

# AX1, 2 & 3



**SERVICE &  
MAINTENANCE MANUAL**  
for  
**INTERLUBE**  
**INDUSTRIAL LUBRICATION SYSTEM**  
MANUAL

# SAFETY

As with all equipment, all due care must be used when servicing the AX Industrial lubrication system.

Throughout this manual there will be information provided which requires special attention. This information will be displayed under the headings of **WARNING**, **CAUTION**, or **NOTE**.

## WARNING

Information given about a situation that can cause significant damage to the machine or injury to personnel.

## CAUTION

Information given about a situation that can cause damage to the machine.

## NOTE

Information special interest

### UK Headquarters:

#### Interlube Systems Ltd

St Modwen Road, Parkway Industrial Estate,  
Plymouth, Devon, England PL6 8LH

Tel: +44 (0)1752 676000

Fax: +44 (0)1752 676001

e-mail: [info@interlubesystems.com](mailto:info@interlubesystems.com)

Web Site: [www.interlubesystems.com](http://www.interlubesystems.com)

### USA Headquarters:

#### Interlube Systems Inc

4696 Wadsworth Road,  
Dayton, Ohio, 45414, USA

Tel: + 1 937 276 4507

Fax: + 1 937 276 4518

e-mail: [Nmackay@earthlink.net](mailto:Nmackay@earthlink.net)

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# 1. INTRODUCTION

This manual gives instructions for operating, maintaining, and servicing the Interlube AX chassis lubrication system. Because of the importance of providing the correct lubricant amount to the moving parts of the equipment, read this manual to become familiar with your AX lubrication system.

Review and follow the procedures given before attempting maintenance or service. Illustrations are provided to aid in disassembly and reassembly.

If there are questions not answered by this manual, contact your Interlube distributor, dealer, or Interlube direct.

# 2. GENERAL DESCRIPTION

A typical AX lubrication system includes the following components:

- Pump with integral reservoir
- Lubricant injectors
- Tubing to the lubrication points
- Fittings at the lubrication points

The AX range has a radial manifold ranging from 12 to 84 ports, depending on the model. Each port can be fitted with a positive displacement lubricant injector. Each lubricant injector is dedicated to a single lubrication point.

The lubricant injector is connected to the lube point with tubing and a tube connector. Numbered sleeves are placed on the tubing at both the lubricant injector and lube point to assure accurate installation and identification.

## **NOTE**

Throughout this manual, whenever part names are used, there will be a number following it in parenthesis, i.e., reservoir paddle (10). The number is the reference used in section 7, Figures 3 & 4.

Six different lubricant injector output capacities are available to match the lube point volume requirements. Lubricant injectors are colour coded for easy identification. Unused pump manifold ports are plugged.

The AX pump is equipped with one or more cams (17) that operate the lubricant injectors as the cam(s) are rotated by the motor (42).

## 3. COMPONENT OPERATION

### 3.1. AX Pump Operation

The Interlube AX range has been designed to provide reliable and virtually maintenance free service in the most demanding applications. The system comprises an electrically operated 110/240 V pump with integral controller, and a loom of tubing which connects each bearing directly to its own respective pumping unit. Each bearing is fed independently, meaning that points can be individually calibrated, and also damage to one line does not affect the rest of the system. The pumps come in two variations; the AX1 and AX2 which have 1 & 2 litre top fill reservoirs and have the motor and controller housed in the lid, and the AX3 which has a 3 litre reservoir and has the motor and controller housed in the base. The motor drives the impellor, which draws grease into the pumping chamber and also gives a visual indication of cam rotation. It also drives the cam, which operates the individual pumping units, and feeds grease into the tubing. The pumps can operate with a wide range of lubricants from SAE 80 oil up to and including NLGI grade 2 grease.

The reservoir paddle (10) is also rotated by the cam assembly. Paddle (10) rotation ensures positive lubricant flow to the lubricant injectors.

Each lubricant injector is actuated by its cam (17) only once per 360° revolution.

#### 3.1.1. Filling The Reservoir

Depending on the application, consult with your lubricant vendor or the authorised Interlube distributor for a lubricant suitable for the application. Refer to TECHNICAL DATA for a guide to lubricant selection.

The initial reservoir fill must be through the grease nipple (22) or quick coupling (27) on the pump body (21). This is to ensure against any air pockets in the reservoir.

#### NOTE

Be certain to wipe the nipple (22) clean before filling. Place the dirt cap back on the lubricant nipple (22) after any service procedures.

The AX reservoir (12) is filled either through the grease nipple (22) or the Quick Connector (27).

The cam assembly consists of one or more cams (17) in an offset configuration, with each cam (17) dedicated to a row of lubricant injectors. As the cam assembly rotates, the cam lobe actuates the injectors and lubricant is dispensed.

Subsequent refilling of the reservoir (12) should be done through the grease nipple (22) or quick coupling (27) to minimise any contaminants from entering the reservoir.

#### CAUTION

Do not overfill the reservoir (12). Fill only to Max Level label (28).

#### AX1 & 2 CAUTION

If the reservoir (12) must be filled through the reservoir cap moulding (5), be certain the cap (1) is secured to the reservoir cap moulding (5) when finished. Take care to prevent air pockets in the reservoir.

#### CAUTION

Stored lubricants must be sealed and properly kept to remain free of contaminants.

### 3.2. Programming the AX

AX 1 & 2 Cycle settings are selected through the 4 Dip Switches located on the circuit board (30), inside of the motor housing assembly (38).

		Switch Position			
	Cycle Time	1	2	3	4
1	6 minutes	ON	--	--	--
2	15 minutes	--	ON	--	--
3	30 minutes	--	--	ON	--
4	60 minutes	--	--	--	ON

On AX3 a 10 position rotary switch (30) is used for programming.

