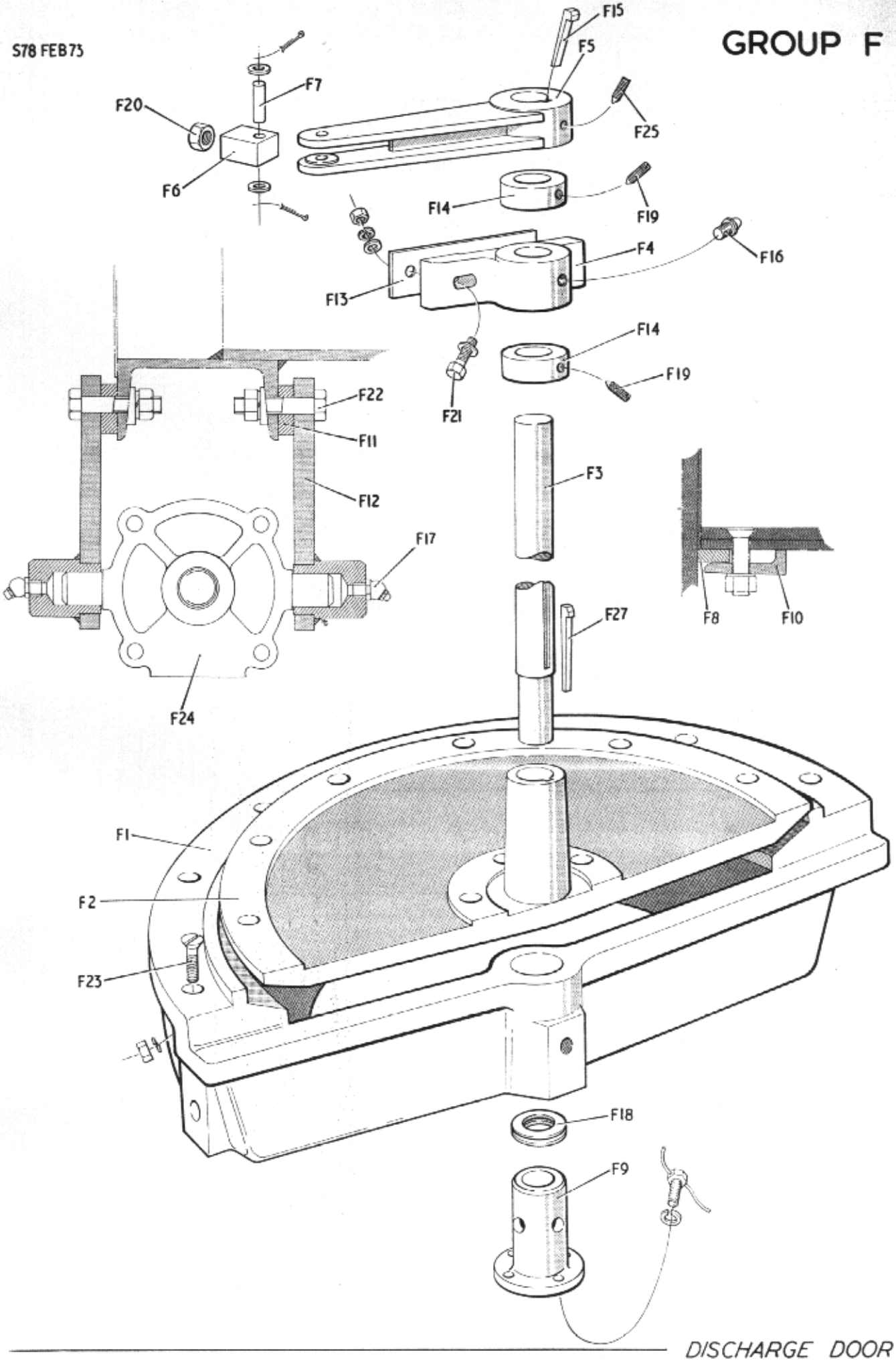
REF NO	NO PER MACHINE	DESCRIPTION	PART NO
E1	1	Cage (009805)	
E2	1	Neck Packing (014982)	
E3	1	Bearing Bush (009806)	
E4	2	Circlip (009803)	
E5	1	Tube (009792)	
E6	2	Distributor Seal (SP.66)	
E7	1	Follower (009796)	
E8	4	Screws (SP.71)	
E9	1	Retaining Ring (SP.668)	
E10	1	Wiper Ring (SP.67)	
E11	2	'O' Ring (SP.62)	
E12	2	Ring (M00 9802)	
E13	1	Head (Tapped) (M0 15874/3)	
E14	4	'O' Ring (SP.63)	
E15	1	Ring Split (009795)	
E16	1	Head (C. Bored) (M0 15875/3)	
E17	1	Rod (Cylinder Type) (L.013705)	
E18	1	End (L.009808)	
E19	2	Cushion Seal (009798)	
E20	2	Retaining Ring (SP.669)	
E21	2	Washers (009800)	
E22	2	Circlip (SP.422)	
E23	2	Sleeve (M0.15876/3)	
E24	2	Escutcheon (009810)	
E25	4	Rivet (SP.35)	
E26	2	'O' Ring (SP.44)	
E27	2	Screw (009809)	
E28	1	End (L.009804)	



