

BINKS.

Instruction Manual

L20 Agitators

- 105450 Air Motor
- 105451 Pressure Tank Motor
- 105447 Mix Tank Agitator
- 105452 Mix tank Agitator

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General Description – Section 1.1

Introduction

The L20 air motor was designed to drive agitator paddle assemblies primarily for the agitation of paint. Sufficient torque is available to achieve correct paint agitation in 20 litre pressure feed tanks to 500 litre mixing tanks.

A range of paddle sizes are available to accommodate different diameters of the paint tanks.

Due to the oscillating motion achieved by the air motor, baffles are not required inside the tank to aid agitation, a requirement for most single directional agitators.

Operating Principle – Section 1.2

A rack and pinion drive is housed in an aluminium cylinder; the pinion incorporates a ½" female square drive for connection to the agitator shaft.

The rack has an air piston assembly at each end, an integral spool valve controls the passage of compressed air to the end of the cylinder which moves the rack. When the rack reaches the end of its stroke at one end of the cylinder, a plunger is operated to divert pilot air to move the spool in the valve block assembly, thus directing compressed to the opposite end of the cylinder.

Specification – Section 1.3

L20 Air Motor

Air Quality required	ISO 8573.1. to 3.5.2	Dirt 5 Microns Water +7°C at 7bar Oil 0.1 mg/m ³
Recommended Compressed Air Supply Pressure		5 Bar 72.5 PSI
Supply Connection		¼” BSP (H)
Air Consumption @ 10 Cycles / min		1.0 Cfm 28 Litres/min
Shaft Connection		½” (female) Square Drive
Torque At 5 Bar Air Supply		30.1 Newton-Meter 22.25 Foot-Pounds
Rotation		Oscillation @ +/- 180°
Operating Range	Manual Adjustment	10 – 30 Cycles / min

Parts Lists – Section 2.1

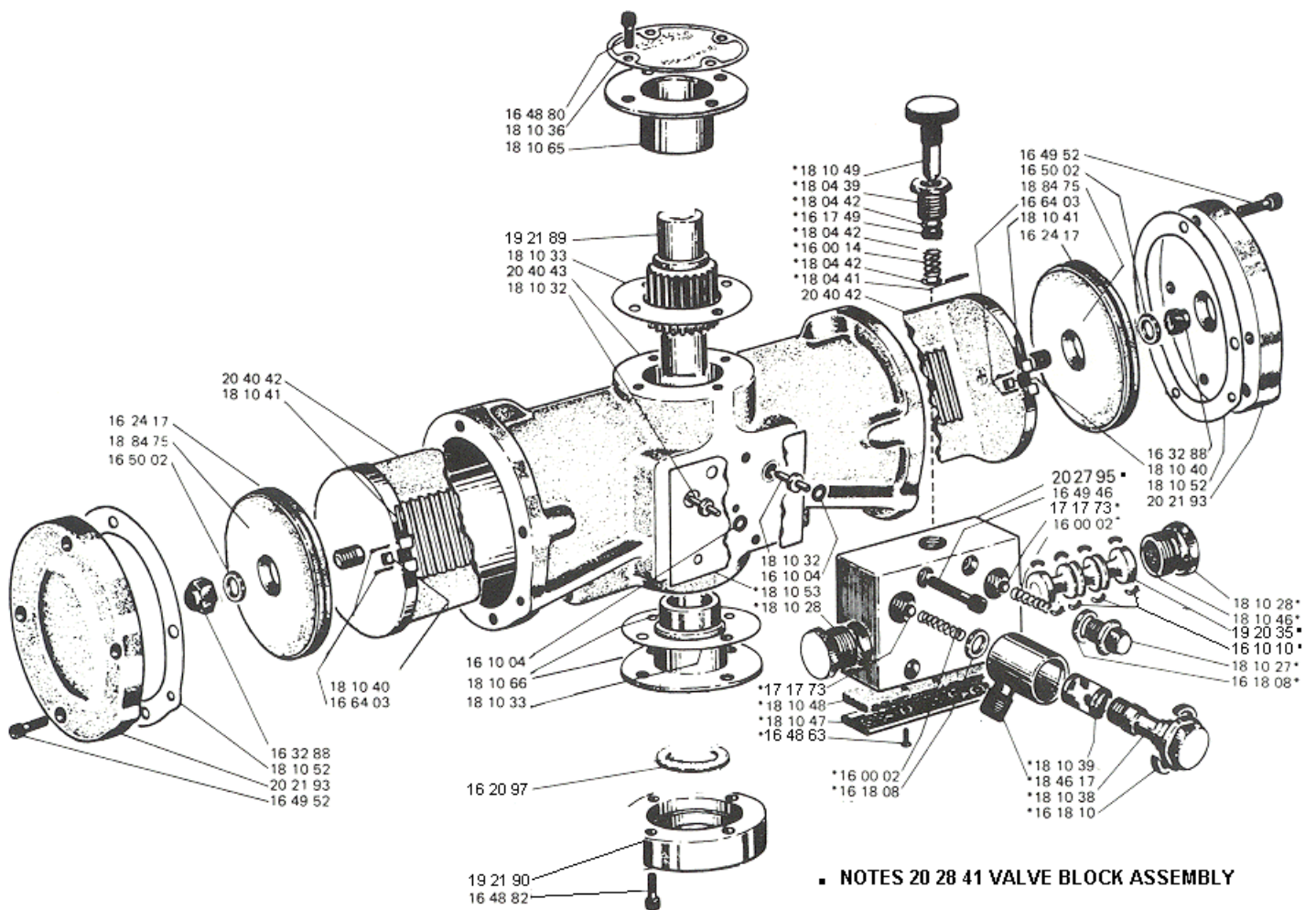
Parts List Air Motor - 105450				
Item	Part No.	Description	Qty	Remarks
1	161004	O Ring 0.187 ID	2	#
2	162097	Oil Seal	1	#
3	162417	Quad Ring	2	#
4	163288	3/8 Locknut	2	#
5	164880	2BA Skt Head Screw x ½ Lg	4	
6	164882	2BA Skt Head Screw x 1 Lg	4	
7	164946	1/4 Skt Head Screw	4	
8	164952	5/16 Skt Head Screw	8	
9	165002	3/8 Washer	2	
10	166403	1/16 Roll Pin	4	#
11	181032	Plunger	2	#
12	181033	Gasket	3	#
13	181036	Nameplate	1	
14	181040	Roller	2	#
15	181041	Roller Spindle	2	#
16	181045	Bush	2	Fitted to Cylinder
17	181052	End Cover Gasket	2	
18	181065	Top Bearing Assembly	1	
19	181066	Lower Bearing Assembly	1	
20	188475	Piston Assembly	2	
21	192189	Pinion	1	
22	192190	Seal Housing	1	
23	202193	End Cover	2	
24	204042	Piston Rack	1	
25	204043	Cylinder	1	
26	202841	Valve Block Assembly	1	