Switch Position	Cycle Time
0	Continuous 1.2RPM
1	3 minute delay
2	7 minute delay
3	10 minute delay
4	20 minute delay
5	30 minute delay
6	45 minute delay
7	60 minute delay
8	90 minute delay
9	120 minute delay

**Lubricant injector capacity and cycle time setting determine the quantity of lubricant fed to individual lubricant points.**

### 3.2.1. Programming Information

If you require to change the timer settings the following procedure should be followed for the AX1 and AX2:

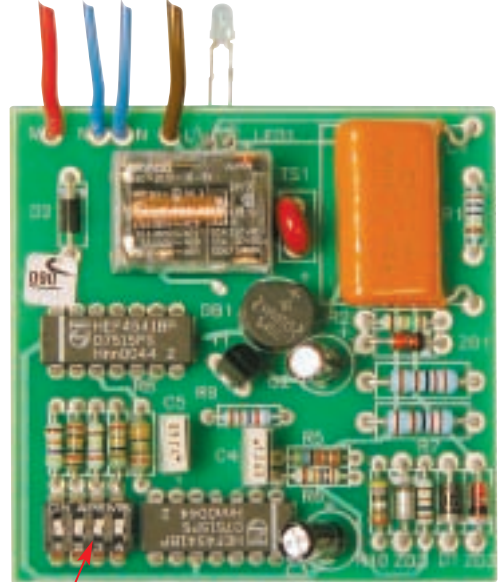
Disconnect the power to the pump.

Remove the three screws (6) securing the lid assembly ( 5). Remove this assembly from the grease without disturbing the position of the drive adaptor (33).

Separate the motor housing (38) from the lid (5), by removing the two screws and O-ring.

Inside the motor housing (38) you will find the PCB (30), on which there is a 4 position switch, that can be changed using a small screw driver.

For AX1&2:



Dip Switches

For AX3:

Remove sealing plug (43) and change setting using small screwdriver. Replace plug and tighten.



### **MANUAL OVERRIDE AX3 ONLY**

Press and release the Manual Override Button (29) located on the base.

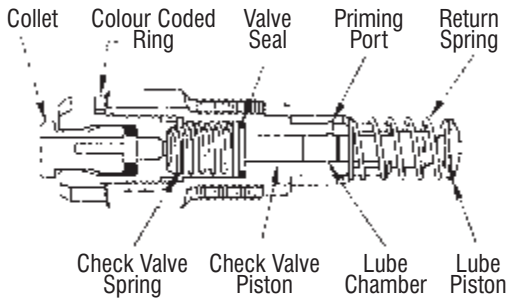
### 3.3. Lubricant Injector Operation

Each lubricant injector is a positive displacement device to meter lubricant to single lubrication point on the vehicle. The lubricant injector is calibrated to deliver a precise volume of lubricant each time it is actuated.

There is a colour-coded ring on the injector for ease of identifying output capacity.

#### Part Number

Red	0.010 cc	.....78033
Green	0.015 cc	.....78034
Yellow	0.025 cc	.....78035
Blue	0.040 cc	.....78036
Grey	0.060 cc	.....78037
Black	0.100 cc	.....78038
Blanking Plug		.....34237-402



Lubricant enters the lubricant injector through the priming port and fills the lube chamber. As the cam lobe (17) is rotated, the lube piston is pushed forward, sealing off the priming port. As the lubricant in the chamber is pressurised, the check valve piston is unseated, allowing the lubricant to flow through the outlet, on to the lubrication point.

As the cam lobe (17) is indexed the lube piston is pushed back, allowing the lubricant injector to prime. At the same time, the check valve spring returns the check valve piston, preventing any back flow.

### 4.0 Technical Data

LUBRICANT	
NLGI Grade 2	Down to 10°F / -12°C
NLGI Grade 1	Down to 0°F / -18°C
NLGI Grade 0	Down to -10°F / -23°C
NLGI Grade 00	Down to -20°F / -29°C
NLGI Grade 000	Down to -30°F / -35°C
<b>Do not use heavy, tackified greases or Bentone (clay based) high temperature grease.</b>	

OILS
Oils 400 SUS - 10,000 SUS. Min SAE 80

SPECIFICATIONS	
Nominal Reservoir Capacity	AX1 - 1.25 Kgs/2.75 lbs
	AX2 - 2 kgs / 4.4 lbs
	AX3 - 3 kgs / 6.6 lbs
Max Ambient Temperature	160°F / 65°C

INJECTORS	
Max Pressure	1700 psi 120bar

TUBING	
<b>Burst Pressure</b> 5/32 (4mm) O.D. Nylon Feed	2500 psi 175bar
<b>Operating Temperature Range</b> Nylon	-65°F - 180°F -54°C - 82°C
Bundy	-65°F - 400°F -54°C - 205°C

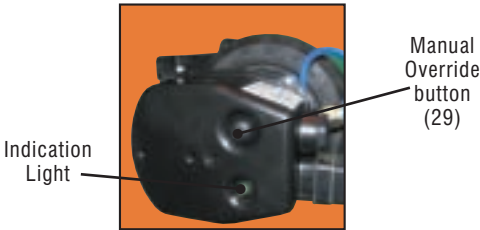
## 5.0 Recommended Preventative Maintenance

After initial installation, and after any service replacement of lube system components, perform all of the following preventive maintenance checks once a shift for a period of one (1) week to verify that the AX chassis lubrication system is operating properly.

### 5.1 Inspection Procedures

The following inspection procedures are recommended to help ensure proper operation of the AX chassis lubrication system. Once the reservoir refill interval has been determined – every 3 days, once a week, every 3 weeks, etc. – make certain that interval is part of your scheduled maintenance.

- A. Inspect all lubrication points for signs of FRESH grease.
- B. Check the condition of all fittings and connections. Tighten or replace loose or damaged fittings.
- C. Check all lubrication lines; make certain that there are not any breaks. Check for wear or chaffing that may lead to leakage.
- D. Check pump operation using Manual Override on AX3 (29).



Manual Override AC3

### **CAUTION**

To ensure proper operation of the lubrication system, fill the reservoir (12) only with clean lubricant.