DISCHARGE DOOR OPERATING RAM

REF NO.	NO PER MACHINE	DESCRIPTION	PART NO.
F1	1	Discharge Door Outlet	514-1532
F2	1	Discharge Door	514-1533
F3	1	Door Shaft	514-3459
F4	1	Door Shaft bearing	514-3143
F5	1	Air Operated Door Lever	514-1537
F6	1	Swivel Block	514-3145
F7	1	Ram Pivot Pin complete with plain washers and split pins	514-1539
F8	1	Door Sealing Strip	514-3149
F9	1	Adjusting Sleeve	514-1534
F10	4	Sealing Strip Clamp	514-3036
F11	2	Pivot Plate Packer	514-3146
F12	2	Air Cylinder Pivot Plate	514-3148
F13	1 set	Bearing Packer	514-3147
F14	2	STD Collar	145-501000
F15	1	Gib Hd Key	300-308361
F16	2	Straight Grease Nipple	333-104200
F17	2	35° Angle Grease Nipple	333-752020
F18	1	Single Thrust Ball Bearing	111-210000
F19	2	Cone Pt. Socket Setscrew	403-560808
F20	1	Hex. Locknut	331-218000
F21	2	Hex. Hd.Bolt with Nut SP and Taper Washers	460-551024
F22	6	Hex. Hd. Bolts with Nuts Sp. Taper Washers	460-550820
F23	3	CSK Hd Bolts with Nuts and Spring Washers	346-0550816
F24	1	Baldwin Air Cylinder	137-198000
F25	1	Cone Pt. Socket Setscrew	403-560612
F26	4	Special setscrews complete with locking wire and spring washers	514-3345/3
F27	1	Gib. HD Key	300-308480

