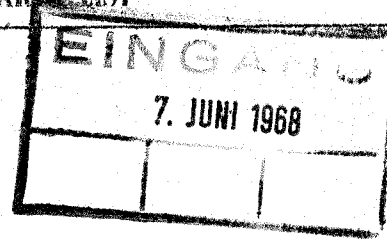


# INSTRUCTION MANUAL

AND SPARE PARTS LIST

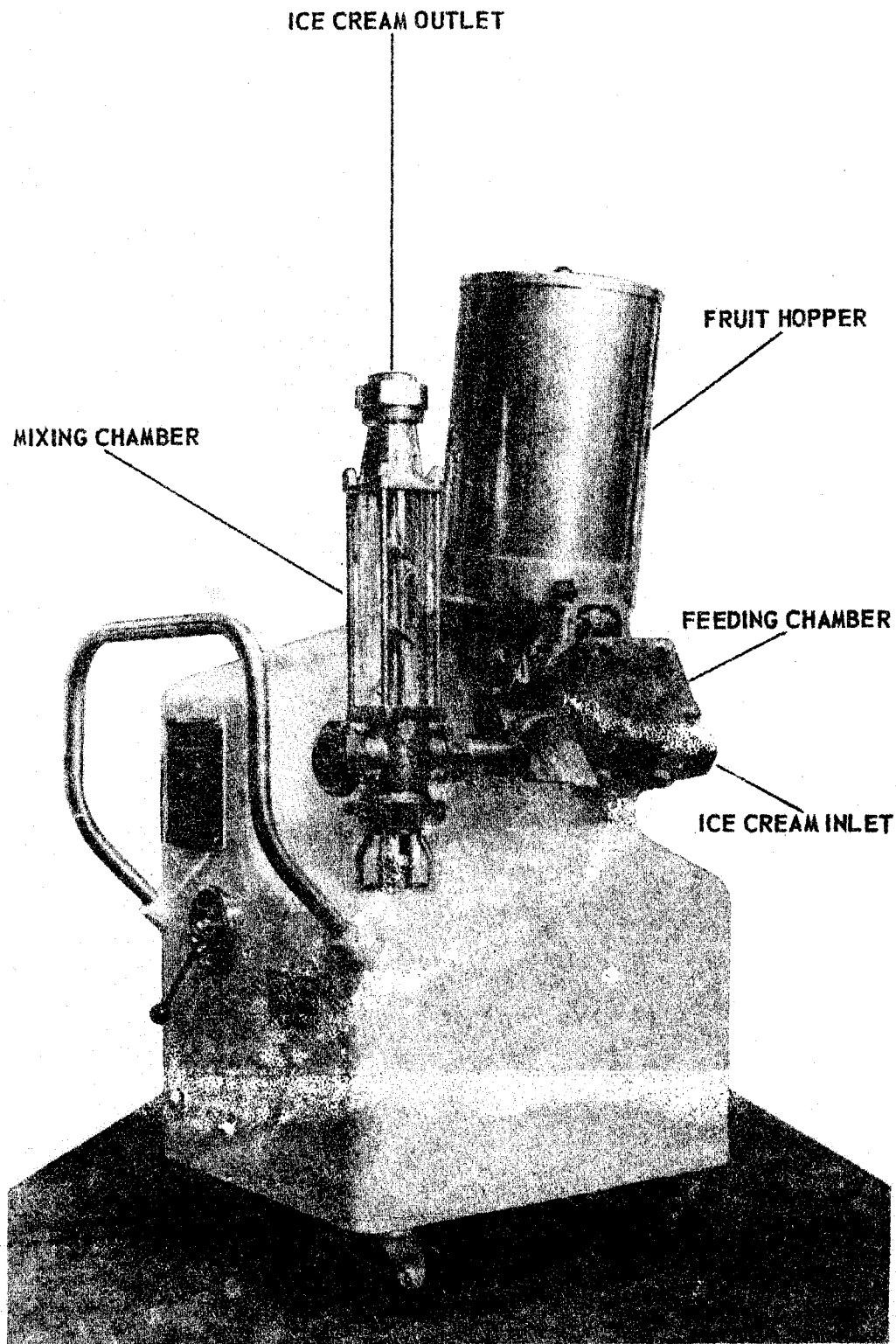


## **CLARKE-BUILT** **FRUIT FEEDER**

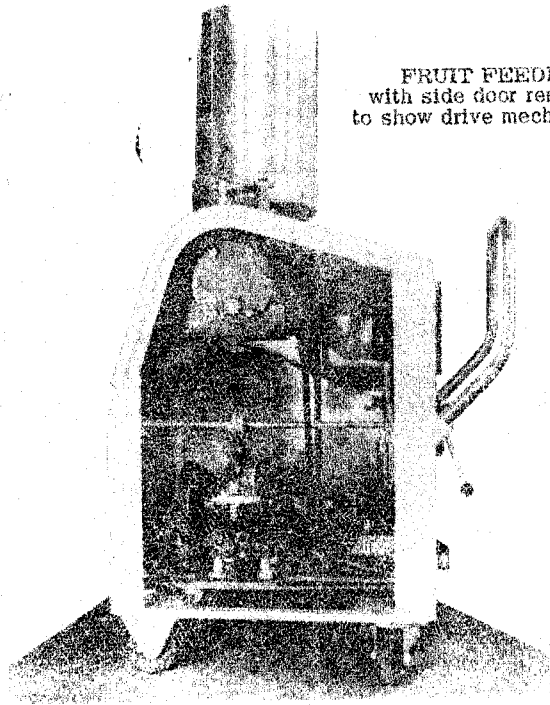
**MACHINERY WORLD**  
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**CLARKE-BUILT LIMITED**



FRUIT FEEDER  
with side door removed  
to show drive mechanism.



### THE "CLARKE - BUILT" FRUIT FEEDER INSTALLATION

Upon receipt of the machine, carefully inspect for any damage which may have occurred during transit. The Fruit Feeder, being mounted on castors, is easily manoeuvrable, so that it can be close-coupled to the Continuous Ice Cream Freezer(s). Electrical connection to the machine is made by means of the flexible cable and wall mounting socket provided. Wiring should be carried out by a competent electrician. Check that the rotation is such that when looking inside the Hopper, the Agitator revolves in a clockwise direction.

When operating in conjunction with only one freezer, the connection should be made between Freezer Outlet and Fruit Feeder Inlet (see diagram No. 1). With two (or more) freezers, one should be connected to the No. 1 inlet of the Fruit Feeder as mentioned above, whilst the other(s) should be connected with the alternative inlet on the opposite side of the Mixing Chamber, so that the additional volume of ice cream is not required to pass through the Fruit Feeder Metering Pump.

Prior to initial use, clean all product contact surfaces thoroughly and check lubrication (dealt with under the heading 'Maintenance').