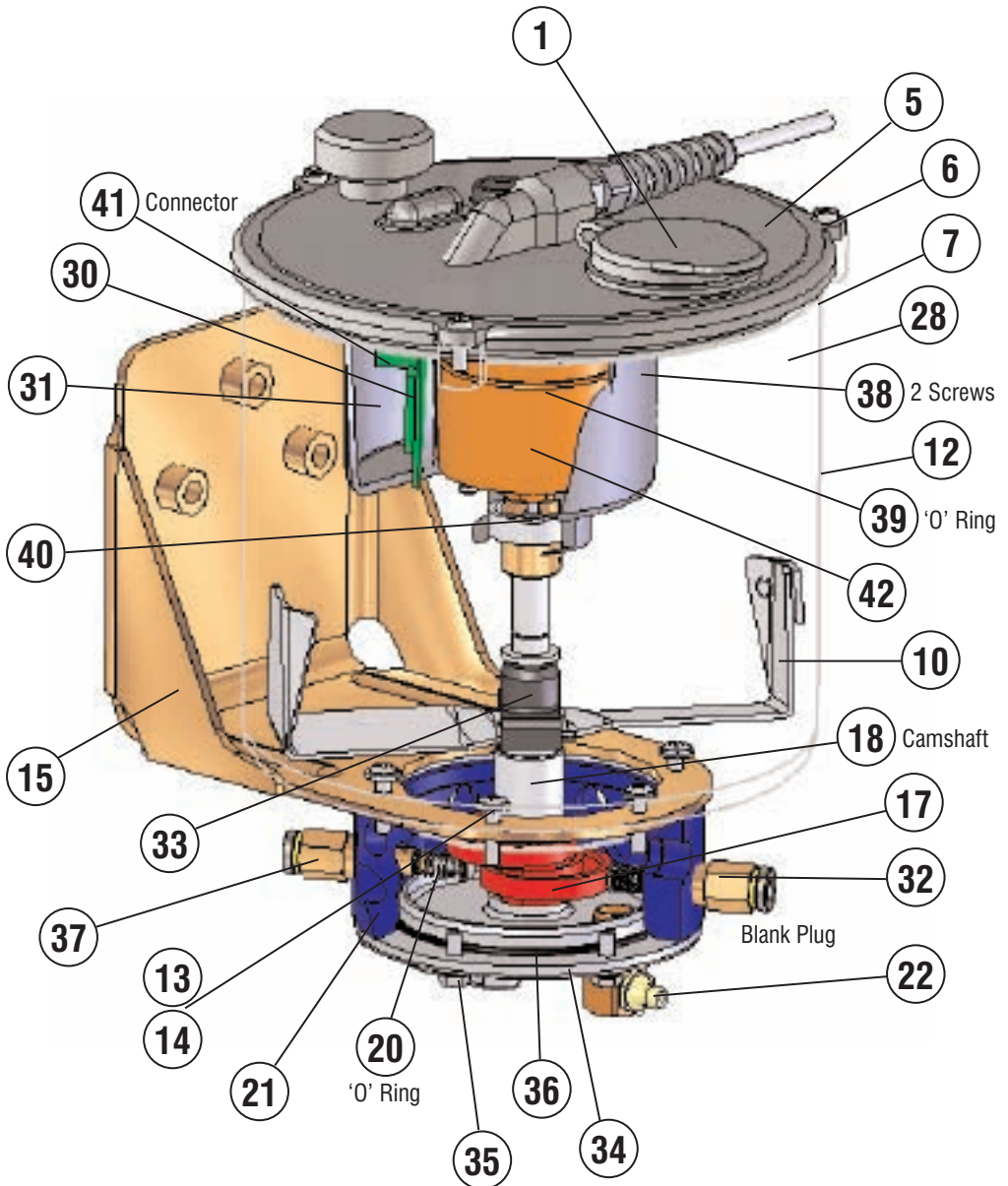
## 6. Troubleshooting

PROBLEM	POSSIBLE CAUSE	REMEDY
A. All lubrication points appear dry.	<ol style="list-style-type: none"> <li>1. Empty reservoir</li> <li>2. Inoperative pump</li> <li>3. Time between lube cycle is too long.</li> <li>4. Reservoir has been filled with an unsuitable lubricant.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refill the reservoir, using the correct lubricant.</li> <li>2. Refer to <b>PROBLEM "E"</b>.</li> <li>3. Adjust pump <b>CYCLE TIME</b> setting.</li> <li>4. Remove the lubricant and replace with correct grade of lubricant.</li> </ol>
B. One or more lubrication point appears dry while others receive sufficient lubrication.	<ol style="list-style-type: none"> <li>1. Broken or severed lube lines.</li> <li>2. Inoperative injector.</li> <li>3. Injector is undersized.</li> <li>4. Injectors have been switched.</li> </ol>	<ol style="list-style-type: none"> <li>1. Determined cause, and if necessary, re-route, or protect the lines to avoid a recurrence. Use a connector (25478-056) to reconnect the line.</li> <li>2. Refer to <b>PROBLEM "G"</b>.</li> <li>3. Replace with a larger capacity injector.</li> <li>4. Check the lube schematic or installation record, making sure the correct injector is supplying the lube point.</li> </ol>
C. All lubrication points are over-lubricated.	<ol style="list-style-type: none"> <li>1. Time between lube cycles is too short.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust pump <b>CYCLE TIME</b> setting.</li> </ol>
D. One or more lubrication points are over-lubricated.	<ol style="list-style-type: none"> <li>1. Injector(s) is oversized.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the injector(s) with a smaller capacity injector.</li> </ol>
E. Inoperative pump.	<ol style="list-style-type: none"> <li>1. No input power.</li> <li>2. Fuse is blown.</li> <li>3. Loose wire connection inside the pump.</li> <li>4. Defective PCB.</li> <li>5. Camshaft is worn or broken.</li> <li>6. Inoperative injector</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for power to the pump.</li> <li>2. Check in-line fuse. Replace if necessary.</li> <li>3. Check all wires and connections in the pump.</li> <li>4. Replace PCB.</li> <li>5. Inspect the camshaft. Replace if necessary.</li> <li>6. Refer to <b>PROBLEM "G"</b></li> </ol>
F. Reservoir Paddle is not rotating.	<ol style="list-style-type: none"> <li>1. Bolt securing the paddle to the camshaft is loose.</li> <li>2. Drive adaptor (AX1 &amp; 2) is disengaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten the bolt.</li> <li>2. Remove lid assembly and re-engage adaptor.</li> </ol>