GROUP F


F15
F5
F7
F20
F25
F6
F14
F19
F4
F16
F13
F14
F19
F21
F22
F11
F3
F12
F17
F8
F10
F27
F24
F1
F2
F23
F18
F9

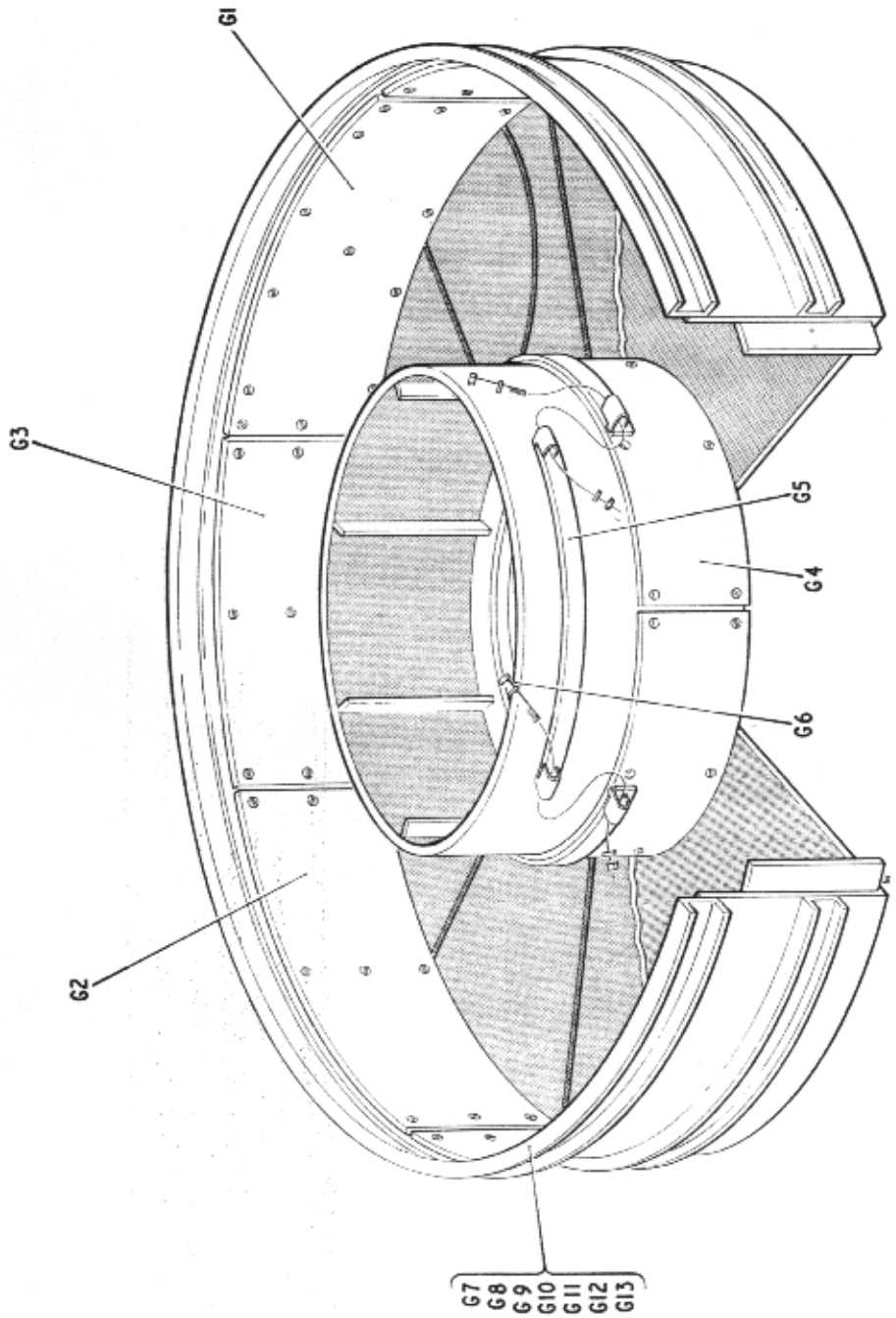
REF NO	NO PER MACHINE	DESCRIPTION	PART NO.
G1	1	Outer Wearing Plate at Door Opening (Single Door) complete with CSK Hd. Bolts, Nuts and Spring Washers.	514-3094
	2	(2 Door)	
	3	(3 Door)	
G2	3	Outer Wearing Plate - Long complete with CSK Hd. Bolts, Nuts and Spring Washers (Single Door)	514-3095
	2	(2 Door)	
	1	(3 Door)	
G3	4	Outer Wearing plate - Short complete with CSK Hd. Bolts, Nuts and Spring Washers (1, 2 and 3 Doors)	514-3093
G4	4	Inner Shroud Wearing Plate complete with CSK Hd. Bolts, Nuts and Spring Washers. (1, 2 and 3 Doors)	514-3092
G5	4	Strap for Inner Wearing Plate (1, 2 and 3 Doors)	514-3091
G6	4	Hex. hd. bolt, Binx nut and 2 plain washers.	460-551026
G7	1	Mixing Pan Single Door Opposite Drive	514-3411
G8	1	Mixing Pan Single Door to Left of Drive.	514-3410
G9	1	Mixing Pan Single Door to Right of Drive.	514-3412
G10	1	Mixing Pan Two Doors One to Right and One to Left of Drive	514-3414
G11	1	Mixing Pan Two Doors One opposite and one to Left of Drive	514-3413
G12	1	Mixing Pan Two Doors one opposite and one to Right of Drive	514-3415
G13	1	Mixing Pan Three Doors one opposite, one to left and one to right of drive	514-3416
G14	1	Door Wearing Plate Diagram 1.	514-3096
	1	Door Wearing Plate Diagram 2.	
	1	Door Wearing Plate Diagram 3.	
	2	Door Wearing Plate Diagram 4.	
	2	Door Wearing Plate Diagram 5.	
	2	Door Wearing Plate Diagram 6.	
	3	Door Wearing Plate Diagram 7.	