Parts Lists – Section 2.1

Parts List Valve Block Assembly - 202841				
Item	Part No.	Description	Qty	Remarks
1	160002	Spring	2	#
2	160014	Spring	1	
3	161010	O Ring 0.489 ID	4	#
4	161749	O Ring 0.250 ID	1	#
5	161808	½ Gaco Washer	2	#
6	161810	5/8 Gaco Washer	1	#
7	164863	1/8 Skt Head Screw	2	
8	171773	5/16 Ball	2	
9	180439	Stuffing Box	1	
10	180441	Retaining Pin	1	
11	180442	Washer	3	#
12	181027	Plug	1	
13	181028	Plug	2	
14	181038	Filter Body	1	
15	181039	Filter Gauze	1	
16	181046	Insert Rubber	2	#
17	181047	Silencer Plate	1	
18	181048	Silencer Felt	1	#
19	181049	Control Spindle	1	
20	181053	Gasket	1	#
21	184617	Banjo	1	
22	192035	Spool	1	#
23	202795	Valve Block	1	

Assembly Drawing – Section 2.2

L20 Air Motor – 105450

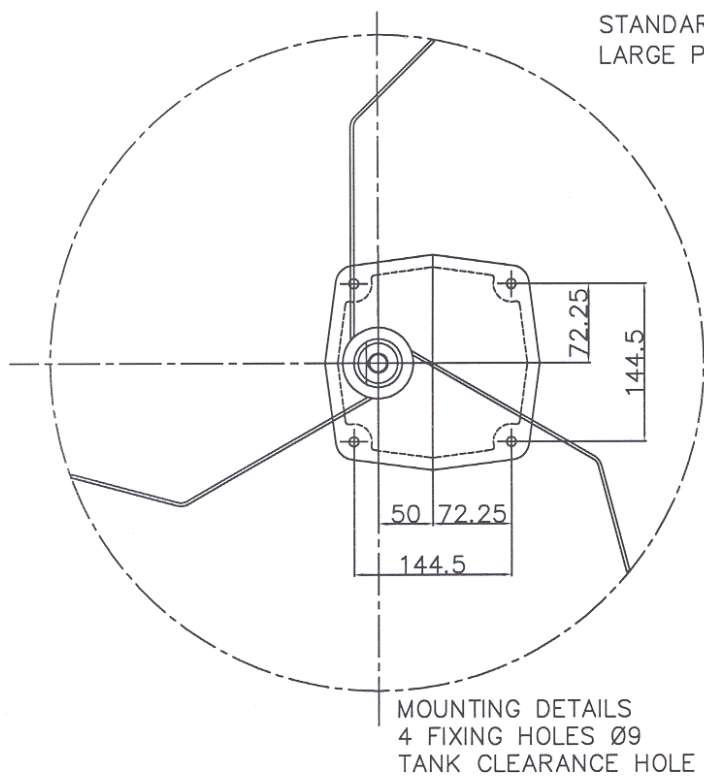
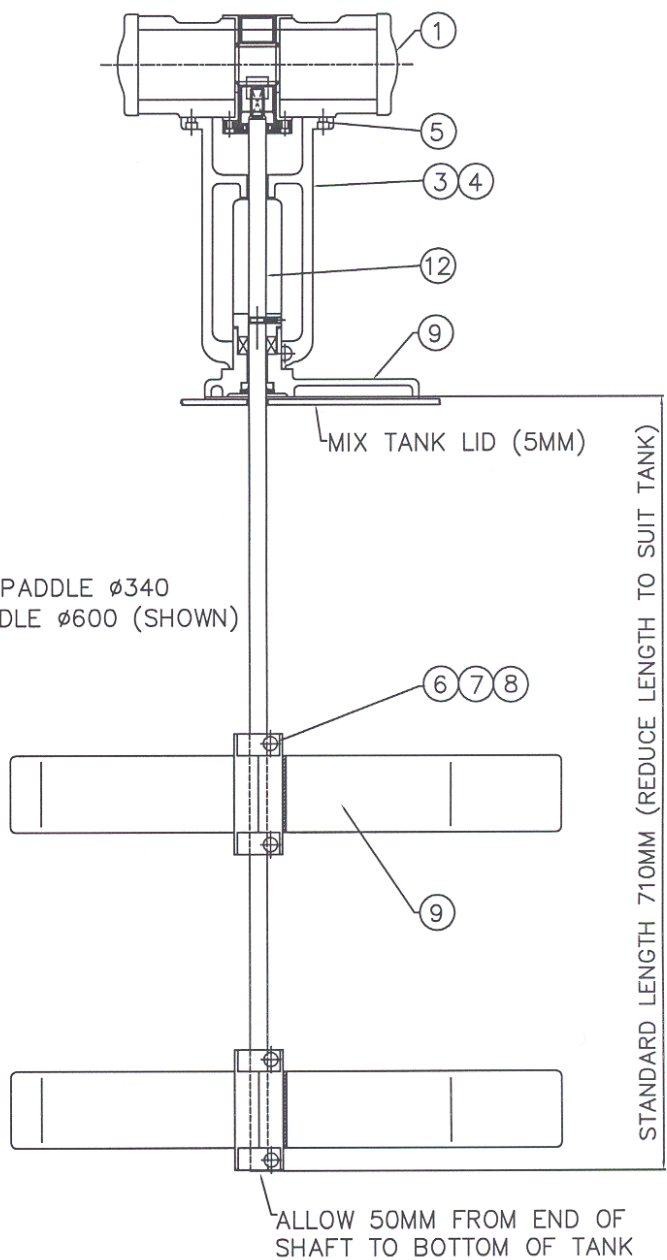
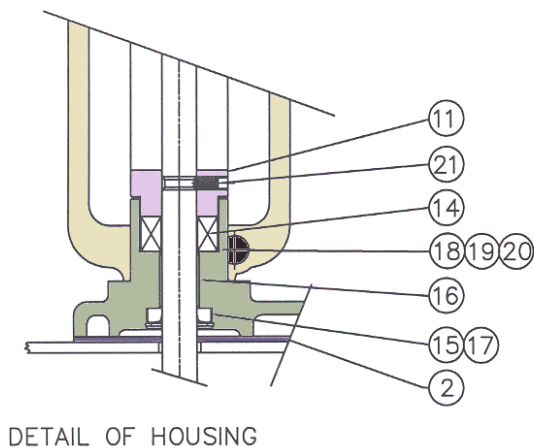