PROBLEM	POSSIBLE CAUSE	REMEDY
<p>G. Incorporative injector causing the pump to stall.</p>	<ol style="list-style-type: none"> <li>1. Lube piston cannot dispense lubricant.</li>   <li>2. Lube piston is frozen.</li> </ol>	<ol style="list-style-type: none"> <li>1. Loosen the line fittings individually from the injectors. Actuate the <b>MANUAL OVERRIDE AX3 only</b> button to identify the stalled injector. Trace the line and check for:               <ol style="list-style-type: none"> <li>A. Clogged bearing.</li> <li>B. Crimped line.</li> <li>C. Blocked line.</li> </ol> </li> <li>2. Loosen the injectors individually from the pump body. Actuate the <b>MANUAL OVERRIDE AX3 only</b> button to identify which injector frees the system. Replace the injector. Check for contaminates in the reservoir. Replace the lubricant if contaminates are found.</li> </ol>
<p>H. Inoperative injector but the pump is able to operate.</p>	<ol style="list-style-type: none"> <li>1. Return spring on the injector is not attached.</li> <li>2. Lube piston is missing.</li> <li>3. Outlet check valve is not seating properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Secure the return spring to the lube piston and injector body.</li> <li>2. Replace the injector.</li> <li>3. Remove and clean the injector. If this does not remedy the problem, replace the injector. Check for contaminates in the reservoir. Replace the lubricant if contaminates are found.</li> </ol>
<p>I. Lubricant is coming out of the tape / harness.</p>	<p>Broken or severed line.</p>	<p>Refer to <b>PROBLEM "B – 1"</b>.</p>

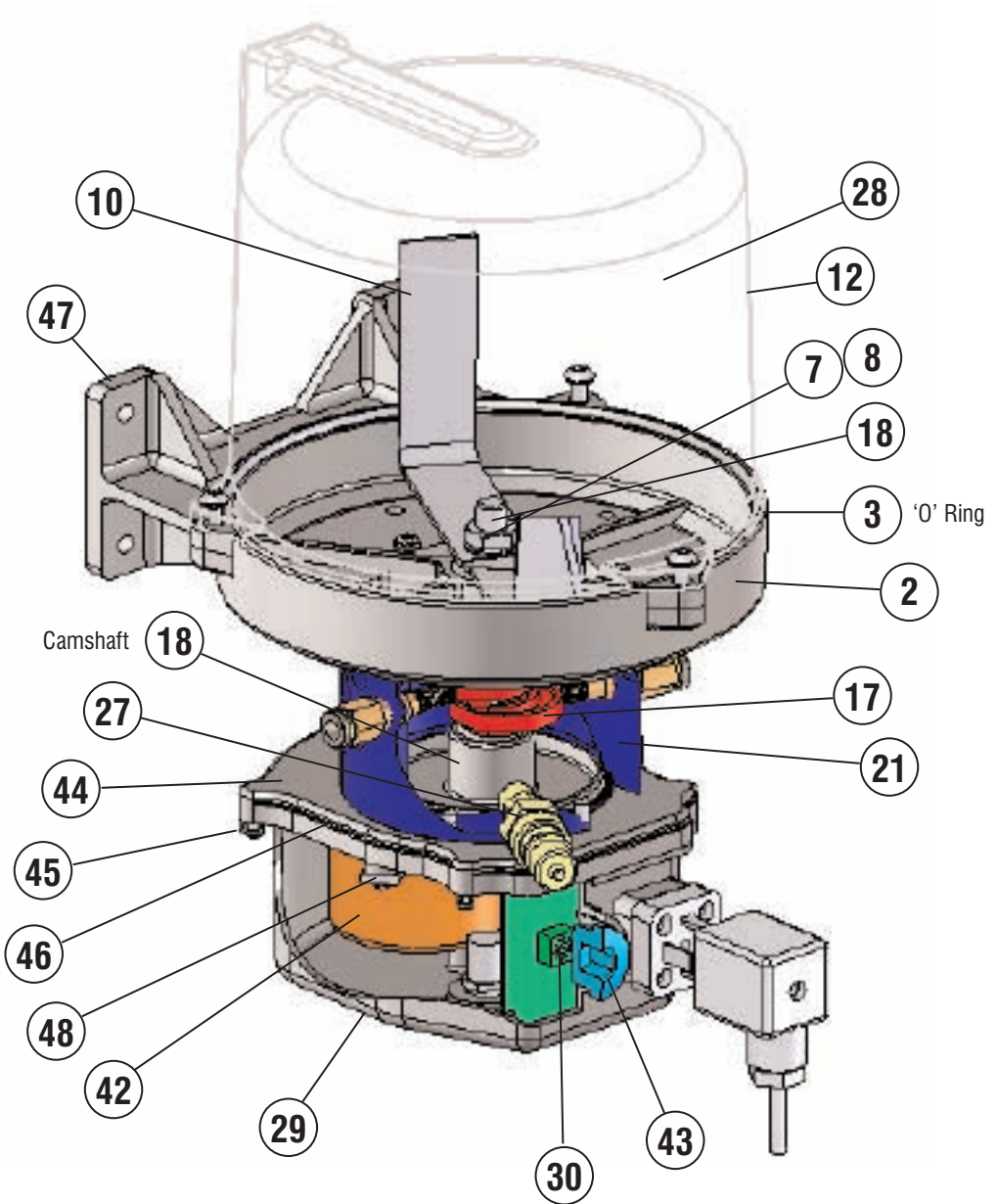
# AX1/2

FIG 3



# AX3

FIG 4



## 7.0. Service Procedures

The rugged design and simple construction of the AX lubrication system assures the operator of a long and trouble-free service. If service is necessary, use the following procedures to ensure proper disassembly and assembly of components.

Refer to figure 3 or 4 – Exploded View for the location of the components referenced in the following procedures. Refer to **REPLACEMENT PARTS** for kit ordering information.