REF No.	NO PER MACHINE	DESCRIPTION	PART NO.
G 15		Bottom Wearing Plate Near Door Opening	514-3097
	1LH & 1RH	" " " Diagram 1.	
	1LH & 1RH	" " " Diagram 2.	
	1LH & 1RH	" " " Diagram 3.	
	2LH & 2RH	" " " Diagram 4.	
	2LH & 2RH	" " " Diagram 5.	
	2LH & 2RH	" " " Diagram 6.	
	3LH & 3 RH	" " " Diagram 7.	
G 16	10	Bottom Wearing Plate Diagram 1	514-3098
	10	" " " " 2.	
	10	" " " " 3	
	8	" " " " 4	
	8	" " " " 5	
	8	" " " " 6	
	6	" " " " 7	
G 17	-	-	-
G 18		CSK Hd. Screw with Nut & SP Washers	400251810
	46	" " " Diagram 1	
	46	" " " Diagram 2	
	46	" " " Diagram 3	
	44	" " " Diagram 4	
	44	" " " Diagram 5	
	44	" " " Diagram 6	
	42	" " " Diagram 7	
G 19		CSK Hd. Screw with Nut & SP Washers	400251814
	9	" " " Diagram 1	
	9	" " " Diagram 2	
	9	" " " Diagram 3	
	18	" " " Diagram 4	
	18	" " " Diagram 5	
	18	" " " Diagram 6	
	27	" " " Diagram 7	

REF NO	NO PER MACHINE	DESCRIPTION	PART NO.
G 15		Bottom Wearing Plate near Door Opening	514-3097
	1 LH & 1 RH	" " " Diagram 1.	
	"	" " " Diagram 2.	
	"	" " " Diagram 3.	
	2 LH & 2 RH	" " " Diagram 4.	
	"	" " " Diagram 5.	
	"	" " " Diagram 6.	
	3 LH & 3 RH	" " " Diagram 7.	
G 16	10	Bottom Wearing Plate Diagram 1.	514-3098
	10	" " " Diagram 2.	
	10	" " " Diagram 3.	
	8	" " " Diagram 4.	
	8	" " " Diagram 5.	
	8	" " " Diagram 6.	
	6	" " " Diagram 7.	
G 17	-	-	-
G 18		CSK Hd. Screw with Nut and SP Washers	400251810
	46	" " " " Diagram 1.	
	46	" " " " Diagram 2.	
	46	" " " " Diagram 3.	
	44	" " " " Diagram 4.	
	44	" " " " Diagram 5.	
	44	" " " " Diagram 6.	
	42	" " " " Diagram 7.	
G 19	9	CSK Hd. Screw with Nut and SP Washers	400251814
	9	" " " " Diagram 1.	
	9	" " " " Diagram 2.	
	9	" " " " Diagram 3.	
	18	" " " " Diagram 4.	
	18	" " " " Diagram 5.	
	18	" " " " Diagram 6.	
	27	" " " " Diagram 7.	