Parts List – Section 2.3

Standard Mix Tank Agitator – 105447 <i>(Mix Tank Agitator with large paddle 105452)</i>				
Item	Part No.	Description	Qty	Remarks
1	105450	L20 Air Motor	1	
2	184824	Gasket	1	
3	204032	Support Bracket	1	
4	171800	Bearing Bush	1	Part of 204032 Assy
5	164941	Cap Head Screw	4	
6	180868	Pad Bolt	4	St St
7	163282	3/8 Hex Nut	4	St St
8	165009	3/8 Washer	4	St St
9	202245	Bearing Housing Plate	1	
10				
11	192050	Shaft Collar	1	
12	192191	Agitator Shaft (990mm long)	1	St St
(12)	192208	<i>Agitator Shaft (1200mm long)</i>	1	<i>For 105452</i>
13	204228	Standard Agitator Paddle Ø340mm	2	St St
(13)	192153	<i>Large Agitator Paddle Ø600mm</i>	2	<i>For 105452</i>
14	169150	Thrust Bearing	1	#
15	501388	Lip Seal	1	#
16	171802	Plain Bearing	1	#
17	166148	Circlip	1	# St St
18	181022	Pad Bolt	1	
19	165009	Washer	1	St St
20	163282	Hex Nut	1	St St
21	165650	Grubscrew	1	
22				
#	Spares Kit 25 05 67			

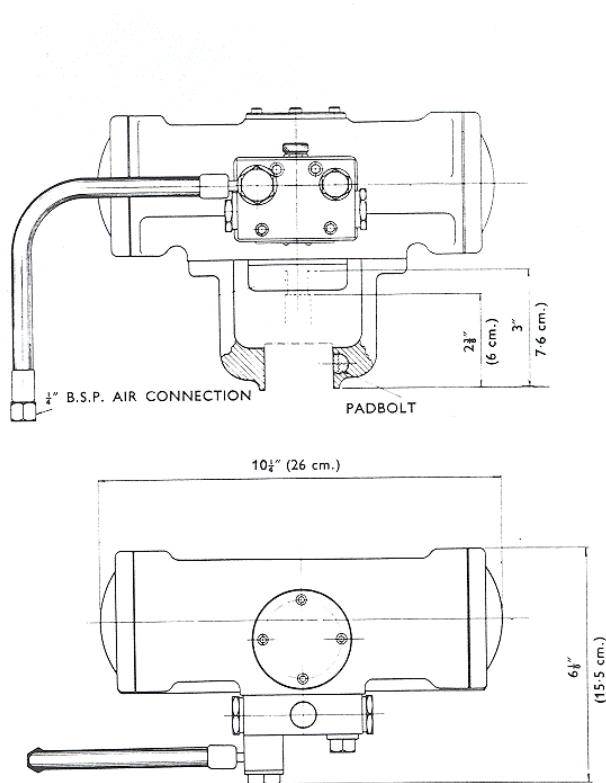
Assembly Drawing – Section 2.4

Mix Tank Agitator – 105447 (Ø340 Paddle)
Mix Tank Agitator – 105452 (Ø600 Paddle)

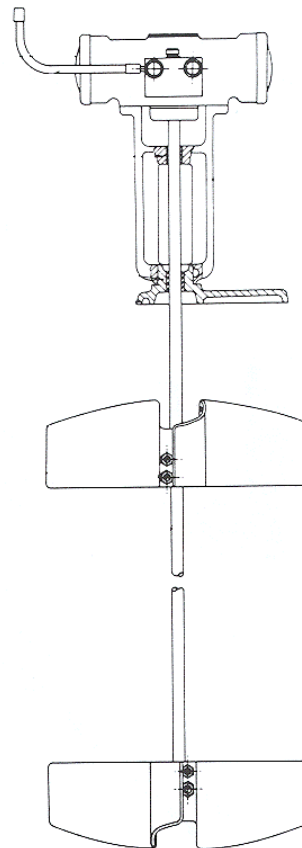


STANDARD PADDLE Ø340
 LARGE PADDLE Ø600 (SHOWN)

