

# CUMFLOW RP50 & RP100 ROTATING PAN MIXER

# PARTS & OPERATION MANUAL

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The contents of this handbook although correct at the time of publication, may be subject to alteration by the manufacturers without notice and Winget Limited can accept no responsibility for any errors or omissions contained within the following pages. Nor can we accept any liability whatsoever arising from the use of this manual howsoever caused.

Winget Limited operate a policy of continuous product development. Therefore, some illustrations or text within this publication may differ from your machine

Winget Limited can accept no responsibility for incorrectly supplied parts unless the machine serial number, part number and a full description of the items required is given when the order is placed.

#### **NOTE**

Imperial fixings (bolts, setscrews, nuts, washers etc) have been progressively changed to Metric. If in doubt as to whether you have a Metric or Imperial fixing please order the metric items listed, i.e. bolt or setscrew and associated or flat and spring washers to replace the existing items

#### **NOTE**

Electrical cables particularly those with copper conductors suffer from a condition known as 'relaxation' which may cause wiring to work loose over a period of time, it is recommended that the tightness of wiring connections and terminals are checked following the first month in service.

# **OPERATING**

# **AND**

# **MAINTENANCE MANUAL**

# **SECTION 1**

**GENERAL INFORMATION** 

**RP50/RP100** 

#### **COMPANY DETAILS AND GENERAL INFORMATION**

For any spares or service work, please contact:-

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#### **ORDERING SPARES**

To help us to complete your order promptly and correctly we need:-

- Machine type and serial number
- Description and quantity of parts required
- The full address to which the parts are to be sent

Winget Limited can accept no responsibility for incorrectly supplied parts unless the machine serial number, part number and a full description of the items required is given when the order is placed.

#### **IMPORTANT NOTICE**

The CUMFLOW RP50 & RP100 are high performance mixers

The following precautions are necessary to obtain the best results and to avoid damage to the MIXING STAR and PAN DRIVE

#### **AGGREGATES**

Strict control of graded aggregates must be maintained Maximum size 19mm

Oversize lumps of aggregate or rogue materials must be prevented from entering the Pan

#### **MIXING STAR BLADES**

They are to a special shape and material to prolong wear life. They should not be modified in any way and only replaced with GENUINE 'CROKER' spares obtained from **WINGET LIMITED.** 

A daily check is advisable to ensure that the Blades/Wearing parts are secure and undamaged.

#### **MAXIMUM BATCH LOADS**

<u>UNDER NO CIRCUMSTANCES</u> should the Maximum Batch Loads quoted be exceeded nor should the mixer be stopped or re-started when there is a mix in Pan

#### MIXING PAN

Ensure that the Mixing Pan is rotating concentrically and that the pan base is Horizontal.

#### **WARNING**

THE MANUFACTURER ACCEPTS NO RESPOSIBILITY FOR ANY DAMAGE OR FAILURE RESULTING FROM OPERATIONAL MISUSE OR MALPRACTICE. ANY MODIFICATIONS TO THE MACHINE WILL AFFECT ITS WORKING PARAMETERS AND SAFETY FACTORS. REFER TO THE MANUFACTURERS BEFORE FITTING ANY NON STANDARD EQUIPMENT OR PARTS.

THE MANUFACTURERS ACCEPT NO RESPONSIBILITY FOR ANY MODIFICATIONS MADE AFTER THE MACHINE HAS LEFT THE FACTORY, UNLESS PREVIOUSLY AGREED IN WRITING. THE MANUFACTURERS WILL ACCEPT NO LIABILITY FOR DAMAGE TO PROPERTY, PERSONNEL OR THE MACHINE IF FAILURE IS BROUGHT ABOUT DUE TO SUCH MODIFICATIONS, OR THE FITMENT OF SPURIOUS PARTS.

#### RP50 & RP100 OPERATIONAL AND SAFETY REQUIREMENTS

#### **PRE-DELIVERY**

- 1.1 Drive coupling alignments, pan and star meshing of pan rack and drive gear.
- 1.2 Operating clearances star blade to pan. Fixed blade to pan wall.
- 1.3 Correct oil level in gearboxes. All grease points charged. Gear teeth greased.
- 1.4 No load test. Correct rotations.

#### **PRE INSTALLATION**

- 2.1 Check consignment.
- 2.2 Offload equipment using certified lifting gear of suitable capacity, by a competant person (see separate chart for nett weight).

#### **INSTALLATION**

- 3.1 Refer to contract arrangement and site instructions.
- 3.2 Mixer to be mounted on supports of adequate strength and rigidity to prevent undue vibration when mixing and securely bolted.
- 3.3 Mixer frame to be level on structure, add packers as required.
- 3.4 Check that pan is correctly seated and that pan rack and drive gear are in correct mesh.

#### **ELECTRICAL SERVICES**

4.1 Refer to wiring diagram in Ops Manual. All wiring to be undertaken by competant electrician, it is recommended that the mains electrical supply is provided via an earth leakage circuit breaker. **NOTE:** electrical cables particularly those with copper conductors suffer from a condition known as 'relaxation' which may cause wiring to work loose over a period of time, it is recommended that the tightness of wiring connections and terminals are checked following the first month in service.

#### **OPERATION**

- 5.1 Correct oil level in the gearboxes.
- 5.2 Check the Mixing pan clear of loose nuts and bolts to prevent damage to fingers and blades.
- 5.3 Check correct rotation mixing star anti clockwise; mixing pan anti clockwise. All when viewed from the top.
- 5.4 Blade operating clearances adjust in line with maintenance instructions.
- 5.5 Never exceed manufacturer's maximum capacity as detailed in specification.