## OPERATION

- (1) Capacity adjustment is obtained by either or both of two methods, i.e.
  - (a) by means of Speed Control Handle, acting on the variable speed drive (Note: this adjustment must be made whilst the machine is running);
  - (b) by substituting one or more Pump Pistons with Dummy Pistons, two of which are supplied with each machine.
- (2) Check the Fruit Feeder for correct assembly and ensure that all nuts, sanitary unions etc. are tight. *Caution:* Do not put fruit or nuts into the Hopper until ice cream is flowing through the machine!
- (3) Switch on the empty Fruit Feeder by pressing 'Start' button.
- (4) Start the freezer in the usual manner. It is advisable to have the Fruit Feeder running empty, whilst soft ice cream is being discharged through it, so as to cool all metal parts and prevent seepage into the throat of the Hopper.
- (5) After a few moments, when the ice cream has reached its proper stiffness, place fruit or nuts into the Hopper (see notes below).
- (6) Adjustments to the freezer can be made in the usual way during the run.
- (7) The amount of fruit or nuts fed into the ice cream can be regulated whilst the machine is running, by means of the Speed Control Handle. It will be found that different settings will be required for different types of fruit and nuts, i.e. strawberries will feed at a different rate from, say, cherries, etc.
- (8) Towards the end of the run, care should be taken to ensure that the quantity of fruit or nuts remaining in the Hopper should be in proportion to the quantity of ice cream still coming through. Proper attention to this point will eliminate waste.