Because of the critical nature of supplying clean lubricant to the lubrication points, the AX must be serviced in a clean area, without potential of contamination.

### CAUTION

At any time the AX is disassembled for service, the exposed components should be cleaned and checked for wear or damage. **DO NOT USE ACETONE-BASED SOLVENTS TO CLEAN.** Use clean towels to wipe the surfaces clean of excess lubricant. Solvents will harm the reservoir.

### WARNING

Unless otherwise noted, whenever servicing any AX lubrication system component, disconnect electrical power from the system at the nearest disconnects before beginning. Observe appropriate safety procedures to prevent any accidents while servicing the AX system.

### 7.1. Lid Assembly Replacement AX1 & 2.

- 7.1.1. Use a screwdriver to remove the three pan head screws (6) from the reservoir lid (5).
- 7.1.2. Remove the lid assembly from the reservoir (12). Make certain the O-ring (7) is removed and discarded.
- 7.1.3. Carefully remove any old lubricant from the upper lip of the reservoir (12).

7.1.4. Place the new O-ring (7) in the lid (5).

7.1.5. Place the lid assembly on the reservoir (12) and align the mounting holes.

7.1.6. Install the three pan head screws (6).  
**Torque to 6 Lb-In / 0.7 Nm.** Do not over-tighten the screws (6).

**Ensure drive adaptor is located on the paddle.**

### 7.2. Reservoir Paddle Assembly Replacement AX1 & 2.

- 7.2.1. Refer to 7.1, above, and remove the reservoir lid assembly. Remove the lubricant from the reservoir (12).
- 7.2.2. Remove one Blanking Plug (32), and insert a screw driver to prevent the cams (17) from rotating
- 7.2.3. Unscrew the paddle assembly (10) from the camshaft (18) by hand
- 7.2.4. Screw new paddle assembly onto camshaft (18), hand tight.

### NOTE

The camshaft (18) must be secured to prevent rotation.  
Ensure the drive adaptor (33) is located correctly over the new paddle (10)

- 7.2.5. Carefully wipe the reservoir (12) and reservoir lid moulding (5) clean.
- 7.2.6. Refer to 7.1, above, and install the reservoir lid assembly.

### 7.3. Reservoir Replacement AX1 & 2.

- 7.3.1. Refer to 7.1, above, and remove the reservoir lid assembly. Remove the lubricant from the reservoir (12).
- 7.3.2. Refer to 7.2, above, and remove the reservoir paddle assembly.

7.3.4. Remove the six screws (13) and washers (14) from the bottom of the reservoir (12). Discard the old washers (14).

7.3.5. Carefully remove the reservoir (12) from the carcass ring (21). The mounting bracket (15) and O-ring (20) must be separated from the reservoir (12) and carcass ring (21). Discard the reservoir (12) and O-ring (20).

7.3.6. Carefully remove any old lubricant from the lid moulding (5). Wipe the carcass ring (21) and AC mounting bracket (15) clean.

7.3.7. Set the reservoir (12) on the mounting bracket (15). Install the O-ring (20) onto the flange of the reservoir (12). Align the mounting holes.

7.3.8. Carefully install the reservoir / bracket / O-ring (12, 15, 20) onto the carcass ring (21). Align the mounting holes of all three pieces.

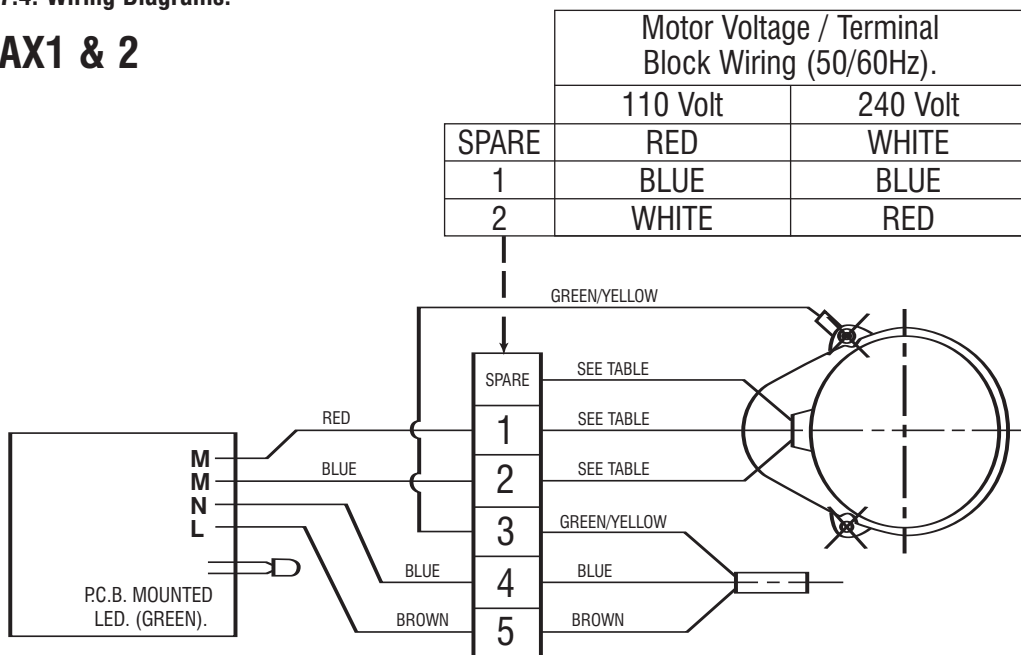
7.3.9. Install the six new washers (14) and screws (13). **Torque to 6 Lb-In/0.7Nm.** Do not over-tighten the screws (13).