#### **SHUTDOWN**

- 6.1 Prior to any work being carried out mixer to be isolated and physically locked off
- 6.2 Follow the procedures detailed in your companies Heath and Safety Policy at all times.
- 6.3 Ensure all storage bins containing materials to be mixed are isolated.

#### **MAINTENANCE**

- 7.1 Ensure that all maintenance is carried out in accordance with the Parts and Operating manuals and proprietary manufacturer's specific instruction.
- 7.2 Isolate electrical and other services to the mixer as section 6 above.
- 7.3 Service at recommended intervals.
- 7.4 Use Croker manufactured replacement parts available from WINGET LIMITED.
- 7.5 Ensure all safety guards and interlocks are reinstated prior to operating mixer.

#### **GENERAL**

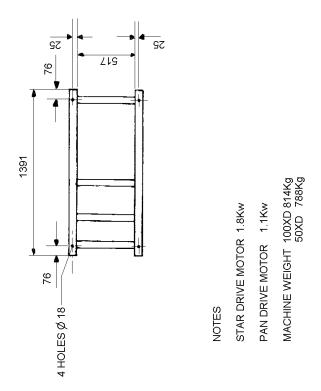
- 8.1 Under on circumstances should the Maximum Batch Loads be exceeded by either weight and volume as stated in Technical Specification.
- 8.2 Mixer star blades to be checked daily for damage.

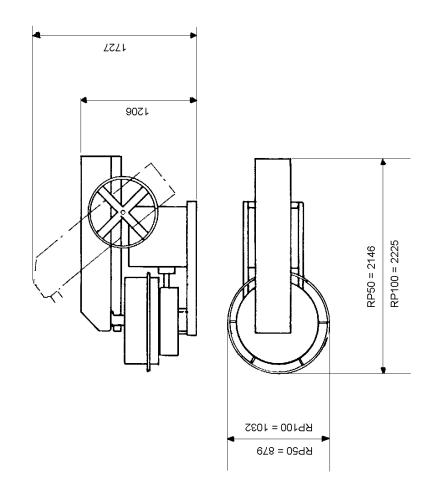
- 8.3 Pan rim and base wearing plates must be replaced before excessive wear causes distortion.
- 8.4 Ensure mixing pan is rotating concentrically and pan base is rotating in horizontal plane.
- 8.5 Mixer must not be stopped and started when there is mix in the pan.
- 8.6 Refer to the Contract Drawing for scope of supply and the Site instruction notes outlining weights etc.
- 8.7 Refer to Method Statement when installation and commissioning is responsibility of Croker.

#### **Nett Weights Approx (kgs)**

- 9.1 RP50 788 RP100 814
- 9.2 Refer to technical specification for nett weights of ancillary equipment.
- 9.3 Refer to contract drawing for nett weights of ancillary equipment.

# **INSTALLATION DRAWING**





## **OPERATING**

### **AND**

# **MAINTENANCE MANUAL**

# **SECTION 2**

# INSTALLATION AND OPERATING INSTRUCTIONS

RP50 & RP100

#### **PRE-INSTALLATION**

On arrival of the equipment it is advisable to check that all packages listed on the consignment note have been received.

The equipment must be offloaded using certified lifting gear of suitable capacity, by a competent person.

An outline drawing and bolt hold plan is normally sent prior to the despatch of the machine and will enable preparations to be made for the installation. With the 'picture' of what the machine will look like when it is assembled, the ancillary equipment dismantled for transport can easily be identified.

#### **INSTALLATION**

Please refer to the contract arrangement and site instructions as applicable.

It is recommended that a concrete foundation (to take foundation bolts – not supplied) should be provided for the machine to be mounted on

Before completing the installation, check that the main mixer frame is level with a spirit level. Packings should be inserted as required under the main frame. Check that the pan is seated and that the pan rack and drive gear are in mesh.. Also check that all the blade clearances are in line with the maintenance instructions.

On connecting to the power supply, the wiring diagram must be referred to. Note:- it is recommended that the mains electrical supply is taken via an earth leakage circuit breaker.

The wiring is correctly connected to the motors when the pan and star drive rotate as follows:-

• The mixing pan and mixing star rotate anti-clockwise when looking from the top.

#### **OPERATING THE MIXER**

Prior to start up, the following points should be checked:-

- 1) That there is oil in a) the pan drive gearbox
  - b) the star drive gearbox
- 2) The mixing pan should be clear of loose nuts, bolts, spanners, etc as these will damage the fingers and blades.
- 3) Check that the blade clearances are correct and if necessary adjust, in line with the maintenance instructions.
- 5) To raise the mixing star out of the mixing pan, turn the hand wheel in a clockwise direction until the arm is at 45'
- To lower, turn the hand wheel anti-clockwise and lower gently. The mixer will automatically start if the mixing pan is in position. When the mixing pan is removed the mixer cannot be operated as the proximity switches need to sense the pan in position to complete the electrical circuit
- 7) On completion of the mixing cycle the raising of the mixing star operates a limit switch which automatically stops all moving parts
- 8) The pan can then be removed by hand or with the special lifting trolley available as an option

#### **IMPORTANT:**

After each mix the contents of the pan must be completely discharged. At the end of each period of operation the mixing pan, mixing blades, and fingers, must be washed down to prevent product setting on them and so impairing the efficiency of the machine. **NOTE:- isolate the electrical supply before washing down the mixer and do not aim the water jet directly at the electrical control panel or related switch gear.** 

#### **OPERATING THE MIXER**

#### **SAFETY NOTES**

Never operate the mixer unless you have read and fully understand the contents of the Operators Manual