### NOTES on FRUIT and NUTS.

Actual fruit feeding capacity will depend on the size of fruit or nut particles, i.e. large cherry halves for instance may feed at only half the rate of small candy particles. Where the preparation of fruit is concerned, as much juice as possible should be drained from the fruit, so that it can be placed into the Hopper in as dry a state as possible. This prevents undesirable ice formation in the ice cream from the introduction of unfrozen fruit juice. Juice and flavouring material should be added to the mix before freezing. Nuts, being usually dry, can be put into the Hopper in their natural state. Specially prepared fruit and nuts should be drained if they come packed in syrup or juice and the syrup or juice added to the mix. It may be found desirable where tinned nuts packed in heavy syrup are used, to dissolve the syrup with a small amount of mix before draining the nuts. Candy particles, where used, should not be larger than 3/8" square. Large pieces of candy are liable to cause jamming both in the Fruit Feeder and in the pipeline, so that

candy should be screened to take out large pieces. The Hopper should not be completely filled, but only small portions should be added at frequent intervals, as candy particles are liable to stick together, forming chunks. In fact, it is desirable to mix the candy with nuts and the higher the proportion of nuts in the mixture, the better the operation, since some of the moisture in the candy can be absorbed by the nuts and the tendency of the candy to stick together is minimised.

## MAINTENANCE

Before carrying out any maintenance tasks, ensure that the Isolator Switch to the machine is 'off'. Always use clean lubricants of the grades specified and wipe nipples clean before lubricating. Attention to the machine as detailed in the following will enable it to give efficient service.

### DAILY:

1. Unlock the Agitator by turning slightly clockwise and lift out the Hopper.
2. Remove Hexagon Nuts and Hinge Pin and lift Hopper from machine. This will permit removal of Stationary Pin, Observation Glass and Pin Wheel.
3. Remove Hexagon Nuts and carefully take off Pump Cover.
4. Remove Pin holding Rotary Seal Parts to the Pump Rotor and carefully withdraw Rotor and Piston. *Caution:* Avoid dropping or otherwise damaging these precision parts.
5. Remove Mixing Chamber by slackening Sanitary nut to the Pump and the large Hexagon Nut at the lower end.
6. Lift out Agitator and Bearing Cap, allowing Rotary Seal to be dismantled by depressing lower Washer and giving it a quarter of a turn.
7. When the machine is dismantled, wash thoroughly all parts in contact with the product, taking extra care with the Pump Parts to prevent them from even the slightest damage. Rubber components should be washed in hot water (*not* boiling water!).
8. Re-assemble the parts correctly again, taking note of the following points:
  - (a) To assemble Pump, engage Rotor Shaft in Housing Bush, push through and slide on in the following order: Rotary Seal Cap - Rubber Ring - Washer - Spring. (The rubber slides easier, if lightly greased with vaseline). Insert Pistons singly with the receiving slot at the top exerting a steady inward pressure against the Pistons already inserted, to keep them against the Cam, as the Rotor is turned. With the Pistons in place, push the Rotor in as far possible engaging the Driving Tang. Fit Pump Cover, taking care to tighten all six nuts evenly. Compress Rotary Seal Spring and slip Retaining Pin into the hole.
  - (b) To assemble the Hopper, slide the Pin Wheel on to its pivot, the chamfered end of the hole being placed on first. Slide the Observation Glass into

the recess, clipping the Retaining Spring to the outside of the Hopper. Place Hopper on the machine, insert Hinge Pin, and then fasten snugly to the Pump by means of the two Hexagon Nuts. Lower Agitator into the Hopper till it rests on the bottom, then turn slightly anti-clockwise to lock in place. Insert Stationary Pin long end first and turn to lock.

(c) To assemble Mixing Chamber, place the large Hexagon Nut over the Mounting Bracket, using the cut-out feature of the nut. Slip Bearing Cap Stem first on to Agitator, the lower end of which has been lightly smeared with Vaseline, and slide on in the following order: Rotary Seal Cap - Rubber Ring - Washer - Spring - Second Washer. Lock by depressing and giving the second washer a quarter turn. Place Agitator on Mounting Bracket, engaging the Driving Tang. Lower Mixing Chamber over Agitator and thread on large Hexagon Nut and Sanitary Nut, tightening the latter first.