REF NO.	NO PER MACHINE	DESCRIPTION	PART NO.
G 20		CSK Hd. Screw with Nut & SP Washers.	400251818
	4	" " " " "Diagram 1	
	4	" " " " "Diagram 2	
	4	" " " " "Diagram 3	
	8	" " " " "Diagram 4	
	8	" " " " "Diagram 5	
	8	" " " " "Diagram 6	
	12	" " " " "Diagram 7	

GROUP G



○ G18 ● G19 ◔ G20

NOTE: Screw Arrangements for all Door Surround Plates are as Shown on Diagram 3.

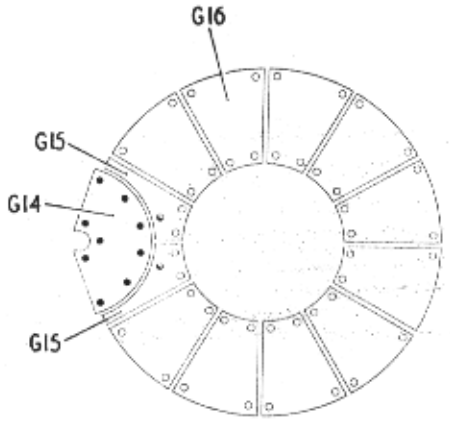
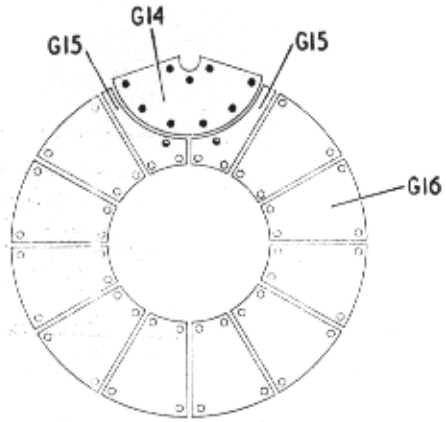
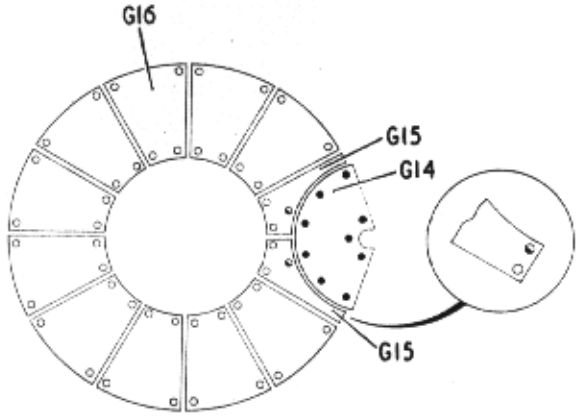