Never operate the mixer whilst wearing loose fitting clothing

Never reach inside the Pan whilst it is rotating

Never operate any equipment unless you have received adequate training

Cement, certain other minerals and organic compounds can cause skin irritation leading to Dermatitis. Always use Personal Protective Equipment i.e. gloves etc to protect the skin from direct contact. If in any doubt about the materials being used consult your employers COSHH manual

Wear Eye protection to protect your eyes from dust and liquid splashes

Do not attempt to remove the pan single handedly, obtain assistance, use the Pan Trolley (if provided) or use suitable lifting equipment

Do not operate the mixer with any of the guards removed, safety devices or interlocks disconnected. They are there to offer you some protection, ensure they are correctly maintained

Carry out the daily maintenance before operating the mixer and report defects to your supervisors

Oils, Greases and Lubricants are skin irritants and prolonged direct skin contact can cause skin cancer. PPE or barrier creams should be used when carrying out maintenance work, wash your hands on completion

Always dispose of waste oils and lubricants in a proper manner, it is illegal to pour it down drains or bury it. Contact your local authority for a list of authorised disposal sites

Always disconnect the power supply at the mains before carrying out any maintenance work or cleaning the equipment down. Do not turn on the power until everything has dried out

Do not allow waste from the wash down process to enter the public drainage system unless it has been properly filtered

Decals and Instruction Plates are attached to the equipment to warn against hazards and assist in the safe operation of the equipment, if they become damaged or defaced they must be replaced.

## **OPERATING**

## **AND**

## MAINTENANCE MANUAL

# **SECTION 3**

# TECHNICAL SPECIFICATION AND MAINTENANCE

RP50 & RP100

# TECHNICAL SPECIFICATION OF CUMFLOW RP50 & RP100

**CAPACITIES:** Maximum Batch Capacity **RP50** by Weight 82 kgs

by Volume 57 litres

Maximum Batch Capacity **RP100** by Weight 163 kgs

by Volume 113 litres

Batch capacity and outputs will vary with material densities.

**FEED MATERIAL:** Maximum Size 19 mm

**MIXER FRAME:** Strongly constructed from welded Steel Channel

**MIXING PAN:** Steel Base Pan removed by hand or with the aid of a special trolley.

**MIXING STAR:** Two spring mounted mixing star blades and fixed scraper blade

MIXING STAR

**CONTROLS** 762mm(30'') diameter handwheel raises mixing star clear of the

pan

**POWER UNITS:** Mixing pan drive 1.1kw totally enclosed geared electric motor to

suit 3 phase, 50 cycles, 380/420 volts a/c supply. Mixing star drive 2.2kw totally enclosed geared electric motor to suit 3 phase,

50 cycles, 380/420 volts a/c supply

**ELECTRICAL** 

**CONTROLS** Direct on line starter controls both motors.

**GUARDING** All gears are guarded to comply with the relevant Factories Act

**SPEEDS** Speed of Pan 16 rpm

Speed of Star 74 rpm

WEIGHTS (UNLADEN) APPROX

RP50 788kg

RP100 814 kg

Weight of additional pan RP50 64kg

# PAN LIFTING TROLLEY

Tubular steel frame mounted on two  $406 \times 120 \text{ mm}$  ( $16 \times 4$ ) 4 ply pneumatic industrial wheels

#### **MAINTENANCE OF MIXER**

#### **IMPORTANT NOTE:**

Ensure that all maintenance is carried out in accordance with the Parts and Operating Manual and Proprietary Manufacturer's specific instruction.

#### **PROCEDURE**

- 1 ISOLATE ELECTRICAL AND OTHER SERVICES TO THE MIXER (see separate section).
- 2 Service at recommended intervals.
- 3 Use Croker manufactured replacement parts available from WINGET LIMITED.
- 4 Ensure all safety guards and interlocks are reinstated prior to operating the mixer.
- 5 Main items of wear (see Section 4).
  - A) Star Blades
  - B) Fixed Blade

Access to mixing pan internals is via the safety interlocks. Each of the above are bolted components and are replaced by simple method and usually achieved in situ without dismantling other components.

C) Other items prone to less wear are star blade fingers and mixing star. Each can be replaced again in situ but pan covers may require removal to provide the necessary access.

#### MAINTENANCE AND LUBRICATION

**NOTE:** 

ALWAYS ENSURE APPARATUS IS ISOLATED FROM MAINS SUPPLY BEFORE COMMENCING MAINTENANCE. IF NECESSARY A 'PERMIT TO WORK' SHOULD BE OBTAINED

#### **DAILY:**

Charge the grease points using Total EP2 Grease 2 (or equivalent)

#### **WEEKLY**

Lubricate

Racks Apply Open Gear Lubricant (or equivalent)
Pinions Apply Open Gear Lubricant (or equivalent)

Inspect and top-up if necessary.

Star Gear Box
 Pan Drive Gear Box
 Use Total Carter EP460 3.5 litres cap
 Use Total Carter EP460 3.5 litres cap

#### **INSPECT AND ADJUST-MONTHLY**

- 1. Pan Gear and Pinion, grease Open Gear Lubricant (or equivalent), as required.
- 2. Adjust Star Blades, Fixed Blades and Discharge Blade to the following settings, also make sure that Blade Fingers are free in their bearings and that the springs are clear of obstruction.
- 3. Star Drive Bevel Pinions, remove cover and grease pinions with Open Gear Lubricant or equivalent as required. Check retaining grub screws and keys are tight.

MIXING BLADE 3mm clear of pan base. Adjust by moving the blade up or down its finger.

**FIXED BLADES** 6mm clear of pan base with the leading edge just touching the pan side. Adjust by moving the blade up or down its finger.