7.3.10. Refer to **7.2** above, and install the reservoir paddle assembly.

7.3.11. Refer to **7.1**, above, and install the reservoir lid assembly.

## 7.4. Wiring Diagrams.

### AX1 & 2



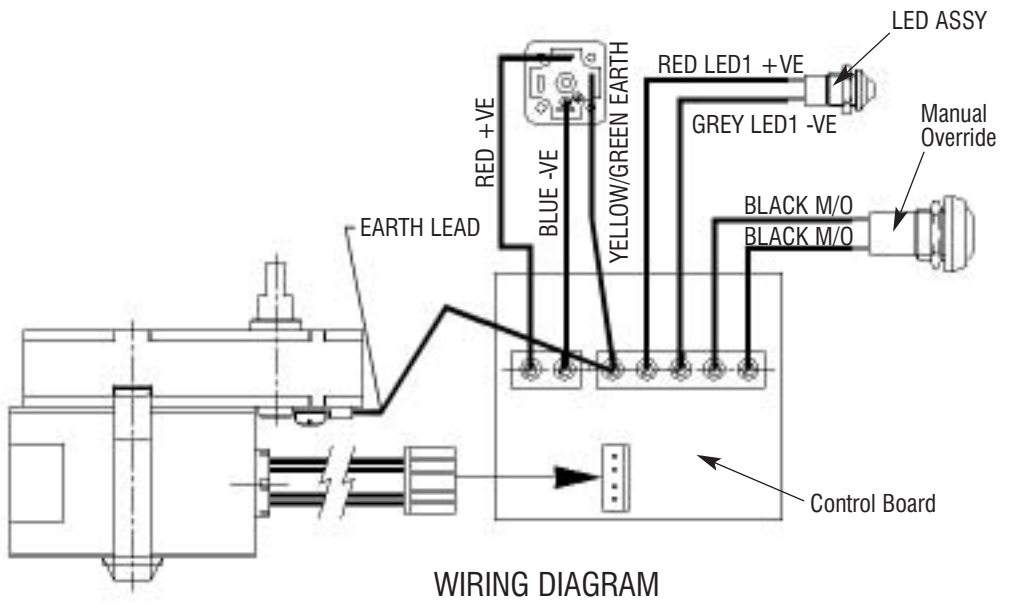
## WIRING DETAILS

Pump must be earthed and fused.

110V - 1A

240V - 1A

# AX3



WIRING DIAGRAM

Pump must be earthed and fused.  
110V - 1A  
240V - 1A

## 7.5. Replacement of Motor Assembly AX1 & 2.

- 7.5.1. Refer to **7.1** and remove lid assembly.
- 7.5.2. Remove the two screws that secure the motor housing (38) to the lid (5). Retain the 'O' ring seal (39) for reuse.
- 7.5.3. Remove the two screws that hold the motor (42) in place.
- 7.5.4. Loosen the four wires on the PCB (30) connector, noting the location of the four wires on the connector.
- 7.5.5. Pull the motor (42) off the "D" drive on the motor drive shaft .
- 7.5.6. Position the replacement motor in the motor housing (31) and fix in position with the two original screws. Ensure the drive adaptor (33) fits over the "D" on the motor drive shaft.
- 7.5.7. Reconnect the motor wires to the PCB (30).
- 7.5.8. Fix motor housing (31) to the lid (5), ensure the 'O' ring (39) is correctly positioned.

### **NOTE**

Look for the location of the "fixing ident" to ensure correct position of the motor housing (31) on the lid (5) .

- 7.5.9. Refer to **7.1** for replacing the lid assembly.

## 7.6. Replacement of P.C.B. AX1 & 2.

- 7.6.1. Refer to **7.1**. for removal of lid, motor housing and P.C.B.
- 7.6.2. Loosen and disconnect four cables from P.C.B. (30)
- 7.6.3. Remove existing PCB. Insert new one, having first reset switch to original positions.
- 7.6.4. Reconnect wires as in **7.6.2**.

- 7.6.5. See **7.1** for reassembly of motor housing.

## 7.7. Cam Assembly Replacement AX1 & 2.

- 7.7.1. Refer to **7.1**, above, and remove the reservoir lid assembly. Remove the lubricant from the reservoir (12).
- 7.7.2. Refer to **7.2**, above, and remove the paddle assembly (10).
- 7.7.3. Remove the bottom cover (34) by removing the 6 screws (35 ). Be careful not to damage the 'O' ring (36).
- 7.7.4. Loosen each injector to allow the cams (17) enough clearance to easily remove the cam assembly.

### **CAUTION**

If the injectors must be removed from the carcass ring (21), be certain to mark the location for each one. Place the injectors in a clean container to prevent contamination.

- 7.7.5. Insert the new cam assembly through the manifold (21) and onto the bottom of the reservoir (12).

### **CAUTION**

Be certain the new cam assembly has the same number of cams (17) as the old one.

- 7.7.6. Refer to 7.2, above, and install the reservoir paddle assembly.

### **NOTE**

After the reservoir paddle assembly is installed, and any loosened injectors have been tightened, you should be able to turn the reservoir paddle (10) in a CCW rotation without excessive force. If the paddle will not rotate, check the cams (17) and injectors for any misalignment.

- 7.7.7. Refer to 7.1, above, and install the reservoir lid assembly.
- 7.7.8. Reassemble the bottom cover (34) ensuring the O ring (36 ) is correctly positioned. Tighten the 6 screws to torque 1 Nm.

## 7.8. AX3 Reservoir Replacement.

- 7.8.1. Remove the three screws holding the reservoir (12) in position on the pump body (2).
- 7.8.2. Remove reservoir (12) and 'O' ring (3) .
- 7.8.3. Position new 'O' ring on new reservoir.
- 7.8.4. Reassemble reservoir (12) to pump body (2), ensuring the breather is closest to the mounting bracket (47).
- 7.8.5. Insert and tighten screws to torque 3Nm. Be careful not to over tighten screws.

## 7.9. AX3 Paddle Replacement.

- 7.9.1. Refer to **7.8** to remove reservoir.
- 7.9.2. Remove M10 nut and washer (7&8) that holds paddle assembly in position.
- 7.9.3. Lift paddle blade (10) off drive shaft (18).
- 7.9.4. Position new paddle blade on drive shaft (18) ensuring correct position on the "D" drive location.
- 7.9.5. Put washer and M10 nut (7&8) in position and tighten to torque 7Nm.
- 7.9.6. Refer to **7.8** to refit reservoir (12).

## 7.10. AX3 Motor Replacement.

- 7.10.1. Loosen and remove the four screws that hold the motor housing (45) to the motor cover (44).
- 7.10.2. Pull the motor housing (45) away from the cover (44), and dispose of the old 'O' ring (46).