Apply two or three shots of Shell Mex Livona-3 Grease to the two nipples on the Chain Housing.

*Ed*

#### MONTHLY

1. Check oil levels in Worm Gear Case, Variable Speed Gear and Mixing Chamber Agitator Gear Box. Top up if necessary with grade of oil specified.
2. Check tension of both Vee Belts. Elongated holes and shims are provided under the Variable Speed Gear to facilitate Belt adjustment.

#### SIX - MONTHLY

1. Lubricate Main Drive Motor Bearings.
2. Drain Variable Speed Gear and refill with fresh Shell Mex Vitrea-21 Oil.
3. Drain Worm Gear Case and Mixing Chamber Agitator Gear Box and refill with Shell Mex Talpa-30 Oil.

#### NOTE

When the Fruit Feeder is not in operation, it is advisable to fit one of the Paper Gaskets provided between Hopper and Pump to prevent foreign matter dropping into the pump. A Cover Plate is also provided which can be fitted when the Hopper is removed.

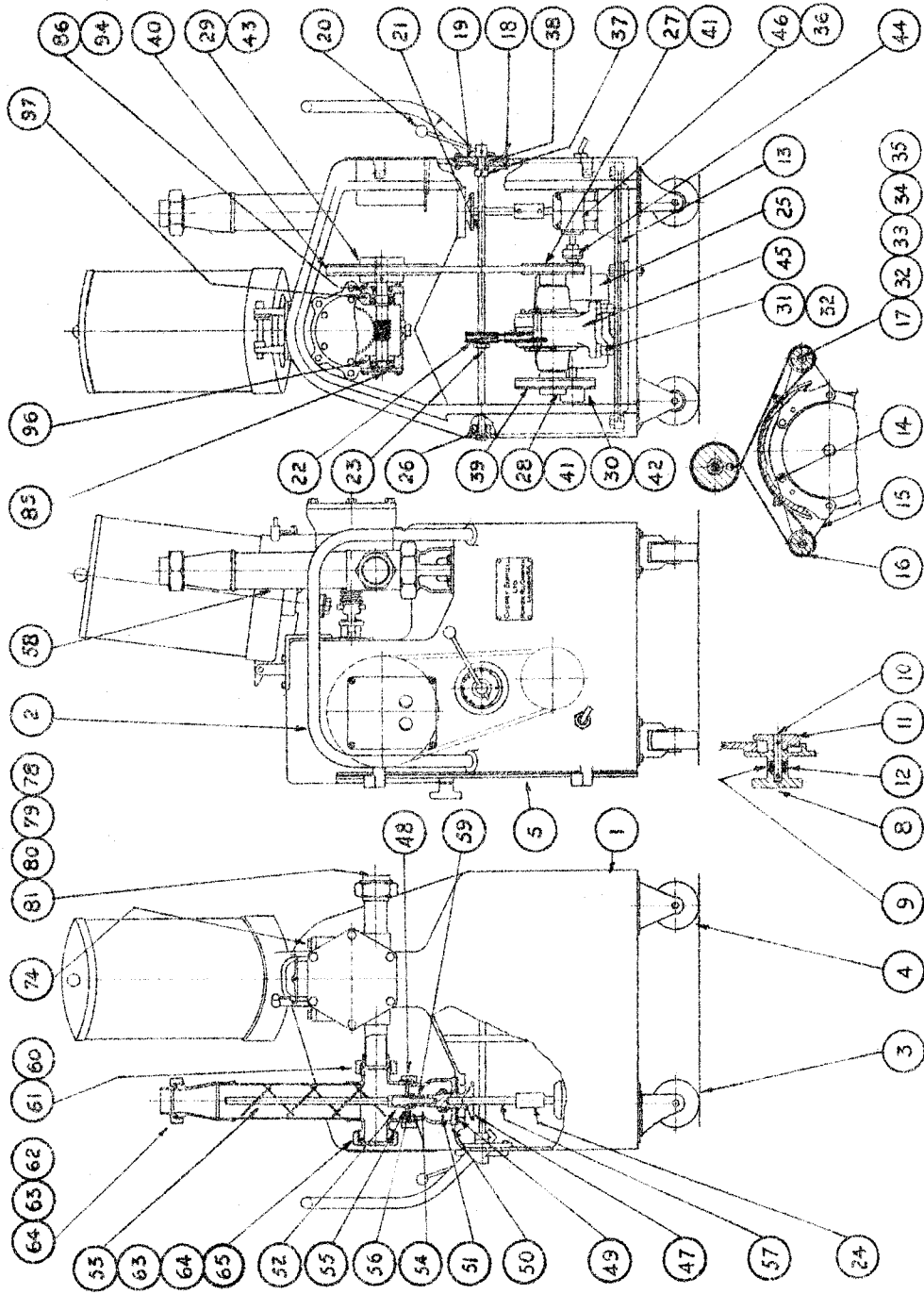
## P A R T S   L I S T

### How to Order

When ordering a replacement part begin by giving the type, model and serial number of your machine.

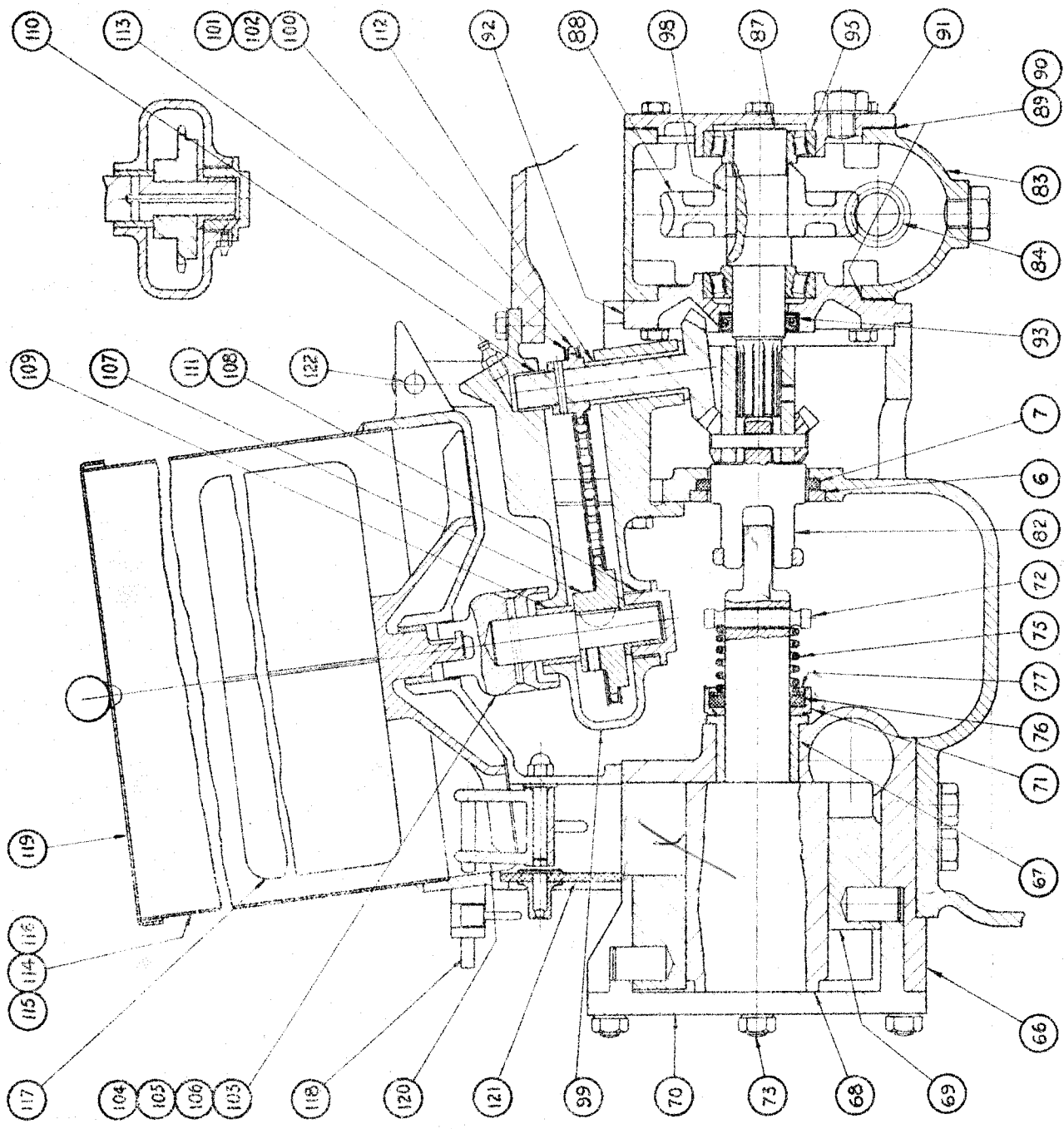
Locate the desired part on one of the assembly drawings and note its part number as indicated under the proper heading in the list of parts. Give the part number and complete description and be certain to show how many units are desired. If a part has no part number, simply give the complete description and quantity.