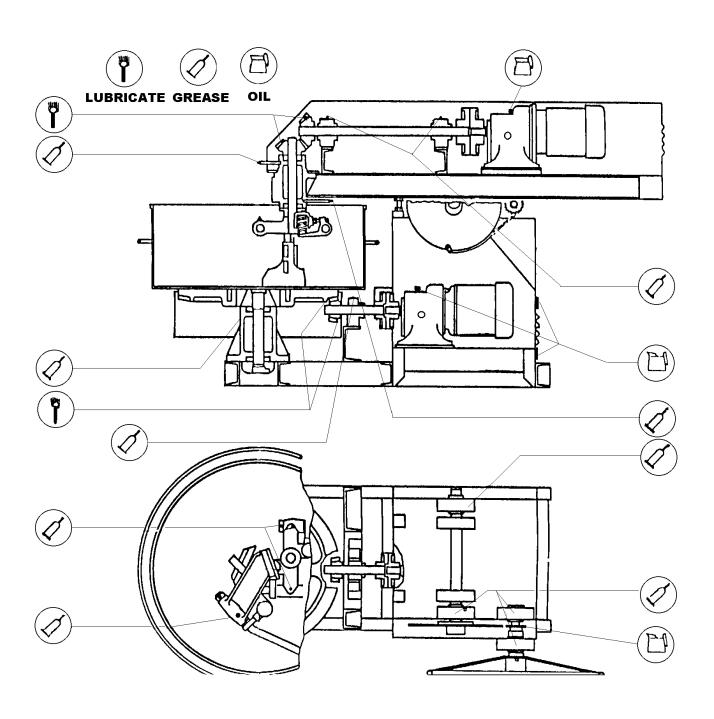
#### **MAINTENANCE FOR GEAR UNITS**

#### **MAINTENANCE OF THE MOTORS**

The surface of the housing as well as the cover lattice of the fan bonnet should be kept clean in order not to endanger the cooling of the motor with dust and dirt.

Although the bearings of the motor have life time lubrication, the oil in the gearbox of a new unit should be drained after the first <u>500</u> hours of operation and the case thoroughly flushed with a light flushing oil before refilling with fresh oil to the correct specification