Assembly Drawing – Section 2.4



View Showing Air Motor Dimensions



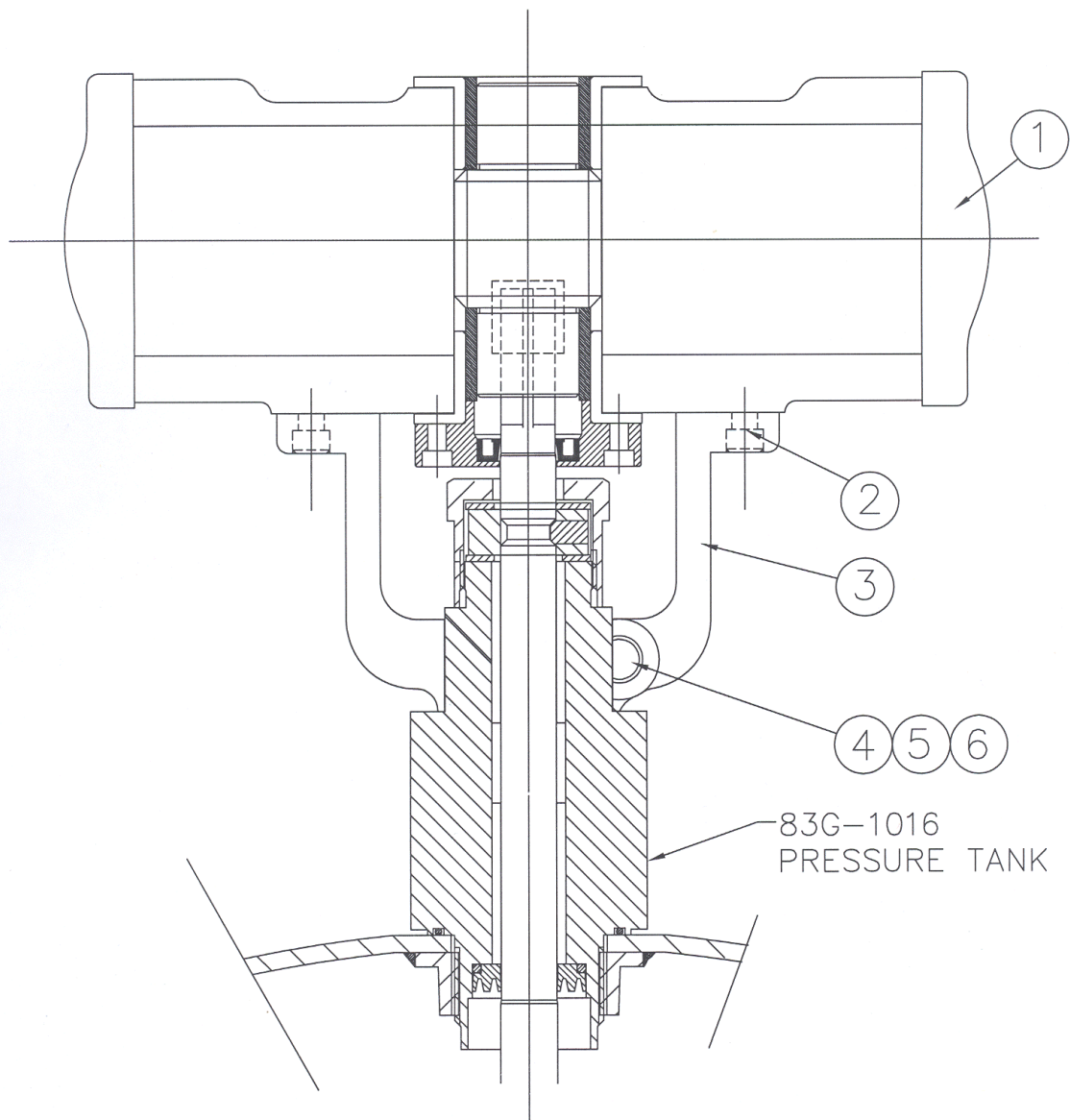
View Showing Orientation of Ø340 Standard Paddle 204228

Parts List – Section 2.5

Pressure Tank Agitator - 105451				
Item	Part No.	Description	Qty	Remarks
1	105450	L20 Air Motor	1	
2	164941	Cap Head Screw	4	
3	204253	Bracket	1	
4	181022	Pad Bolt	1	
5	165009	Washer	1	
6	163282	Hex Nut	1	

Assembly Drawing – Section 2.6

Pressure Feed Tank Agitator -105451



Important Information - Section 3.1**Directions for Working Safety**

This Product has been constructed according to advanced technological standards and is operationally reliable. Damage may, however, result if it is used incorrectly by untrained persons or used for purposes other than those for which it was constructed.