If a motor is required, always specify the horse-power, speed, voltage, phase, and cycle. This information should be taken from the motor name plate and must be included to ensure delivery of the correct motor.





Diag. Ref. No.	Description	Part No.
CABINET		
1.	Cabinet	F.F. 1.
2.	Handle	F.F. 2.
3.	Castor, Swivel	F.F. 3.
4.	Castor, Stationary	F.F. 4.
5.	Door complete with hinge pins	F.F. 5.
6.	Felt Ring Retainer	F.F. 6.
7.	Felt Ring	45 x 8
8.	Door Latch Knob	E. 30167 M.
9.	Door Latch Thrust Washer	E. 30169
10.	Door Latch Pin	E. 30170
11.	Door Latch Cam	E. 30171 M.
12.	Door Latch Spring	39 x 22
13.		
MAIN DRIVE AND SPEED CONTROL		
13.	Baseplate	F.F. 9.
14.	Segment, Speed Control	F.F. 85.
15.	Bracket	F.F. 86.
16.	Jockey Pulley with bush	F.F. 87.
17.	Shaft	F.F. 88.
18.	Speed Control Bearing	F.F. 95.
19.	Indicator Plate	F.F. 96.
20.	Lever Assembly	F.F. 99.
21.	Speed Control Shaft	F.F. 100.
22.	Pulley	F.F. 101.
23.	Split Collar	F.F. 102.
24.	Muff Coupling	F.F. 117.
25.	½ h.p. Protected Type Motor	
	Syn. Speed 1500 R.P.M.	F.F. 118
26.	Plain Self Oiling Bush	1 x 34.
27.	Single Groove V Pulley. 5.3/8" o/d.	22 x 9
28.	Single Groove V Pulley. 6.3/8" o/d.	22 x 10
29.	Single Groove V Pulley. 9.3/8" o/d.	22 x 11
30.	Single Groove V Pulley. 4.3/8" o/d.	22 x 12
31.	"O" Washer	41 x 3.
32.	Distance Piece	53 x 42.
33.	Spacer	53 x 43.
34.	Spacer	53 x 44.
35.	Spacer	53 x 45.
36.	Distance Piece	53 x 51.
37.	Collar	53 x 52.
38.	Flanged, Self Oiling Bush	55 x 8
39.	½" V. Belt, 31.3/4 I/S.	A. 32.
40.	½" V. Belt, 51" I/S.	A. 51.
41.	3/16" Sq. Parallel Key x 1" Lng.	BSK. 3/16" S.
42.	3/16" Sq. Parallel Key x 1½" Lng.	BSK. 3/16" S.
43.	1/4" x 3/16" Parallel Key x 1.3/4" Lg.	BSK. 1/4" R.
44.	Spider Type Flexible Coupling	
	7/16" bore	644425.
45.	No. 14 F. "Kopp" Variator	
46.	"Radicon" 1.1/8" Worm Reducer	