# **LUBRICATION CHART**

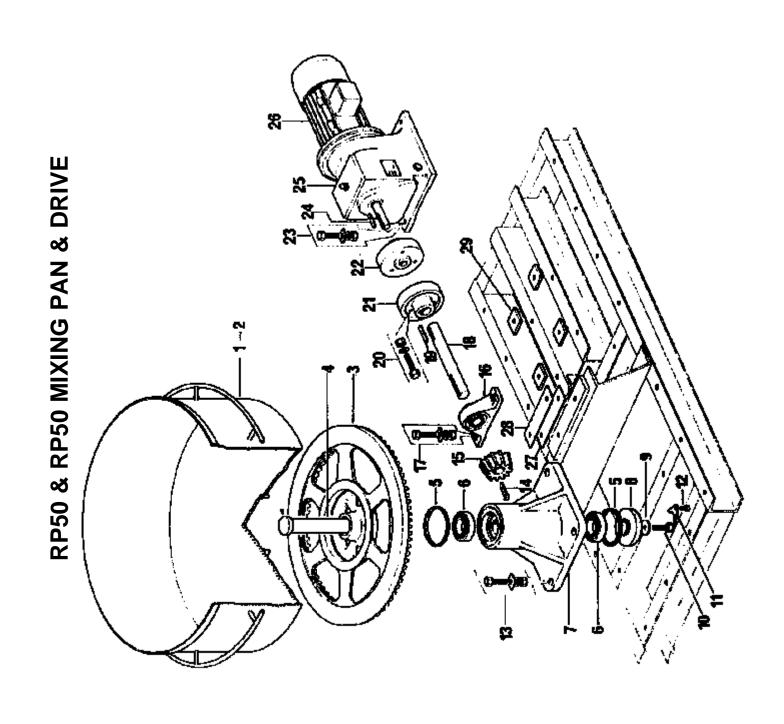


# **OPERATING**

# **AND**

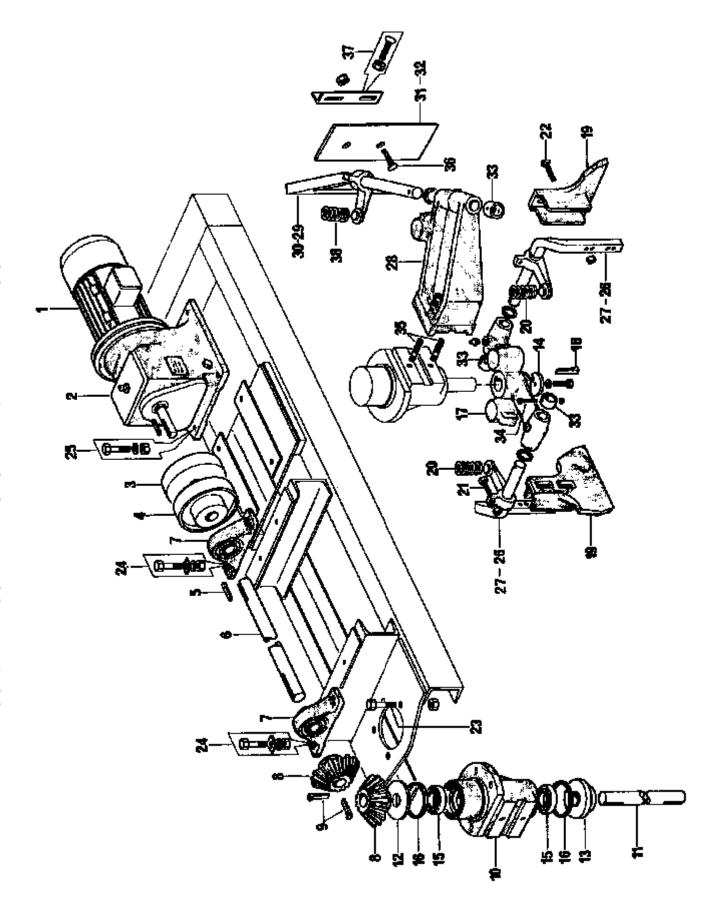
# **MAINTENANCE MANUAL**

# SECTION 4 MIXER SPARE PARTS RP50 & RP100



# RP50 & RP100 MIXING PAN & DRIVE

1	CR540381	4 CU FT (0.11 CUBIC METRES CAP PAN) RP100	1
2	CR540382	2 CU FT (0.057 CUBIC METRES CAP PAN) RP50	1
3	CR210136	PAN RACK	1
4	CR520179	CONICAL SHAFT	1
5	CR56006	FELT SEAL	2
6	CR150153	CONICAL SHAFT BEARING	2
7			
=	CR210137		1
7A	333104020	NIPPLE GREASE 1/4 BSP STRAIGHT	1
7B	176S01	COVER NIPPLE GREASE	1
			=
8	CR210092	CONICAL END CAP	1
9	CR630047	KEY CAP WASHER	1
10	11S06F	KEY CAP BOLT M16 X 40	1
11	CR530477		1
12	68S05C	LOCKING PLATE CAPSCREW M10 X 20	1
12A	17S05	WASHER SPRING M10	1
13	8S06H	CONICAL BOLT M16 X 60	4
13A	61S06	NUT BINX M16	4
13B	267S09	WASHER FLAT M16	4
13C	105S07	WASHER TAPER M16	4
14	CR320021	BEVEL PINION KEY, GIB HEAD 1/2 X 3/8 X4	1
14A	CR320023	ALTERNATIVE 1/2 X 7/16 X6 CUT TO SIZE	1
15	CR460022	BEVEL PINION	1
16	CR150925	BEVEL PINION SHAFT BEARING	1
16A	176S01	COVER NIPPLE GREASE	1
16B	7S06	NUT M16	2
16C	11S06P	SCREW SET M16 X 80	2
17	8S05J	BOLT BEARING M12 X 65	2
			2 2
17A	61S05	NUT BINX M12	2
17B	267S07	WASHER FLAT M12	2
17C	105S05	WASHER TAPER M12	2
18	CR520177	BEVEL PINION SHAFT	1
19	CR320020	COUPLING, DRIVEN HALF FEATHER KEY	1
20	79S05F	BOLT, RIGID COUPLING 1/2 BSW X 2"	3
		•	3
20A	253S05	NUT, RIGID COUPLING 1/2" BSW	
21	CR230041	ASSEMBLY RIGID COUPLING, HALVES NOT SUPPLIED	1
23	8S05G	BOLT GEAR UNIT M12 X 55	4
		NUT BINX M12	
23A	61S05		4
23B	267S07	WASHER FLAT M12	4
23C	105S05	WASHER TAPER M12	4
24	CR329047	COUPLING, DRIVING HALF FEATHER KEY	1
*	CR220154	GEAR MOTOR UNIT ASSEMBLY, PAN DRIVE, ESR2 114RPM	1
25	CR290011	GEAR BOX, PAN DRIVE, ESR2 114RPM SEE ITEM *	1
		· · · · · · · · · · · · · · · · · · ·	
26	CR229118	MOTOR, PAN DRIVE, SEE ITEM* ASSEMBLY	I
27	CR549006	SHIM PACK BEARING (4 SHIMS PER SET)	1
28	CR260371M	SHIM, BEARING	2
		,	
29	555114904	SHIM SET, GEARED MOTOR UNIT, CUT TO SUIT	A/R
30	CR260371	CHASSIS FRAME (FOR EPG GEAR MOTOR UNITS)	1