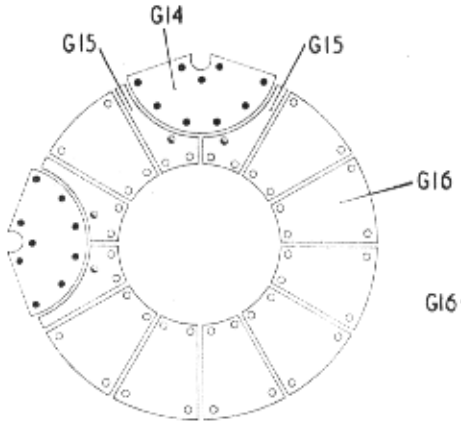
Diagram (1) One Door Left of Drive



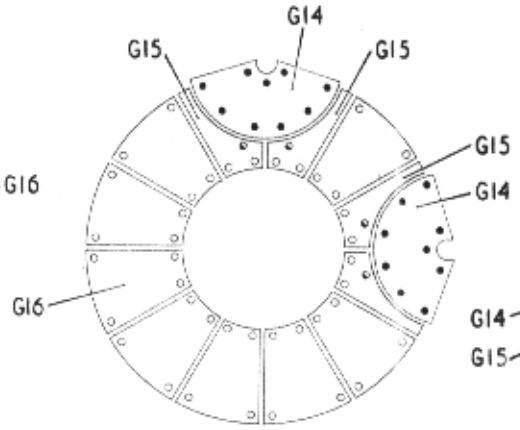
(2) One Door Opposite Drive



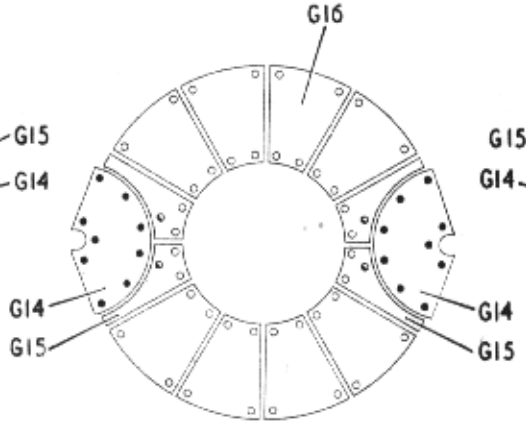
(3) One Door Right of Drive



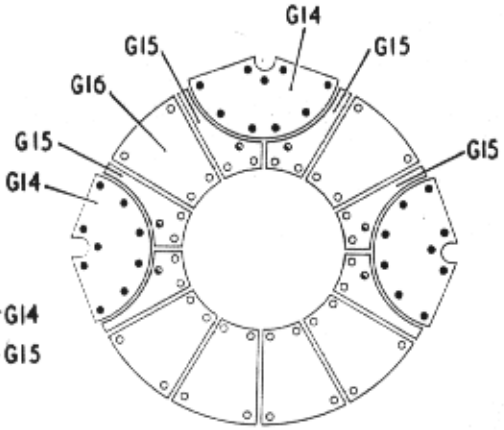
(4) Two Doors One Left & One Opposite Drive



(5) Two Doors One Right & One Opposite Drive



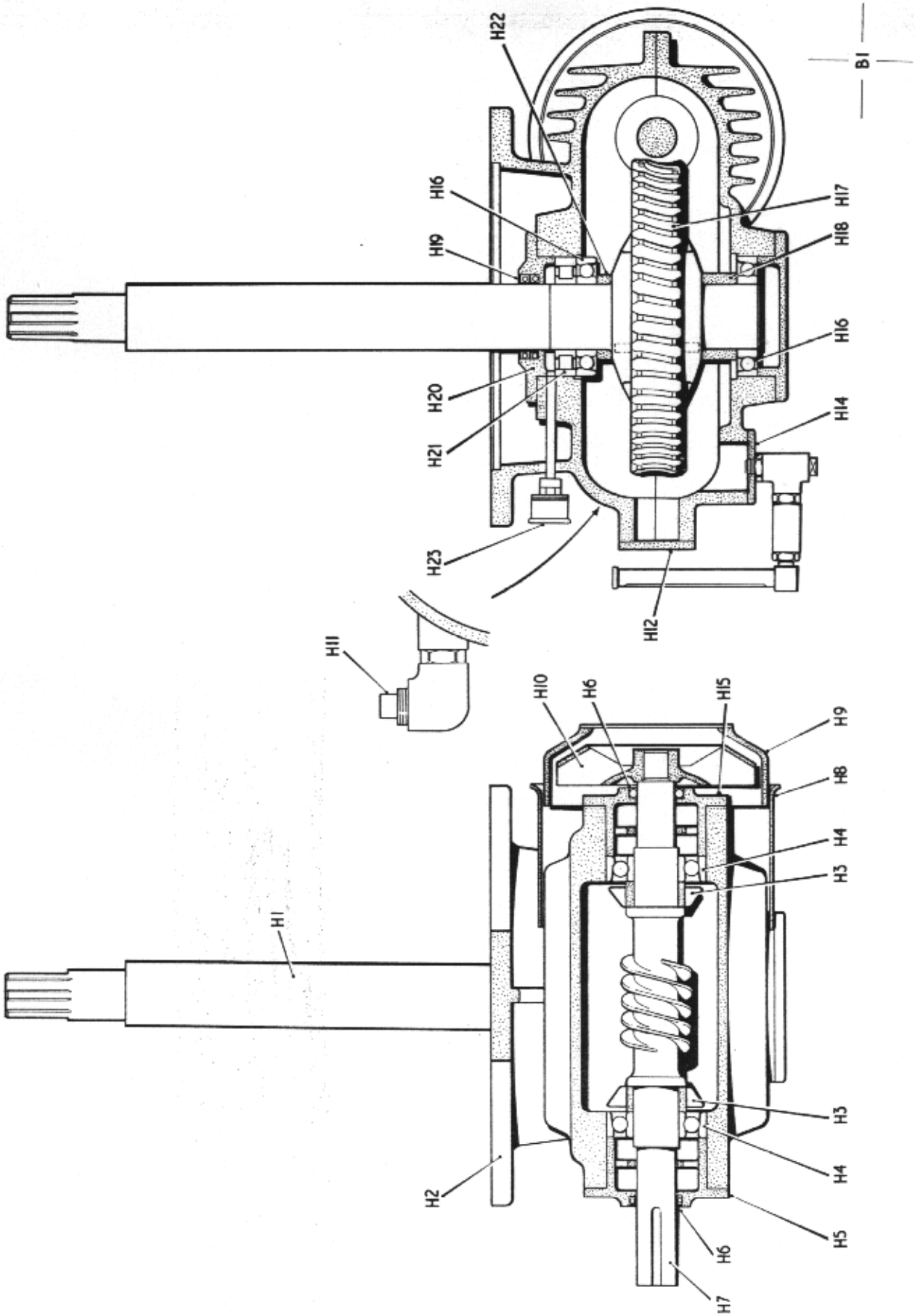
(6) Two Doors One Right & One Left of Drive