- 7.10.3. Disconnect the motor molex connector from the PCB. Put the motor housing assembly aside.
- 7.10.4. Loosen the two screws that hold the retaining plate (48) over the motor (42).
- 7.10.5. Remove the motor and place the new one in position, ensuring the motor drive shaft fits into the camshaft drive.
- 7.10.6. Place retaining plates (48) in position and tighten the screws to torque 1.5Nm.
- 7.10.7. Reconnect the molex connector from the new motor to the PCB (30).
- 7.10.8. Locate new 'O' ring seal (46) on motor cover (44).
- 7.10.9. Fit motor housing (45) to motor cover (44) and fix with the four original screws to torque 0.3Nm.

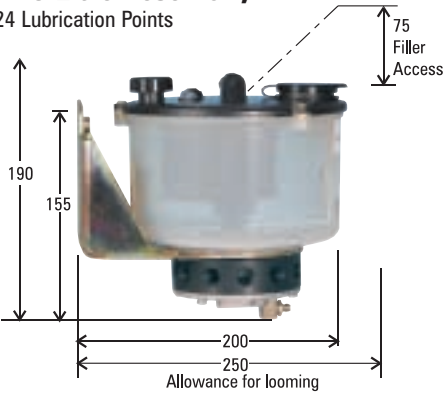
## 7.11. AX3 Replacement of PCB.

- 7.11.1. Refer to **7.10.1. / 7.10.2. / 7.10.3.** to access PCB (30).
- 7.11.2. Loosen and disconnect the **RED** and **BLUE** power cables from the PCB (30). Loosen and disconnect the manual override (29) and LED cables
- 7.11.3. Remove existing PCB (30) and insert new one.
- 7.11.4. Reconnect wires as in **7.10.7.**
- 7.11.5. See **7.10.8 & 7.10.9.** for re-assembly of motor housing.
- 7.11.6. Remove motor cover plug (43) to expose 10 position rotary switch.
- 7.11.7. Using a small slotted screwdriver, adjust the rotary switch to the original position.
- 7.11.8. Replace plug (43).

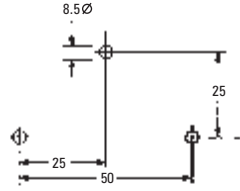
## 8. Replacement Pumps and Spares Information

### AX1 (1.25 Litre Reservoir)

Maximum 24 Lubrication Points



#### AX1 - PUMP MOUNTING CENTRES



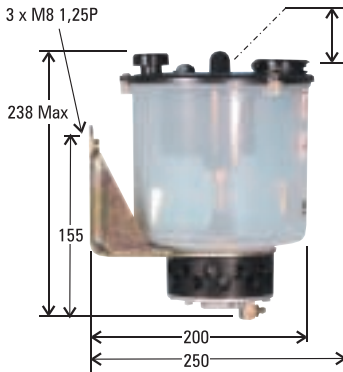
#### Ordering Method AX1 X X X

1 6 Mins	3 110V 50/60 Hz.	1 12 POINTS
2 15 Mins	4 240V 50/60 Hz.	2 24 POINTS
3 30 Mins		3 36 POINTS
4 60 Mins		

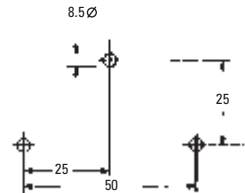
Cycle Time = (minutes per rev)  
\*Suitable for oil and fluid grades up to '000' grade only

### AX2 (2 Litre Reservoir)

Maximum 36 Lubrication Points



#### AX2 - PUMP MOUNTING CENTRES



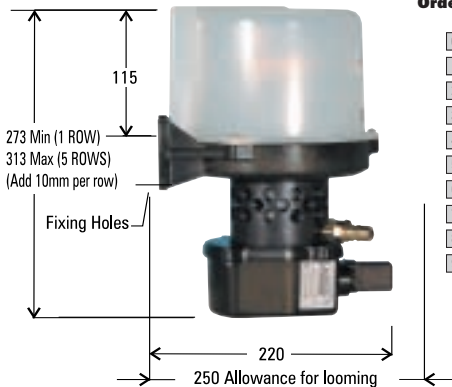
#### Ordering Method AX2 X X X

1 6 Mins	1 110V	1 12 POINTS
2 15 Mins	2 240V	2 24 POINTS
3 30 Mins		3 36 POINTS*
4 60 Mins		

Cycle Time = (minutes per rev)  
\*Suitable for oil and fluid grades up to '000' grade only

### AX3 (3 Litre Reservoir)

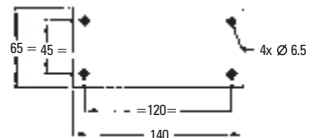
Maximum 60 Lubrication Points



#### Ordering Method AX3 XXXX

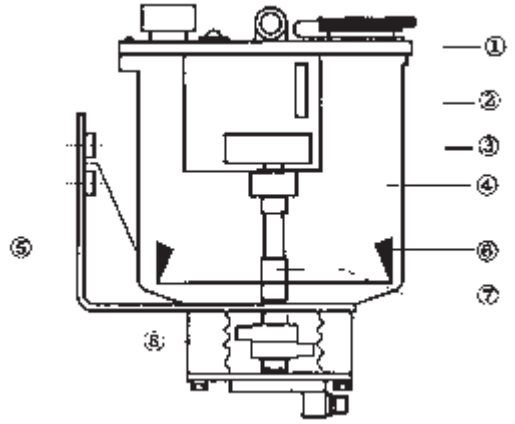
0 Continuous	1 110V	1 12 POINTS	1 GREASE NIPPLE FILLER
1 3 Minute delay	2 240V	2 24 POINTS	2 QUICK RELEASE COUPLING
2 7 Minute delay		3 36 POINTS	
3 10 Minute delay		4 48 POINTS	
4 20 Minute delay		5 60 POINTS	
5 30 Minute delay			
6 45 Minute delay			
7 60 Minute delay			
8 90 Minute delay			
9 120 Minute delay			