# RP50 & RP100 STAR DRIVE ASSEMBLY

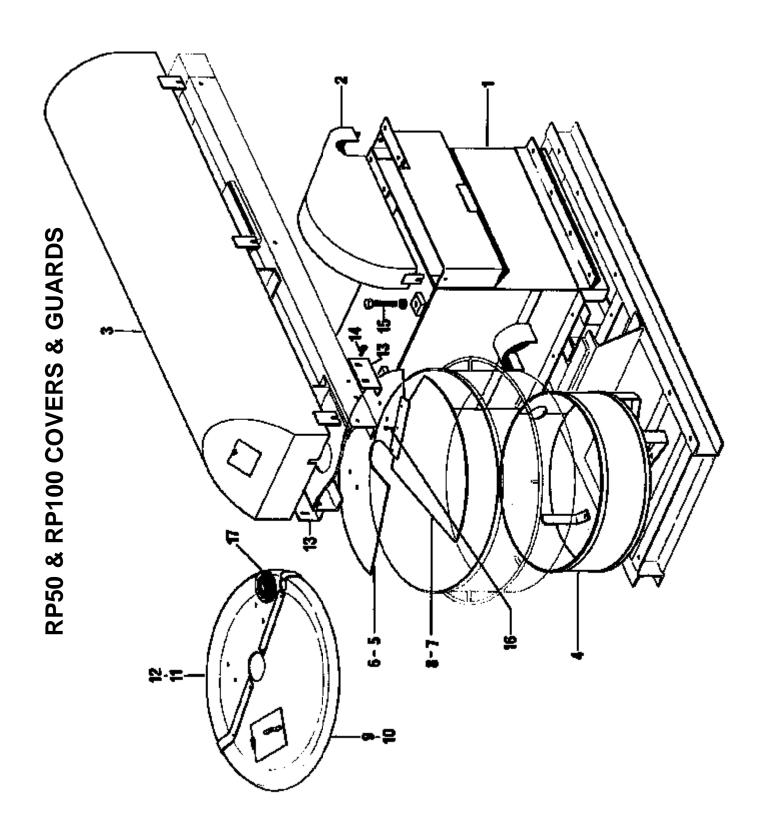
1	CR220155	MOTOR GEAR UNIT ASSEMBLY STAR DRIVE (EPG)	1
1A	555114904	SHIM GEAR MOTOR UNIT	A/R
2	CR290012	STAR DRIVE GEARBOX ESR2 74 RPM	1
2A	CR52100804	OUTPUT SHAFT, TO SUIT OPERMAN GEARS, NOT ILLUS	1
3	CR230043	COUPLING FLEXIBLE DRIVING HALF	1
3A	CR239030	BOLTS & NUTS FOR FLEXIBLE COUPLING	6
3B	CR239028	RUBBER BUSH FOR FLEXIBLE COUPLING	6
3C	CR230047	BOLT, NUT & BUSH ASSEMBLY FOR FLEXIBLE COUPLING	6
4	CR230044	COUPLING FLEXIBLE DRIVEN HALF	1
4A	57S05J1	SCREW GRUB COUPLING M8 X 30 CUP POINT	1
4B	CR329047	KEY FLEXIBLE COUPLING	1
5	CR320020	KEY DRIVEN HALFCOUPLING	1
6	CR520456	SHAFT TOP	1
7	CR520925	BEARING ASSEMBLY TOP SHAFT	2
7A	176S01	COVER GREASE NIPPLE	2
7B	CR549006	SHIM PACK BEARINGS (4 SHIMS PER SET)	2
8	CR460024	GEAR BEVEL	2
8A	CR249093	GRUB SCREW M8	6
9	CR320021	KEY GIB HEAD	2
10	CR210139	SUPPORT CONICAL STAR	1
10A	333104020	NIPPLE GREASE 1/4 BSP STRAIGHT	2
10B	176S01	COVER NIPPLE GREASE	2
11	CR520180	SHAFT STAR, OBSOLETE USE 11A BELOW	
11A	CR529011	SHAFT STAR	1
12	CR490051	WASHER PLATE UPPER	1
15	CR150149	BEARINGS STAR SHAFT	2
16	CR560006	SEAL FELT	AR
23	8S06G	BOLTS STAR CONICAL M16 X 55	4
23A	267S09	WASHER FLAT M16	8
23B	17S08	WASHER SPRING M16	4
23C	7S06	NUT PLAIN M16	4
24	8S05J	BOLTS TOP SHAFT BEARINGS M12 X 65	4
24A	267S07	WASHER FLAT M12	4
24B	105S05	WASHER TAPER M12	4
24C	61S05	NUT BINX M12	4
25	8S05G	BOLTS GEAR MOTOR UNIT M12 X 55	4
25A	61S05	NUT BINX M12	4
25B	267S07	WASHER FLAT M12	4
25C	105S05	WASHER TAPER M12	4
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# RP50 & RP100 MIXING STAR ASSEMBLY

	000000	VEV 04B	•
14	CR630385	KEY CAP	1
14A	11S05B	SCREW SET M12 X 20	1
14B	17S06	WASHER SPRING M12	4
17	CR210140	STAR MIXING	1
18	CR320020		1
19	CR757244	BLADE STAR CAST, OBSOLETE USE ITEM 19 BELOW	_
19	CR219009C	BLADE STAR CAST	2
19A	CR219009SC	•	2
19B	CR219009P	BLADE STAR PLASTIC/COMPOSITE	2
19C	CR219009SP	,	2
19D	CR219009SS	BLADE STAR STAINLESS STEEL	2
20	CR330061	SPRING COMPRESSION STAR BLADE	2
21	11S05K	BOLT ADJUSTING BLADE FINGER M12 X 70	2
21A	7S05	NUT M12	4
22	8S05J	BOLT STAR BLADE M12 X 65	4
22A	267S07	WASHER FLAT M12	8
22B	17S06	WASHER SPRING M12	4
22C	7S05	NUT M12	4
26	CR260390	FINGER STAR BLADE 4 CU FT PAN-RP100	2
27	CR260388	FINGER STAR BLADE 2 CU FT PAN-RP500	2
28	CR210142	BRACKET FIXED BLADE	1
28A	333104020	NIPPLE GREASE 1/4 BSP STRAIGHT	1
28B	176S01	COVER NIPPLE GREASE	1
29	CR260415	FINGER FIXED BLADE 4 CU FT PAN-RP100	1
30	CR260393	FINGER FIXED BLADE 2 CU FT PAN-RP50	1
31	CR531745	BLADE FIXED, 4 CU FT PAN-RP100	1
31A	CR531750	ANGLE BRACKET 2 & 4 CU FT PAN	1
32	CR261154	BLADE FIXED ASSEMBLY, 2 CU FT PAN-RP50	
32A	CR261154A	BLADE FIXED, 2 CU FT PAN-RP50	1
32B	CR531750	ANGLE BRACKET 2 & 4 CU FT PAN	1
33	CR639004	COLLAR SPACER	3
33A	10S31	WASHER FLAT	AR
33B	CR289002	GREASE NIPPLE 1/4 BSP 90' ANGLED	2
34	8S04J	BOLT, COLLAR M10 X 65	3
34A	61S04	NUT BINX M10	3
35	8S06L	BOLT M16 X 65, WAS CR241461 STUD X 2	2
35A	17S08	WASHER, SPRING M16	2
35B	267S08	WASHER FLAT M16	2
36	52S05H	BOLT SHORT, FIXED BLADE M12 X 40	2
36A	267S07	WASHER FLAT M12	4
36B	17S06	WASHER SPRING M12	4
36C	7S05	NUT M12	4
37	52S04K	BOLT LONG, FIXED BLADE ANGLE BRACKET M10 X 50	2
37A	17S05	WASHER, SPRING M10	2
37B	7S04	NUT M10	2
38	CR330022	SPRING FIXED BLADE	1
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# **RP50 & RP100 MIXING STAR LIFTING ARRANGEMENT**