Diag. Ref. No.	Description	Part No.
<b>MIXING CHAMBER</b>		
47.	Driving Tang	F.F. 10.
48.	Removable Hex. Nut	F.F. 11.
49.	Shim	F.F. 12.
50.	Mounting Bracket with sleeve	F.F. 13.
51.	Slinger	F.F. 14.
52.	Bearing Cap	F.F. 15.
53.	Agitator complete	F.F. 16.
54.	Agitator Shaft Washer	F.F. 20.
55.	Cup, Agitator Shaft Seal	F.F. 21.
56.	Ring, Agitator Shaft Seal	F.F. 22.
57.	Driving Shaft	F.F. 94.
58.	Assy. Mix Chamber	F.F. 122.
59.	Spring	39 x 19.
60.	2" Hexagon Nut	E. 13 H.
61.	2" Plain Ferrule	E. 14.
62.	2" Plain Ferrule	CEL. 20
63.	2" Hex Nut	CSN. 20
64.	2" Gasket	CRJ. 20
65.	2" Blank Cap	CCF. 20
66.	Pump Housing with bush	F.F. 24.
67.	Bush	F.F. 25.
68.	Rotor	F.F. 27.
69.	Piston with pin	F.F. 28.
70.	Cover	F.F. 31.
71.	Cup, Rotary Seal	F.F. 32.
72.	Pin, Rotary Seal Spring	F.F. 33.
73.	Stud	34 x 41.
74.	Stud	34 x 42.
75.	Spring	39 x 18.
76.	Ring	51 x 7.
77.	Washer	53 x 41.
78.	2" Screwed Ferrule	CEM. 20
79.	2" Plain Ferrule	CEL. 20
80.	2" Hex Nut	CSM. 20
81.	2" Gasket	CRJ. 20
<b>WORM GEAR AND COUPLING</b>		
92.	Coupling complete, Pump Drive	F.F. 34
93.	Worm Gear Case	F.F. 39.
94.	Worm	F.F. 40.
95.	Bearing Cap	F.F. 41.
96.	Oil Seal Retainer	F.F. 42.
97.	Worm Gear Shaft	F.F. 43.
98.	Worm Gear	F.F. 44.
99.	Shim, thin	F.F. 45.
100.	Shim, thick	F.F. 46.
101.	Cover Plate	F.F. 47.
102.	Mounting Plate	F.F. 48.
103.	Oil Seal, 1.3/16" Shaft	17516.
104.	Oil Seal, 15/16" Shaft	17530.
105.	Taper roller Bearing 30 m.m.	30206.
106.	Ball Journal Bearing	BRM. 020.
107.	Ball Journal Bearing	BRL. 025.
108.	1/4" Sq. x 1.3/8" Lg. Parallel Key	BSK. 1/4 S.

Diagram Ref. No.	Description	Part. No.
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### CHAIN HOUSING AND SPROCKETS.

99.	Chain Housing, complete with bushes.	F.F. 49.
100.	Driven Gear and Sprocket Assy, including items 101 and 102	F.F. 50.
101.	Bevel Gear, Driven	F.F. 51.
102.	Drive Sprocket	F.F. 52.
103.	Agitator Shaft complete including items 104 to 106	F.F. 53.
104.	Coupling	F.F. 54.
105.	Agitator Shaft	F.F. 55.
106.	Retaining Pin	F.F. 56.
107.	Driven Sprocket	F.F. 57.
108.	Bushing Retainer complete with bush	F.F. 58.
109.	Plain Bush	2 x 9.
110.	Plain Bush	2 x 10.
111.	Flanged Bush	63 x 6
112.	Flanged Bush	63 x 7.
113.	3/8" Pitch Simple Roller Chain, 49. Pitches long (18.3/8") with cranked connecting link. by Renolds.	110038.

### HOPPER

114	Hopper Complete, including items 115 and 116	F.F. 60.
115.	Bushing	F.F. 78.
116.	Pin Wheel Pivot	F.F. 62
117.	Agitator complete	F.F. 63.
118.	Stationary Pin	F.F. 66.
119.	Cover Assembly	F.F. 67.
120.	Pin Wheel	F.F. 68.
121.	Observation Glass complete	F.F. 70.
122.	Hinge Pin	F.F. 81.

### TOOLS, SPARES AND ACCESSORIES

Ring, Agitator Shaft Seal	F.F. 22.
Dummy Piston	F.F. 39.
Shear Pin	F.F. 56.
Throat Cover Plate	F.F. 75.
Gasket, Throat Cover Plate	F.F. 76.
Ring	51 x 7.
2" Wrench	UKH. 20
3" Wrench	S. 427.
2" Wrench (Cone)	S. 428
Double offset Ring Spanner. .600" and .710" A/F. by King Dick.	
Talpa 30 Oil. (Shell Mex)	DDW. 205

**CLARKE-BUILT LIMITED**