#### AX3 - PUMP MOUNTING CENTRES



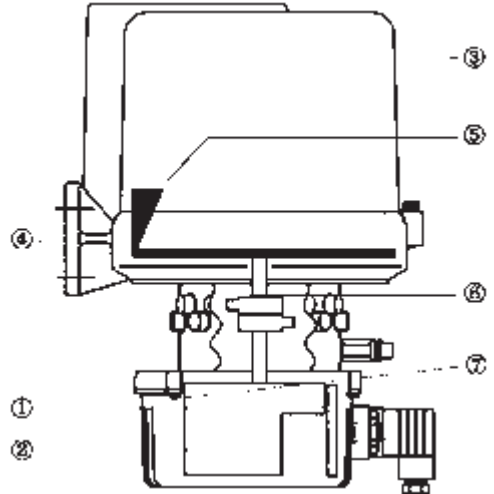
# Pump Spares - AX1 & 2

ITEM No	ITEM	SPARES REF NUMBER	
		AX1	AX2
1.	LID ASSY	AX/SP1/P	AX/SP1/P
2.	PCB ASSY	AX/SP2	AX/SP2
3.	ELECTRIC MOTOR	AX/SP8/110v AX/SP8/240v	AX/SP8/110v AX/SP8/240v
4.	RESERVOIR	AX/SP4/P	AX/SP9/P
5.	BRACKET	83341-803	83341-803
6.	PADDLE ASSY	AC/SP7	AC/SP7
7.	DRIVE ADAPTOR	AC/SP6	AC/SP10
8.	CAMSHAFT 12 UNIT 24 UNIT 36 UNIT	AX/SP5/1 AX/SP5/2 AX/SP5/3	



# Pump Spares - AX3

ITEM No	ITEM	SPARES REF NUMBER
1.	PCB ASSY	AX3/SP2-110V AX3/SP2-110V
2.	ELECTRIC MOTOR	AX3/SP8/110v AX3/SP8/240v
3.	RESERVOIR	AX3/SP9
4.	BRACKET	38580 - 126
5.	PADDLE ASSY	AC3/SP7
6.	CAMSHAFT ASSY 12 UNIT 24 UNIT 36 UNIT 48 UNIT 60 UNIT	AX3/SP5/1 AX3/SP5/2 AX3/SP5/3 AX3/SP5/4 AX3/SP5/5
7.	MOTOR COVER AND PCB	AX3/SP10/110V AX3/SP10/240V



# ACCESSORIES

## ELBOW CONNECTORS

Elbows	
Part Number	Thread Size
PM90412	1/8 PTF SAE
PM90484	1/4-28UNF
PM90485	5/16-24UNF
PM90487	1/8 BSPT
PM90489	M6X1P
PM90490	M8X1P
PM90491	M8X1,25P
PM90492	M10X1P
PM90493	M10X1,5P



## STRAIGHT CONNECTORS

### Straight Connectors

Part Number	Thread Size
PM80412	1/8 PTF SAE
PM80484	1/4-28UNF
PM80485	5/16-24UNF
PM80487	1/8 BSPT
PM80489	M6X1P
PM80490	M8X1P
PM80491	M8X1,25P
PM80492	M10X1P
PM80493	M10X1,5P
25478-056	4mm ã 4mm



## ACCESSORIES

- 152823/25 ....4mm OD soft grease filled tube x 25M
- 152823/50 ....4mm OD soft grease filled tube x 50M
- 152824/25 ....4mm OD Heavy grease filled tube x 25M
- 152826/25 ....4mm OD Food grade grease filled tube x 25M

- OA50397/1 Numbered sleeves 1 – 12
- OA50397/2 Numbered sleeves 1 – 24
- OA50397/3 Numbered sleeves 1 – 36
- OA50397/4 Numbered sleeves 1 – 48
- OA50397/5 Numbered sleeves 1 – 60

## LOOMING ACCESSORIES

- Plastic tape 1" Black . . . . . 1755-830
- Spiral Binding (1-2 lines) . . . . . 1837-001
- Spiral Binding 8mm I/D (3-4 lines) . . . . . 1837-002
- Spiral Binding 10mm I/D (5-7 lines) . . . . . 1837-003
- Spiral Binding 14mm I/D (8-12 lines) . . . . . 1837-004

## GREASE

### Premium Grade NGLI 000 / FG3,0

- 25717-284 12 x 1 Litre Bottles
- 25717-284 / 12.5K 12.5 KG Pail
- 25717-284 / 25K 25 KG Pail
- 25717-284 / 50K 50 KG Pail
- 25717-284 / 180K 180 KG Pail

### NLGI Grade 2

- 25717-270 / 12.5K 12.5 KG Pail
- 25717-270 / 25K 25 KG Pail
- Food Grade 25717-296 17 KG Pail

## GREASE SPECIFICATIONS

### NGLI 000 / FG3,0

- Colour . . . . . Amber
- Texture . . . . . Fluid, Tacky
- NLGI . . . . . 000
- Soap Type . . . . . Calcium
- Penetration @ 25°C . . . . . 445-475
- Base Viscosity @ 40°C . . . . . 35 to 45 CST

### NLGI Grade 2

- Colour . . . . . Pale Amber
- Texture . . . . . Slightly Fibrous
- NLGI . . . . . 2
- Soap Type . . . . . Lithium
- Penetration @ 25°C . . . . . 265-295
- Base Viscosity @ 40°C . . . . . 125cSt
- Drop Point . . . . . 185°C

### Food Grade

- Colour . . . . . White
- NLGI . . . . . 2
- Penetration . . . . . 265-295
- Base Viscosity @ 40°C . . . . . 410cSt

# MULTI-LINE INSTALLATION RECORD



Machine .....

Customer .....

.....

Pump No .....

Voltage .....

Timer Settings .....

## PUMP CALIBRATION SYSTEM

Unit No.	Bearing Lubricated	Col. Code	Cal cc.
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

## SYSTEM TYPE

AX1	AX2	AX3

Unit No.	Bearing Lubricated	Col. Code	Cal cc.
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			

Installed by ..... Date .....