1	CR520175	PIVOT SHAFT	1
2	CR190017	PIVOT SHAFT BEARING	2
2A	333104020	NIPPLE GREASE 1/4 BSP STRAIGHT	2
2B	176S01	COVER NIPPLE GREASE	2
3	CR63049	COLLAR, PIVOT SHAFT	1
4	CR630209	COLLAR	1
5	CR630383	BOSS, PLATE WHEEL	1
5A	CR249098	GRUB SCREW M10	1
6	CR260394	PLATE, WHEEL	1
7	CR549009	CAM, MICROSWITCH	1
8	CR520176	SHAFT, HANDWHEEL	1
9	CR190046	BEARING, HANDWHEEL SHAFT	2
10	CR360007	HANDWHEEL	1
10A	57S05D2	SCREW GRUB (NOT ILLUSTRATED)	2
11	CR630048	COLLAR, HANDWHEEL SHAFT	1
11A	CR249000	GRUB SCREW M6	1
12	CR200026	PINION, CHAIN 17 TEETH	1
12A	CR249000	GRUB SCREW M6	1
13	CR329050	KEY, HANDWHEEL	1
14	CR200054	CHAIN	1
15	CR200134	BOLT & BLOCK, DRAW CHAIN	1
16	CR200072	LINK ATTACHMENT, CHAIN END	1
17	CR320021	KEY, BOSS PLATE WHEEL	1
18	CR289003	NIPPLE GREASE1/4 BSP STRAIGHT	2
18A	176S01	COVER NIPPLE GREASE	2
19	11S06G	BOLTS, PIVOT SHAFT M16 X 45	4
19A	267S08	WASHER FLAT M16	4
19C	61S06	NUT BINX M16	4
20	8S05E	BOLT, BEARINGS M12 X 45	8
20A	267S07	WASHER FLAT M12	16
20B	61S05	NUT BINX M12	8
21	52S05G	BOLT, PLATEWHEEL M12 X 35	4
21A	17S06	WASHER SPRING M12	4
21B	7S05	NUT PLAIN M12	4
21C	CR220072	MICROSWITCH (NOT ILLUSTRATED)	1
22	CR329047	KEY PARALLEL. CHAIN PINION	1



# RP50 & RP100 COVERS & GUARDS

1	CR53100636	HOUSING ASSEMBLY PAN DRIVE MOTOR	1
1A	11S05D	SCREW SET M12 X 30	26
1B	267S07	WASHER FLAT M12	26
1D	61S05	NUT BINX M12	26
1E	CR249505	CATCH ASSEMBLY, DOOR HOUSING	1
1F	11S01AA	SCREW SET M5 X 16	2
1G	11S01AA 11S01A	SCREW SET M5 X 10 SCREW SET M5 X 20	2
1H	267S03	WASHER FLAT M5	8
			4
1J	17S02	WASHER SPRING M5	
1K	7S01	NUT PLAIN M5	4
1L	11S04B	SCREW SET M10 X 20	24
1N	267S06	WASHER FLAT M10	24
1P	61S04	NUT BINX M10	5
2	CR540448	GUARD, CHAIN GEAR	1
2A	11S04C	SCREW SET M10 X 25	2
2B	17S05	WASHER SPRING M10	2 2
2C	267S06	WASHER FLAT M10	2
3	CR540441	GUARD STAR DRIVE	1
3A	11S05D	SCREW SET M12 X 30	6
3B	17S06	WASHER SPRING M12	6
3C	267S07	WASHER FLAT M12	6
4	CR540447	GUARD, PAN RIM	1
4A	11S04C	SCREW SET M10 X 25	4
4B	267S06	WASHER FLAT M10	8
4C	17S05	WASHER SPRING M10	4
4D	7S04	NUT PLAIN M10	4
5	CR540446	SPLASH PLATE REAR, 4 CU FT PAN RP100	1
6	CR540444	SPLASH PLATE REAR, 4 CO FT PAN RP 100 SPLASH PLATE REAR, 2 CU FT PAN RP50	1
7	CR540444 CR540445	,	
		SPLASH PLATE FRONT, 4 CU FT PAN RP100	1
8	CR540443	SPLASH PLATE FRONT, 2 CU FT PAN RP50	1
9	CR540421A	COVER, DUST FRONT 4 CU FT PAN-RP100	1
9A	11S02A	SCREW SET M6 X 20	4
9B	267S04	WASHER FLAT M6	4
9C	17S03	WASHER SPRING M6	4
9D	7S02	NUT PLAIN M6	4
*	CR540421	DUST COVER ASSEMBLY FRONT & REAR RP100	
		CONSISTS OF ITEMS 9 & 11	
10	CR540417A	COVER, DUST FRONT 2 CU FT PAN-RP50	1
10A	11S02A	SCREW SET M6 X 20	4
10B	267S04	WASHER FLAT M6	4
10C	17S03	WASHER SPRING M6	4
10D	7S02	NUT PLAIN M6	4
*	CR540417	DUST COVER ASSEMBLY FRONT & REAR RP50	
		CONSISTS OF ITEMS 10 & 12	
11	CR540421B	COVER, DUST REAR 4 CU FT PAN-RP100	1
12	CR540417B	COVER, DUST REAR 2 CU FT PAN-RP50	1
13	CR540442	CLEAT, DUST COVER TO FRAME	2
13A	11S04C	SCREW SET M10 X 25 CLEAT TO DUST COVER	4
13B	267S06	WASHER FLAT M10	8
13C	17S05	WASHER PEAT WITO WASHER SPRING M10	4
13D	7S04	NUT PLAIN M10	4
ISD	1304	NOT FLAIN WITU	4