(7) Three Doors One Left, One Right & One Opposite Drive

REF NO.	NO. PER MACHINE	DESCRIPTION	PART NO.
H 1	1	Slow Speed Shaft - 06951	-
H 2	1	Gear Case 036950	-
H 3	1	Oil Flinger - B4819	-
H 4	2	Double Purpose Bearing MS.16 AC	-
H 5	2	Worm Shaft Open Cover B33953	-
H 6	1	Worm Shaft Oil Seal 2682	-
H 7	1	Worm Shaft - C 33390	-
H 8	1	Deflector - C7681	-
H 9	1	Fan Cowl B 6358	-
H 10	1	Fan - B4820	-
H 11	1	Filler & Breather	-
H 12	1	Inspection Cover B 2854	-
H 13	1	Oil Sight Gauge	-
H 14	1	Cover - B 2666B	-
H 15	1	S.S. Shaft Blank Cover B 8415	-
H 16	2	Double Purpose Bearings LS. 19½. AC.	-
H 17	1	Wormwheel B 33389	-
H 18	1	Wide Spacer - B 4823	-
H 19	2	S.S. Shaft Oil Seal W4003250R4	-
H 20	1	S.S. Shaft Open Cover B 36952	-
H 21	1	S.S. Shaft Roller Bearing RLS 19½	-
H 22	1	Narrow Spacer B 4822	-
H 23	1	Stauffer	-

GROUP H


H22
B1
H16
H17
H19
H18
H16
H20
H14
H21
H23
H12
H11
H10
H6
H15
H9
H8
H4
H3
H1
H3
H4
H2
H5
H6
H7

ANCILLARY EQUIPMENT
(not illustrated)

REF NO	NO PER MACHINE	DESCRIPTION	PART NO.
J1	1	Three positioned index five Port-Air Valve	450-495000
J2	2	Exhaust Hoods	450-403300
J3	1	Oil Fog Vitalizer Unit	451-502000
J4	2	Reducing Bush	240-504202
J5	7	Hose Connector (Brass)	130-304400
J6	1	Rubber Hose 20'0" long	260-303000
J7	7	Jubilee Clip	132-100000

NOTE - Single Discharge Door Only.