The locally current regulations for safety and prevention of accidents are valid for the operation of this product under all circumstances.

International, national and company safety regulations are to be observed for the installation and operation of this product, as well as the procedures involved in maintenance, repairs and cleaning.

These instructions are intended to be read, understood and observed in all points by those responsible for this product. These operating and maintenance instructions are intended to ensure trouble free operation. Therefore, it is recommended to read these instructions carefully before start-up. ITW Automotive Finishing cannot be held responsible for damage or malfunctions resulting from the non-observance of the operating instructions. These instructions including regulations and technical drawings may not be copied, distributed, used for commercial purposes or given to others either in full or in part without the consent of ITW Ltd.

We reserve the right to alter drawings and specifications necessary for the technical improvement of this product without notice.

High Pressure/Electrostatic Warning

High pressure equipment can be dangerous if used incorrectly, serious bodily injury may occur if the following instructions are ignored. Installation and maintenance should only be carried out by suitably qualified personnel.

1. Before attempting any work on a high-pressure system ensure material pump, hydraulics, compressed air motor are isolated where relevant.
2. Relieve all pressure from the system. Note: It is possible for pressure to get locked into a system, therefore ensure all sections of the system are checked thoroughly for remaining pressure.
3. Take care when releasing fittings
4. Always replace worn hoses immediately
5. Never plug a leak with your finger, adhesive tape or other stop gap devices
6. Always ensure equipment is suitably earthed before running, to avoid any chance of electrostatic build up.

Maintenance – Section 3.2

Operational maintenance

Both on Initial assembly and following an air motor overhaul apply Kluber Grease type Isoflex Topas NB 52 grease. (Available in a 400g container part number 172822) as follows: -

- The air motor cylinder rack (204042): -
 - Outside diameter, completely fill the grooves.
 - Gear teeth, completely fill the gear teeth.
 - Roller (181040), light smear.
 - Piston seal, light smear

- Bearing bush surface (181065 & 181066), light smear.
- Spool (192035), light smear.
- Plunger (181032), light smear.

Unit	Action	Interval
Air Motor	Apply grease (Isoflex Topas NB 52) to the air motor cylinder rack (204042) : <ul style="list-style-type: none"> • Outside diameter, completely fill the grooves. • Gear teeth, completely fill the gear teeth 	6 Months
Air Motor	Check and Clean Silencer Felt 181048 as required	6 Months
Air Motor	Replace Oil Seal 162097	12 Months
Agitator	Replace Shaft Seal 501388	12 Months
Agitator	Replace Thrust Bearing 171802 and 171800	12 Months

Fault Finding – Section 3.3

Problem	Cause	Action
Air motor does not start	Insufficient air pressure	Check air supply is at nominal 5 bar pressure and reset speed control
Air motor stalls and will not reverse	Spool valve not operating (Change over)	Examine spool in valve block assembly. Clean spool and replace o-rings as necessary
'Dirt' seen extruding from air motor seal	162097 Seal worn	Replace seal

Spare Parts List – Section 3.4

25 05 66 Spares Kit for Air Motor 105450 and Pressure Tank Agitator 105451				
Item	Part No.	Description	Qty	Remarks
1	161004	O Ring 0.187 ID	2	
2	162097	Oil Seal	1	
3	162417	Quad Ring	2	
4	163288	3/8 Locknut	2	
5	166403	1/16 Roll Pin	4	
6	181032	Plunger	2	
7	181033	Gasket	3	
8	181040	Roller	2	
9	181041	Roller Spindle	2	
10	160002	Spring	2	
11	161010	O Ring 0.489 ID	4	
12	161749	O Ring 0.250 ID	3	
13	161808	½ Gaco Washer	2	
14	161810	5/8 Gaco Washer	1	
15	180442	Washer	3	
16	181046	Insert Rubber	2	
17	181048	Silencer Felt	1	
18	181053	Gasket	1	
19	192035	Spool	1	

25 05 67 Spares Kit for Agitator 105447 and 105452				
Item	Part No.	Description	Qty	Remarks
1	250566	Spares kit for L20 Air Motor	1	105450
2	169150	Thrust Bearing	1	
3	501388	Lip Seal	1	
4	171802	Plain Bearing	1	
5	166148	Circlip	1	