# RP50 & RP100 COVERS & GUARDS

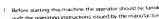
14	11S05D	SCREW SET M12 X 30 CLEAT TO FRAME	4
14A	267S07	WASHER FLAT M12	8
14B	17S06	WASHER SPRING M12	4
14C	7S05	NUT PLAIN M12	4
15	11S06M	SCREW SET STAR FRAME STOP M16 X 70	2
15A	<b>7</b> S06	NUT PLAIN M16	2
16	11S02A	SCREW SET M6 X 20	4
16A	267S04	WASHER FLAT M6	4
16B	17S03	WASHER SPRING M6	4
16C	<b>7</b> S02	NUT PLAIN M6	4
17	CR570019	SEAL RUBBER, FIXED BLADE ARM	1

#### **CROKER CUMFLOW** 1 **RP100**

**CROKER CUMFLOW** 2 **RP50** 

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SAFETY WARNING

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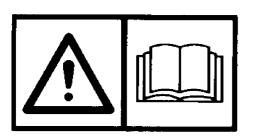


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# RP50/RP100 DECALS AND LOGOS

1	CR85100763	DECAL RP100	2
2	CR85100762	DECAL RP50	2
3	V2003039	DECAL 'WINGET' MEDIUM	2
3A	101S05D	RIVET POP	4
4	V2003037	PLATE SERIAL NUMBER	1
5	V2003665	DECAL SLING POINT	4
6	V2003598	DECAL BRITISH MADE	2
7	V2004307	DECAL ELECTRICAL HAZARD	2
8	V2004229	DECAL OPERATORS HANDBOOK	2
9	V2004744	DECAL EYE PROTECTION	2
10	504694600	DECAL SAFETY	1

# **OPERATING**

## **AND**

# **MAINTENANCE MANUAL**

# **SECTION 5**

# ANCILLARY EQUIPMENT SPARE PARTS

RP50 & RP100

# RP50 & P100 PAN TROLLEY

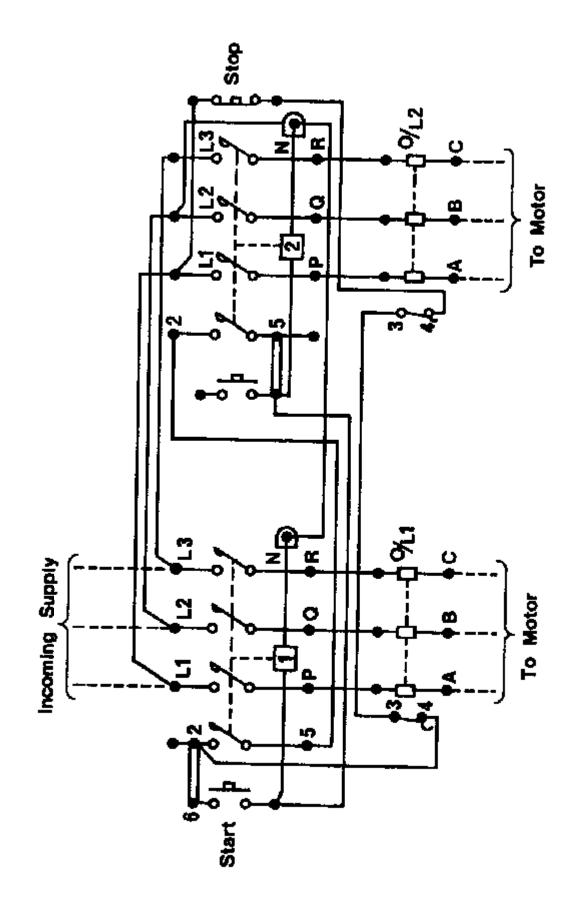
1	CR260392	HANDLE, TROLLEY	1
2	CR260391	CHASSIS TROLLEY	1
3	CR530485	SUPPORT PAN (IN PAIRS)	1PR
4	10S65	SPACER WASHER, AXLE (WHEN REQUIRED)	2
5	CR440151	WHEEL ASSEMBLY INC ITEMS 5,6 & 7	2
5A	CR440122	WHEEL RIM	2
5B	CR440125	BEARING ROLLER	2
6	CR440123	TYRE	2
7	CR440124	TUBE	2
8	CR630105	BOSS, WHEEL RETAINER	2
9	69S03G	BOLT 3/8" UNF	2
9A	107S14	NUT NYLOC 3/8" UNF	2
10	11S06F	SCREW SET	۷
10A	267S09	WASHER FLAT	8
10B	61S06	NUT BINX	۷
11	69S03G	BOLT 3/8" UNF	2
11A	107S14	NUT NYLOC 3/8" UNF	2

# **OPERATING**

# **AND**

# **MAINTENANCE MANUAL**

# SECTION 6 ELECTRICAL SYSTEM RP50 & RP100



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# **OPERATING**

## **AND**

# **MAINTENANCE MANUAL**

# **SECTION 7**

**MISCELLANEOUS** 

RP50 & RP100

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